UNITED STATES DEPARTMENT OF THE INTERIOR
HAROLD L. ICKES, Secretary
GEOLOGICAL SURVEY
W. C. MENDENHALL, Director

Water-Supply Paper 897

SURFACE WATER SUPPLY *of the* UNITED STATES 1940

PART 7
LOWER MISSISSIPPI RIVER BASIN

Prepared under the direction of
GLENN L. PARKER, Chief Hydraulic Engineer
AND OF
D. H. BARBER, H. C. BECKMAN, C. E. ELLSWORTH, ROBERT FOLLANSBEE
J. H. GARDINER, BERKELEY JOHNSON, J. L. SAUNDERS, C. E. McCASHIN
J. B. SPIEGEL, F. M. VEATCH, AND J. V. B. WELLS
District Engineers

In cooperation with the States of
ARKANSAS, COLORADO, KANSAS, KENTUCKY, LOUISIANA
MISSISSIPPI, MISSOURI, NEW MEXICO, OKLAHOMA
TENNESSEE, AND TEXAS
and other agencies

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1941

For sale by the Superintendent of Documents, Washington, D. C. - - - Price 50 cents (paper cover)

CONTENTS

	Page
Scope of work	1
Definition of terms	1
Explanation of data	1
Accuracy of field data and computed results	3
Publications	4
Records of discharge collected by agencies other than the Geological Survey	9
Cooperation	11
Division of work	12
Gaging-station records	13
Mississippi River main stem	13
Mississippi River at St. Louis, Mo	13
Mississippi River at Cape Girardeau, Mo	15
Mississippi River at Memphis, Tenn	17
Mississippi River near Vicksburg, Miss	19
Mississippi River near Baton Rouge, La	21
Mississippi River near New Orleans, La	22
Meramec River Basin	23
Meramec River near Steelville, Mo	23
Meramec River at Robertsville, Mo	24
Meramec River near Eureka, Mo	25
Bourbeuse River at Union, Mo	26
Big River at Byrnesville, Mo	27
Mayfield Creek Basin	28
Mayfield Creek at Lovelaceville, Ky	28
Bayou de Chien Basin	29
Bayou de Chien near Clinton, Ky	29
Headwater diversion channel basin	30
Castor River at Zalma, Mo	30
Obion River Basin	31
South Fork of Obion River near Greenfield, Tenn	31
Obion River at Obion, Tenn	32
Rutherford Fork of Obion River near Bradford, Tenn	33
North Fork of Obion River near Union City, Tenn	34
South Fork of Forked Deer River at Jackson, Tenn	35
South Fork of Forked Deer River at Chestnut Bluff, Tenn	36
Middle Fork of Forked Deer River near Alamo, Tenn	37
Hatchie River Basin	38
Hatchie River at Bolivar, Tenn	38
Hatchie River near Stanton, Tenn	39
Wolf River Basin	40
Wolf River at Rossville, Tenn	40
St. Francis River Basin	41
St. Francis River near Patterson, Mo	41
St. Francis River at Fisk, Mo	42
St. Francis River at Marked Tree, Ark	43
St. Francis River floodway near Marked Tree, Ark	44
Little River ditch 81 near Kennett, Mo	45
Little River ditch 1 near Kennett, Mo	46
Little River ditch 66 near Kennett, Mo	47
Little River ditch 66-A near Kennett, Mo	48
Little River ditch 251 near Kennett, Mo	49
Little River ditch 259 near Kennett, Mo	50
White River Basin	51
White River at Beaver, Ark	51
White River near Reeds Springs, Mo	52
White River at Forsyth, Mo	53
White River near Flippin, Ark	54
White River at Calico Rock, Ark	55
White River at Batesville, Ark	56
White River at Newport, Ark	57
White River at De Valls Bluff, Ark	60
West Fork of White River near Fayetteville, Ark	61
Kings River near Berryville, Ark	62
James River at Galena, Mo	63
Buffalo River near St. Joe, Ark	64
Buffalo River near Rush, Ark	65
North Fork River at Tecumseh, Mo	66
North Fork River near Henderson, Ark	67
Black River near Annapolis, Mo	68
Black River at Leeper, Mo	70
Black River at Poplar Bluff, Mo	71
Black River near Corning, Ark	73
Black River at Pocahontas, Ark	75
Black River at Black Rock, Ark	76
Cane Creek at Harviell, Mo	77
Current River near Eminence, Mo	78

Gaging-station records--Continued.
White River Basin--Continued. Page
Current River at Van Buren, Mo.... 79
Current River at Doniphan, Mo.... 81
Jacks Fork at Eminence, Mo.... 82
Big Spring near Van Buren, Mo.... 83
Little Black River near Fairdealing, Mo.... 84
Spring River at Imboden, Ark.... 85
Eleven Point River near Bardley, Mo.... 86
Eleven Point River near Eleven Point, Ark.... 87
Greer Spring at Greer, Mo.... 88
Strawberry River near Evening Shade, Ark.... 89
Strawberry River near Poughkeepsie, Ark.... 91
Little Red River near Heber Springs, Ark.... 92
Middle Fork of Little Red River at Shirley, Ark.... 93
Lagrue Bayou near Stuttgart, Ark.... 95
Arkansas River Basin.... 96
Arkansas River at Granite, Colo.... 96
Arkansas River at Salida, Colo.... 97
Arkansas River at Canon City, Colo.... 98
Arkansas River at Portland, Colo.... 99
Arkansas River near Pueblo, Colo.... 100
Arkansas River near Avondale, Colo.... 101
Arkansas River near Nepesta, Colo.... 102
Arkansas River at La Junta, Colo.... 103
Arkansas River at Caddoa, Colo.... 104
Arkansas River at Lamar, Colo.... 105
Arkansas River at Holly, Colo.... 106
Arkansas River at Syracuse, Kans.... 107
Arkansas River at Garden City, Kans.... 108
Arkansas River at Larned, Kans.... 109
Arkansas River at Wichita, Kans.... 110
Arkansas River at Arkansas City, Kans.... 111
Arkansas River at Ralston, Okla.... 112
Arkansas River at Tulsa, Okla.... 113
Arkansas River near Muskogee, Okla.... 114
Arkansas River at Van Buren, Ark.... 115
Arkansas River at Dardanelle, Ark.... 116
Arkansas River at Little Rock, Ark.... 117
Reservoirs in upper Arkansas River Basin.... 118
South Arkansas River near Salida, Colo.... 119
Grape Creek near Westcliffe, Colo.... 120
Fountain Creek near Fountain, Colo.... 121
Monument Creek at Pikeview, Colo.... 122
St. Charles River at San Isabel, Colo.... 123
Huerfano River at Manzanares Crossing, near Redwing, Colo.... 124
Huerfano River at Badito, Colo.... 125
Huerfano River below Huerfano Valley Dam, near Undercliffe, Colo.... 126
Cucharas River at Boyd ranch, near La Veta, Colo.... 127
Apishapa River near Aguilar, Colo.... 128
Purgatoire River at Trinidad, Colo.... 129
Purgatoire River at Ninemile Dam, near Higbee, Colo.... 130
Purgatoire River at Highland Dam, near Las Animas, Colo.... 131
Wild Horse Creek at Holly, Colo.... 132
Holly drain near Holly, Colo.... 133
Amazon canal near Hartland, Kans.... 134
South Side ditch near Hartland, Kans.... 135
Great Eastern canal at Lakin, Kans.... 136
Farmers ditch near Garden City, Kans.... 137
Garden City canal near Garden City, Kans.... 138
Pawnee River near Larned, Kans.... 139
Cow Creek near Lyons, Kans.... 140
Little Arkansas River at Valley Center, Kans.... 141
Ninnescah River near Peck, Kans.... 142
Walnut River at Winfield, Kans.... 143
Salt Fork of Arkansas River near Alva, Okla.... 144
Salt Fork of Arkansas River near Jet, Okla.... 145
Salt Fork of Arkansas River at Tonkawa, Okla.... 146
Medicine Lodge River near Kiowa, Kans.... 147
Chikaskia River near Blackwell, Okla.... 148
Cimarron River near Boise City, Okla.... 149
Cimarron River near Waynoka, Okla.... 150
Cimarron River near Guthrie, Okla.... 151
Cimarron River at Perkins, Okla.... 152
Cimarron River at Oilton, Okla.... 154
Cimarron River at Mannford, Okla.... 155
Council Creek near Stillwater, Okla.... 157
Verdigris River near Coyville, Kans.... 158
Verdigris River near Altoona, Kans.... 159
Verdigris River at Independence, Kans.... 161
Verdigris River near Lenapah, Okla.... 162
Verdigris River near Claremore, Okla.... 164
Caney River near Hulah, Okla.... 165
Fall River near Fall River, Kans.... 166
Fall River at Fredonia, Kans.... 168
Neosha River at Council Grove, Kans.... 170
Neosho River near Iola, Kans.... 172
Neosho River near Parsons, Kans.... 173
Neosho River near Commerce, Okla.... 174

Gaging-station records--Continued.
Arkansas River Basin--Continued. Page
Grand Lake at Langley, Okla. 176
Neosho River near Langley, Okla. 177
Neosho River near Choteau, Okla. 178
Neosho River near Wagoner, Okla. 179
Cottonwood River at Cottonwood Falls, Kans. 180
Lightning Creek near McCune, Kans. 181
Spring River near Waco, Mo. 183
Spring River near Quapaw, Okla. 184
Turkey Creek at Joplin, Mo. 185
Shoal Creek near Joplin, Mo. 186
Elk River near Tiff City, Mo. 187
Illinois River near Tahlequah, Okla. 188
Illinois River near Gore, Okla. 189
Canadian River near Taylor Springs, N. Mex. 190
Canadian River near Roy, N. Mex. 191
Canadian River near Sanchez, N. Mex. 192
Canadian River at Logan, N. Mex. 193
Canadian River near Amarillo, Tex. 194
Canadian River near Canadian, Tex. 195
Canadian River near Newcastle, Okla. 196
Canadian River at Calvin, Okla. 198
Canadian River near Whitefield, Okla. 200
Vermejo River near Dawson, N. Mex. 201
Cieneguilla Creek near Eagle Nest, N. Mex. 202
Cimarron River at Ute Park, N. Mex. 203
Cimarron River at Springer, N. Mex. 204
Six Mile Creek near Eagle Nest, N. Mex. 205
Moreno Creek at Eagle Nest, N. Mex. 206
Rayado River at Sauble ranch, near Cimarron, N. Mex. 207
Rayado River near Miami, N. Mex. 208
Colmor intake canal near Ocate, N. Mex. 209
Mora River at La Cueva, N. Mex. 210
Mora River near Golondrinas, N. Mex. 211
Mora River near Shoemaker, N. Mex. 212
Coyote Creek near Golondrinas, N. Mex. 213
Conchas River at Variadero, N. Mex. 214
North Canadian River near Guymon, Okla. 215
North Canadian River at Beaver, Okla. 216
North Canadian River near Supply, Okla. 217
North Canadian River at Woodward, Okla. 218
North Canadian River at Canton, Okla. 219
North Canadian River near El Reno, Okla. 220
Lake Overholser near Oklahoma City, Okla. 221
North Canadian River near Oklahoma City, Okla. 222
North Canadian River near Wetumpka, Okla. 223
Wolf Creek at Lipscomb, Tex. 224
Wolf Creek near Shattuck, Okla. 225
Wolf Creek near Supply, Okla. 226
Deep Fork near Beggs, Okla. 227
Deep Fork near Dewar, Okla. 229
Poteau River at Cauthron, Ark. 230
Poteau River near Wister, Okla. 232
Poteau River at Poteau, Okla. 233
Frog Bayou near Mountainburg, Ark. 234
Mulberry River near Mulberry, Ark. 235
Petit Jean Creek near Blue Mountain, Ark. 238
Petit Jean Creek at Danville, Ark. 240
Fourche La Fave River near Gravelly, Ark. 241
Fourche La Fave River near Nimrod, Ark. 243
Bayou Meto near Stuttgart, Ark. 244
Crooked Creek near Humphrey, Ark. 245
Yazoo River Basin. 246
Upper Tallahatchie River near New Albany, Miss. 246
Tallahatchie River at Etta, Miss. 247
Tallahatchie River near Sardis, Miss. 248
Tallahatchie River near Lambert, Miss. 249
Tallahatchie River at Swan Lake, Miss. 250
Yazoo River at Greenwood, Miss. 251
Cane Creek near New Albany, Miss. 252
Lukesasper Creek at Cotton Plant, Miss. 253
Cypress Creek near Etta, Miss. 254
North Tippah Creek near Ripley, Miss. 255
Potts Creek near Potts Camp, Miss. 256
Bagley Creek near Abbeville, Miss. 257
Clear Creek near Oxford, Miss. 258
Hudson Creek near Oxford, Miss. 259
Yocona River near Enid, Miss. 260
Long Creek at Courtland, Miss. 261
Coldwater River near Coldwater, Miss. 262
Coldwater River at Pratts Bridge near Arkabutla, Miss. 263
Coldwater River at Savage, Miss. 264
Yalobusha River at Graysport, Miss. 265
Yalobusha River at Grenada, Miss. 266
Skuna River near Coffeeville, Miss. 267
Sunflower River at Sunflower, Miss. 268
Big Black River Basin. 269
Big Black River at Pickens, Miss. 269
Big Black River near Bovina, Miss. 270

Gaging-station records--Continued. Page
Homochitto River Basin.... 271
Homochitto River at Eddiceton, Miss.... 271
Homochitto River near Doloroso, Miss.... 273
Red River Basin.... 274
Prairie Dog Town Fork of Red River near Canyon, Tex.... 274
Prairie Dog Town Fork of Red River near Brice, Tex.... 275
Prairie Dog Town Fork of Red River near Estelline, Tex.... 277
Red River near Terral, Okla.... 278
Red River near Gainesville, Tex.... 279
Red River near Colbert, Okla.... 280
Red River at Arthur City, Tex.... 281
Red River at Index, Ark.... 282
Red River at Garland, Ark.... 283
Red River at Shreveport, La.... 284
Red River at Coushatta, La.... 285
Red River at Alexandria, La.... 287
Salt Fork of Red River at Mangum, Okla.... 288
North Fork of Red River near Granite, Okla.... 289
North Fork of Red River near Headrick, Okla.... 290
Elm Fork of North Fork of Red River near Mangum, Okla.... 291
Pease River near Crowell, Tex.... 292
Cache Creek near Walters, Okla.... 293
Wichita River at Wichita Falls, Tex.... 294
Little Wichita River near Archer City, Tex.... 295
Washita River near Clinton, Okla.... 296
Washita River at Carnegie, Okla.... 297
Washita River near Tabler, Okla.... 298
Washita River near Pauls Valley, Okla.... 299
Washita River near Durwood, Okla.... 300
Caddo Creek near Ardmore, Okla.... 301
Blue River near Blue, Okla.... 305
Muddy Boggy Creek near Farris, Okla.... 309
Kiamichi River near Belzoni, Okla.... 310
Little River near Idabel, Okla.... 311
Little River near Horatio, Ark.... 312
Mountain Fork River near Eagletown, Okla.... 313
Cossatot River near De Queen, Ark.... 314
Saline River near Dierks, Ark.... 315
Sulphur River near Darden, Tex.... 316
Cypress Creek near Jefferson, Tex.... 317
Bayou Bodcau near Sarepta, La.... 318
Bayou Dorcheat near Minden, La.... 319
Cypress Bayou near Keithville, La.... 320
Boggy Bayou near Keithville, La.... 321
Black Lake Bayou near Castor, La.... 322
Ouachita River near Moutain Pine, Ark.... 323
Ouachita River near Malvern, Ark.... 324
Ouachita River at Monroe, La.... 325
Little Missouri River near Murfreesboro, Ark.... 326
Saline River near Rye, Ark.... 327
Bayou Bartholomew near Beekman, La.... 328
Cornie Bayou near Lillie, La.... 329
Bayou Desiard at Monroe, La.... 329
Boeuf River near Girard, La.... 330
Bayou La Fourche near Crew Lake, La.... 331
Tensas River at Tendal, La.... 332
Bayou Macon near Delhi, La.... 333
Dugdemona River near Jonesboro, La.... 334
Dugdemona River near Winnfield, La.... 335
Bayou Castor near Grayson, La.... 336
Bayou Funny Louis near Trout, La.... 337
Mississippi River Delta.... 338
Tangipahoa River at Robert, La.... 338
Amite River near Denham Springs, La.... 339
Atchafalaya River at Krotz Springs, La.... 340
Bayou Cocodrie near Clearwater, La.... 342
Miscellaneous discharge measurements.... 343
Index....

ILLUSTRATIONS

Page
Plate 1. Gaging-station structures: A, Arkansas River at Little Rock, Ark.; B, Red River near Colbert, Okla.; C, Red River at Garland, Ark.... 2

SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1940. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of the flow of streams and of the stage and contents of lakes and reservoirs have been made at about 8,800 gaging stations in the United States and also at many gaging stations in Alaska and Hawaii. In July 1940, 4,760 gaging stations were being maintained by the Geological Survey and cooperating organizations. Miscellaneous discharge measurements were made at many other points.

In the execution of the work many State and private organizations have cooperated, either by furnishing data or by assisting in collecting data. Cooperation of the first kind is acknowledged in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 11.

DEFINITION OF TERMS

The units in which stream-flow data are presented in this report and other terms used herein are defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

"Second-feet per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water draining from it in a given period were uniformly distributed on its surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An "acre-foot" is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. The term is commonly used in connection with storage for irrigation.

"Second-foot-day" is the volume of water represented by a flow of 1 second-foot for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons and represents a run-off of 0.0372 inch from one square mile.

"Stage-discharge relation" is an abbreviation for the term "relation of gage height to discharge."

"Control" is a term used to designate a feature below the gage that defines the stage-discharge relation at the gage. This feature may be a natural section, a reach of the channel, or an artificial structure.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the records of stage and discharge

measurements in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. Typical structures in use at gaging stations are shown on plate 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the mean daily gage height to these rating tables gives the mean daily discharge, from which the monthly and yearly mean discharge are computed.

For most of the gaging stations in the area covered by this report the data presented comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off. Skeleton rating tables are published except for those stations whose daily discharge for the greater part of the year was determined by the shifting-control method, the slope method, or other special methods.

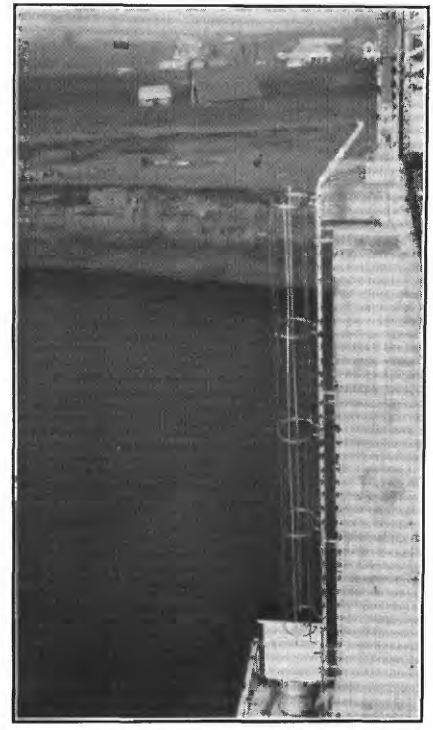
The description of the station gives the type of gage, its latitude and longitude determined from the best available maps, and information in regard to diversions that decrease the flow at the gage, artificial regulation from pondage or storage, and the accuracy of the records. Under "Average discharge" is given the average discharge for the number of years indicated. It is given only for stations for which there are 10 or more complete years of record. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). Unless otherwise qualified, the maximum discharge corresponds to the crest stage, obtained by use of a water-stage recorder or a nonrecording gage read at the time of the crest. Likewise the minimum discharge represents the lowest stage, unless otherwise qualified. The peak discharge for the year with the time of its occurrence is given below the table of monthly discharge for some stations. Selected lower peaks are also given if the peak discharge exceeded the mean discharge for that day by more than 10 percent. This supplementary information is generally not given for stations having drainage areas of less than 10 square miles or more than 10,000 square miles.

The table of daily discharge gives, for stations equipped with nonrecording gages, the discharge in second-feet corresponding to once-daily readings of the gage or the mean of twice-daily readings. For flashy floods the mean daily discharge is determined from gage-height graphs based on gage readings made once or twice daily or oftener, as stated in the station description. For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the table gives the discharge corresponding to the mean daily gage height. For stations subject to such fluctuation the mean daily gage height may not indicate the true mean daily discharge, which must be obtained by averaging the discharge for intervals of the day or by using the discharge integrator, an instrument for obtaining the mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources, which necessitates the use of the slope or fall in a reach of the stream as a factor in the determination of discharge. Information requisite for determining the slope or fall is obtained by means of an auxiliary

A. ARKANSAS RIVER AT LITTLE ROCK, ARK.

B. RED RIVER NEAR COLBERT, OKLA.



C. RED RIVER AT GARLAND, ARK.
Note safety basket on ladder approach to gage shelter

GAGING-STATION STRUCTURES.

gage set at some distance from the base gage. The auxiliary gage, if one is used, is described under "Location." At some stations the stage-discharge relation is affected by changing stage, and for them the rate of change of stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, which makes it impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of occasional winter discharge measurements and gage heights, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for stations in the same or nearby basins. The days included in the periods of ice effect and the days during the winter period on which discharge measurements were made are indicated in the table by symbols referring to footnotes.

In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the figures for that month given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge and not the instantaneous discharge when the water surface was at crest stage. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" gives the average flow in cubic feet per second during the month.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily on (1) the permanency of the stage-discharge relation and (2) the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that, in general, the daily records are accurate within 5 percent; "good," within 10 percent; "fair," within 15 percent; and "poor," within 20 or a higher percent.

Yield at some stations as indicated by monthly means may vary widely from natural yield, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations figures of "second-feet per square mile" and "run-off in inches" are not published unless storage or diversion records are included indicating the extent of the regulation or diversion or unless satisfactory adjustments can be made for changes in contents of reservoirs or for other changes incident to use and control. Figures of second-feet per square mile and run-off in inches are also omitted if the drainage area includes large noncontributing areas or if the average annual rainfall over the drainage area is less than 20 inches.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and therefore the discharge recorded does not show the water supply available for further development, as prior appropriations below the station must first be satisfied.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected

to throw new light on data previously published, and that greater degrees of refinement in computations and records may be warranted with the increase in data and the use of improved equipment.

PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

Part 1. North Atlantic slope basins (St. John River to York River).
2. South Atlantic slope and eastern Gulf of Mexico basins (James River to Mississippi River).
3. Ohio River Basin.
4. St. Lawrence River Basin.
5. Hudson Bay and upper Mississippi River Basins.
6. Missouri River Basin.
7. Lower Mississippi River Basin.
8. Western Gulf of Mexico basins.
9. Colorado River Basin.
10. The Great Basin.
11. Pacific slope basins in California.
12. Pacific slope basins in Washington and upper Columbia River Basin.
13. Snake River Basin.
14. Pacific slope basins in Oregon and lower Columbia River Basin.

Water-supply papers and other publications of the Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as explained below.

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will, on application, furnish lists giving prices.

2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

3. Sets are available for consultation in the local offices of the water-resources branch of the Geological Survey as follows:

East of the Mississippi River:
Albany. N. Y., 526 Federal Building.
Asheville, N. C., 220 Post Office Building.
Atlanta, Ga., 5 North Rhodes Center.
Augusta, Maine, Statehouse.
Boston, Mass., 945 Post Office Building.
Charlottesville, Va., House G, Dawson Row, University of Virginia.
Chattanooga, Tenn., 442 Post Office Building.
College Park, Md., Engineering Building, University of Maryland.
Columbia, S. C., 119 United States Courthouse.
Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.
Harrisburg, Pa., 490 Education Building.
Hartford, Conn., 225 Capitol Building, 410 Asylum Street.
Indianapolis, Ind., 316 Federal Building.
Louisville, Ky., 652 Federal Building.
Madison, Wis., 666 State Office Building.
Montgomery, Ala., 507 Post Office Building.
Ocala, Fla., 302 Post Office Building.
St. Paul, Minn., 808 New Post Office Building.
South Charleston, W. Va., Armor Park School Building.
Trenton, N. J., 228 Federal Building.
Urbana, Ill., 14 Post Office Annex, Elm Street.

West of the Mississippi River:
Austin, Tex., 300 State Highway Building.
Boise, Idaho, 429 Federal Building.
Denver, Colo., 230 Customhouse.
Fort Smith, Ark., 6 Post Office Building.
Helena, Mont., 408 Federal Building.
Honolulu, Hawaii, 225 Federal Building.
Idaho Falls, Idaho, 204 Federal Building.
Iowa City, Iowa, 508 Hydraulic Laboratory, University of Iowa.
Los Angeles, Calif., G-31 United States Post Office and Courthouse.
Portland, Oreg., 606 Post Office Building.

Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.
St. Louis, Mo., 926 New Federal Building.
Salt Lake City, Utah, 303 Federal Building.
San Francisco, Calif., 465 Federal Office Building.
Santa Fe, N. Mex., 204 United States Courthouse.
Tacoma, Wash., 1100 Washington Building.
Topeka, Kans., 305 Federal Building.
Tucson, Ariz., 210 Post Office Building.

A list of the Geological Survey publications may be obtained by applying to the Director, Geological Survey, Washington, D. C.

Records of flow of streams in the United States have been published in the reports tabulated as follows:

Stream-flow data in reports of the Geological Survey

(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information...	1884 to Sept. 1890.
12th A, pt. 2	....do.....	1884 to June 30, 1891.
13th A, pt. 3	....do.....	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871-93)..	1888 to Dec. 31, 1893.
B 131.....	Descriptions, measurements, gage heights, and ratings.	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11.....	Gage heights (also gage heights for earlier years).	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895-96.
W 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River and Missouri River and tributaries.	
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years).	1898
W 35 to 39...	Descriptions, measurements, gage heights, and ratings.	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52...	Descriptions, measurements, gage heights, and ratings.	1900.
22d A, pt. 4	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights, and ratings.	1901.
W 75.....	Monthly discharge.....	1901.

Note.- Reports containing records for years after 1901 are given in table on page 6.

The table on the following page gives, by years and drainage basins, the numbers of the papers on surface water supply published from 1899 to 1940. The data for any particular station will, in general, be found in the reports covering the years during which the station was maintained. For example, the data for 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 283, 303, 323, 353, 403, 433, 453, 473, 503, which contain records for the Ohio River Basin for those years.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements" at the end of each report, the streams and points of measurement listed appearing in the same relative order as the streams and gaging stations in the body of the report. An index of the records obtained prior to 1904 has been published in Water-Supply Paper 119.

Numbers of water-supply papers containing results of stream measurements, 1899-1940

(For basins included see p. 4)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b35, 36	36	36	36	c36, 37	37	37	d37, 38	38, e39	38, f39	38	38	38
1900 g...	47, h48	48	48, 149	49	49	49, j50	50	50	50	51	51	51	51	51
1901.....	65, 75	65, 75	65, 75	65, 75	k65, 66, 75	66, 75	k65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	82	b82, 83	83	m82, 83	k83, 85	84	k83, 84	84	85	85	85	85	85	85
1903.....	97	b97, 98	98	97	k98, 99, n100	99	k98, 99	99	100	100	100	100	100	100
1904.....	o124, p125, q126	q126, 127	128	129	k128, 130	130, r131	k128, 131	132	133	133, s134	134	135	135	135
1905.....	o165, p166, q167	q167, 168	169	170	171	172	k169, 173	174	175, t177	176, s177	177	178	178	u177, 178
1906.....	o201, p202, q203	q203, 204	205	206	207	208	k205, 209	210	211, t213	212, s213	213	214	214	214
1907-8...	241	242	243	244	245	246	247	248	249	250, s251	251	252	252	252
1909.....	261	262	263	264	265	266	267	268	269	270, s271	271	272	272	272
1910.....	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911.....	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912.....	321	322	323	324	325	326	327	328	329	330	331	332-A	332-B	332-C
1913.....	351	352	353	354	355	356	357	358	359	360	361	362-A	362-B	362-C
1914.....	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915.....	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916.....	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917.....	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918.....	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919-20..	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921.....	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922.....	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923.....	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924.....	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925.....	601	602	603	604	605	606	607	608	609	610	611	612	613	614
1926.....	621	622	623	624	625	626	627	628	629	630	631	632	633	634
1927.....	641	642	643	644	645	646	647	648	649	650	651	652	653	654
1928.....	661	662	663	664	665	666	667	668	669	670	671	672	673	674
1929.....	681	682	683	684	685	686	687	688	689	690	691	692	693	694
1930.....	696	697	698	699	700	701	702	703	704	705	706	707	708	709
1931.....	711	712	713	714	715	716	717	718	719	720	721	722	723	724
1932.....	726	727	728	729	730	731	732	733	734	735	736	737	738	739
1933.....	741	742	743	744	745	746	747	748	749	750	751	752	753	754
1934.....	756	757	758	759	760	761	762	763	764	765	766	767	768	769
1935.....	781	782	783	784	785	786	787	788	789	790	791	792	793	794
1936.....	801	802	803	804	805	806	807	808	809	810	811	812	813	814
1937.....	821	822	823	824	825	826	827	828	829	830	831	832	833	834
1938.....	851	852	853	854	855	856	857	858	859	860	861	862	863	864
1939.....	871	872	873	874	875	876	877	878	879	880	881	882	883	884
1940.....	891	892	893	894	895	896	897	898	899	900	901	902	903	904

a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in 21st Annual Report, part 4.
b James River only.
c Gallatin River.
d Green and Gunnison Rivers and Colorado River above Gunnison River.
e Mojave River only.
f Kings and Kern Rivers and south Pacific slope basins.
g Rating tables and index to Water-Supply Papers 47-52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Monthly discharge for 1900 in 22d Annual Report, part 4.
h Wissahickon and Schuylkill Rivers to James River.
i Scioto River.
j Loup, Platte, and Elkhorn Rivers and tributaries below Platte River.
k Tributaries of Mississippi River from east.
m Lake Ontario and tributaries to St. Lawrence River proper.
n Hudson Bay only.
o New England rivers only.
p Hudson River to Delaware River, inclusive.
q Susquehanna River to Yadkin River, inclusive.
r Platte and Kansas Rivers.
s The Great Basin in California, except Truckee and Carson River Basins.
t Below mouth of Gila River.
u Rogue, Umpqua, and Siletz Rivers only.

From time to time reports have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which have been revised), as well as some records not contained in the annual series of water-supply papers. The following table gives the numbers and titles of these reports, arranged in alphabetical order by States and drainage basins.

Reports containing compilation of discharge by States and drainage basins

Water-Supply Paper	Year ending	State or drainage basin and title
		STATE
107	1903	Alabama, Water powers of, with an appendix on stream measurements in Mississippi.
298	1912	California, Water resources of, part 1, Stream measurements in Sacramento River Basin.
299	1912	California, Water resources of, part 2, Stream measurements in San Joaquin River Basin.
300	1912	California, Water resources of, part 3, Stream measurements in the Great Basin and Pacific coast river basins.
447	1918	California, southern, Surface water supply of Pacific slope of.
597-E	1927	California, Surface water supply of Sacramento River Basin.
636-D	1927	California, Surface water supply of San Joaquin River Basin.
636-E	1927	California, southern, Surface water supply of Pacific slope basins in.
637-A	1927	California, Surface water supply of minor San Francisco Bay, northern Pacific, and Great basins in.
74	1900	Colorado, Water resources of.
197	1905	Georgia, Watsr resources of.
415	1915	Massachusetts, Surface waters of.
230	1906	Nebraska, Surface water supply of.
370	1910	Oregon, Surface water supply of.
850	1937	Texas, Summary of records of surface waters of.
424	1916	Vermont, Surface waters of.
492	1919	Washington, Summary of hydrometric data in.
870	1935	Washington, Summary of records of surface waters of.
469	1921	Wyoming, Surface waters of, and their utilization.
		DRAINAGE BASIN
395	1914	Colorado River (Ariz., Colo., N. Mex., Utah, Wyo.) and its utilization.
617	1927	Colorado River, upper (Colo., Utah), and its utilization.
517	1920	Great Salt Lake Basin, Water powers of.
618	1926	Green River (Utah, Wyo.) and its utilization.
198	1906	Kennebec River Basin (Maine), Water resources of.
491	1917	Milk River. (See St. Mary and Milk Rivers.)
536	1920	New-Kanawha River Basin (N. C., Va., W. Va.), Surface water supply of.
279	1909	Penobscot River Basin (Maine), Water resources of.
192	1906	Potomac River Basin (D. C., Md., W. Va.)
358	1913	Rio Grande Basin (Colo., N. Mex., Tex.), Water resources of, 1888-1913.
491	1917	St. Mary and Milk Rivers (Mont., Canada), Water supply of.
109	1904	Susquehanna River Basin (Pa., Md.), Hydrography of.

Records of discharge have been published also in State reports. Some of these are not contained in the publications of the Geological Survey or are revisions of records previously published in its water-supply papers. The following table contains a list of these reports.

State reports containing compilation of records of discharge

State	Year ending	Report	Issued by
Alabama.....	1915	Bull. 17, Water powers of Alabama....	Geological Survey of Alabama.
Arkansas....	1928	Stream-gaging report 1.....	Arkansas Geological Survey.
Connecticut:	1926	Bull. 44, Water resources of Connecticut.	State Geological and Natural History Survey.
Do.....	1933[a]	5th biennial report.....	Connecticut State Water Commission.
Georgia.....	1907	Bull. 16, Water powers of Georgia....	Geological Survey of Georgia.
Do.....	1920[b]	Bull. 38, Water powers of Georgia....	Do.

a Includes records of monthly discharge in second-feet per square mile for years 1912-33.
b Includes records for years 1907-18.

State reports containing compilation of records of discharge--Continued

State	Year ending	Report	Issued by
Illinois....	1911	Water resources of Illinois.....	Rivers and Lakes Commission.
Do.....	1934	Stream-flow data of Illinois.....	Division of Waterways.
Indiana.....	1927	Pub. 72, Surface water supply of Indiana.	Department of Conservation.
Do.....	1930[c]	Pub. 112, Surface water supply of Indiana.	Do.
Iowa.... ...	1932	Stream-flow records of Iowa.....	Iowa State Planning Board.
Kansas.....	1919	Surface waters of Kansas.....	Kansas Water Commission.
Do.....	1924[d]	....do.....	Do.
Do.....	1928[e]	....do.....	Kansas State Board of Agriculture.
Do.....	1935[f]	Stream-flow data of Kansas.....	Do.
Do.....	1939[g]	....do.....	Do.
Kentucky....	1920	Surface waters of Kentucky.....	Kentucky Geological Survey.
Minnesota...	1912	Water-resources investigation of Minnesota.	State Drainage Commission.
Missouri....	1926	Vol. 20, 2d series, Water Resources of Missouri.	Missouri Geological Survey and Water Resources.
Do.....	1939[h]	Vol. 26, 2d series, Surface waters of Missouri.	Do.
Nebraska....	1914	1st hydrographic report.....	Bureau of Water Power, Irrigation, and Drainage.
Do.....	1928[i]	2d hydrographic report.....	Do.
New Jersey..	1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	1934[j]	Special Report 5, Surface Water Supply of New Jersey.	State Water Policy Commission.
New Mexico..	1925	Surface water supply of New Mexico...	Office of the State Engineer.
North Carolina.	1923	Bull. 34, Discharge records of North Carolina Streams.	Department of Conservation and Development.
Do.....	1936[k]	Bull. 39, Discharge records of North Carolina streams.	Do.
Ohio.....	1921[l]	Bull. 73, Ohio stream flow.....	Engineering Experiment Station, Ohio State University.
Do.....	1939[m]	Bull. 200, Compilation of stream-flow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Oregon.....	1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	1924[n]	Bull. 7, Water resources of the State of Oregon.	Do.
Do.....	1930[o]	Bull. 8, Water resources of the State of Oregon.	Do.
Do.....	1936[p]	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania	1911	Report of the Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	1932[q]	Stream-flow records of Pennsylvania..	Department of Forests and Waters.
Tennessee...	1924	Bull. 34, Water resources of Tennessee.	Department of Education.
Do.....	1930[r]	Bull. 40, Surface waters of Tennessee.	Do.
Utah.....	1905	5th biennial report, State Engineer..	Office of the State Engineer.
Virginia....	1927	Bull. 31, Water resources of Virginia.	Conservation and Development Commission.
Washington..	1933	Bull. 5, Monthly and yearly summaries of hydrometric data.	Department of Conservation and Development.
Wisconsin...	1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do.....	1923[s]	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

c Includes records for years 1927-30.
d Includes records for years 1919-24.
e Includes records for years 1924-28.
f Includes records for years 1928-35.
g Includes records for years 1935-39.
h Includes records for years 1927-39.
i Includes records for years 1914-28.
j Includes records for years 1928-34.
k Includes records for years 1889-1936; records of daily and monthly discharge are not included.
l Includes all available records prior to 1921.
m Includes records for years 1902-39.
n Includes records for years 1914-24.
o Includes records for years 1924-30.
p Includes records for years 1930-36.
q Includes records for years 1928-32.
r Includes average weekly discharge for years 1920-30.
s Includes records for years 1914-23.

Note.- In addition to the records contained in the reports listed above, the following States have issued annual or biennial reports in which are contained records of discharge: California, Colorado, Connecticut, Idaho, Indiana, Missouri, Montana, Nebraska, New Mexico, New York (also New York City Board of Water Supply), North Dakota, Oregon, Pennsylvania, Utah, Washington, and Wyoming.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey. The more recent of these reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier noteworthy floods. The following list gives the numbers and titles of these reports.

Water-Supply Paper	Title
88	The Passaic flood of 1902.
92	The Passaic flood of 1903.
96	Destructive floods in the United States in 1903.
147	Destructive floods in the United States in 1904.
162	Destructive floods in the United States in 1905.
334	The Ohio Valley flood of March-April 1913.
426	Southern California floods of January 1916.
487	The Arkansas River flood of June 3-5, 1921.
488	The floods in central Texas in September 1921.
520-G	Some floods in the Rocky Mountain region.
636-C	The New England flood of November 1927.
771	Floods in the United States, magnitude and frequency.
773-E	The New York State flood of July 1935.
796-B	Flood on Republican and Kansas Rivers, May and June 1935.
796-C	Flood in La Canada Valley, California, January 1, 1934.
798	The floods of March 1936, Part 1, New England Rivers.
799	The floods of March 1936, Part 2, Hudson River to Susquehanna River region.
800	The floods of March 1936, Part 3, Potomac, James and upper Ohio Rivers.
816	Major Texas floods of 1936.
836-A	Stages and flood discharges of the Connecticut River at Hartford, Conn.
838	Floods of Ohio and Mississippi Rivers, January-February 1937.
842	Floods in Canadian and Pecos River Basins of New Mexico, May and June 1937.
843	Floods of December 1937 in northern California.
847	Maximum discharges at stream-measurement stations through September 1938.
867	Hurricane floods of September 1938.
869	Flood of August 1935 in Muskingum River Basin, Ohio.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table contains a list of gaging stations for the area covered by this report at which records of daily discharge were collected during the year ending September 30, 1940, by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey.

Records of daily discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Remarks
Apishapa River	Fowler, Colo.	1939-40	Unpublished.
Arkansas River	Las Animas, Colo.	1939-40	Do.
Atchafalaya River	Morgan City, La.	1927-37*	Published in reports of Mississippi River Commission.
Do.	North of mouth of Little Bayou des Ourses, La.	1933-40	Unpublished.
Do.	Simmesport, La.	1851, 1858, 1873, 1880-1940*	Published in reports of Mississippi River Commission.
Bayou Bartholomew	McGehee, Ark.	1939-40	Unpublished.
Bayou Boeuf	Above Bayou Robert, La.	1939-40	Do.
Do.	Above Middle Bayou	1939-40	Do.
Do.	Lamourie, La.	1937-40	Do.
Do.	Near Lyles, La.	1939-40	Do.
Bayou Courtableau	North of Port Barre, La.	1932-40	Do.
Do.	Washington, La.	1932-40*	Do.
Bayou des Glaises	Moreauville, La.	1937-40	Do.
Bayou des Glaises diversion channel.	....do.	1939-40	Do.
Bayou DeView	Morton, Ark.	1937-40	Do.
Bayou Dorcheat	East of Sarepta, La.	1940	Do.
Bayou Lamourie	Lamourie, La.	1937-40	Do.
Bayou Macon	Eudora, Ark.	1938-40	Do.
Bayou Rapides	Alexandria, La.	1939-40	Do.
Bayou Teche	Charenton, La.	1933-40	Do.
Do.	Port Barre, La.	1932-40	Do.
Bear Tail Creek	East of Coldwater, Miss.	1940	Do.
Big Black River	Kilmicheal, Miss.	1936-40	Do.

*Fragmentary records.

Records of daily discharge collected by agencies other than the Geological Survey--Continued

Stream	Location	Period	Remarks
Big Black River	Ragin, Miss	1936-40	Unpublished.
Do	West, Miss	1936-40	Do.
Black Bayou	Rodessa, La	1939-40	Do.
Black Cypress Creek	North of Jefferson, Tex.	1938-40	Do.
Black Lake Bayou	Coushatta-Ashland highway, La.	1939-40	Do.
Boeuf River	West of Eudora, Ark	1939-40	Do.
Boeuf River, diversion canal into.	Macon Lake, Ark	1939-40	Do.
Cache River	Patterson, Ark	1937-40	Do.
Caddo River	Alpine-Bismark, Ark	1939-40	Do.
Cane Creek	West of Love, Miss	1940	Do.
Camp Creek	West of Lewisburg, Miss.	1940	Do.
Canal No. 4	Chicot, Ark	1938-40	Do.
Caney River	Elgin, Kans	1939-40	Do.
Cedar Creek	Cedar Point, Kans	1938-40	Do.
Coldwater Creek	Hardesty, Okla	1939-40	Do.
Coldwater River	South of Lewisburg, Miss.	1940	Do.
Cottonwood River	Marion, Kans	1939-40	Do.
Cypress Bayou	East of Benton, La	1939-40	Do.
Dirty Creek	Warner, Okla	1939-40	Do.
Ditch Bayou	South of Lake Village, Ark.	1938-40	Do.
Elk River	Elk City, Kans	1938-40	Do.
Hatchie River	Rialto, Tenn	1939-40	Do.
Horse Creek	Sugar City, Colo	1940	Do.
Hurricane Creek	Frees Corner, Miss	1940	Do.
Do	South of Sheridan, Ark.	1939-40	Do.
Hurricane Creek, East Fork of.	South of Nesbitt, Miss.	1940	Do.
Hurricane Creek, North Fork of.	West of Nesbitt, Miss.	1940	Do.
Hurricane overbank	Frees Corner, Miss	1940	Do.
Labette Creek	Oswego, Kans	1939-40	Do.
Little Missouri River	Boughton, Ark	1938-40	Do.
Little Tallahatchie River.	West of Batesville, Miss.	1940	Do.
Loosahatchee River	Brunswick, Tenn	1939-40	Do.
Middle Creek	Elmdale, Kans	1938-40	Do.
Mississippi River	Arkansas City, Ark	1884-1940*	Published in reports of Mississippi River Commission.
Do	Baton Rouge, La	1929, 1938-40	Do.
Do	Carrollton, La	1851, 1852, 1879-1940*	Do.
Do	Columbus, Ky	1857-1940*	Do.
Do	Mayersville, Miss	1883-95, 1933-40*	Do.
Do	Natchez, Miss.(Ferry Range).	1858, 1890-92, 1927, 1934-40*	Do.
Do	Red River Landing, La.	1851, 1881-1940*	Do.
Do	Tarbert Landing, Miss.	1911-13, 1928-29, 1932-40*	Do.
Muddy Fork	North of Murfreesboro, Ark.	1940	Unpublished.
Do	South of Muddy Fork, Ark.	1940	Do.
North Sulphur River	South of Paris, Tex	1938-40	Do.
Old River	Near Torras, La., below Texas & Pacific Railway bridge.	1851, 1858, 1888-1940*	Published in reports of Mississippi River Commission.
Ouachita River	Arkadelphia, Ark	1929-40	Unpublished.
Do	Camden, Ark	1929-40	Do.
Do	Cold Spring Bar, Ark	1928-40	Do.
Panther Creek	Frees Corner, Miss	1940	Do.
Pigeon Roost Creek	South of Lewisburg, Miss.	1940	Do.
Quiver River	Doddsville, Miss	1938-40	Do.
Red River	Alexandria, La	1858, 1879-1940*	Published in reports of Mississippi River Commission.
Do	Fulton, Ark	1938-40	Unpublished.
St. Francis Bay	Riverfront, Ark	1928-40	Published in reports of Mississippi River Commission.
St. Francis River	Lake City, Ark	1933-40*	Unpublished.
Do	Parkin, Ark	1928-40	Published in reports of Mississippi River Commission.
Do	St. Francis, Ark	1933-40*	Unpublished.
Do	Wappapello, Mo	1920-40*	Do.
Saline Bayou	Calvin-Goldanna highway, La.	1939-40	Do.
Saline River	Below Gamble Creek, south of Sheridan, Ark.	1939-40	Do.
Do	Benton, Ark	1939-40	Do.
Do	Warren, Ark	1930-31, 1933-40	Do.
Smackover Creek	Smackover, Ark	1939-40	Do.
South Sulphur River	South of Charleston, Tex.	1938-40	Do.
Sulphur River	Below Ringo Crossing, Tex.	1939-40	Do.
Do	South of Texarkana, Tex.	1939-40	Do.
West Beaver Creek	Near Victor, Colo	1905-40	Do.

*Fragmentary records.

Records of daily discharge collected by agencies other than the Geological Survey--Continued

Stream	Location	Period	Remarks
Whiskey Bay pilot channel.	Station 10+00, La.....	1935-40	Unpublished.
White Oak Creek.....	South of Talco, Tex....	1938-40	Do.
White River.....	Clarendon, Ark.....	1879-1940*	Published in reports of Mississippi River Commission.
Wolf River.....	Raleigh, Tenn.....	1936-40	Unpublished.
Yalobusha River.....	Whaley, Miss.....	1938-40	Do.
Yocona River.....	West of Water Valley, Miss.	1940	Do.

*Fragmentary records.

Note.- All the gaging stations listed in the above table were operated by the Corps of Engineers, U. S. Army, except that on West Beaver Creek near Beaver, Colo., which was operated by the Southern Colorado Power Co.

The Soil Conservation Service began in 1938 to collect records of run-off from six areas of less than 25 acres each near Bentonville, Ark., four areas of less than 50 acres each near Colorado Springs, Colo., four areas of less than 100 acres each near Muskogee, Okla., and three areas of less than 150 acres each near Vega, Tex. These records are not published but are available in the files of the organization named.

COOPERATION

The work in the several States was done under cooperative agreements with the organizations listed below.

Arkansas: State Highway Commission, W. W. Mitchell, director; Arkansas Geological Survey, George C. Branner, State geologist; Fort Smith Water Department, H. S. Peck, commissioner.

Colorado: Office of the State engineer, M. C. Hinderlider, State engineer.

Kansas: Water-resources division of the Kansas State Board of Agriculture, George S. Knapp, chief engineer.

Kentucky: Department of Highways, T. H. Cutler, chief engineer.

Louisiana: Louisiana Department of Conservation, E. S. Clements and B. A. Hardey, directors; Louisiana State University and Agricultural and Mechanical College, L. J. Lassalle, dean, College of Engineering.

Mississippi: Mississippi Geological Survey, W. C. Morse, director.

Missouri: Missouri Geological Survey and Water Resources, H. A. Buehler, State geologist; Missouri Highway Department, C. W. Brown, chief engineer.

New Mexico: Office of the State engineer, T. M. McClure, State engineer.

Oklahoma: Oklahoma Planning and Resources Board, Division of Water Resources, Don McBride, chief engineer; Oklahoma City Water Department, M. B. Cunningham, superintendent; Grand River Dam Authority, Ray McNaughton, chairman of the board of directors.

Tennessee: Tennessee Department of Conservation, J. C. Poe, commissioner, through the Division of Geology, W. F. Pond, State geologist.

Texas: Texas State Board of Water Engineers, C. S. Clark, chairman, A. H. Dunlap, and J. W. Pritchett.

Funds were furnished by the Corps of Engineers, U. S. Army, for the construction and maintenance of 132 gaging stations, of which 20 were in Arkansas, 6 in Colorado, 10 in Kansas, 16 in Louisiana, 15 in Mississippi, 11 in Missouri, 3 in New Mexico, 39 in Oklahoma, and 12 in Texas.

Financial assistance was also furnished by the Weather Bureau, United States Department of Commerce, and the Flood Control Coordinating Committee, United States Department of Agriculture.

Assistance in collecting records was rendered also by the following organizations and corporations:

Arkansas: Arkansas Power & Light Co., White River Power Co.

Colorado: Arkansas Valley Ditch Association.

Kansas: Kansas Gas & Electric Co.

Mississippi: Vicksburg Bridge Co.

Missouri: Little River Drainage District; Empire District Electric Co.; City of Joplin, Missouri Conservation Commission.

DIVISION OF WORK

The stream-gaging work was conducted by the water resources branch of the Geological Survey, Glenn L. Parker, chief hydraulic engineer, Carl G. Paulsen, assistant chief hydraulic engineer, and Rudolph G. Kasel, chief of the division of surface waters. The data for the stations in the several States were collected and prepared for publication under supervision of district engineers as follows: In Arkansas (except for White River at Beaver), in Oklahoma (except for Red River near Terral), and for Mississippi River at Memphis, Tenn., Elk River near Tiff City, Mo., and Red River at Arthur City and near Gainesville, Tex.--J. L. Saunders; in Colorado--Robert Follansbee, the work being done in collaboration with M. C. Hinderlider, State engineer, and L. T. Burgess, State chief hydrographer; in Kansas--J. B. Spiegel; in Kentucky--F. M. Veatch until March 12, 1940, succeeded by J. V. B. Wells; in Louisiana and Mississippi--D. H. Barber until October 31, 1940 (when he entered upon military duty), succeeded by H. C. Bolon; in Missouri (except for Elk River at Tiff City) and for White River at Beaver, Ark.--H. C. Beckman; in New Mexico--Berkeley Johnson; in Tennessee (except for Mississippi River at Memphis)-- C. E. McCashin; in Texas (except for Red River at Arthur City and near Gainesville) and for Red River near Terral, Okla.--C. E. Ellsworth.

The records were reviewed and the manuscript prepared for publication under the direction of B. J. Peterson in charge, and M. C. Boyer, associate engineer, section of reports.

MISSISSIPPI RIVER MAIN STEM

Mississippi River at St. Louis, Mo.

Location.- Water-stage recorder, lat. 38°37'44", long. 90°10'54", at foot of Washington Avenue, just downstream from west pier of Eads Bridge, St. Louis, and 15 miles downstream from Missouri River. Datum of gage is 379.94 feet above mean sea level (general adjustment of 1929) or 379.80 feet above mean Gulf level.

Drainage area.- 701,000 square miles (authority, Mississippi River Commission).

Records available.- Discharge: March 1933 to September 1940 in reports of Geological Survey. Since 1866 (occasional discharge measurements) in reports of Mississippi River Commission.

Gage heights: Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of U. S. Weather Bureau. March 1933 to September 1940 in reports of Geological Survey.

Extremes.- Maximum discharge during year, 188,000 second-feet June 14 (gage height, 13.37 feet); minimum daily, 28,000 second-feet Jan. 18, 19, 23; minimum gage height observed, -6.11 feet Jan. 16.

1933-40: Maximum discharge, 649,000 second-feet June 7, 1935; maximum gage height, 33.52 feet June 9, 1935; minimum discharge, 27,600 second-feet Dec. 12, 1937; minimum gage height, that of Jan. 16, 1940.

Maximum stage known, 41.39 feet June 28, 1844.

Remarks.- Records excellent except those for periods of ice effect, which are fair. During the year 51 discharge measurements were made.

Correction.- Figures of discharge for September 1939 and the water year 1938-39 published herein are corrections of those published in Water-Supply Paper 877.

Month	Second-foot-days	Mean	Run-off in acre-feet
September.....	1,639,100	54,640	3,251,000
Water year 1938-39..	54,033,100	148,000	107,165,000

Gage height at 8 a.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-4.03	-1.32	-2.48	-3.92	-2.17	-1.87	1.64	6.35	6.42	9.46	0.57	7.21
2	-3.45	-1.55	-1.99	-4.52	-2.93	-1.99	1.69	6.38	6.37	8.56	-.52	7.92
3	-3.74	-1.94	-1.42	-5.19	-2.77	-1.50	3.13	6.75	5.82	7.92	.37	7.55
4	-3.84	-2.27	-1.57	-4.10	-3.17	.54	3.97	7.23	4.95	7.73	1.54	6.91
5	-3.85	-2.74	-1.82	-1.67	-3.28	5.30	3.52	7.49	3.00	7.28	3.14	6.29
6	-3.78	-3.06	-1.93	-2.28	-3.67	5.48	3.83	7.41	2.57	6.50	4.26	5.27
7	-3.83	-3.14	-1.94	-2.72	-4.29	6.55	6.53	6.99	2.86	5.93	5.02	4.12
8	-3.62	-3.37	-1.81	-4.71	-4.41	6.69	7.52	6.70	2.64	5.58	4.37	3.36
9	-3.41	-3.64	-1.73	-5.50	-4.52	4.75	7.30	6.88	3.02	5.59	2.27	3.07
10	-3.11	-3.65	-1.60	-5.48	-4.64	3.88	6.76	7.14	3.12	5.49	1.60	2.60
11	-2.57	-3.35	-1.63	-5.38	-4.80	3.76	7.05	6.87	4.46	4.19	1.48	2.70
12	-2.72	-3.26	-1.64	-5.35	-4.76	3.97	7.55	7.04	9.17	2.86	1.45	2.68
13	-2.85	-2.83	-1.50	-5.26	-4.64	4.75	7.65	8.40	12.43	2.02	1.51	1.98
14	-3.03	-2.58	-1.38	-4.80	-4.57	5.33	8.30	7.67	13.33	2.01	2.27	.52
15	-3.13	-2.49	-1.41	-4.83	-4.37	5.78	8.42	5.87	12.17	1.94	4.46	.72
16	-3.67	-2.43	-1.32	-6.09	-4.20	5.02	8.33	5.82	11.05	2.82	5.47	.36
17	-3.12	-2.65	-1.36	-5.69	-3.63	4.65	8.14	4.77	10.55	4.20	6.29	-.20
18	-3.27	-2.74	-1.56	-5.47	-3.58	3.52	8.30	3.94	9.90	3.15	8.18	-.25
19	-3.47	-2.66	-1.80	-5.35	-3.09	2.00	10.00	4.65	9.02	1.72	10.63	-.37
20	-3.57	-2.59	-2.08	-5.18	-2.93	3.12	11.40	5.39	8.90	.57	11.50	-.19
21	-3.77	-2.18	-2.27	-4.97	-2.78	3.67	11.17	5.46	8.83	-.30	10.20	-.78
22	-3.82	-1.75	-2.31	-2.78	-2.45	3.00	11.12	6.81	7.83	-1.43	8.98	-1.17
23	-3.81	-1.65	-2.28	-1.36	-2.23	2.47	10.08	7.24	6.08	-.72	7.84	-.93
24	-3.74	-2.06	-2.18	-1.27	-1.80	1.62	9.24	7.13	2.85	-.80	6.08	-1.18
25	-3.32	-2.49	-2.14	-.91	-2.09	2.70	8.72	6.49	4.87	-1.05	4.79	-.98
26	-3.03	-2.89	-2.26	-.75	-2.48	1.18	9.11	6.48	9.23	-1.06	3.77	-2.03
27	-3.06	-3.01	-2.45	-1.36	-2.25	1.56	9.10	6.77	10.82	-1.29	2.70	-2.30
28	-1.92	-3.03	-2.65	-1.21	-1.81	1.48	8.29	6.93	11.86	-.70	4.77	-2.19
29	-2.52	-2.96	-2.86	-1.08	-2.25	1.35	7.45	6.96	12.03	.31	4.82	-2.03
30	-1.93	-2.86	-3.02	-1.62	-	1.40	6.70	6.62	10.99	.76	6.27	-2.09
31	-1.48	-	-3.46	-2.00	-	1.16	-	6.48	-	.67	6.45	-

Discharge, in second-feet, of Mississippi River at Cape Girardeau, Mo., water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49,200	55,600	48,000	49,500	b34,700	62,100	81,000	152,000	120,000	177,000	68,600	116,000
2	46,600	57,000	49,200	46,600	b35,200	64,400	80,500	149,000	119,000	162,000	70,600	121,000
3	43,400	56,400	51,900	41,700	b35,800	65,900	82,400	140,000	119,000	148,000	64,700	126,000
4	42,600	55,500	55,800	36,300	b36,000	66,100	87,100	145,000	114,000	137,000	64,600	129,000
5	43,500	53,000	57,000	26,800	36,200	75,200	98,500	149,000	108,000	133,000	72,200	122,000
6	42,400	50,600	55,700	b26,000	36,500	102,000	98,900	150,000	97,400	128,000	82,400	116,000
7	42,700	47,500	54,400	b28,200	36,600	119,000	99,300	145,000	89,100	120,000	93,700	109,000
8	42,700	46,000	54,200	b31,600	37,400	126,000	117,000	142,000	89,700	114,000	101,000	100,000
9	43,500	45,100	54,700	b34,000	38,200	129,000	130,000	139,000	88,600	111,000	101,000	92,800
10	44,300	44,200	55,300	b35,900	39,000	118,000	131,000	137,000	87,900	109,000	90,200	88,400
11	46,100	42,600	55,100	*b36,600	40,000	107,000	133,000	138,000	89,900	108,000	83,000	84,700
12	49,200	43,500	56,000	37,700	41,200	105,000	140,000	135,000	96,600	103,000	79,100	83,400
13	49,800	44,600	57,100	38,500	42,000	105,000	142,000	134,000	127,000	93,300	77,500	82,900
14	48,900	46,400	57,000	40,200	44,800	110,000	142,000	142,000	172,000	86,000	77,200	81,900
15	47,800	48,300	58,000	41,000	45,200	116,000	148,000	141,000	191,000	82,100	79,600	74,700
16	47,100	49,800	57,900	40,200	47,100	123,000	153,000	127,000	182,000	81,700	90,500	69,700
17	45,100	50,700	58,800	37,400	47,900	118,000	152,000	119,000	173,000	84,300	103,000	70,300
18	44,300	50,600	58,800	34,900	54,700	113,000	155,000	113,000	165,000	93,400	111,000	67,000
19	45,200	49,800	57,500	31,000	54,700	106,000	162,000	106,000	156,000	92,800	125,000	64,600
20	44,300	49,800	55,700	27,600	53,600	96,500	187,000	103,000	148,000	82,300	148,000	64,400
21	43,400	49,800	54,900	24,700	54,900	93,000	199,000	112,000	142,000	74,400	164,000	64,400
22	42,700	51,600	53,300	24,800	57,100	100,000	193,000	114,000	142,000	67,600	158,000	61,300
23	42,200	54,700	53,000	25,900	57,200	98,000	189,000	120,000	135,000	61,800	145,000	58,800
24	41,400	57,100	53,000	b27,000	58,100	91,200	179,000	126,000	123,000	62,100	135,000	58,300
25	42,200	55,700	54,500	b28,000	60,300	86,000	168,000	128,000	101,000	61,900	119,000	56,900
26	43,800	53,300	54,500	b29,000	59,400	87,600	161,000	123,000	98,900	60,300	107,000	58,800
27	45,500	50,600	54,200	b30,500	57,200	81,900	160,000	120,000	130,000	60,300	98,000	56,200
28	47,100	48,000	52,600	b31,600	57,900	79,100	160,000	122,000	157,000	58,200	90,700	52,200
29	50,200	47,300	51,900	b32.500	61,700	82,600	151,000	125,000	173,000	58,600	95,800	50,600
30	51,500	47,300	50,600	b33,300	-	80,000	142,000	124,000	177,000	64,400	101,000	51,100
31	51,900	-	48,700	b34,000	-	81,200	-	122,000	-	70,300	109,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run off in acre-feet
October	1,410,600	51,900	41,400	45,500	2,798,000
November	1,502,400	57,100	42,600	50,080	2,980,000
December	1,689,300	58,800	48,000	54,490	3,351,000
Calendar year	-	-	-	-	-
January	1,043,000	49,500	24,700	33,650	2,069,000
February	1,360,600	61,700	34,700	46,920	2,699,000
March	2,987,800	129,000	62,100	96,380	5,926,000
April	4,221,700	199,000	80,500	140,700	8,374,000
May	4,042,000	152,000	103,000	130,400	8,017,000
June	3,912,100	191,000	87,900	130,400	7,760,000
July	2,945,800	177,000	58,200	95,030	5,843,000
August	3,105,400	164,000	64,600	100,200	6,159,000
September	2,432,400	129,000	50,600	81,080	4,825,000
Water year 1939-40	30,653,100	199,000	24,700	83,750	60,800,000

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Daily discharge computed from mean daily gage heights, not from 8 a.m. gage readings given on preceding page.

Mississippi River at Memphis, Tenn.

Location.- Water-stage recorder, lat. 35°07'37", long. 90°04'25", at Memphis, 50 feet downstream from Harahan Bridge, 1¼ miles downstream from Wolf River, 1.3 miles downstream from Beale Street gage, 70 miles upstream from St. Francis River, 164 miles upstream from White River, and 171 miles upstream from Arkansas River. Datum of gage is 183.91 feet above mean sea level (general adjustment of 1929), 184.21 feet above mean Gulf level (1912 Mississippi River Commission), or 190.86 feet on Memphis datum (1881 Mississippi River Commission).

Drainage area.- 932,800 square miles (authority, Mississippi River Commission).

Records available.- Discharge: April 1934 to September 1940 in reports of Geological Survey. 1882-1904, 43 discharge measurements, and 1933, 61 discharge measurements, referred to Beale Street gage, in reports of Mississippi River Commission.

Gage heights: Since November 1871, at Beale Street gage, in reports of Mississippi River Commission. December 1890 to August 1932, at Beale Street gage, September 1932 to December 1934, at staff gage 1,000 feet downstream, and since December 1934, at water-stage recorder at present site, in reports of Weather Bureau.

To adjust gage heights obtained at present site to those obtained at site at Beale Street, add 0.3 foot for each 10-foot increment of stage.

Extremes.- Maximum discharge during year, 962,000 second-feet May 6; maximum gage height, 31.70 feet May 7; minimum discharge, 80,000 second-feet Oct. 11, 12; minimum gage height, -0.97 foot Jan. 9.

1934-40: Maximum discharge, 1,980,000 second-feet Feb. 8, 1937; maximum gage height, 48.69 feet Feb. 10, 1937; minimum discharge, 79,200 second-feet Aug. 25, 1936; minimum gage height, that of Jan. 9, 1940.

Maximum stage known previous to 1937, 46.55 feet at Beale Street gage or about 45.2 feet at present site, Apr. 9, 1913.

Remarks.- Records excellent. During the year 92 discharge measurements were made.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Gage height at 8 a.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.58	1.15	0.63	2.69	-0.18	19.24	13.10	30.30	10.43	12.34	3.83	5.67
2	.49	1.86	.47	1.65	.10	18.18	13.22	30.66	10.54	12.72	3.54	5.96
3	.38	2.27	.33	1.26	.23	17.06	13.70	30.95	10.86	12.72	3.19	6.33
4	.26	2.34	.23	1.37	1.16	16.01	14.32	31.20	11.35	12.34	3.00	7.17
5	.62	2.47	.17	1.02	1.56	15.30	14.78	31.40	11.80	11.90	3.00	8.00
6	.81	2.57	.17	.45	1.97	15.12	15.38	31.61	12.11	11.76	2.92	9.10
7	.33	2.05	.26	-.09	2.44	15.41	16.56	31.69	12.42	11.87	2.74	9.94
8	-.10	1.33	.41	-.64	1.82	16.55	18.04	31.60	12.78	12.02	2.93	9.90
9	-.32	.88	.49	-.97	1.66	18.36	19.49	31.36	13.10	11.84	3.44	9.23
10	-.40	.66	.50	-.49	2.20	20.08	20.66	30.50	13.44	11.37	3.88	8.57
11	-.45	.67	.50	.31	2.07	21.39	21.67	28.86	13.64	10.75	4.20	7.44
12	-.43	.58	.80	.78	1.81	22.14	22.38	26.28	13.70	10.29	4.40	6.08
13	-.40	.47	1.41	1.04	1.95	22.49	22.44	23.10	13.42	10.23	4.26	5.18
14	-.23	.31	1.61	1.33	2.71	22.61	22.49	19.87	12.95	10.33	3.69	4.73
15	.04	.18	1.46	1.17	4.80	22.74	22.37	17.08	12.40	10.16	3.14	4.24
16	.28	.11	1.31	.65	6.79	23.10	21.99	14.90	12.24	8.93	2.88	3.61
17	.34	.26	1.33	.63	8.51	23.45	21.54	13.30	12.66	7.59	2.83	3.11
18	.07	.57	1.41	1.28	10.46	23.58	21.39	11.70	13.02	7.22	2.73	3.15
19	-.22	.63	1.58	1.63	12.03	23.45	21.39	10.33	13.07	7.32	3.48	2.89
20	-.33	.57	1.68	2.43	13.40	22.75	21.56	9.44	12.86	7.59	5.07	2.39
21	-.40	.60	1.73	2.94	15.02	21.70	21.98	8.76	12.69	7.90	6.63	1.86
22	-.43	.69	1.73	3.59	16.55	20.46	23.12	8.29	12.60	8.11	7.82	1.32
23	-.44	.73	1.85	3.72	17.89	19.15	24.82	8.13	12.52	7.96	9.09	1.02
24	-.51	.74	1.98	3.35	19.09	17.99	26.36	8.06	12.39	7.30	10.22	.89
25	-.56	.73	1.91	3.13	19.99	16.97	27.36	8.01	12.25	6.50	10.81	1.18
26	-.59	.72	2.41	2.81	20.38	15.99	28.11	8.10	11.98	5.63	10.24	.73
27	-.64	.78	3.11	2.17	20.59	15.00	28.68	8.49	11.60	4.87	8.51	.57
28	-.62	.86	3.20	-.39	20.48	14.12	29.07	9.07	11.15	4.36	7.00	.77
29	-.51	.82	3.23	-.90	20.06	13.51	29.49	9.46	11.10	3.93	6.25	1.13
30	-.09	.69	3.39	-.33	-	13.21	29.85	9.69	11.59	4.04	5.84	1.28
31	.42	-	3.31	-.20	-	13.10	-	10.16	-	4.04	5.54	-

Discharge, in thousands of second-feet, of Mississippi River at Memphis, Tenn., water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90.4	107	99.5	127	95.6	534	360	919	293	342	163	196
2	91.7	116	98.2	114	98.2	500	368	932	298	350	158	202
3	90.4	120	95.6	111	102	467	382	940	307	347	153	210
4	90.4	122	94.3	111	114	439	398	949	320	337	151	227
5	95.6	123	93.0	106	119	422	414	958	330	327	151	245
6	96.9	122	93.0	99.5	123	417	433	962	337	324	150	268
7	91.7	114	94.3	93.0	127	430	467	958	345	327	148	284
8	86.5	106	95.6	86.5	119	464	512	944	355	330	151	279
9	83.9	99.5	96.9	85.2	120	521	550	919	363	324	162	261
10	82.6	98.2	96.9	91.7	127	572	579	870	371	312	169	243
11	80.0	96.9	98.2	101	126	612	605	796	376	298	174	221
12	80.0	95.6	102	107	125	632	622	694	376	288	176	198
13	81.3	93.0	107	110	127	639	625	585	368	288	171	186
14	83.9	90.4	109	111	142	642	625	491	355	288	160	180
15	87.8	89.1	106	109	178	646	619	436	342	282	151	169
16	90.4	87.8	105	102	217	659	608	384	337	256	148	158
17	91.7	91.7	105	106	256	670	592	345	345	232	148	150
18	87.8	94.3	106	114	300	673	588	310	352	227	148	150
19	86.5	95.6	109	120	337	663	592	282	352	232	163	144
20	86.5	94.3	110	132	376	632	608	265	347	238	194	136
21	85.2	95.6	111	139	425	592	639	252	345	243	225	127
22	85.2	96.9	111	146	473	550	684	243	342	243	252	120
23	83.9	98.2	112	146	512	509	744	238	342	238	279	116
24	83.9	99.5	114	142	550	479	792	238	340	225	303	115
25	82.6	99.5	114	139	572	450	831	236	337	208	315	116
26	82.6	101	123	133	585	425	858	240	332	192	293	111
27	82.6	102	133	118	588	400	866	249	322	180	254	111
28	82.6	103	136	90.4	582	382	878	263	312	171	221	114
29	85.2	102	139	86.5	566	368	890	270	312	165	208	118
30	90.4	101	140	93.0	-	363	902	279	327	169	198	119
31	98.2	-	138	94.3	-	358	-	288	-	167	194	-

Month	Thousands of second-foot-days	Discharge in thousands of second-feet			Run-off in thousands of acre-feet
		Maximum	Minimum	Mean	
October	2,698.4	98.2	80.0	87.05	5,352
November	3,055.1	123	87.8	101.8	6,060
December	3,385.5	140	93.0	109.2	6,715
Calendar year 1939	161,573.9	1,280	80.0	442.7	320,500
January	3,464.1	146	85.2	111.7	6,871
February	8,181.8	588	95.6	282.1	16,230
March	16,110	673	358	519.7	31,950
April	18,631	902	360	621.0	36,950
May	16,735	962	236	539.8	33,190
June	10,180	376	293	339.3	20,190
July	8,150	350	165	262.9	16,170
August	5,931	315	148	191.3	11,760
September	5,274	284	111	175.8	10,460
Water year 1939-40	101,795.9	962	80.0	278.1	201,900

Mississippi River near Vicksburg, Miss.

Location.- Water-stage recorder, lat. 32°18'45", long. 90°54'25", in T. 16 N., R. 3 E., at combined highway and railway bridge of Vicksburg Bridge Co., 1½ miles downstream from Yazoo River and 3 miles southwest of Vicksburg. Datum of gage is 46.225 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark) or 46.16 feet above mean Gulf level.

Drainage area.- 1,144,500 square miles (authority, Mississippi River Commission).

Records available.- Discharge: July 1931 to September 1940 in reports of Geological Survey. 1858 and 1884 to December 1927 (discharge measurements only) and since January 1928 (daily and monthly discharge and discharge measurements) in reports of Mississippi River Commission.

Gage heights: April 1930 to June 1931 in reports of Geological Survey. December 1871 to September 1929, daily readings at Kleinston gage (at mouth of Yazoo diversion canal), 1½ miles above present site, and since October 1929, daily readings at gage on Yazoo diversion canal (1,600 feet above Kleinston gage), in reports of Mississippi River Commission. December 1871 to October 1919, at gage half a mile above present site, November 1919 to November 1922, at Kleinston gage, December 1922 to August 1934, at gage on Yazoo diversion canal, and since September 1934, at present site, in reports of Weather Bureau.

All gages set to same datum but readings differ because of slope of water surface between them.

Extremes.- Maximum discharge during year, 1,075,000 second-feet May 9-11; maximum gage height, 33.67 feet May 11; minimum discharge, 99,400 second-feet Nov. 1; minimum gage height, -7.02 feet Feb. 3, (result of ice jam upstream).

1930-40: Maximum discharge, 2,080,000 second-feet Feb. 17, 1937; maximum gage height, 53.2 feet Feb. 21, 1937; minimum discharge, that of Nov. 1, 1939; minimum gage height, that of Feb. 3, 1940.

Maximum gage height recorded (Corps of Engineers, U. S. Army), 58.4 feet (Yazoo canal gage), approximately 56.0 feet on Geological Survey gage May 4, 1927.

Remarks.- Records excellent. During the year 163 discharge measurements were made.

Gage height at 8 a.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-4.40	-6.81	-5.19	-2.51	-5.97	18.60	13.11	30.18	7.30	8.74	2.28	4.26
2	-4.60	-6.78	-5.12	-2.34	-7.01	18.72	12.35	30.81	7.44	8.42	1.75	3.28
3	-4.75	-6.55	-5.15	-2.24	-7.02	18.49	11.75	31.21	7.58	8.75	1.48	2.58
4	-4.92	-6.19	-5.20	-2.27	-6.40	17.99	11.52	31.59	7.69	9.30	1.36	2.11
5	-5.08	-5.61	-5.30	-2.56	-5.53	17.27	11.74	32.07	7.78	10.06	1.00	1.93
6	-5.23	-4.93	-5.44	-3.19	-4.57	16.31	11.73	32.59	7.85	10.59	.56	1.94
7	-5.32	-4.38	-5.57	-3.69	-4.07	15.35	12.23	32.96	8.04	10.84	.07	2.20
8	-5.38	-4.02	-5.73	-3.99	-3.81	14.48	12.79	33.27	8.34	10.96	-.29	2.79
9	-5.25	-3.76	-5.83	-4.30	-3.42	13.80	13.37	33.46	8.67	10.89	-.57	3.53
10	-5.18	-3.68	-5.89	-4.78	-2.92	13.59	14.31	33.62	8.99	10.74	-.57	4.44
11	-5.36	-3.79	-5.86	-5.31	-2.50	14.08	15.60	33.66	9.34	10.78	-.65	5.14
12	-5.72	-4.19	-5.77	-5.85	-2.48	15.28	17.60	33.57	9.60	10.74	-.49	6.15
13	-6.01	-4.50	-5.65	-6.28	-2.47	17.10	19.06	33.27	9.88	10.78	-.20	6.93
14	-6.20	-4.84	-5.59	-6.23	-2.31	18.67	20.47	32.59	10.16	10.54	.14	6.62
15	-6.32	-5.12	-5.55	-5.90	-2.23	19.79	21.50	31.60	10.34	10.20	.39	5.61
16	-6.37	-5.32	-5.40	-5.42	-2.25	20.52	22.21	30.02	10.37	9.83	.51	4.30
17	-6.38	-5.46	-5.05	-5.06	-2.08	20.99	22.78	27.97	10.32	9.57	.38	3.09
18	-6.30	-5.58	-4.75	-4.78	-1.28	21.35	23.25	25.60	10.11	9.33	.02	2.04
19	-6.12	-5.73	-4.64	-4.64	.36	21.72	23.65	22.86	9.88	8.76	-.36	1.10
20	-5.93	-5.83	-4.61	-4.71	2.56	22.07	23.67	19.95	9.80	7.86	-.69	.20
21	-5.82	-5.82	-4.67	-4.73	5.10	22.30	23.64	17.17	10.10	6.90	-.91	-.47
22	-5.90	-5.66	-4.66	-4.51	7.24	22.28	23.56	14.61	10.37	6.23	-.93	-.96
23	-6.05	-5.56	-4.41	-4.01	9.23	21.95	23.64	12.56	10.45	5.88	-.41	-1.42
24	-6.24	-5.57	-4.18	-3.51	11.15	21.37	23.91	10.86	10.38	5.80	1.15	-1.83
25	-6.35	-5.56	-4.15	-3.04	13.28	20.50	24.51	9.43	10.26	5.84	3.49	-2.39
26	-6.38	-5.56	-3.97	-2.58	14.98	19.49	25.37	8.53	10.14	5.82	5.13	-2.96
27	-6.44	-5.51	-3.77	-2.35	16.33	18.40	26.33	7.80	10.02	5.57	6.24	-3.40
28	-6.47	-5.39	-3.74	-2.47	17.42	17.26	27.19	7.36	9.81	5.02	6.93	-3.71
29	-6.62	-5.33	-3.65	-2.74	18.16	16.08	28.10	7.15	9.60	4.25	7.05	-3.92
30	-6.66	-5.28	-3.37	-3.25	-	15.22	29.08	7.07	9.20	3.52	6.48	-4.23
31	-6.74	-	-2.91	-4.44	-	14.10	-	7.11	-	2.87	5.44	-

Discharge, in thousands of second-feet, of Mississippi River near Vicksburg, Miss., water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	127	100	124	164	116	640	457	962	347	361	240	273
2	123	102	124	168	110	637	439	981	349	364	232	257
3	121	105	123	168	111	624	432	1,004	351	376	230	245
4	117	112	122	166	119	594	427	1,026	353	389	226	237
5	114	119	122	162	131	574	432	1,039	357	403	223	238
6	114	130	121	152	144	548	432	1,052	359	414	215	242
7	116	134	119	146	150	526	446	1,061	364	414	207	248
8	113	137	117	142	152	505	462	1,071	370	411	202	262
9	113	141	116	138	157	488	478	1,075	376	409	199	279
10	114	141	116	132	163	490	505	1,075	383	409	197	293
11	113	139	117	127	168	512	546	1,075	389	409	201	306
12	110	134	119	122	168	548	596	1,061	396	403	204	324
13	108	130	119	118	168	604	632	1,030	405	396	207	336
14	106	126	121	118	169	642	666	977	409	383	210	324
15	106	122	121	123	170	671	692	912	414	381	212	302
16	104	119	123	130	170	684	711	854	409	376	215	279
17	103	118	128	134	177	694	724	791	405	374	217	255
18	105	118	132	137	193	702	735	724	400	368	210	237
19	111	116	132	138	225	711	740	653	396	353	204	225
20	112	114	131	137	266	721	740	586	396	332	199	215
21	113	114	131	137	312	727	738	522	407	314	197	204
22	111	117	134	141	359	721	735	469	416	302	196	196
23	107	118	135	146	405	694	743	430	418	301	207	188
24	104	119	138	154	455	676	757	396	418	304	235	180
25	103	119	139	162	502	647	783	374	411	304	275	170
26	104	119	144	168	541	616	815	359	405	302	306	163
27	104	121	145	170	584	584	845	349	396	297	328	158
28	104	122	146	168	616	556	873	342	392	284	342	156
29	104	123	146	163	632	531	906	340	385	268	336	152
30	103	124	150	154	-	507	933	340	374	257	312	148
31	102	-	158	135	-	481	-	345	-	248	295	-

Month	Thousands of second-foot-days	Discharge in thousands of second-feet			Run-off in thousands of acre-feet
		Maximum	Minimum	Mean	
October	3,409	127	102	110.0	6,762
November	3,653	141	100	121.8	7,246
December	4,013	158	116	129.5	7,960
Calendar year 1939	197,696	1,410	100	541.6	392,100
January	4,520	170	118	145.8	8,965
February	7,633	632	110	263.2	15,140
March	18,855	727	481	608.2	37,400
April	19,420	933	427	647.3	38,520
May	23,275	1,075	340	750.8	46,170
June	11,650	418	347	388.3	23,110
July	10,906	414	248	351.8	21,630
August	7,279	342	196	234.8	14,440
September	7,092	336	148	236.4	14,070
Water year 1939-40	121,705	1,075	100	332.5	241,400

Note.- Daily discharge computed from mean daily gage heights, not from published 8 a.m. gage readings.

Mississippi River near Baton Rouge, La.

Location.- Water-stage recorder, lat. 30°30'25", long. 91°11'55", in T. 6 S., R. 12 E., Louisiana meridian, 5 miles north of Baton Rouge, 66 miles downstream from Old River, and 253 miles upstream from mouth. Datum of gage is 0.14 foot below mean Gulf level (datum of Corps of Engineers, U. S. Army; levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,243,500 square miles (authority, Mississippi River Commission).

Records available.- Discharge: Since 1931 in reports of Mississippi River Commission (1931-38, daily discharge only, computed on basis of data obtained at several ranges between mouth of Old River and New Orleans and published under heading, "Mississippi River below Baton Rouge, La.").

Gage heights: June to September 1940 in reports of Geological Survey. 1828-71 occasional readings, and since January 1872, daily gage heights, at gage of Corps of Engineers, U. S. Army, 5 miles downstream from present site, in reports of Mississippi River Commission.

Extremes.- Maximum gage height during period June to September 1940, 14.70 feet July 14; minimum, 3.22 feet Sept. 30.

Maximum gage height observed, 47.80 feet May 15, 1927; minimum, 0.45 foot Nov. 14, 1894. Both maximum and minimum observations were made at site 5 miles downstream on gage of Corps of Engineers, U. S. Army, with datum 0.42 foot below mean Gulf level (datum of Corps of Engineers, U. S. Army).

Remarks.- Gage heights affected by tides at low stages. Flow diverted at times through Atchafalaya River.

Gage height at 8 a.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	11.71	8.69	7.62
2									-	11.33	8.09	7.08
3									-	10.99	7.40	6.44
4									-	11.00	7.16	5.90
5									-	11.45	7.09	5.61
6									-	12.44	8.42	5.59
7									-	13.31	8.43	5.60
8									-	13.77	7.02	5.54
9									-	13.98	6.70	5.52
10									-	14.08	6.77	5.70
11									-	14.24	6.10	5.82
12									-	14.18	5.75	6.19
13									-	14.40	5.45	6.57
14									11.45	14.56	5.30	7.07
15									11.64	14.53	5.30	7.42
16									11.92	14.27	5.21	7.39
17									11.91	13.95	5.20	6.96
18									12.38	13.68	5.12	6.36
19									12.06	13.41	4.92	5.87
20									12.02	13.22	4.73	5.68
21									11.98	12.84	4.56	5.69
22									12.01	12.28	4.44	5.11
23									12.10	11.62	4.27	4.65
24									12.25	10.97	4.30	4.73
25									12.41	10.48	4.50	4.27
26									12.41	10.10	5.21	3.67
27									12.36	9.85	6.12	3.52
28									12.21	9.73	7.05	3.53
29									12.02	9.60	7.54	3.42
30									11.97	9.37	8.02	3.23
31									-	9.17	7.99	-

Mississippi River near New Orleans, La.

Location.- Water-stage recorder, lat. 29°57', long. 90°10', in T. 13 S., R. 10 E., St. Helena meridian, at Huey P. Long Bridge, 5 miles west of New Orleans and 126 miles upstream from mouth. Datum of gage is at mean sea level (general adjustment of 1929, or 0.15 foot below mean Gulf level, datum of Corps of Engineers, U. S. Army). (Levels by Corps of Engineers, U. S. Army.)

Drainage area.- 1,243,600 square miles (authority, Mississippi River Commission).

Records available.- Discharge: 1851, 1852, and scattered periods since 1879 in reports of Mississippi River Commission.

Gage heights: November 1934 to September 1940 in reports of Geological Survey. Since 1871, at gage of Corps of Engineers, U. S. Army, 2½ miles downstream from present site, in reports of Mississippi River Commission. May 1873 to December 1922, at gage of Weather Bureau at foot of Canal Street, 11 miles downstream from present site, and since January 1923, at gage of Corps of Engineers, in reports of Weather Bureau.

Extremes.- Maximum gage height during year, 13.21 feet May 12; minimum, -0.65 foot Jan. 25.

1934-40: Maximum gage height, 19.28 feet Mar. 1, 1937; minimum, that of Jan. 25, 1940.

Maximum gage height observed, 21.3 feet Apr. 25, 1922; minimum observed, -1.6 feet Dec. 27, 1872. Both maximum and minimum observations were made at site 2½ miles downstream, on gage of Corps of Engineers, U. S. Army, with datum 0.13 foot below mean Gulf level (datum of Corps of Engineers, U. S. Army). This gage reads practically the same below 19.0 feet as does the gage of the Geological Survey, but above 19.0 feet it reads lower, the difference increasing to a maximum of 0.10 foot.

Remarks.- Gage heights affected by tides. Flow diverted at times through Atchafalaya River.

Gage height at 8 a.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.32	1.02	2.02	0.98	0.04	5.00	4.97	11.94	4.08	4.14	3.14	2.76
2	1.65	1.10	1.75	.75	-.06	5.36	4.60	12.25	3.92	3.99	2.88	2.33
3	1.51	1.50	1.3	.51	-.25	5.60	4.34	12.34	4.01	3.79	2.56	2.19
4	1.83	1.30	1.1	.58	.12	5.62	4.18	12.53	4.06	3.75	2.55	2.00
5	2.10	1.41	.8	.47	.29	5.57	4.07	12.59	4.31	3.77	3.27	2.26
6	2.08	1.25	.6	.75	1.16	5.28	4.32	12.61	4.21	4.18	7.56	2.60
7	2.00	1.24	.38	1.10	.90	5.08	4.95	12.82	4.13	4.61	3.79	2.82
8	2.14	1.22	.38	.42	.82	4.58	4.53	13.01	3.98	4.79	3.10	2.90
9	1.81	1.06	.49	.59	1.38	4.32	4.25	13.17	3.87	4.98	2.79	2.89
10	1.66	1.2	.61	.51	1.20	4.09	4.24	13.28	3.90	4.91	3.06	2.92
11	1.44	1.2	.95	.84	.70	4.10	4.11	13.43	3.80	4.80	2.70	2.78
12	1.29	1.4	.99	1.13	.91	4.19	4.66	13.51	3.87	5.06	2.50	2.69
13	1.38	1.5	.99	1.10	.94	4.30	5.13	13.46	3.94	5.15	2.43	2.68
14	1.58	2.25	.93	1.47	.63	4.50	5.66	13.55	3.83	5.22	2.24	2.51
15	1.70	2.40	.80	.54	.43	4.81	6.08	13.54	4.12	5.20	2.20	2.56
16	1.66	2.5	1.08	.50	1.10	5.27	6.70	13.35	4.58	5.11	1.92	2.48
17	2.02	2.2	.90	.49	2.41	5.63	7.27	13.10	4.44	4.95	1.78	2.36
18	2.10	2.7	1.03	.67	1.34	6.08	7.96	12.66	4.50	4.72	1.58	2.18
19	2.18	2.2	1.04	.18	.57	6.34	8.24	12.07	4.36	4.53	1.50	2.43
20	2.39	1.8	.79	.01	.57	6.60	8.45	11.43	4.22	4.60	1.58	3.11
21	2.30	1.22	.67	-.16	.35	6.90	8.63	10.72	4.05	4.48	1.67	3.06
22	1.97	1.14	.41	-.02	.72	7.18	8.78	9.61	4.03	4.30	1.62	2.80
23	1.97	1.02	.90	.76	1.18	7.23	8.95	8.57	3.97	4.09	1.69	2.71
24	1.87	.89	.60	-.28	1.96	7.26	8.98	7.58	4.08	3.78	1.71	2.73
25	1.61	.80	.73	-.20	2.29	7.15	9.05	6.63	4.21	3.58	2.00	2.57
26	1.70	.66	1.71	-.15	2.76	7.09	9.27	5.86	4.20	3.40	2.33	2.40
27	1.36	.70	.79	.27	3.56	6.81	9.49	5.29	4.26	3.30	2.57	2.46
28	1.45	1.00	.83	.30	4.04	6.51	9.86	4.75	4.18	3.26	2.94	2.47
29	1.54	1.00	1.30	.28	4.61	5.97	10.56	4.50	4.18	3.21	3.17	2.21
30	1.45	1.34	.91	.43	-	5.97	11.35	4.23	4.17	3.32	3.10	1.96
31	1.28	-	.82	.29	-	5.37	-	4.12	-	3.32	2.90	-

Meramec River near Steelville, Mo.

Location.- Water-stage recorder, lat. 37°59'55", long. 91°21'35", in NE¼ sec. 21, T. 38 N., R. 4 W., at county highway bridge, 400 feet downstream from St. Louis-San Francisco Railway bridge, 0.7 mile upstream from Whittenburg Creek, and 2½ miles north of Steelville. Datum of gage is 680.26 feet above mean sea level (general adjustment of 1929).
Drainage area.- 830 square miles.
Records available.- December 1922 to September 1940.
Average discharge.- 17 years (1923-40), 575 second-feet.
Extremes.- Maximum discharge during year, 8,900 second-feet May 2 (gage height, 10.53 feet); minimum, 104 second-feet Sept. 28 (gage height, 0.75 foot).
1922-40: Maximum discharge, 47,800 second-feet June 26, 1935 (gage height, 23.39 feet); minimum, 74 second-feet July 22, 1934 (gage height, 0.35 foot).
Maximum stage known, 26.5 feet, Aug. 20, 1915 (discharge, 60,000 second-feet, by slope-area method).
Revisions.- The minimum discharge for the water year 1939 has been revised to 109 second-feet Sept. 21, 22 (gage height, 0.79 foot), superseding figure and date published in Water-Supply Paper 877.
Remarks.- Records good except those for periods of ice effect, which are fair.
Revisions.- Revised figures of discharge, in second-feet, for the period Sept. 19-30, 1939, superseding those published in Water-Supply Paper 877, are given herein.

Sept. 19..... 122	Sept. 22..... 109	Sept. 25..... 120	Sept. 28..... 122
20..... 114	23..... 112	26..... 120	29..... 131
21..... 109	24..... 120	27..... 120	30..... 140

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
September.....	202	109	137	0.165	0.18	8,160
Water year 1938-39..	19,600	109	668	.805	10.91	483,900

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	140	185	145	134	562	377	4,440	216	325	116	162
2	140	137	176	157	137	469	357	4,720	213	252	116	153
3	140	134	173	173	134	452	626	1,440	203	219	121	142
4	137	131	176	140	137	456	598	935	200	200	636	137
5	131	131	170	128	134	410	469	738	194	162	351	134
6	128	131	166	125	137	365	410	610	185	173	219	129
7	120	137	154	b130	137	357	398	532	203	164	182	126
8	125	134	151	b130	137	349	482	468	302	167	164	126
9	134	134	148	128	140	427	461	454	325	167	167	124
10	140	151	148	128	154	557	431	472	270	167	332	119
11	137	148	142	137	157	878	660	433	501	164	429	111
12	134	148	140	157	154	4,330	3,020	404	1,380	159	499	111
13	128	148	134	215	157	2,710	1,790	375	965	156	400	111
14	122	148	131	260	157	1,590	1,140	344	590	150	280	111
15	117	154	131	*337	154	1,070	875	336	433	148	235	111
16	114	157	131	349	151	808	710	317	352	145	210	114
17	117	157	128	310	151	680	1,540	306	310	148	547	114
18	112	176	128	290	166	584	4,840	313	273	148	325	116
19	109	228	125	b280	173	517	2,650	383	273	145	259	116
20	114	456	122	b270	173	461	2,110	459	266	142	252	116
21	114	448	128	b240	176	414	1,440	522	232	142	216	116
22	112	345	125	b210	182	377	995	459	226	139	197	116
23	112	275	148	182	185	345	792	383	232	148	173	116
24	114	232	148	179	195	317	710	336	252	145	159	116
25	114	215	151	b170	222	313	610	310	266	142	156	114
26	125	198	163	b170	253	306	546	291	235	139	156	111
27	140	192	163	b170	333	294	486	273	216	137	194	109
28	134	185	163	b160	976	283	433	256	651	134	167	109
29	131	182	160	b150	756	306	404	242	1,080	129	162	109
30	140	176	157	b140	-	410	400	232	468	124	164	114
31	142	-	151	b140	-	406	-	229	-	116	167	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October.....	3,911	142	109	126	0.152	0.18	7,760
November.....	5,728	456	131	191	.230	.26	11,360
December.....	4,616	185	122	149	.180	.21	9,160
Calendar year 1939	231,506	19,600	106	634	.764	10.37	459,200
January.....	5,900	349	125	190	.229	.26	11,700
February.....	6,250	976	134	216	.260	.28	12,400
March.....	21,803	4,330	283	703	.847	.98	43,250
April.....	30,760	4,840	357	1,025	1.23	1.37	61,010
May.....	22,012	4,720	229	710	.855	.99	43,660
June.....	11,512	1,380	185	384	.463	.52	22,830
July.....	5,016	325	116	162	.195	.22	9,950
August.....	7,751	636	116	250	.301	.35	15,370
September.....	3,613	162	109	120	.145	.16	7,170
Water year 1939-40.....	128,874	4,840	109	352	.424	5.78	255,600

Peak discharge.- Mar. 12 (4 p.m.) 5,480 sec.-ft.; Apr. 12 (2 p.m.) 3,500 sec.-ft.; Apr. 18 (3 a.m.) 5,980 sec.-ft.; May 2 (2 a.m.) 8,900 sec.-ft.; June 29 (1 a.m.) 2,450 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Once-daily gage readings used Jan. 16, Jan. 22 to Feb. 2.

Meramec River at Robertsville, Mo.

Location.- Water-stage recorder, lat. 38°25'40", long. 90°49'35", in SW¼NW¼ sec. 32, T. 43 N., R. 2 E., at county highway bridge, 1 mile northwest of Robertsville and 1¾ miles upstream from Calvey Creek. Datum of gage is 448.24 feet above mean sea level (general adjustment of 1929). Prior to Mar. 2, 1940, wire-weight gage at same site and datum.

Drainage area.- 2,720 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 11,100 second-feet May 3 (gage height, 12.49 feet); minimum, 280 second-feet Sept. 30 (gage height, 2.53 feet).
Maximum stage known, about 34 feet in August 1915 from information furnished by local residents.

Remarks.- Records good except those for period of ice effect and those estimated, which are fair. Wire-weight gage read twice daily Oct. 4 to Mar. 1.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 4 to Mar. 1				Mar. 2 to Sept. 30			
2.8	305	5.0	1,590	2.5	268	6.0	2,630
3.2	477	6.0	2,500	2.9	443	7.0	3,690
3.8	784	7.0	3,550	3.5	752	9.0	6,170
4.5	1,220	8.2	4,960	4.5	1,370	12.0	10,400
				5.0	1,730		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a350	387	548	450	550	3,720	1,040	2,630	686	3,240	322	697
2	a350	387	548	440	540	2,730	1,040	7,080	653	2,580	330	606
3	a350	366	524	430	530	2,200	1,040	10,400	632	1,730	335	555
4	345	366	500	430	530	1,980	1,110	5,500	600	1,340	318	501
5	345	345	477	430	530	1,980	1,340	3,470	575	1,140	a500	462
6	345	345	477	430	530	1,810	1,510	2,630	550	985	697	429
7	366	345	477	430	530	1,580	1,370	2,150	555	865	611	406
8	345	345	454	430	540	1,440	1,240	1,810	616	752	697	397
9	366	345	454	440	550	1,340	1,210	1,620	697	692	724	379
10	387	366	431	450	570	1,300	1,270	1,440	807	642	658	370
11	409	387	431	470	590	1,660	1,510	1,370	925	611	570	352
12	409	387	431	500	610	1,930	2,980	1,300	1,240	590	780	339
13	409	387	431	600	600	4,360	6,110	1,210	1,930	560	925	330
14	387	409	409	700	572	6,800	5,790	1,140	2,020	525	1,820	352
15	387	387	409	850	572	4,750	3,800	1,080	1,540	511	1,510	343
16	366	387	387	*1,020	572	3,360	2,930	1,020	1,340	516	1,210	330
17	345	387	387	1,060	572	2,630	2,930	955	1,140	501	1,380	322
18	345	387	387	930	597	2,150	4,270	925	985	467	1,540	318
19	345	500	387	860	622	1,850	7,980	1,080	925	448	1,210	309
20	345	648	387	810	701	1,620	8,100	1,080	836	429	985	309
21	345	1,020	387	770	728	1,480	5,910	1,110	752	415	836	301
22	345	1,220	387	730	728	1,340	4,390	1,240	697	406	752	297
23	345	1,090	387	700	728	1,240	3,470	1,210	675	402	658	305
24	325	900	366	660	784	1,140	2,830	1,080	670	392	600	305
25	325	784	454	630	784	1,040	2,530	1,020	670	388	560	309
26	345	701	454	610	841	985	2,200	985	637	384	516	309
27	366	648	477	580	1,240	955	1,980	925	616	370	511	305
28	366	622	477	570	2,250	925	1,730	865	2,790	366	555	305
29	366	572	500	560	4,900	925	1,580	807	9,870	352	545	297
30	366	548	500	*550	-	955	1,540	752	8,630	335	653	288
31	366	-	454	550	-	985	-	724	-	330	836	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	11,156	409	325	360	0.132	0.15	22,130
November	15,968	1,220	345	532	.196	.22	31,670
December	13,779	548	366	444	.163	.19	27,330
Calendar year	-	-	-	-	-	-	-
January	19,070	1,060	430	615	.226	.26	37,820
February	24,391	4,900	530	841	.309	.33	48,380
March	63,160	6,800	925	2,037	.749	.86	125,300
April	86,730	8,100	1,040	2,891	1.06	1.18	172,000
May	60,608	10,400	724	1,955	.719	.83	120,200
June	45,259	9,870	550	1,509	.555	.62	89,770
July	23,264	3,240	330	750	.276	.32	46,140
August	24,144	1,820	318	779	.286	.33	47,890
September	11,127	697	288	371	.136	.15	22,070
Water year 1939-40	398,656	10,400	288	1,089	.400	5.44	790,700

Peak discharge.- Mar. 14 (8 p.m.) 7,400 sec.-ft.; Apr. 19 (11 p.m.) 9,380 sec.-ft.; May 3 (3 p.m.) 11,100 sec.-ft.; June 29 (10 a.m.) 11,000 sec.-ft.
*Winter discharge measurement made on this day.
a No gage-height record; discharge estimated.
Note.- Stage-discharge relation affected by ice Jan. 1 to Feb. 13. Once-daily wire-weight gage readings used Apr. 19-21, Aug. 1-4, 6-8.

Meramec River near Eureka, Mo.

Location.- Water-stage recorder, lat. 38°30'20", long. 90°35'30", in SE¼ sec. 32, T. 44 N., R. 4 E., at bridge on U. S. Highway 66, 2 miles east of Eureka and 3 miles downstream from Big River. Datum of gage is 406.18 feet above mean sea level (general adjustment of 1929).

Drainage area.- 3,800 square miles.

Records available.- August 1903 to July 1906, October 1921 to September 1940.

Average discharge.- 19 years (1921-40), 2,949 second-feet.

Extremes.- Maximum discharge during year, 14,800 second-feet June 29 (gage height, 11.41 feet); minimum, 345 second-feet Sept. 28 (gage height, 1.21 feet).

1921-40: Maximum discharge observed, 64,000 second-feet Apr. 3, 1927 (gage height, 29.47 feet, site and datum then in use); maximum gage height, 30.89 feet Mar. 14, 1935; minimum discharge, 196 second-feet Aug. 27, 31, Sept. 1, 1936; minimum gage height, 0.33 foot Oct. 2, 3, 1932, site and datum then in use.

Maximum stage known, 40.2 feet from floodmarks, present site and datum, Aug. 22, 1915 (discharge, 175,000 second-feet, by slope-area method).

Remarks.- Records good except those for period of ice effect, which are fair.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 28

1.4	466	2.5	1,280
1.6	562	3.2	1,970
1.9	765	4.2	3,080

Feb. 29 to Sept. 30

1.2	338	3.0	1,880	9.0	10,600
1.6	645	4.0	3,020	10.3	12,900
2.5	1,400	5.0	4,360		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	475	525	894	690	800	5,390	1,630	4,960	1,010	5,420	419	1,060
2	488	525	844	680	800	3,800	1,680	11,000	978	3,410	434	902
3	492	520	789	680	800	3,280	1,680	12,200	944	2,480	449	805
4	496	514	765	680	800	2,960	1,680	8,620	910	1,930	457	733
5	492	509	773	680	800	2,770	1,780	4,790	885	1,580	426	669
6	488	509	743	680	820	2,710	1,980	3,660	869	1,400	549	621
7	520	505	728	690	830	2,420	1,980	3,080	853	1,220	861	589
8	1,470	500	691	700	850	2,260	1,880	2,650	919	1,100	709	549
9	986	500	671	700	890	2,140	1,780	2,310	1,110	1,000	877	526
10	936	505	650	710	940	2,040	1,780	2,090	1,130	936	885	487
11	886	525	637	720	970	2,140	2,090	1,980	1,310	877	805	457
12	861	541	643	730	1,000	2,540	4,170	1,880	1,490	813	773	441
13	691	580	623	780	980	4,210	6,800	1,780	1,980	765	1,110	441
14	592	605	599	1,000	950	7,540	7,530	1,630	2,420	725	1,440	441
15	505	599	580	2,000	920	6,160	5,070	1,580	2,090	701	2,310	441
16	496	580	580	*2,600	900	4,360	3,940	1,490	1,730	693	1,680	419
17	492	551	586	2.100	900	3,540	4,220	1,490	1,540	701	1,440	404
18	488	574	586	1,650	950	3,020	5,060	1,400	1,360	669	2,590	404
19	488	691	580	1,500	1,030	2,650	7,600	1,580	1,220	637	1,730	404
20	483	1,060	586	1,400	1,190	2,420	11,000	1,490	1,130	613	1,780	396
21	479	1,820	586	1,300	1,470	2,200	9,030	1,490	1,040	597	1,400	389
22	479	1,970	574	1,210	1,420	2,040	6,470	1,680	987	581	1,180	374
23	483	1,660	562	1,120	1,380	1,880	4,940	1,730	953	557	1,030	360
24	488	1,470	557	1,050	1,420	1,780	4,080	1,540	928	549	919	360
25	483	1,230	617	990	1,420	1,680	3,660	1,400	919	542	845	374
26	483	1,190	664	950	1,420	1,630	3,080	1,400	902	534	789	367
27	514	1,070	698	900	1,820	1,540	2,830	1,310	861	518	757	367
28	541	986	750	860	3,020	1,490	2,540	1,220	2,300	495	757	360
29	520	936	758	830	4,940	1,540	2,310	1,180	11,000	472	781	367
30	525	877	758	810	-	1,540	2,230	1,110	12,800	457	1,360	367
31	520	-	691	*800	-	1,580	-	1,060	-	441	1,180	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	18,340	1,470	475	592	0.156	0.18	36,380
November	24,627	1,970	500	821	.216	.24	48,850
December	20,763	894	557	670	.176	.20	41,180
Calendar year 1939	1,195,397	59,800	438	3,275	.862	11.69	2,371,000
January	32,190	2,600	680	1,038	.273	.31	63,850
February	36,430	4,940	800	1,256	.331	.36	72,260
March	87,250	7,540	1,490	2,815	.741	.85	173,100
April	116,500	11,000	1,630	3,883	1.02	1.14	231,100
May	86,780	12,200	1,060	2,799	.737	.85	172,100
June	58,568	12,800	853	1,952	.514	.57	116,200
July	33,413	5,420	441	1,078	.284	.33	66,270
August	32,722	2,590	419	1,056	.278	.32	64,900
September	14,874	1,060	360	496	.131	.15	29,500
Water year 1939-40	562,457	12,800	360	1,537	.404	5.50	1,116,000

Peak discharge.- Mar. 14 (4 p.m.) 8,040 sec.-ft.; Apr. 14 (4 a.m.) 8,200 sec.-ft.; Apr. 20 (6 p.m.) 11,300 sec.-ft.; May 2 (10 p.m.) 13,400 sec.-ft.; June 29 (7 p.m.) 14,800 sec.-ft.

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Jan. 1 to Feb. 18.

Bourbeuse River at Union, Mo.

Location.- Wire-weight gage, lat. 38°26'45", long. 90°59'30", in SW¼ sec. 26, T. 43 N., R. 1 W., at bridge on U. S. Highway 50, 800 feet upstream from Flat Creek, half a mile east of Union, and 7 miles upstream from Birch Creek. Datum of gage is 491.58 feet above mean sea level (general adjustment of 1929).

Drainage area.- 767 square miles.

Records available.- June 1921 to September 1940.

Average discharge.- 19 years, 632 second-feet.

Extremes.- Maximum discharge observed during year, 3,700 second-feet Feb. 29 (gage height, 6.45 feet); minimum discharge, 24 second-feet Sept. 28-30; minimum gage height, 0.49 foot Sept. 30.

1921-40: Maximum discharge, 28,200 second-feet June 13, 1938 (gage height, 20.23 feet); minimum, 14 second-feet Aug. 31, Sept. 1, 1936 (gage height, 0.22 foot).

Maximum stage known, 25.5 feet from floodmarks, Aug. 22, 1915 (discharge, 50,000 second-feet, from rating curve extended above 30,000 second-feet).

Remarks.- Records good except those for periods of ice effect, which are poor. Gage read once daily.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	36	57	b34	b50	1,450	158	616	82	481	27	223
2	29	34	54	b35	b50	865	169	1,380	75	711	28	165
3	28	30	48	b37	b50	711	190	1,520	69	396	28	118
4	27	29	47	b38	b50	663	205	865	63	276	28	88
5	27	28	45	b37	b50	810	231	593	59	201	26	73
6	26	28	42	b37	b50	711	616	503	55	144	29	57
7	28	28	40	b37	b51	570	460	396	55	112	28	49
8	29	29	39	b38	b53	481	355	335	59	90	27	44
9	28	28	38	b38	b60	438	315	296	65	75	43	40
10	29	28	37	b52	72	525	417	231	257	67	90	38
11	29	34	37	62	88	865	460	208	205	57	59	36
12	28	38	36	67	110	760	825	183	438	52	92	33
13	28	36	34	70	123	851	2,010	165	276	49	80	52
14	28	36	34	74	144	1,530	1,380	144	227	46	55	57
15	27	37	33	74	161	1,160	865	127	212	43	67	43
16	26	36	34	74	186	760	616	118	257	69	49	36
17	25	36	33	*b66	178	616	663	109	201	43	54	32
18	25	38	33	b60	182	481	1,410	106	162	40	73	30
19	27	62	33	b57	196	438	2,070	179	130	38	52	29
20	27	82	33	b58	240	376	1,440	137	100	37	52	28
21	27	67	32	b58	214	315	865	130	85	36	43	28
22	28	67	31	b59	211	296	663	144	75	36	42	26
23	27	57	31	b60	218	238	570	140	63	35	39	27
24	27	57	38	b59	236	227	525	134	71	34	49	29
25	28	54	40	b57	255	205	503	162	63	34	48	28
26	30	47	38	b57	315	197	438	127	59	32	42	26
27	31	62	37	b59	415	176	396	106	59	33	42	25
28	30	77	34	b57	1,710	172	335	112	920	31	48	24
29	29	67	b35	b53	3,280	169	296	118	1,350	31	40	24
30	29	57	b35	b51	-	165	315	100	865	28	616	24
31	29	-	b34	b50	-	158	-	92	-	28	335	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	869	33	25	28.0	0.037	0.04	1,720
November	1,345	82	28	44.8	.058	.06	2,670
December	1,172	57	31	37.8	.049	.06	2,320
Calendar year 1939	200,561	11,600	25	549	.716	9.72	397,800
January	1,665	74	34	53.7	.070	.08	3,300
February	8,998	3,280	50	310	.404	.44	17,850
March	17,379	1,530	158	561	.731	.84	34,470
April	19,761	2,070	158	659	.859	.96	39,200
May	9,576	1,520	92	309	.403	.46	18,990
June	6,657	1,350	55	222	.289	.32	13,200
July	3,385	711	28	109	.142	.16	6,710
August	2,331	616	26	75.2	.098	.11	4,620
September	1,532	223	24	51.1	.067	.07	3,040
Water year 1939-40	74,670	3,280	24	204	.266	3.60	148,100

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Big River at Byrnesville, Mo.

Location.- Water-stage recorder, lat. 38°21'45", long. 90°39'05", in SE¼ sec. 12, T. 42 N., R. 3 E., at county highway bridge, 200 feet downstream from dam and mill at Byrnesville and 4 miles upstream from Head Creek. Datum of gage is 433.69 feet above mean sea level (general adjustment of 1929). Prior to Mar. 9, 1940, wire-weight gage at same site and datum.

Drainage area.- 892 square miles.

Records available.- May 1922 to September 1940.

Average discharge.- 18 years, 798 second-feet.

Extremes.- Maximum discharge during year, 7,540 second-feet May 2 (gage height, 14.81 feet); minimum, 42 eecond-feet Sept. 22 (gage height, 1.77 feet).

1922-40: Maximum discharge, 31,700 second-feet Mar. 12, 1935 (gage height, 24.65 feet), from rating curve extended above 25,000 second-feet; minimum, 25 second-feet Aug. 30, 1936; minimum gage height, 1.50 feet Aug. 14, 1934.

Maximum stage known, 30.2 feet from floodmarks, in Auguet 1915 (discharge, 80,000 second-feet, by slope-area method).

Remarks.- Records good except those for period of ice effect, which are fair. Wire-weight gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	166	234	172	230	1,000	410	3,090	209	1,050	101	243
2	117	166	224	174	240	885	397	6,800	206	736	125	196
3	130	158	224	177	250	772	397	2,480	199	544	117	181
4	117	144	215	178	260	685	397	1,480	188	448	121	166
5	110	144	206	183	265	604	360	1,100	183	384	116	151
6	98	144	198	190	270	544	336	885	171	325	120	137
7	299	144	198	195	285	502	325	754	183	292	110	130
8	1,180	144	173	195	314	475	336	636	259	257	103	117
9	396	144	166	197	360	462	348	574	384	237	125	110
10	511	158	173	198	348	475	336	502	282	220	153	79
11	282	158	166	200	348	475	884	488	249	204	184	85
12	262	181	158	220	348	574	1,970	448	303	188	204	91
13	206	224	158	240	348	1,960	2,140	422	435	178	271	110
14	166	224	158	640	325	1,640	1,340	410	348	166	574	73
15	151	189	158	1,500	314	1,180	950	410	325	160	462	64
16	151	181	151	1,050	292	865	772	397	282	157	325	66
17	144	173	151	700	303	736	1,500	422	251	151	640	68
18	137	166	158	500	292	652	1,420	372	228	154	932	79
19	137	224	158	410	384	604	1,580	360	209	151	471	98
20	130	755	158	370	516	530	3,280	372	190	140	471	85
21	117	1,200	151	378	589	488	2,910	372	171	137	471	79
22	117	715	151	379	544	448	1,700	475	160	131	324	49
23	124	499	158	360	502	422	1,340	448	154	134	262	53
24	117	393	173	345	502	397	1,200	348	153	131	224	91
25	124	369	198	280	530	384	1,020	314	150	126	198	91
26	130	282	243	260	488	372	846	303	148	119	181	91
27	137	282	215	260	865	360	754	280	139	112	173	85
28	151	243	215	240	1,340	348	652	265	1,440	106	158	85
29	158	234	221	235	1,480	360	604	251	5,110	100	504	85
30	166	243	195	230	-	384	620	232	3,250	98	586	98
31	166	-	178	*225	-	410	-	218	-	95	369	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	6,335	1,180	98	204	0.229	0.26	12,570
November	8,447	1,200	144	282	.316	.35	16,750
December	5,663	243	151	183	.205	.24	11,270
Calendar year 1939	330,497	20,600	91	905	1.01	13.77	655,600
January	10,881	1,500	172	351	.393	.45	21,580
February	13,132	1,480	230	453	.508	.55	28,050
March	19,993	1,960	348	645	.723	.83	39,660
April	31,124	3,280	325	1,037	1.16	1.29	61,730
May	25,908	6,800	218	836	.937	1.08	51,390
June	15,959	5,110	139	532	.596	.66	31,650
July	7,431	1,050	95	240	.269	.31	14,740
August	9,175	932	101	296	.332	.38	18,200
September	3,136	243	49	105	.118	.13	6,220
Water year 1939-40	157,206	6,800	49	430	.482	6.53	311,800

Peak discharge.- Apr. 20 (10 p.m.) 3,970 sec.-ft.; May 2 (1 p.m.) 7,540 sec.-ft.; June 29 (1 p.m.) 6,250 sec.-ft.

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 29 to Feb. 7. Discharge Oct. 1 to Mar. 8, Mar. 13, 14, 31, Apr. 11, 12, Apr. 17 to May 21 computed on basis of twice-daily wire-weight gage readings.

400452 O - 41 - 3

Mayfield Creek at Lovelaceville, Ky.

Location.- Water-stage recorder, lat. 36°57', long. 88°49', at bridge on U. S. Highway 62, on line of Ballard and Carlisle Counties, 0.8 mile south of Lovelaceville and 3 miles upstream from Wilson Creek. Prior to Oct. 1, 1939, wire-weight gage at same site and datum.

Drainage area.- 192 square miles.

Records available.- April 1938 to September 1940.

Extremes.- Maximum discharge during year, 4,800 second-feet Feb. 19 (gage height, 16.8 feet, from graph based on gage readings); minimum, 7.5 second-feet Oct. 10; minimum gage height, 2.57 feet Sept. 3-9, 11, 13, 14.

1938-40: Maximum discharge, 7,860 second-feet Aug. 1, 1938 (gage height, 17.9 feet, from graph based on gage readings); minimum, that of Oct. 10, 1939; minimum gage height observed, 2.49 feet Sept. 10, 1938.

Maximum stage known, 21.1 feet January 1937, from floodmarks (discharge, 19,800 second-feet, by slope-area method).

Remarks.- Records good above 200 second-feet, poor below.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	10	13	a11	a12	72	114	3,670	21	77	15	11
2	9.3	9.8	12	b11	a12	258	68	594	19	75	14	9.4
3	9.3	9.8	13	b11	13	1,180	117	208	18	47	13	8.8
4	8.8	9.8	11	*b11	12	485	170	148	18	41	13	8.8
5	9.3	9.8	11	b11	12	107	60	96	18	35	13	8.8
6	8.8	9.8	11	b11	555	75	44	77	18	31	14	8.8
7	8.4	10	11	b11	240	58	43	64	18	30	15	8.8
8	8.4	10	11	b11	56	66	48	57	149	30	24	8.8
9	8.4	9.8	11	b11	86	63	42	47	32	30	15	8.8
10	8.8	12	11	12	463	48	37	42	23	30	24	9.4
11	8.4	13	11	17	436	1,430	1,310	37	21	30	15	9.4
12	8.0	14	11	45	540	2,060	1,610	35	16	80	12	9.4
13	8.0	11	11	38	988	3,770	270	32	14	43	12	8.8
14	8.0	11	11	1,950	832	1,710	150	30	328	28	12	8.8
15	8.0	11	11	615	408	300	113	28	102	35	13	9.4
16	8.4	11	11	70	265	177	88	26	30	225	12	9.4
17	8.4	11	11	38	229	131	1,040	24	20	34	13	9.4
18	8.4	11	11	a24	3,350	355	3,320	26	455	20	15	9.4
19	8.4	13	12	a20	4,000	597	3,950	30	615	17	17	9.4
20	8.4	45	11	b18	1,480	182	2,570	30	72	16	14	9.4
21	8.4	20	12	a16	652	104	455	28	37	15	11	10
22	8.8	13	12	a15	270	108	234	26	23	15	11	10
23	9.3	11	16	a14	139	75	216	37	24	15	11	10
24	9.3	11	50	a13	114	59	184	36	22	34	11	12
25	11	11	23	a13	101	58	134	114	21	18	11	12
26	11	11	a22	a12	66	62	101	81	19	16	11	12
27	12	11	a46	a12	124	81	77	34	18	15	11	11
28	216	11	a21	a12	432	70	63	26	815	15	11	10
29	31	11	a13	a12	134	138	57	23	922	14	12	10
30	15	11	11	a12	-	604	1,410	21	130	14	30	10
31	11	-	a11	a12	-	421	-	21	-	15	17	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	517.7	216	8.0	16.7	0.087	0.10
November	372.8	45	9.8	12.4	.065	.07
December	463	50	11	14.9	.078	.09
Calendar year 1939	90,271.3	5,670	8.0	247	1.29	17.48
January	3,089	1,950	11	99.6	.519	.60
February	16,021	4,000	12	552	2.88	3.10
March	14,904	3,770	48	481	2.51	2.89
April	18,095	3,950	37	603	3.14	3.50
May	5,748	3,670	21	185	.964	1.11
June	4,038	922	14	135	.703	.78
July	1,140	225	14	36.8	.192	.22
August	442	30	11	14.3	.074	.09
September	291.2	12	8.8	9.71	.051	.06
Water year 1939-40	65,121.7	4,000	8.0	178	.927	12.61

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of three wire-weight gage readings, weather records, and record for Bayou de Chien near Clinton.

b Stage-discharge relation affected by ice.

Note.- Discharge for Dec. 30, Jan. 20, 27, Feb. 18, 19, May 26 to June 10, and June 29 to Aug. 11 computed from daily gage readings.

Bayou de Chien near Clinton, Ky.

Location.- Wire-weight gage, lat. 36°38', long. 88°58', at bridge on U. S. Highway 51, 1.1 miles upstream from Cane Creek, 2.8 miles southeast of Clinton, Hickman County, and 15.4 miles upstream from Mississippi River.

Drainage area.- 68.5 square miles.

Records available.- December 1939 to September 1940.

Extremes.- Maximum discharge during period, 2,550 second-feet Mar. 13 (gage height, 13.4 feet, from graph based on gage readings); minimum discharge observed, 6.2 second-feet June 22, 25, 27; minimum gage height observed, 1.65 feet Dec. 6-8.

Remarks.- Records fair above 400 second-feet, poor below. Gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	13	11	28	51	579	9.3	29	133	9.9
2			-	12	12	88	37	57	8.1	26	24	9.9
3			-	12	13	83	55	50	8.1	27	16	9.3
4			-	*12	17	40	55	37	7.1	21	15	9.3
5			12	11	52	29	30	30	7.1	20	12	9.9
6			11	11	273	21	23	26	7.1	20	14	9.9
7			12	11	51	24	39	20	9.3	22	12	9.9
8			12	11	32	31	30	16	31	21	94	9.9
9			12	11	54	17	20	16	12	20	80	9.3
10			11	16	118	16	24	16	11	20	24	12
11			11	39	108	236	936	12	20	20	13	9.9
12			12	42	108	158	334	11	12	29	11	9.9
13			12	68	415	1,350	93	11	12	20	9.9	9.9
14			12	667	148	222	65	8.1	20	20	11	9.9
15			12	64	88	88	49	12	12	20	9.9	9.9
16			12	35	78	66	38	8.1	138	20	9.3	9.9
17			12	25	116	54	826	9.3	88	22	9.9	9.9
18			12	20	1,510	138	891	11	103	24	40	9.3
19			19	17	766	88	923	14	41	23	12	9.3
20			15	16	317	48	240	9.3	12	24	8.7	9.3
21			13	15	138	88	103	8.1	8.1	24	8.7	9.3
22			12	14	66	52	73	8.1	7.1	22	9.9	9.9
23			27	13	46	32	88	36	7.1	21	9.9	9.9
24			50	12	45	41	53	45	8.1	19	9.9	14
25			20	12	30	49	43	188	6.6	18	9.9	17
26			20	11	21	73	35	39	7.1	18	9.9	13
27			46	11	128	67	29	18	6.2	18	9.9	11
28			23	11	93	57	26	14	721	18	12	11
29			18	11	60	306	31	11	590	16	12	11
30			15	11	-	306	265	8.7	61	16	11	9.9
31			14	11	-	98	-	9.3	-	43	9.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	-	-	-	-	-	-
November	-	-	-	-	-	-
December 5-31	457	50	11	16.9	0.247	0.25
Calendar year	-	-	-	-	-	-
January	1,245	667	11	40.2	.587	.68
February	4,914	1,510	11	169	2.47	2.67
March	3,994	1,350	16	129	1.88	2.17
April	5,505	936	20	184	2.69	2.99
May	1,338.0	579	8.1	43.2	.631	.73
June	1,990.4	721	6.2	66.3	.968	1.08
July	681	43	16	22.0	.321	.37
August	671.7	133	8.7	21.7	.317	.36
September	312.5	17	9.3	10.4	.152	.17
Water year	-	-	-	-	-	-

*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 31 to Jan. 9 and Jan. 17 to Feb. 2.

Castor River at Zalma, Mo.

Location.- Wire-weight gage, lat. 37°08'45", long. 90°04'30", in SE¼ sec. 29, T. 29 N., R. 9 E., at bridge on State Highway 51 in Zalma, 2½ miles downstream from Perkins Creek. Datum of gage is 350.38 feet above mean sea level (general adjustment of 1929).

Drainage area.- 395 square miles.

Records available.- September 1921 to September 1940.

Average discharge.- 19 years, 498 second-feet.

Extremes.- Maximum discharge during year, 7,730 second-feet Apr. 20 (gage height, 22.1 feet, from graph based on gage readings); minimum observed, 41 second-feet Sept. 24.
1921-40: Maximum discharge, 40,400 second-feet Jan. 14, 1937, from rating curve extended above 25,000 second-feet; maximum gage height, 28.20 feet Mar. 11, 1935; minimum discharge, 16 second-feet Aug. 31, 1936 (gage height, 0.81 foot).

Remarks.- Records good except those for periods of ice effect and those above 600 second-feet, which are poor. Gage read once daily below 10.0 feet and twice daily above.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 19 to Sept. 17, Sept. 24-30)

1.1	41	2.8	182	10.0	1,710
1.2	44	3.5	286	12.0	2,360
1.3	48	4.0	374	18.0	4,970
1.8	81	5.0	566	20.0	6,030
2.3	125	8.0	1,200	22.1	7,730

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	74	89	b100	115	d239	286	976	93	81	56	50
2	53	74	93	b95	110	d224	270	934	93	74	60	48
3	53	74	93	b95	106	210	254	808	93	67	48	48
4	53	67	89	b95	102	196	239	626	85	60	48	46
5	53	64	89	b95	106	182	224	526	85	56	44	46
6	53	64	89	b95	106	182	210	469	78	53	44	46
7	89	67	85	b95	106	169	224	393	78	53	254	44
8	210	67	85	b95	102	169	239	356	74	50	81	44
9	115	67	85	b95	102	157	239	374	74	50	60	44
10	85	64	81	b95	106	157	964	356	78	53	60	42
11	74	78	81	97	102	517	992	303	74	48	102	48
12	67	85	81	110	102	2,020	4,330	270	74	50	102	48
13	67	85	81	125	102	2,440	2,810	239	70	85	85	46
14	64	85	78	210	97	1,780	1,270	224	70	93	74	44
15	60	81	78	320	97	1,070	871	239	74	74	70	44
16	60	81	78	338	97	787	686	210	70	67	125	44
17	60	81	78	286	115	626	1,150	196	70	60	102	44
18	60	78	78	254	227	566	4,310	182	78	56	89	44
19	60	89	78	210	570	829	4,950	182	78	53	81	44
20	60	120	78	b200	818	746	7,410	169	74	50	70	44
21	60	146	74	b190	412	606	5,020	157	67	46	67	44
22	60	125	74	b180	338	507	2,260	157	64	53	60	42
23	60	115	78	b165	303	450	1,080	146	64	50	56	44
24	60	106	89	b160	286	412	976	135	64	48	53	41
25	64	106	97	*b155	254	374	726	130	60	48	50	46
26	67	97	97	b140	239	356	626	150	56	44	53	48
27	89	97	102	130	239	d338	526	115	56	46	48	46
28	85	93	106	135	239	303	469	110	53	46	53	44
29	81	89	102	135	239	303	507	102	70	44	64	44
30	81	89	97	130	-	303	646	102	70	44	60	44
31	78	-	b100	115	-	286	-	97	-	42	56	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	2,237	210	53	72.2	0.183	0.21	4,440
November	2,608	146	64	86.9	.220	.25	5,170
December	2,683	106	74	86.5	.219	.25	5,320
Calendar year 1939	169,467	10,600	44	464	1.17	15.97	336,200
January	4,740	338	95	153	.387	.45	9,400
February	5,937	818	97	205	.519	.56	11,780
March	17,504	2,440	157	565	1.43	1.65	34,720
April	44,764	7,410	210	1,492	3.78	4.22	88,790
May	9,413	976	97	304	.770	.89	18,670
June	2,187	93	53	72.9	.185	.21	4,340
July	1,744	93	42	56.3	.143	.16	3,460
August	2,275	254	44	73.4	.186	.21	4,510
September	1,351	50	41	45.0	.114	.13	2,680
Water year 1939-40	97,443	7,410	41	266	.673	9.19	193,300

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Doubtful gage-height record; discharge interpolated.

South Fork of Obion River near Greenfield, Tenn.

Location (revised).- Water-stage recorder, lat. 36°07'15", long. 88°48'40", 150 feet downstream from bridge on U. S. Highway 45E, 200 feet downstream from Coats Branch, 2½ miles south of Greenfield, Weakley County, and 10 miles upstream from Middle Fork of Obion River.

Drainage area.- 431 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 535 second-feet.

Extremes.- Maximum discharge during year, 2,280 second-feet Mar. 4 (gage height, 13.20 feet); minimum, 88 second-feet Sept. 20; minimum gage height, 3.09 feet Oct. 15.
1929-40: Maximum discharge, 25,600 second-feet Jan. 21-22, 1937 (gage height, 17.82 feet, from floodmarks), from rating curve extended above 15,000 second-feet; minimum, that of Sept. 20, 1940; minimum gage height observed, 1.5 feet several days in August and September 1930.

Remarks.- Records good except those for periods of ice effect, partly estimated gage heights, and no gage-height record, all of which are fair.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 19 to Sept. 30)

Oct. 1 to Mar. 3				Mar. 4 to Sept. 30			
3.1	96	7.0	665	3.4	100	10.0	1,180
3.5	135	10.0	1,220	3.8	140	12.0	1,620
4.0	192	12.0	1,690	4.4	220	12.6	1,830
4.5	258	12.4	1,820	5.0	310	13.1	2,180
5.0	332	12.7	1,960	7.0	640		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	104	180	b132	130	310	f1,520	1,760	122	121	501	101
2	99	104	204	b124	136	512	f1,300	1,830	119	114	157	99
3	102	103	133	b124	142	f1,960	f623	f1,600	118	114	124	97
4	103	103	125	b124	143	f2,180	f538	f657	118	114	115	96
5	109	105	124	b125	152	1,880	f358	326	117	109	110	95
6	104	107	123	b124	501	1,250	258	242	114	108	107	94
7	104	109	119	b124	415	504	250	199	123	109	114	93
8	104	111	118	b128	224	640	242	172	174	112	109	93
9	101	109	117	129	281	f438	220	162	168	993	162	93
10	97	115	118	132	701	318	199	161	166	359	128	93
11	103	143	118	224	665	288	272	151	f235	165	113	93
12	102	124	117	224	428	f1,140	350	f142	f134	137	106	93
13	100	115	119	174	623	f1,680	258	f140	f121	180	105	93
14	96	111	126	391	971	1,520	228	f140	f369	219	105	92
15	96	110	120	424	546	1,410	213	f140	354	285	102	91
16	96	110	119	180	324	f742	192	136	169	321	101	90
17	98	111	119	168	355	f374	507	131	250	140	101	90
18	99	111	119	152	1,660	a700	1,480	130	162	119	301	90
19	101	145	126	125	1,690	a1,100	2,180	137	141	115	406	89
20	103	204	162	b118	1,610	a1,300	2,090	131	136	111	124	89
21	101	139	131	b117	1,140	a1,200	1,940	126	124	f111	106	89
22	99	125	123	b116	892	f555	1,940	122	111	a140	102	89
23	99	119	166	b116	428	f326	1,130	954	109	a180	108	91
24	99	115	412	b116	404	f295	f521	759	109	a130	98	92
25	99	115	180	b115	460	f358	334	f398	112	a115	96	103
26	102	112	189	b115	310	f521	272	f220	106	a110	95	97
27	107	111	475	b115	346	f572	228	172	104	a108	94	96
28	135	111	217	b116	f701	f438	206	f148	235	f107	119	94
29	114	112	162	b118	428	f438	220	f134	426	104	286	93
30	105	114	146	b122	-	f936	371	130	141	104	151	93
31	105	-	b138	b125	-	f1,680	-	126	-	607	108	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,189	135	96	103	0.239	0.28
November	3,527	204	103	118	.274	.30
December	4,944	475	117	159	.369	.43
Calendar year 1939	222,938	6,690	91	611	1.42	19.25
January	4,737	424	115	153	.355	.41
February	16,806	1,690	130	580	1.35	1.45
March	27,565	2,180	288	889	2.06	2.38
April	20,440	2,180	192	681	1.58	1.76
May	11,776	1,830	122	380	.882	1.02
June	4,987	426	104	166	.385	.43
July	5,861	993	104	189	.439	.51
August	4,556	501	94	147	.341	.39
September	2,801	103	89	93.4	.217	.24
Water year 1939-40	111,189	2,180	89	304	.705	9.60

a No gage-height record; discharge computed on basis of weather data and records for North Fork of Obion River near Union City and Rutherford Fork of Obion River near Bradford.
b Stage-discharge relation affected by ice.
f Discharge computed on basis of partly estimated gage height.

Obion River at Obion, Tenn.

Location (revised).- Water-stage recorder, lat. 36°15'10", long. 89°11'45", at toll bridge on U. S. Highway 51, half a mile south of Obion, Obion County, and 14½ miles downstream from confluence of North and South Forks of Obion River. Datum of gage is 261.23 feet above mean Gulf level.

Drainage area.- 1,880 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 2,390 second-feet.

Extremes.- Maximum discharge during year, 11,100 second-feet Apr. 21 (gage height, 15.72 feet); minimum, 296 second-feet Sept. 21, 22; minimum gage height, 0.84 foot Oct. 16, 17.

1929-40: Maximum discharge, 99,500 second-feet Jan. 24, 1937 (gage height, 25.4 feet, from floodmarks); minimum discharge observed, 232 second-feet Sept. 1, 1936 (gage height, -0.04 foot); minimum daily discharge, 15 second-feet Feb. 4, 1937, owing to backwater from Mississippi River; reversed flow of 57 second-feet was measured by current meter on that date.

Remarks.- Records fair.

Rating table, water year 1939-40, except period of backwater from Mississippi and Forked Deer Rivers (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Jan. 2, 12-14, Feb. 6-16, Aug. 20, Aug. 30 to Sept. 24)

1.2	332	6.0	1,290	11.0	2,530	13.5	3,840	15.0	8,000
2.0	480	8.0	1,760	12.0	2,820	14.0	4,880	15.6	10,600
4.0	864	10.0	2,260	13.0	3,260	14.5	6,230		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	450	377	452	632	518	2,760	2,760	2,560	499	2,530	1,010	594
2	420	359	556	556	537	2,640	3,090	2,700	461	2,290	1,360	480
3	381	359	594	a480	575	2,670	3,440	3,200	442	1,660	1,010	404
4	362	350	594	a460	613	2,760	3,550	4,410	523	1,110	727	368
5	352	350	537	a450	613	3,360	3,550	c4,010	404	708	518	350
6	386	359	499	a440	1,040	4,640	3,440	3,260	395	518	499	332
7	368	359	461	a440	1,930	5,130	3,200	c2,510	395	689	452	332
8	350	377	452	a440	1,980	4,880	3,000	c1,980	632	689	414	314
9	332	386	442	a450	1,830	4,410	2,790	c1,610	556	499	556	314
10	332	404	432	a460	1,900	3,760	2,450	c1,010	537	1,030	1,540	314
11	332	537	432	a760	2,190	3,340	2,520	c904	844	1,030	1,450	314
12	323	575	432	f988	2,400	3,090	2,850	844	844	1,110	784	305
13	323	470	442	884	2,640	3,260	3,300	613	575	1,470	518	305
14	323	432	452	2,140	2,790	3,550	4,300	537	499	1,160	432	305
15	323	414	452	2,480	2,960	5,000	3,840	518	689	804	386	305
16	314	395	452	2,590	3,260	5,130	3,260	518	746	1,070	368	305
17	323	386	452	2,730	3,550	4,410	3,040	499	1,220	946	350	305
18	323	386	452	a2,300	4,640	3,760	3,040	480	1,730	746	386	305
19	323	444	480	a1,600	6,080	3,340	3,470	480	1,660	594	727	305
20	323	904	575	a1,100	10,200	3,140	6,970	499	1,110	480	824	305
21	323	824	556	a740	10,800	3,040	10,600	480	708	423	a600	305
22	332	613	499	a560	9,500	3,000	10,600	480	518	442	a460	305
23	332	537	518	a480	7,600	2,920	8,630	1,160	461	613	a420	305
24	332	480	904	a440	5,940	2,850	6,530	1,610	499	594	a410	341
25	332	442	967	a430	4,640	2,730	5,130	1,640	442	461	a390	395
26	341	423	844	a430	3,760	2,560	4,010	1,590	423	395	a380	359
27	359	414	1,220	a430	3,260	2,530	3,340	1,470	386	368	a370	341
28	689	404	1,450	a430	3,000	2,480	2,960	1,180	721	350	a400	323
29	804	404	1,200	a440	2,890	2,400	2,590	844	2,260	332	a550	314
30	518	404	946	a450	-	2,480	2,130	651	2,480	332	f670	314
31	395	-	784	499	-	2,620	-	556	-	341	632	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11,720	804	314	378	0.201	0.23
November	13,568	904	350	452	.240	.27
December	19,528	1,450	432	630	.335	.39
Calendar year 1939	1,085,479	23,800	314	2,974	1.58	21.46
January	27,709	2,730	430	894	.476	.55
February	103,636	10,800	518	3,574	1.90	2.05
March	104,640	5,130	2,400	3,375	1.80	2.07
April	124,380	10,800	2,130	4,146	2.21	2.46
May	44,803	4,410	480	1,445	.769	.89
June	23,559	2,480	386	785	.418	.47
July	25,784	2,530	332	832	.443	.51
August	19,593	1,540	350	632	.336	.39
September	10,163	594	305	339	.180	.20
Water year 1939-40	529,083	10,800	305	1,446	.769	10.48

a No gage-height record; discharge computed on basis of weather records and records for South Fork of Obion River near Greenfield, North Fork of Obion River near Union City, and Rutherford Fork of Obion River near Bradford.

c Stage-discharge relation affected by backwater from Mississippi and Forked Deer Rivers; discharge computed on basis of one discharge measurement, gage heights, records for stations on the Mississippi River at Memphis, South Fork of Forked Deer River at Jackson, and the forks of the Obion River mentioned above.

f Computed on basis of partly estimated gage-height records.

Rutherford Fork of Obion River near Bradford, Tenn.

Location (revised).- Water-stage recorder, lat. 36°03'00", long. 88°52'40", at bridge on State Highway 54, 4 miles southwest of Bradford, Gibson County, and 17½ miles upstream from mouth.

Drainage area.- 203 square miles (revised).

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 235 second-feet.

Extremes.- Maximum discharge during year, 3,040 second-feet Mar. 3 (gage height, 14.82 feet, from floodmark); minimum, 17 second-feet Sept. 19 (gage height, 1.63 feet).
1929-40: Maximum discharge observed, 9,730 second-feet Jan. 22, 1937 (gage height, 20.06 feet, site and datum then in use), from rating curve extended above 5,000 second-feet; minimum observed, 13 second-feet several days during October 1931 and August 1934; minimum gage height observed, 0.68 foot July 16, 1937, site and datum then in use.

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	25	77	38	b35	84	f279	f1,910	a25	f27	131	27
2	24	24	46	b36	b36	f531	167	f410	f24	f26	33	23
3	24	24	32	b34	37	f1,390	131	164	f23	f24	a30	22
4	24	25	30	b32	38	f244	f170	110	f22	a24	a29	22
5	24	24	30	b30	40	137	86	82	f22	a24	a24	22
6	24	25	30	b30	240	85	72	66	f22	a23	a28	22
7	24	26	29	b30	102	95	73	56	25	a23	a30	21
8	24	26	27	b31	57	175	71	50	37	a24	a30	20
9	23	26	27	*b31	98	118	64	42	72	f520	172	20
10	23	33	28	b33	286	85	57	43	175	f124	62	20
11	27	38	27	77	202	197	90	40	168	33	a27	20
12	24	30	26	62	123	1,550	90	36	37	28	a26	20
13	24	28	27	45	311	f1,320	74	33	33	34	a25	20
14	24	27	29	201	f278	476	65	30	31	32	a25	20
15	23	26	28	107	f123	223	60	31	34	42	a24	20
16	24	27	27	50	80	141	56	30	30	f61	a24	20
17	24	27	27	43	146	107	222	29	36	f31	a24	20
18	24	28	26	40	1,470	f618	1,010	28	31	f24	a24	19
19	24	38	31	b35	653	1,060	1,830	29	30	f23	f62	19
20	24	54	44	b30	527	328	f547	28	28	f23	a28	19
21	24	33	34	b30	272	159	f220	26	26	a23	a25	19
22	23	30	31	b30	153	112	f140	25	24	a32	a24	19
23	23	28	71	b30	92	86	f128	185	24	a40	a25	19
24	22	27	129	b30	f132	84	115	96	26	a29	a24	20
25	22	26	44	b30	f125	116	82	71	28	a24	a23	23
26	24	25	69	b29	77	188	64	41	27	a23	f22	22
27	27	25	204	b30	142	209	54	35	26	a23	22	21
28	44	25	181	b30	220	150	47	34	f243	a23	48	21
29	29	26	45	b31	f124	240	57	f31	f162	a22	84	20
30	25	27	40	b33	-	f1,580	338	a29	f33	a22	39	20
31	25	-	39	b33	-	f740	-	a29	-	340	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	768	44	22	24.8	0.122	0.14
November	853	54	24	28.4	.140	.16
December	1,535	204	26	49.5	.244	.28
Calendar year 1939	112,869	4,500	20	309	1.52	20.44
January	1,351	201	29	43.6	.215	.25
February	6,219	1,470	35	214	1.05	1.14
March	12,628	1,580	84	407	2.00	2.31
April	6,489	1,860	47	216	1.06	1.19
May	3,849	1,910	25	124	.611	.71
June	1,524	243	22	50.8	.250	.28
July	1,771	520	22	57.1	.281	.32
August	1,242	172	22	40.1	.198	.23
September	620	27	19	20.7	.102	.11
Water year 1939-40	38,849	1,910	19	106	.522	7.12

Peak discharge.- Feb. 18 (9 a.m.) 2,070 sec.-ft.; Mar. 3 (3 a.m.) 3,040 sec.-ft.; Mar. 12 (6:30 a.m.) 2,040 sec.-ft.; Mar. 30 1 p.m.) 2,230 sec.-ft.; Apr. 19 (3 a.m.) 2,790 sec.-ft.; May 1 (6 a.m.) 2,690 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for North Fork of Obion River near Union City, South Fork of Obion River near Greenfield, and weather records.

b Stage-discharge relation affected by ice.

f Discharge computed on basis of partly estimated gage-height record.

North Fork of Obion River near Union City, Tenn.

Location (revised).- Water-stage recorder, lat. 36°24'00", long. 88°59'45", at bridge on State Highway 22, 4 miles southeast of Union City, Obion County, 4½ miles upstream from Hoosier Creek, and 11 miles upstream from mouth.

Drainage area.- 490 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 620 second-feet.

Extremes.- Maximum discharge during year, 6,720 second-feet Feb. 18 (gage height, 17.16 feet); minimum, 95 second-feet Sept. 21; minimum gage height, 5.16 feet Oct. 3, 10.
1929-40: Maximum discharge, 49,200 second-feet Jan. 22, 1937 (gage height, 22.0 feet, from floodmarks); minimum discharge observed, 85 second-feet Aug. 10, 16, 17, 25-27, 1931; minimum gage height observed, 3.38 feet July 27, 1929.

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	109	112	138	b164	b172	308	682	4,100	a125	228	880	108
2	102	109	170	a158	b182	1,000	360	1,970	a123	180	198	105
3	102	109	134	a152	b190	4,150	1,190	708	a122	252	125	104
4	102	109	123	b150	200	3,250	1,270	330	a121	210	113	104
5	102	109	123	b146	210	1,830	548	252	a120	146	113	103
6	116	109	123	b146	1,130	707	288	216	a119	134	135	101
7	109	116	120	b146	748	f385	252	192	a150	135	145	101
8	102	112	120	b146	346	a435	252	180	a200	134	125	100
9	102	112	120	b150	346	a360	216	168	a300	204	864	100
10	102	126	120	168	696	a290	198	168	a152	152	554	100
11	102	178	120	315	856	a660	a1,770	157	152	132	174	101
12	102	138	120	255	1,060	a1,520	f4,550	152	124	876	132	100
13	102	123	120	220	2,210	f3,240	1,850	146	117	513	119	100
14	102	116	123	3,280	2,170	1,840	763	146	230	174	106	100
15	102	116	123	1,980	1,190	790	415	146	240	220	111	100
16	102	116	123	706	808	415	301	146	635	216	110	101
17	102	116	123	368	802	301	898	140	644	140	109	100
18	102	116	123	285	5,460	270	4,210	140	884	125	157	100
19	106	126	150	a240	5,650	506	5,820	152	315	122	264	99
20	106	228	154	a180	3,620	294	4,750	146	174	117	186	99
21	102	146	130	a160	1,650	252	2,730	135	140	116	146	98
22	106	126	123	b154	845	282	950	140	127	152	123	98
23	102	123	145	b150	465	222	670	630	131	192	113	98
24	102	120	302	b150	405	210	505	595	135	140	109	105
25	102	120	182	a150	445	252	322	322	126	120	106	110
26	106	116	146	a150	301	426	270	270	122	114	105	107
27	164	116	471	a150	430	720	240	192	117	112	105	101
28	f462	116	305	a150	962	395	216	157	1,110	110	105	101
29	f196	116	220	a150	465	709	222	146	2,130	108	122	102
30	123	116	195	b154	-	1,990	340	a135	613	108	146	101
31	116	-	b177	b159	-	1,520	-	a130	-	284	113	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,757	462	102	121	0.247	0.29
November	3,711	228	109	124	.253	.28
December	4,966	471	120	160	.327	.38
Calendar year 1939	217,496	8,940	99	596	1.22	16.50
January	11,032	3,280	146	356	.727	.84
February	34,014	5,650	172	1,173	2.39	2.58
March	29,529	4,150	210	953	1.94	2.24
April	37,048	5,820	198	1,235	2.52	2.81
May	12,607	4,100	130	407	.831	.96
June	9,798	2,130	117	327	.667	.74
July	5,966	876	108	192	.392	.45
August	6,013	880	105	194	.396	.46
September	3,047	110	98	102	.208	.23
Water year 1939-40	161,488	5,820	98	441	.900	12.26

Peak discharge.- Jan. 14 (11 a.m.) 3,990 sec.-ft.; Feb. 13 (6:30 p.m.) 2,950 sec.-ft.; Feb. 18 (12 p.m.) 6,720 sec.-ft.; Mar. 13 (1 p.m.) 3,880 sec.-ft.; Apr. 12 (5 a.m.) 5,480 sec.-ft. (time and crest stage estimated from partial record); June 29 (1 a.m.) 3,350 sec.-ft.

a No gage-height record; discharge computed on basis of records for station on South Fork of Obion River near Greenfield.

b Stage-discharge relation affected by ice.

f Computed on basis of partly estimated gage-height record.

South Fork of Forked Deer River at Jackson, Tenn.

Location.- Water-stage recorder, lat. 35°36', long. 88°49', at bridge on U. S. Highway 45, 75 feet downstream from Meridian Creek and 1 mile south of Jackson, Madison County. Datum of gage is 331.14 feet above mean Gulf level.

Drainage area.- 574 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 734 second-feet.

Extremes.- Maximum discharge during year, 4,630 second-feet Feb. 19 (gage height, 14.75 feet); minimum, 91 second-feet Sept. 21; minimum gage height, 3.76 feet Oct. 10.
1929-40: Maximum discharge observed, 35,800 second-feet Jan. 21, 1935 (gage height, 22.66 feet), from rating curve extended above 15,000 second-feet; minimum observed, 73 second-feet July 1, 1936; minimum gage height observed, 1.58 feet July 9, 1929.

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	129	136	338	210	b192	f482	1,540	f2,680	140	f183	269	129
2	116	134	295	185	b224	487	900	1,500	136	179	138	120
3	115	132	197	176	244	2,640	630	1,150	132	f253	166	118
4	116	132	177	194	244	f1,360	510	660	131	235	123	113
5	118	136	174	195	271	f645	390	454	129	167	113	113
6	122	140	170	174	750	496	326	346	125	156	113	113
7	140	154	167	186	488	492	316	289	123	167	118	110
8	120	161	161	208	307	1,190	f316	262	176	296	132	105
9	116	143	161	183	1,750	750	f280	235	235	780	666	105
10	116	161	163	192	f1,800	510	f262	244	141	392	645	102
11	129	301	163	370	f1,210	526	298	210	192	f204	307	99
12	120	161	158	336	f660	1,160	462	192	147	f630	215	99
13	118	159	208	262	f525	f2,880	307	183	138	f1,940	192	99
14	116	154	201	890	f645	f2,260	280	170	170	f900	179	99
15	116	152	174	467	428	f1,730	262	170	158	f428	170	99
16	120	152	172	280	356	f1,150	235	165	147	316	163	97
17	123	154	170	b210	789	f705	262	154	156	253	159	96
18	125	f156	167	b170	4,140	f1,010	f1,270	152	152	224	175	94
19	122	f302	185	b150	4,280	f1,730	f3,500	159	179	215	382	94
20	120	f317	215	b140	f3,010	675	f1,960	145	158	215	161	94
21	122	f204	179	b131	f2,480	482	f1,210	136	123	f201	147	94
22	120	f179	170	b127	f1,870	390	f705	134	116	f174	141	92
23	118	f172	397	b123	f1,020	326	780	176	116	161	136	94
24	116	f165	841	b122	f840	378	600	414	118	145	134	99
25	118	163	280	b120	f900	555	428	262	143	141	163	129
26	129	159	270	b118	f750	690	356	201	123	134	134	99
27	154	158	739	b118	f645	615	307	172	115	131	127	96
28	165	159	326	b120	f750	496	271	163	f547	127	450	97
29	138	161	244	bf123	f660	f1,160	316	159	f840	125	400	96
30	136	163	217	b132	-	f3,230	f701	152	f235	122	271	96
31	136	-	213	b149	-	f2,930	-	147	-	140	152	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,869	165	115	125	0.218	0.25
November	5,140	317	132	171	.298	.33
December	7,692	841	158	248	.432	.50
Calendar year 1939	344,950	9,170	100	945	1.65	22.34
January	6,581	890	118	212	.369	.43
February	32,228	4,280	192	1,111	1.94	2.09
March	34,130	3,230	326	1,101	1.92	2.21
April	20,000	3,500	235	667	1.16	1.30
May	11,636	2,680	134	375	.653	.75
June	5,543	840	115	185	.322	.36
July	9,736	1,940	122	314	.547	.63
August	6,863	666	113	221	.385	.44
September	3,090	129	92	103	.179	.20
Water year 1939-40	146,508	4,280	92	400	.697	9.49

b Stage-discharge relation affected by ice.
f Discharge computed on basis of partly estimated gage-height record.

South Fork of Forked Deer River at Chestnut Bluff, Tenn.

Location.- Water-stage recorder, lat. 35°52', long. 89°21', at highway bridge, 1 mile west of Chestnut Bluff, Crockett County, 1 mile downstream from Black Creek, and 12 miles upstream from confluence with North Fork of Forked Deer River. Datum of gage is 256.71 feet above mean Gulf level.

Drainage area.- 1,080 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 1,320 second-feet.

Extremes.- Maximum discharge during year, 4,000 second-feet Feb. 22 (gage height, 16.35 feet); minimum, 135 second-feet Sept. 13 (gage height, 8.86 feet).
1929-40: Maximum discharge, 33,300 second-feet Jan. 22, 1935 (gage height, 22.3 feet, from floodmarks), from rating curve extended above 20,000 second-feet; minimum observed, 108 second-feet, Sept. 11, 1934; minimum gage height observed, 3.2 feet Aug. 5-13, 1930.

Remarks.- Records good except those for periods of ice effect, those for periods of no gage-height record, and those for periods of shifting control, all of which are fair.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Apr. 6-18)

Oct. 1 to Apr. 22

9.4	145	11.5	672	14.5	2,030
9.6	185	12.0	815	15.0	2,450
9.8	228	12.5	970	15.5	2,900
10.0	276	13.0	1,150	16.0	3,450
10.5	401	13.5	1,370	16.3	3,850
11.0	535	14.0	1,650		

Apr. 23 to Sept. 30

8.9	142	10.0	355	11.5	696
9.0	160	10.5	462	12.0	824
9.5	255	11.0	575	12.5	970

Note.- Same as preceding table above 12.5 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	213	183	252	f325	b245	1,080	2,630	1,130	255	366	f305	440
2	198	181	427	f305	276	935	3,000	1,530	249	285	f275	255
3	177	181	427	f286	302	1,650	3,210	1,870	241	255	f235	216
4	173	181	300	271	312	1,870	2,810	1,790	237	305	f227	193
5	171	183	266	283	338	2,110	1,640	1,170	233	315	f212	186
6	167	187	254	281	522	1,870	925	798	227	249	193	173
7	165	200	245	262	845	1,170	700	647	229	237	f180	164
8	173	215	238	271	728	1,230	616	540	235	251	f182	158
9	165	228	230	288	686	1,530	562	484	275	335	f251	151
10	163	210	230	274	1,370	1,420	494	451	355	647	686	149
11	161	252	230	362	1,870	1,040	481	429	325	484	772	147
12	159	375	230	548	2,030	1,650	562	397	325	501	484	140
13	159	271	235	522	1,790	2,190	644	366	275	f1,590	335	137
14	155	226	276	815	1,590	2,270	535	345	295	f1,870	275	140
15	151	210	286	1,000	1,370	2,450	481	345	295	f2,270	235	140
16	147	206	252	816	1,040	2,630	440	335	275	f2,360	220	140
17	149	206	252	562	905	2,630	454	315	255	f1,690	205	140
18	153	208	250	b375	2,420	2,270	973	305	255	f962	205	140
19	157	226	254	b252	2,900	2,110	2,450	305	253	f647	275	140
20	157	333	278	b210	3,210	2,110	2,810	295	275	f575	355	139
21	155	427	302	b198	3,580	f1,530	3,100	295	251	f495	235	139
22	153	288	266	b187	3,850	1,000	3,450	275	218	f418	201	140
23	153	247	278	b181	3,850	786	3,210	285	205	f376	188	140
24	149	235	583	b175	3,850	700	2,360	335	203	f325	178	150
25	147	228	757	b173	3,450	757	1,320	506	206	f275	171	208
26	149	228	522	169	2,810	1,040	905	408	222	f253	184	189
27	165	219	644	169	1,720	1,230	721	335	205	f235	186	169
28	202	217	815	b177	1,320	970	623	305	265	f233	182	142
29	215	217	602	b189	1,320	970	575	295	718	f218	552	149
30	200	217	f454	b198	-	1,700	599	275	693	f205	746	146
31	181	-	f375	b219	-	2,270	-	275	-	f205	518	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,182	215	147	167	0.155	0.18
November	6,985	427	181	233	.216	.24
December	11,010	815	230	355	.329	.38
Calendar year 1939	632,610	12,000	147	1,733	1.60	21.78
January	10,343	1,000	169	334	.309	.36
February	50,499	3,850	245	1,741	1.61	1.74
March	49,168	2,630	700	1,586	1.47	1.69
April	43,280	3,450	440	1,443	1.34	1.49
May	17,436	1,870	275	562	.520	.60
June	8,550	718	203	285	.264	.29
July	19,432	2,360	205	627	.581	.67
August	9,448	772	171	305	.282	.33
September	5,075	440	137	169	.156	.17
Water year 1939-40	236,408	3,850	137	646	.598	8.14

b Stage-discharge relation affected by ice.
f Discharge computed on basis of wholly or partly estimated gage-height record.

Middle Fork of Forked Deer River near Alamo, Tenn.

Location.- Water-stage recorder, lat. 35°52', long. 89°04', at bridge on State Highway 54, 3 miles upstream from Buck Creek, 5 miles north of Alamo, Crockett County, and 13 miles upstream from mouth.

Drainage area.- 410 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 513 second-feet.

Extremes.- Maximum discharge during year, 3,460 second-feet Mar. 30, from discharge measurement; maximum gage height, 12.46 feet Mar. 30; minimum discharge, 85 second-feet Sept. 8, 9; minimum gage height, 1.96 feet Aug. 27.

1929-40: Maximum discharge observed, 19,500 second-feet Jan. 21, 1935 (gage height, 15.46 feet), from rating curve extended above 10,000 second-feet; minimum observed, 68 second-feet June 30, July 1, 1936; minimum gage height observed, 1.26 feet July 1, 11, 17, 1931.

Remarks.- Records good except those for period of no gage-height record, those for period of ice effect, and those for period of shifting control, all of which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	105	156	117	b109	237	1,130	1,450	108	128	136	117
2	108	103	177	114	117	512	692	716	106	111	111	96
3	105	103	134	106	122	1,630	334	472	106	106	100	90
4	106	103	121	108	129	740	259	231	106	106	97	88
5	106	105	116	113	138	790	208	179	106	103	96	87
6	106	108	114	105	a350	765	184	164	106	100	96	87
7	106	113	113	106	a220	312	184	152	187	103	97	87
8	106	114	113	113	a180	599	182	141	220	108	100	85
9	105	113	113	111	a620	415	165	138	164	129	927	85
10	103	114	114	114	a1,010	277	156	138	279	136	296	87
11	106	124	114	225	599	435	165	136	440	131	272	88
12	105	126	114	208	392	1,600	212	129	186	143	128	88
13	103	114	117	158	542	1,950	194	128	133	146	106	88
14	102	109	119	392	508	1,050	171	128	193	140	103	88
15	100	108	117	438	323	841	164	129	133	205	98	88
16	102	108	117	196	216	450	152	129	124	246	97	88
17	103	111	117	b140	306	275	194	124	133	202	96	88
18	103	111	119	b119	2,480	726	1,160	122	136	141	367	88
19	103	122	124	b105	1,520	1,080	2,740	124	119	116	350	88
20	100	165	154	b98	1,550	599	1,380	122	114	113	111	88
21	102	134	134	b96	1,210	334	1,080	121	109	127	98	88
22	100	116	119	b94	599	240	484	119	108	114	94	88
23	98	114	174	b92	312	192	312	119	108	106	92	88
24	96	113	323	b92	323	196	296	167	113	105	91	91
25	97	109	192	b91	346	298	229	192	117	103	91	97
26	100	108	164	b90	242	542	194	150	119	100	91	94
27	108	109	404	b90	286	622	173	129	114	98	117	90
28	114	109	242	b92	461	484	164	122	449	98	184	90
29	109	113	149	b94	334	622	175	121	629	96	426	88
30	105	113	129	b97	-	2,540	306	117	188	96	300	88
31	103	-	121	b103	-	1,690	-	114	-	125	161	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,226	114	96	104	0.254	0.29
November	3,417	165	103	114	.278	.31
December	4,636	404	113	150	.366	.42
Calendar year 1939	229,184	9,000	96	626	1.53	20.80
January	4,217	438	90	136	.332	.38
February	15,544	2,480	109	536	1.31	1.41
March	23,043	2,540	192	743	1.81	2.09
April	13,441	2,740	152	448	1.09	1.22
May	6,523	1,450	114	210	.512	.59
June	5,257	629	106	175	.427	.48
July	3,885	246	96	125	.305	.35
August	5,551	927	91	179	.437	.50
September	2,691	117	85	89.7	.219	.24
Water year 1939-40	91,431	2,740	85	250	.610	8.28

a No gage-height record; discharge computed on basis of records for South Fork of Forked Deer River at Chestnut Bluff and Jackson and weather records.
b Stage-discharge relation affected by ice.

Hatchie River at Bolivar, Tenn.

Location (revised).- Water-stage recorder, lat. 35°16'40", long. 88°58'30", at bridge on State Highway 18, 250 feet upstream from Illinois Central Railroad bridge, 2,000 feet downstream from Spring Creek, and 1½ miles northeast of Bolivar, Hardeman County. Datum of gage is 323.86 feet above mean Gulf level.

Drainage area.- 1,430 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 2,302 second-feet.

Extremes.- Maximum discharge during year, 7,600 second-feet Apr. 24 (gage height, 14.69 feet); minimum, 150 second-feet Sept. 24 (gage height, 1.57 feet).
1929-40: Maximum discharge observed, 43,400 second-feet Jan. 20, 1935 (gage height, 20.00 feet); minimum observed, 114 second-feet Sept. 1, 1936 (gage height, 1.08 feet).

Remarks.- Records excellent except those for periods of no gage-height record or ice effect, which are fair.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

1.6	154	6.0	1,080	12.0	3,610
2.0	213	7.0	1,360	12.5	4,050
2.5	295	8.0	1,670	13.0	4,580
3.0	384	9.0	2,010	13.5	5,250
4.0	578	10.0	2,410	14.0	6,080
5.0	812	11.0	2,910	14.5	7,110

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	295	312	402	738	b500	3,030	3,300	3,960	411	1,360	221	1,600
2	458	295	496	622	b540	2,600	3,610	4,140	375	943	253	1,220
3	477	278	667	536	b580	2,260	3,780	4,050	366	622	330	667
4	366	278	738	536	622	2,320	3,960	3,610	321	536	339	468
5	312	278	578	496	714	2,600	4,050	2,910	304	557	286	366
6	286	278	477	486	1,050	2,860	3,960	2,080	295	516	229	286
7	270	295	430	a480	1,510	2,970	3,870	1,450	278	448	213	263
8	261	304	411	a480	1,830	3,030	3,610	1,130	312	402	206	229
9	253	312	393	a480	2,120	2,860	3,530	970	420	439	354	221
10	245	330	393	a480	2,370	2,700	3,230	864	838	557	506	206
11	245	375	393	a490	2,700	2,460	2,500	762	838	600	1,080	192
12	245	393	393	a580	2,910	2,500	1,900	714	622	714	1,480	183
13	278	468	411	a800	3,030	3,100	1,970	644	557	916	1,270	172
14	286	486	448	a1,220	3,100	3,610	2,320	578	496	970	787	168
15	263	439	496	1,390	2,970	3,960	2,500	557	458	1,420	486	165
16	245	402	536	1,730	2,600	4,050	2,240	536	496	1,570	357	164
17	237	366	477	1,860	2,120	4,240	1,800	557	622	1,540	330	162
18	237	357	439	1,540	3,160	4,580	1,830	557	578	1,510	339	161
19	245	375	439	1,050	3,780	5,100	3,180	496	667	1,570	330	157
20	245	439	448	762	4,140	5,400	4,960	458	864	1,540	296	155
21	245	536	448	536	4,240	5,250	4,340	430	714	1,330	270	154
22	245	600	448	b450	4,240	4,820	4,700	411	516	1,100	253	151
23	261	536	536	b440	4,240	4,340	5,890	430	393	864	229	151
24	270	468	812	b430	4,340	3,610	7,340	600	321	622	206	167
25	253	402	1,220	b420	4,460	2,600	7,110	1,050	304	458	198	198
26	245	384	1,480	b420	4,340	1,860	6,480	1,240	321	348	184	192
27	261	366	1,480	b420	4,140	1,540	5,720	970	366	295	192	183
28	286	357	1,450	b420	3,960	1,330	5,100	690	462	270	306	189
29	304	357	1,540	b430	3,530	1,270	4,460	536	1,020	245	496	178
30	330	357	1,300	b440	-	1,850	4,050	477	1,220	229	838	168
31	348	-	970	b460	-	2,750	-	448	-	221	1,330	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	8,787	477	237	283	0.198	0.23
November	11,423	600	278	381	.266	.30
December	21,149	1,540	393	682	.477	.55
Calendar year 1939	1,022,034	14,000	178	2,800	1.96	26.59
January	21,622	1,860	420	697	.487	.56
February	79,836	4,460	500	2,753	1.93	2.08
March	97,470	5,400	1,270	3,144	2.20	2.54
April	117,290	7,340	1,800	3,910	2.73	3.05
May	38,305	4,140	411	1,236	.864	1.00
June	15,755	1,220	278	525	.367	.41
July	24,712	1,570	221	797	.557	.64
August	14,193	1,480	184	458	.320	.37
September	8,926	1,600	151	298	.208	.23
Water year 1939-40	459,468	7,340	151	1,255	.878	11.96

a No gage-height record; discharge computed on basis of records for station near Stanton.
b Stage-discharge relation affected by ice.

Hatchie River near Stanton, Tenn.

Location (revised).- Water-stage recorder, lat. 35°31'25", long. 89°21'05", at bridge on U. S. Highway 70, 3 miles downstream from Nashville, Chattanooga & St. Louis Railway bridge, 5 miles northeast of Stanton, Haywood County, and 7 miles upstream from Big Muddy Creek. Datum of gage is 267.34 feet above mean Gulf level.

Drainage area.- 1,940 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 2,923 second-feet.

Extremes.- Maximum discharge during year, 8,500 second-feet Apr. 29 (gage height, 15.32 feet); minimum,298 second-feet Sept. 25 (gage height, 2.11 feet).
1929-40: Maximum discharge observed, 59,000 second-feet Jan. 22, 1935 (gage height, 20.35 feet); minimum observed, 278 second-feet, Sept. 1, 1936 (gage height, 1.66 feet).

Remarks.- Records good except those for periods of no gage-height record or ice effect, which are fair.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 10 and Sept. 21-30)

Oct. 1 to Apr. 29

3.7	532	13.0	3,280
4.0	588	13.5	3,590
5.0	781	14.0	4,100
6.0	985	14.2	4,350
8.0	1,430	14.5	4,950
9.0	1,670	14.7	5,600
10.0	1,970	15.0	6,900
12.0	2,780	15.3	8,500

Apr. 30 to Sept. 30

2.2	315	6.0	1,060
2.5	366	8.0	1,550
3.0	458	10.0	2,110
4.0	648	12.0	2,840
5.0	848	13.0	3,280

Note.- Same as preceding table above 13.0 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	359	400	532	1,360	b630	3,890	3,340	5,900	788	1,300	466	972
2	367	418	550	f1,270	664	3,890	3,070	6,900	728	1,280	468	1,110
3	375	418	588	f1,070	683	3,990	2,670	5,600	688	1,300	448	1,230
4	418	400	626	901	702	3,990	2,780	4,700	648	1,200	477	1,230
5	478	392	702	801	761	3,690	2,740	4,220	610	994	515	972
6	460	384	761	741	841	3,450	2,780	3,890	591	848	515	748
7	418	392	741	702	943	3,220	2,870	3,690	572	788	496	610
8	392	392	683	683	1,090	3,070	2,970	3,450	553	768	458	515
9	375	400	626	683	1,310	2,970	3,070	3,280	553	728	534	458
10	367	409	588	683	1,690	2,870	3,170	3,000	553	668	728	420
11	359	426	569	702	2,040	2,780	3,280	2,380	629	688	888	402
12	359	443	569	761	2,200	2,820	3,280	1,740	828	788	950	384
13	351	478	550	821	2,280	2,920	3,280	1,350	888	1,370	1,080	366
14	351	496	550	922	2,360	2,970	3,220	1,180	848	1,600	1,200	349
15	351	514	569	1,070	2,440	2,920	3,070	1,060	768	1,450	1,250	340
16	367	550	588	1,200	2,480	2,870	2,870	972	728	1,470	1,080	332
17	367	550	626	1,270	2,560	2,820	2,600	928	688	1,470	828	332
18	359	532	645	1,330	2,970	2,870	2,560	888	708	1,470	648	324
19	351	514	645	a1,350	3,510	2,970	2,920	688	768	1,470	591	315
20	343	514	626	a1,300	3,890	3,070	3,120	868	788	1,550	553	315
21	343	514	626	a1,190	3,790	3,220	3,120	828	848	1,580	534	306
22	343	550	507	a960	3,790	3,390	2,970	788	928	1,550	496	306
23	343	607	626	a800	3,690	3,590	2,970	768	888	1,500	477	306
24	343	645	683	a700	3,690	3,990	2,970	768	768	1,370	448	306
25	343	645	781	a630	3,690	4,500	3,120	808	668	1,180	420	298
26	359	607	901	a600	3,690	4,700	3,280	888	591	950	402	306
27	367	569	1,070	a580	3,790	4,500	3,890	1,060	553	768	384	332
28	367	532	1,200	a580	3,890	4,100	7,400	1,180	534	648	375	332
29	367	514	1,290	a580	3,890	3,890	8,500	1,160	708	572	485	324
30	375	514	1,360	a590	-	3,590	7,400	1,020	1,230	534	994	315
31	384	-	1,380	b600	-	3,510	-	868	-	496	994	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	11,501	478	343	371	0.191	0.22
November	14,719	645	384	491	.253	.28
December	22,858	1,380	532	737	.380	.44
Calendar year 1939	1,311,397	19,500	335	3,593	1.85	25.14
January	27,450	1,380	580	885	.456	.53
February	69,954	3,890	630	2,412	1.24	1.34
March	107,020	4,700	2,780	3,452	1.78	2.05
April	105,480	8,500	2,560	3,516	1.81	2.02
May	68,040	6,900	768	2,195	1.13	1.30
June	21,661	1,230	534	722	.372	.42
July	34,348	1,600	496	1,108	.571	.66
August	20,184	1,250	375	651	.336	.39
September	14,855	1,230	298	495	.255	.28
Water year 1939-40	518,070	8,500	298	1,415	.729	9.93

a No gage-height record; discharge computed on basis of records for station at Bolivar.
b Stage-discharge relation affected by ice.
f Discharge computed on basis of partly estimated gage-height record.

Wolf River at Rossville, Tenn.

Location (revised).- Water-stage recorder, lat. 35°03'10", long. 89°32'30", at county highway bridge, 0.4 mile upstream from Hurricane Creek, half a mile north of Rossville, Fayette County, and 3½ miles downstream from Grissum Creek.

Drainage area.- 531 square miles.

Records available.- July 1929 to September 1940.

Average discharge.- 11 years, 668 second-feet.

Extremes.- Maximum discharge during year, 2,070 second-feet Apr. 30 (gage height, 8.79 feet); minimum, 133 second-feet Sept. 18-24 (gage height, 3.70 feet).

1929-40: Maximum discharge, 31,000 second-feet Jan. 20, 1935 (gage height, 13.75 feet, from floodmarks), from rating curve extended above 7,500 second-feet; minimum observed, 125 second-feet Oct. 1-27, 1931; minimum gage height observed, 2.24 feet Aug. 12-14, 1930.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	174	174	214	264	b214	330	635	1,900	193	625	f151	288
2	169	174	238	245	252	330	492	1,740	188	270	a151	240
3	174	174	226	226	258	323	530	1,540	183	204	f151	193
4	169	169	232	f220	271	310	576	1,070	183	182	a151	161
5	164	174	232	f214	290	310	419	486	178	171	a151	151
6	164	174	220	f209	349	336	297	304	178	171	a150	151
7	164	178	209	214	376	323	271	258	178	171	a150	f146
8	160	183	204	220	362	316	258	238	183	193	a149	a144
9	160	183	a204	220	622	304	245	232	204	216	f204	a142
10	160	188	a204	232	790	297	238	226	209	272	294	a140
11	156	198	a204	284	790	330	245	214	203	366	441	a139
12	156	204	f204	323	624	446	278	209	220	340	552	a139
13	156	209	214	323	527	604	278	205	220	379	465	a139
14	156	209	220	461	527	730	316	198	264	340	422	a138
15	156	204	214	461	461	695	376	198	245	258	258	f138
16	156	204	214	a376	376	616	390	198	226	228	193	138
17	160	198	214	a316	431	552	316	198	214	204	182	138
18	160	198	214	a271	1,020	492	425	204	209	216	182	133
19	160	209	214	a238	1,300	404	834	204	209	204	188	133
20	160	245	214	a215	1,240	349	1,110	193	204	193	171	133
21	160	226	214	a200	1,080	316	1,420	188	193	171	161	133
22	160	220	209	a194	905	304	1,760	188	188	166	156	133
23	160	220	275	a190	748	284	1,500	209	183	166	151	133
24	160	209	362	a184	576	271	1,060	245	183	166	151	138
25	160	204	316	a180	461	284	630	258	193	166	146	146
26	160	198	349	b178	390	264	376	264	183	151	146	146
27	169	198	432	b178	362	258	310	258	178	146	146	142
28	174	198	376	a178	362	258	271	232	466	142	177	146
29	174	193	336	a183	349	304	258	209	1,510	142	228	142
30	174	198	330	b193	-	582	1,120	204	1,350	142	240	138
31	174	-	304	b204	-	855	-	198	-	151	288	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,059	174	156	163	0.307	0.35
November	5,913	245	169	197	.371	.41
December	7,812	432	204	252	.475	.55
Calendar year 1939	303,964	8,330	156	833	1.57	21.29
January	7,594	461	178	245	.461	.53
February	16,313	1,300	214	563	1.06	1.14
March	12,377	855	258	399	.751	.87
April	17,234	1,760	238	574	1.08	1.21
May	12,468	1,900	188	402	.757	.87
June	8,718	1,510	178	291	.548	.61
July	6,912	625	142	223	.420	.48
August	6,746	552	146	218	.411	.47
September	4,521	288	133	151	.284	.32
Water year 1939-40	111,667	1,900	133	305	.574	7.81

a No gage-height record; discharge computed on basis of weather records and records for Hatchie River near Stanton and at Bolivar.
b Stage-discharge relation affected by ice.
f Discharge computed on basis of partly estimated gage-height record.

St. Francis River near Patterson, Mo.

Location.- Water-stage recorder, lat. 37°11'40", long. 90°30'10", in NE¼ sec. 16, T. 29 N., R. 5 E., at bridge on State Highway 34, 1 mile upstream from Clark Creek, and 3 miles east of Patterson. Datum of gage is 370.45 feet above mean sea level (general adjustment of 1929).

Drainage area.- 956 square miles.

Records available.- June 1921 to September 1940.

Average discharge.- 19 years, 1,100 second-feet.

Extremes.- Maximum discharge during year, 21,700 second-feet Apr. 19 (gage height, 17.92 feet); minimum, 22 second-feet Sept. 23, 24, 26, 27 (gage height, 1.50 feet).

1921-40: Maximum discharge, 79,200 second-feet Mar. 11, 1935 (gage height, 30.70 feet, present datum), from rating curve extended above 55,000 second-feet; minimum, 8 second-feet Aug. 30 to Sept. 1, 1936.

Maximum stage known, 33.8 feet (present datum) in August 1915, from floodmarks, (discharge, 100,000 second-feet, from rating curve extended above 55,000 second-feet).

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	82	138	155	201	812	977	6,500	149	377	38	64
2	42	80	138	145	199	659	858	5,060	141	276	35	59
3	41	76	135	135	193	541	745	2,240	133	206	33	53
4	39	74	131	130	193	505	659	1,590	124	152	32	50
5	39	76	131	125	191	453	599	1,270	116	130	34	47
6	39	75	128	125	199	421	541	1,070	110	110	40	44
7	635	74	126	125	195	405	619	905	109	101	50	40
8	123	73	120	125	189	391	858	767	105	94	58	40
9	90	73	117	130	187	377	1,000	745	97	88	170	47
10	78	78	115	138	183	377	858	701	101	82	144	35
11	71	84	112	153	181	4,000	5,010	639	106	77	126	32
12	65	87	112	178	179	9,950	12,600	560	120	79	125	29
13	67	87	110	247	181	5,700	4,190	505	122	75	112	29
14	65	86	109	1,220	181	3,450	2,460	453	118	67	159	30
15	61	86	106	2,100	179	2,240	1,820	453	112	61	141	30
16	58	90	104	1,380	179	1,650	1,430	405	109	58	183	29
17	56	89	103	1,020	179	1,320	5,290	377	133	52	179	29
18	54	93	103	710	234	1,410	5,220	352	120	48	191	28
19	54	136	102	470	296	2,400	12,700	335	109	47	201	26
20	51	182	100	405	318	1,760	14,800	332	100	45	165	24
21	52	226	97	335	349	1,320	5,090	360	94	47	147	24
22	50	222	96	290	377	1,100	2,800	343	87	54	133	23
23	49	219	110	265	405	929	2,160	296	82	87	125	23
24	49	195	133	250	405	835	1,820	268	85	144	125	24
25	56	174	135	*240	405	767	1,540	248	79	104	109	25
26	59	160	144	230	405	723	1,270	228	69	79	94	24
27	70	153	157	220	405	680	1,100	212	63	64	87	22
28	74	142	157	215	421	659	953	195	172	52	97	23
29	76	136	158	210	928	745	929	183	275	46	91	23
30	78	131	158	205	-	1,100	958	170	659	41	82	23
31	80	-	157	203	-	1,120	-	158	-	41	74	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	2,463	635	39	79.5	0.083	0.10	4,890
November	3,539	226	73	118	.123	.14	7,020
December	3,842	158	96	124	.130	.15	7,620
Calendar year 1939	392,516	29,900	31	1,075	1.12	15.28	778,600
January	11,879	2,100	125	383	.401	.46	23,560
February	8,137	928	179	281	.294	.32	16,140
March	48,799	9,950	377	1,574	1.65	1.90	96,790
April	91,854	14,800	541	3,062	3.20	3.57	182,200
May	27,920	6,500	158	901	.942	1.08	55,380
June	3,999	659	63	133	.139	.16	7,930
July	2,984	377	41	96.3	.101	.12	5,920
August	3,380	201	32	109	.114	.13	6,700
September	999	64	22	33.3	.035	.04	1,980
Water year 1939-40	209,795	14,800	22	573	.599	8.17	416,100

Peak discharge.- Mar. 11 (11:30 p.m.) 12,600 sec.-ft.; Apr. 12 (4 a.m.) 17,000 sec.-ft.; Apr. 17 (4:30 p.m.) 7,320 sec.-ft.; Apr. 19 (11:30 p.m.) 21,700 sec.-ft.; May 1,(7 p.m.) 13,100 sec.-ft.

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Jan. 2-9, 18-30.

St. Francis River at Fisk, Mo.

Location.- Wire-weight gage, lat. 36°46'50", long. 90°12'10", in SW¼ sec. 28, T. 25 N., R. 8 E., at bridge on U. S. Highway 60 at Fisk, 6 miles upstream from Mingo ditch 15 and 14½ miles downstream from Wappapello Dam. Datum of gage is 307.46 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,370 square miles (excluding that of Mingo Creek, drainage from which is diverted by ditches that empty into St. Francis River 6 miles below Fisk).

Records available.- October 1927 to September 1940.

Average discharge.- 13 years, 1,377 second-feet.

Extremes.- Maximum discharge during year, 9,480 second-feet Apr. 22 (gage height, 23.37 feet); minimum, 36 second-feet (regulated) July 26 (gage height, 0.29 foot).

1927-40: Maximum discharge, about 50,000 second-feet as measured by Corps of Engineers, U. S. Army (discharge in river channel at Fisk plus overflow between Fisk and Dudley, including drainage of an additional local area of about 186 square miles) sometime during flood of March 1935, when levee on left bank broke in many places between Wappapello and Fisk; maximum gage height, 26.89 feet, May 15, 1933, from flood-mark; minimum discharge and gage height, those of July 26, 1940.

Remarks.- Records fair except those below 60 second-feet and those for periods of ice effect, which are poor. Gage read once daily Oct. 1 to Jan. 25 and twice daily thereafter. Discharge regulated, July 11 to Aug. 1, by construction work on Wappapello Dam, 14½ miles above station.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1-8		Oct. 9 to Sept. 30					
2.0	147	0.3	36	10.0	1,200	23.0	8,000
3.0	210	1.0	72	15.0	2,440	23.4	9,480
4.0	291	2.0	135	17.0	2,990		
5.0	390	3.0	225	20.0	4,060		
6.0	518	6.0	525	21.0	4,630		
7.0	670	7.0	645	22.0	5,660		
8.1	856	8.0	800	22.5	6,580		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	225	295	305	b355	659	1,390	2,410	335	375	128	187
2	153	225	275	305	b345	854	1,390	3,020	325	485	169	178
3	153	215	275	295	b335	873	1,320	4,430	315	465	169	169
4	147	205	265	b285	b325	818	990	4,160	305	405	151	160
5	147	196	275	b285	325	718	1,030	3,330	295	355	135	151
6	147	196	265	b285	315	659	911	2,740	285	305	128	143
7	217	187	265	b275	315	606	836	2,310	275	265	128	135
8	868	187	255	b275	315	569	836	2,030	265	245	128	135
9	873	187	245	b275	315	558	930	1,760	265	225	135	135
10	593	196	245	b275	325	536	1,100	1,610	255	215	160	135
11	405	196	245	285	325	593	1,340	1,440	255	205	196	135
12	305	205	235	325	325	1,830	3,520	1,250	245	205	225	135
13	245	205	235	395	315	3,900	6,160	1,070	245	245	245	128
14	225	215	225	505	315	5,750	8,000	930	245	96	245	121
15	215	215	225	892	315	6,160	7,080	818	255	56	235	121
16	205	205	225	1,560	315	4,560	4,560	750	255	48	235	114
17	196	205	215	1,830	305	3,570	3,430	673	245	46	245	114
18	187	205	215	1,680	560	2,930	3,970	632	245	44	245	114
19	187	225	215	1,230	1,300	2,520	5,520	581	265	44	255	114
20	178	225	215	1,070	1,560	2,550	7,660	558	255	41	255	114
21	169	295	215	911	1,390	2,520	8,700	525	245	44	255	114
22	169	345	215	818	1,160	2,260	9,480	505	225	48	255	114
23	169	375	215	*718	950	1,960	8,700	505	225	46	245	108
24	160	385	215	b620	836	1,700	6,360	505	215	41	235	108
25	160	385	235	b545	750	1,490	4,210	475	205	38	225	114
26	160	375	265	b475	703	1,320	3,460	455	196	41	215	121
27	205	355	285	*b435	659	1,200	2,930	435	196	84	205	114
28	295	335	285	b405	645	1,120	2,600	415	205	108	215	114
29	265	315	285	b385	558	1,070	2,340	385	325	121	225	114
30	245	305	305	b375	-	1,140	2,230	375	305	121	215	108
31	235	-	305	b365	-	1,250	-	355	-	121	205	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	8,025	873	147	259	0.189	0.22	15,920
November	7,590	385	187	253	.185	.21	15,050
December	7,735	305	215	250	.182	.21	15,340
Calendar year 1939	536,543	15,000	136	1,470	1.07	14.56	1,064,000
January	18,684	1,830	275	603	.440	.51	37,060
February	16,556	1,560	305	571	.417	.45	32,840
March	58,243	6,160	536	1,879	1.37	1.58	115,500
April	112,983	9,480	836	3,766	2.75	3.07	224,100
May	41,437	4,430	355	1,337	.976	1.13	82,190
June	7,772	335	196	259	.189	.21	15,420
July	5,183	485	38	167	.122	.14	10,280
August	6,307	255	128	203	.148	.17	12,510
September	3,867	187	108	129	.094	.10	7,670
Water year 1939-40	294,382	9,480	38	804	.587	8.00	583,900

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

St. Francis River at Marked Tree, Ark.

Location.- Water-stage recorder, lat. 35°31'58", long. 90°25'25", in NE¼SW¼ sec. 35, T. 11 N., R. 6 E., at Marked Tree, 4.8 miles downstream from Little River and 7 miles downstream from dam of Poinsett County Drainage District 7. Auxiliary wire-weight gage, lat. 35°32'18", long. 90°25'30", near center of NW¼ sec. 35, 3 miles upstream from recording gage. Datum of each gage is 196.44 feet above mean sea level (general adjustment of 1929).

Records available.- February 1918 and September 1927 to May 1931 (miscellaneous measurements only), July 1934 to September 1940. Gage-height records collected at same site since 1904 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge observed during year, 3,300 second-feet May 3; maximum gage height, 8.13 feet May 6; minimum discharge observed, 95 second-feet Oct. 27.
1934-40: Maximum discharge, 7,120 second-feet Feb. 6, 7, 1937; minimum, 76 second-feet Nov. 8-12, 16, 17, 1938.

Remarks.- Records good. Discharge computed by using fall as determined by twice-daily readings of auxiliary wire-weight gage as a factor. Flood flows diverted through St. Francis River floodway at dam of Poinsett County Drainage District 7, 7 miles above station, and bypassed to the vicinity of Parkin, Ark. Flow regulated at times by siphons at dam. Auxiliary gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	915	197	730	1,190	242	1,860	1,880	2,380	2,640	2,080	1,190	1,140
2	840	775	200	1,250	232	2,000	1,940	2,680	2,610	2,080	1,290	1,140
3	610	305	212	1,210	530	1,900	1,880	3,240	2,640	2,080	1,380	420
4	158	110	975	450	1,290	1,880	1,030	3,210	2,570	2,100	1,520	1,250
5	268	100	340	160	1,340	1,860	1,700	3,220	2,520	2,060	1,440	1,280
6	860	97	920	140	1,320	1,820	1,940	3,150	2,450	2,060	1,270	1,280
7	675	96	244	140	535	1,820	1,940	2,640	2,420	2,020	1,140	1,100
8	283	930	361	120	645	1,780	1,980	2,470	2,380	2,020	978	952
9	387	1,090	1,010	135	1,330	1,780	2,500	2,240	2,360	2,040	648	883
10	792	1,060	268	156	1,400	1,760	2,070	2,220	2,380	1,980	1,190	825
11	817	980	139	350	1,420	1,780	1,940	2,260	2,400	1,960	1,200	402
12	661	910	426	1,170	1,450	1,800	1,900	2,350	2,360	1,940	1,230	936
13	164	815	975	1,260	1,510	1,840	1,900	2,980	2,380	1,960	1,270	926
14	320	528	217	1,290	1,540	1,840	1,900	3,080	2,150	1,960	1,310	908
15	915	145	133	1,270	1,360	1,880	1,900	2,650	1,860	1,940	1,320	576
16	900	287	415	1,210	850	1,900	1,920	2,220	2,320	1,740	1,360	825
17	775	156	1,140	398	1,540	1,860	1,900	2,110	2,420	1,520	1,730	774
18	515	115	438	225	1,770	1,880	2,040	2,040	2,330	1,480	1,430	688
19	138	110	145	210	2,090	1,860	2,410	2,240	2,260	1,490	1,320	281
20	106	215	126	198	2,540	1,840	2,600	2,780	2,020	1,740	1,290	455
21	104	1,100	348	190	2,870	1,840	2,700	2,880	2,260	1,880	960	936
22	110	1,140	1,150	178	2,980	1,820	2,740	2,900	2,240	2,060	353	880
23	950	1,000	970	150	2,300	1,840	2,800	2,870	1,740	2,060	1,310	668
24	775	272	228	515	960	1,840	2,590	2,920	710	2,020	1,760	634
25	148	145	155	2,030	1,700	1,880	2,440	2,970	1,250	1,940	1,880	642
26	101	267	360	1,660	2,050	1,860	2,420	2,920	2,540	1,910	1,640	696
27	386	1,090	1,180	1,620	2,430	1,860	2,420	2,870	2,320	1,850	1,280	748
28	1,040	755	935	1,180	1,950	1,900	2,400	2,850	2,240	1,850	1,140	774
29	1,000	250	210	485	1,910	1,920	2,330	2,800	2,210	1,790	1,150	655
30	880	1,050	130	285	-	1,920	2,330	2,760	2,160	1,600	1,140	420
31	695	-	375	255	-	1,880	-	2,660	-	1,070	1,140	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	17,288	1,040	101	558	34,290
November	16,090	1,140	96	536	31,910
December	15,455	1,180	126	499	30,650
Calendar year 1939	359,525	2,370	87	985	713,200
January	21,080	2,030	120	680	41,810
February	44,084	2,980	232	1,520	87,440
March	57,500	2,000	1,760	1,855	114,000
April	64,440	2,800	1,030	2,148	127,800
May	83,560	3,240	2,040	2,695	165,700
June	67,140	2,640	710	2,238	133,200
July	58,280	2,100	1,070	1,880	115,600
August	39,259	1,880	353	1,266	77,870
September	24,094	1,280	281	803	47,790
Water year 1939-40	508,270	3,240	96	1,389	1,008,000

St. Francis River floodway near Marked Tree, Ark.

Location.- Staff gage, lat. 35°36', long. 90°27', in SE¼ sec. 10, T. 11 N., R. 6 E., at dam of Poinsett County Drainage District 7, 3 miles north of Marked Tree. Datum of gage is 198.71 feet above Memphis datum or 192.08 feet above mean sea level (Morgan Engineering Co. bench mark).

Records available.- September 1927 to September 1931, July 1934 to September 1940.

Extremes.-Maximum discharge during year, 12,600 second-feet May 2 (gage height, 25.1 feet); no flow at times.
1927-31, 1934-40: Maximum discharge, 48,300 second-feet Jan. 26-28, 1937; no flow at times during 1934-37, 1939.

Remarks.- Records above 5,000 second-feet good, between 500 and 5,000 second-feet fair, below 500 second-feet poor. Flow represents water diverted from St. Francis River and bypassing Marked Tree; water returned to St. Francis River immediately below Parkin, Ark. Gage read twice daily.

Cooperation.- Gage-height record furnished by Poinsett County Drainage District 7.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 31 to Sept. 30)

18.5	0	19.1	195	21.0	2,300
18.7	25	19.2	275	22.0	3,445
18.8	45	19.4	475	23.0	5,110
18.9	80	19.7	820	24.0	8,250
19.0	130	20.0	1,180	25.0	12,170

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	130	1,180	3,840	4,320	12,200	1,520	0	0	
2		0	45	25	1,300	3,990	4,320	12,200	1,410	0	0	
3		0	130	0	1,180	3,990	4,150	12,200	1,180	0	0	
4		0	12	25	700	3,840	4,150	12,200	940	0	0	
5		0	130	195	585	3,700	3,990	12,200	700	0	0	
6		0	45	370	475	3,440	3,700	11,800	700	0	0	
7		0	130	585	700	3,200	3,570	11,400	475	0	0	
8		0	275	585	940	3,200	3,440	11,000	475	0	0	
9		0	45	585	475	2,960	3,080	10,600	275	0	0	
10		0	130	700	475	2,740	2,960	10,200	275	0	0	
11		0	275	700	475	2,630	2,960	9,780	275	0	0	
12		0	275	275	370	2,520	2,960	9,000	275	0	0	
13		0	80	45	475	2,520	2,850	8,250	130	0	0	
14		0	130	45	475	2,410	2,850	7,520	275	0	0	
15		0	275	45	700	2,300	2,960	6,830	475	0	0	
16		0	370	45	1,180	2,300	3,200	6,830	275	0	0	
17		0	25	275	940	2,410	3,440	6,500	275	12	0	
18		0	45	700	1,180	2,520	3,700	5,890	275	80	0	
19		25	195	820	1,180	2,630	4,320	5,350	130	275	0	
20		130	370	820	1,060	2,740	4,690	4,690	275	275	12	
21		0	370	820	940	2,850	5,110	4,150	130	130	45	
22		0	45	1,060	1,180	2,960	5,690	3,700	130	45	130	
23		0	0	1,060	1,750	3,200	6,830	3,440	275	12	45	
24		0	195	585	2,740	3,440	7,880	3,200	940	0	12	
25		12	370	80	2,960	3,700	8,620	2,960	940	0	0	
26		45	475	130	3,200	3,840	9,390	2,520	275	0	0	
27		0	130	130	3,320	3,990	9,780	2,520	130	0	0	
28		0	80	195	3,700	4,150	10,600	2,300	45	0	0	
29		0	195	700	3,700	4,320	11,400	2,080	25	0	0	
30		0	475	1,060	-	4,500	11,800	1,860	12	0	0	
31		-	475	1,180	-	4,500	-	1,750	-	0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	212	130	0	7.1	420
December	5,792	475	0	187	11,490
Calendar year 1939	1,715,684	21,800	0	4,701	3,402,700
January	13,970	1,180	0	451	27,710
February	39,535	3,700	370	1,363	78,420
March	101,330	4,500	2,300	3,269	201,000
April	158,910	11,800	2,850	5,297	315,200
May	217,120	12,200	1,750	7,004	430,700
June	13,512	1,520	12	450	26,800
July	829	275	0	26.7	1,640
August	244	130	0	7.9	484
September	0	0	0	0	0
Water year 1939-40	551,454	12,200	0	1,507	1,094,000

Little River ditch 81 near Kennett, Mo.

Location.- Wire-weight gage, lat. 36°14'10", long. 89°58'55", in NE¼ sec. 4, T. 18 N., R. 10 E., at bridge on State Highway 84, about 4 miles east of Kennett. Datum of gage is 241.00 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Records available.- October 1926 to September 1940.

Average discharge.- 14 years, 237 second-feet.

Extremes.- Maximum discharge observed during year, 837 second-feet Apr. 20 (gage height, 7.10 feet); minimum observed, 46 second-feet Oct. 8, 15, 20, 23, 24, Nov. 7.
1926-40: Maximum discharge, 2,760 second-feet (including some overflow from levee breaks on St. Francis River) Apr. 21, 1937 (gage height, 15.11 feet, from graph based on gage readings); minimum discharge, 40 second-feet Aug. 11, 1934.

Remarks.- Records fair except those for periods of ice effect, which are poor. Gage read once daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	50	55	b55	b75	149	143	276	113	161	96	78
2	53	50	52	b55	b70	137	127	425	113	137	96	76
3	48	50	50	b50	69	143	131	294	107	131	90	75
4	47	50	48	b50	67	137	119	227	107	119	90	74
5	48	50	48	b50	68	131	119	198	107	113	90	70
6	48	50	52	b50	77	125	113	185	101	107	84	70
7	53	46	53	b55	72	125	125	173	96	107	84	67
8	46	50	49	b55	66	125	131	155	101	107	84	67
9	50	48	49	b65	72	119	131	155	119	101	119	66
10	50	48	49	b70	84	119	119	149	113	96	125	64
11	49	57	49	b80	101	113	173	143	125	96	137	65
12	48	57	48	84	119	149	425	137	149	107	155	65
13	48	53	49	84	107	238	406	137	125	330	131	64
14	47	50	47	90	107	238	312	131	113	368	113	64
15	46	50	47	107	113	212	259	137	113	227	107	61
16	47	50	49	101	107	199	227	131	107	173	101	61
17	48	49	50	90	107	186	198	125	107	155	96	60
18	52	52	49	90	251	173	212	125	107	143	101	58
19	48	57	49	b75	493	161	406	131	119	137	101	57
20	46	57	47	b60	387	155	837	119	143	131	96	56
21	47	55	47	b55	317	143	815	119	125	125	90	56
22	47	54	47	*b65	264	137	565	119	113	131	90	53
23	46	53	54	b70	238	131	425	131	107	155	84	53
24	46	50	66	b70	212	137	349	149	107	137	84	56
25	48	50	62	b65	199	131	294	143	101	125	84	66
26	47	49	65	b55	173	125	259	143	101	119	84	59
27	52	50	62	b55	173	137	227	137	96	113	84	56
28	55	50	61	b55	161	149	212	131	96	107	90	56
29	57	49	59	b60	155	149	198	125	143	101	84	55
30	55	49	60	b70	-	155	185	119	259	101	84	53
31	53	-	59	b75	-	155	-	119	-	101	79	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,529	57	46	49.3	3,030
November	1,535	57	46	51.1	3,040
December	1,631	66	47	52.6	3,240
Calendar year 1939	65,135	1,560	41	178	129,200
January	2,111	107	50	68.1	4,190
February	4,504	493	66	155	8,930
March	4,683	238	113	151	9,290
April	6,252	837	113	275	16,370
May	4,988	425	119	161	9,890
June	3,533	259	96	118	7,010
July	4,361	368	96	141	8,650
August	3,033	155	79	97.8	6,020
September	1,881	78	53	62.7	3,730
Water year 1939-40	42,039	837	46	115	83,390

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Little River ditch 1 near Kennett, Mo.

Location.- Wire-weight gage, lat. 36°14'10", long. 89°58'50", in NE¼ sec. 4, T. 18 N., R. 10 E., at bridge on State Highway 84, about 4 miles east of Kennett. Datum of gage is 241.00 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Records available.- October 1926 to September 1940.

Average discharge.- 14 years, 452 second-feet.

Extremes.- Maximum discharge observed during year, 2,310 second-feet Apr. 21 (gage height, 7.08 feet); minimum discharge, 15 second-feet Jan. 5, 6.
1926-40: Maximum discharge, 7,520 second-feet (including some overflow from levee breaks on St. Francis River) Apr. 25, 1927; maximum gage height observed, 16.90 feet Jan. 25, 1937; minimum discharge, 8 second-feet Sept. 13-18, 1932.

Remarks.- Records fair except those for periods of ice effect, which are poor. Gage read once daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	20	33	28	69	250	250	624	208	280	119	77
2	25	19	33	b25	33	236	236	1,340	195	236	117	72
3	25	c20	35	b20	31	250	222	994	182	206	113	71
4	25	c21	33	b20	30	250	208	712	182	182	111	71
5	25	22	32	b15	33	222	195	542	170	158	105	67
6	23	23	32	b15	36	208	182	446	170	156	99	67
7	25	25	31	b20	35	195	195	410	170	151	103	64
8	25	28	31	b30	33	208	208	375	170	147	101	64
9	23	24	30	b40	31	195	222	342	182	143	145	66
10	25	22	28	48	39	182	208	326	222	136	138	63
11	23	40	29	55	55	170	236	295	208	128	138	61
12	23	32	29	60	74	208	851	280	195	140	138	58
13	22	31	30	63	72	410	1,090	265	182	542	140	58
14	23	29	30	74	81	582	804	265	170	503	138	60
15	22	29	31	95	82	484	624	250	182	375	128	58
16	22	29	31	95	75	392	542	236	170	295	117	56
17	22	26	30	95	71	326	446	222	170	236	107	56
18	22	29	28	32	156	310	446	222	170	208	113	55
19	22	35	31	b25	1,540	295	757	236	195	195	115	55
20	22	40	31	b30	1,290	265	2,190	222	208	182	109	55
21	22	36	31	b45	851	250	2,310	195	195	158	101	54
22	22	33	31	*b55	582	236	1,490	195	182	170	99	54
23	20	33	33	b60	446	222	1,140	208	170	195	97	55
24	22	32	45	b50	375	236	898	392	158	195	95	54
25	22	32	42	b35	342	222	757	310	154	195	91	63
26	22	33	40	b30	310	195	624	280	145	182	90	60
27	23	32	43	b25	265	208	542	295	149	170	91	54
28	27	31	43	b30	280	236	484	265	136	151	93	52
29	23	31	42	b40	265	236	428	236	208	143	88	46
30	22	31	39	b60	-	250	410	222	295	130	82	50
31	20	-	42	b65	-	250	-	208	-	126	81	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	716	27	20	23.1	1,420
November	868	40	19	28.9	1,720
December	1,049	45	28	33.8	2,080
Calendar year 1939	138,077	3,730	19	378	273,900
January	1,380	95	15	44.5	2,740
February	7,582	1,540	30	261	15,040
March	8,179	582	170	264	16,220
April	19,195	2,310	182	640	38,070
May	11,410	1,340	195	368	22,630
June	5,493	295	136	183	10,900
July	6,416	542	126	207	12,730
August	3,402	145	81	110	6,750
September	1,796	77	46	59.9	3,560
Water year 1939-40	67,486	2,310	15	184	133,900

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
c Stage-discharge relation affected by dredging; discharge interpolated.

Little River ditch 66 near Kennett, Mo.

Location.- Wire-weight gage, lat. 36°14'10", long. 89°58'45", in NE¼ sec. 4, T. 18 N., R. 10 E., at bridge on State Highway 84, about 4 miles east of Kennett. Datum of gage is 241.00 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Records available.- October 1926 to September 1940.

Average discharge.- 14 years, 384 second-feet.

Extremes.- Maximum discharge observed during year, 2,370 second-feet Apr. 21 (gage height, 13.28 feet); minimum observed, 7 second-feet Oct. 4, 5.
1926-40: Maximum discharge, 4,350 second-feet Jan. 24, 25, 1937 (gage height, 18.15 feet); minimum, 5 second-feet Sept. 26-29, 1939.

Remarks.- Records fair except those for periods of ice effect, which are poor. Gage read once daily below 8.0 feet and twice daily above. An auxiliary ditch, Little River ditch 66-A, receives part of the flow through cut-offs above stage 6.4 feet. Above stage 13 feet the low, narrow bank between the main and auxiliary ditches is submerged, and the two unite to form one stream in the vicinity of the gage. To segregate the discharge of each ditch, the division line between the two is taken as the top of the bank that separates them at low stages.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	13	19	15	50	212	227	592	111	121	60	23
2	9	13	18	15	50	198	212	1,240	106	101	56	21
3	8	12	20	15	50	198	184	1,140	101	91	52	23
4	7	12	19	15	50	184	184	792	96	81	48	21
5	7	12	18	15	45	171	153	550	91	71	44	20
6	8	12	17	15	45	159	136	414	91	66	42	18
7	9	14	17	20	46	159	142	377	91	65	42	17
8	8	13	16	25	43	159	159	324	86	65	39	18
9	8	13	16	30	42	147	198	274	142	64	59	17
10	9	14	16	35	41	142	198	242	111	62	52	17
11	9	19	16	40	58	136	227	227	106	59	56	20
12	8	16	16	40	90	245	905	198	106	66	71	18
13	9	16	16	45	118	985	1,780	184	101	106	153	19
14	8	16	16	52	118	1,090	1,540	184	96	212	159	19
15	9	15	16	62	106	687	1,160	171	96	142	111	18
16	9	15	16	106	100	656	863	159	91	111	86	18
17	9	14	16	95	95	471	613	147	86	96	71	17
18	9	16	16	95	176	395	592	142	91	81	64	16
19	9	16	16	52	792	324	1,140	136	116	76	62	15
20	9	20	16	40	1,190	341	1.970	136	153	66	59	14
21	8	20	16	45	1,010	324	2,340	131	121	66	52	12
22	9	19	16	*50	746	274	2,000	121	106	66	48	12
23	8	20	18	50	571	242	1,460	126	96	96	42	12
24	8	18	25	50	433	227	1,090	171	86	121	37	12
25	9	18	23	40	359	198	815	159	86	111	32	17
26	9	18	24	35	290	184	613	153	76	96	29	20
27	12	17	28	35	258	164	510	159	71	86	32	16
28	16	16	26	40	258	198	414	142	71	81	36	14
29	18	16	25	40	227	198	377	131	91	76	32	12
30	16	16	20	50	-	198	341	121	101	71	28	12
31	14	-	20	50	-	212	-	116	-	66	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	299	18	7	9.6	593
November	471	20	12	15.7	934
December	577	28	16	18.6	1,140
Calendar year 1939	111,736	3,050	5	306	221,600
January	1,312	106	15	42.3	2,600
February	7,457	1,190	41	257	14,790
March	9,698	1,090	136	313	19,240
April	22,543	2,340	136	751	44,710
May	9,159	1,240	116	295	18,170
June	2,973	153	71	99.1	5,900
July	2,738	212	59	88.3	5,430
August	1,778	159	24	57.4	3,530
September	508	23	12	16.9	1,010
Water year 1939-40	59,513	2,340	7	163	118,000

*Winter discharge measurements made on this day.
Note.- Stage-discharge relation affected by ice Dec. 30 to Jan. 13, Jan. 20 to Feb. 6.

Little River ditch 66-A near Kennett, Mo.

Location.- Chain gage, lat. 36°14'10", long. 89°58'45", in NE¼ sec. 4, T. 18 N., R. 10 E., at bridge on State Highway 84, about 4 miles east of Kennett. Datum of gage is 241.00 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Records available.- January 1927 to September 1940.

Average discharge.- 13 years, 55.4 second-feet (12 years, 1927-39, 59.0 second-feet; figure published in Water-Supply Paper 877 in error).

Extremes.- Maximum discharge during year, 879 second-feet Apr. 21 (gage height, 13.10 feet); no flow on many days.

1927-40: Maximum discharge, 2,340 second-feet (including some overflow from levee breaks on Mississippi River) Apr. 25, 1927 (gage height, 17.6 feet, from graph based on gage readings); no flow on many days.

Remarks.- Records fair. Gage read once daily below 8.0 feet and twice daily above. See p. 47 for relation of this ditch to Little River ditch 66.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0	0	0				
2					0	0	0	167				
3					0	0	0	103				
4					0	0	0	36				
5					0	0	0	0				
6					0	0	0	0				
7					0	0	0	0				
8					0	0	0	0				
9					0	0	0	0				
10					0	0	0	0				
11					0	0	0	0				
12					0	0	31	0				
13					0	52	480	0				
14					0	86	300	0				
15					0	41	113	0				
16					0	7	44	0				
17					0	0	28	0				
18					0	0	0	0				
19					31	0	98	0				
20					133	0	607	0				
21					74	0	855	0				
22					22	0	588	0				
23					0	0	258	0				
24					0	0	90	0				
25					0	0	31	0				
26					0	0	0	0				
27					0	0	0	0				
28					0	0	0	0				
29					0	0	0	0				
30					-	0	0	0				
31					-	0	-	0				

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	17,931	1,010	0	49.1	35,570
January	0	0	0	0	0
February	260	133	0	9.0	516
March	186	56	0	6.0	369
April	3,523	855	0	117	6,990
May	306	167	0	9.9	607
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1939-40	4,275	855	0	11.7	8,480

Little River ditch 251 near Kennett, Mo.

Location.- Wire-weight gage, lat. 36°14'10", long. 89°58'40", in NW¼ sec. 3, T. 18 N., R. 10 E., at bridge on State Highway 84, 4 miles east of Kennett. Datum of gage is 241.00 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army bench mark).

Records available.- November 1926 to September 1940.

Average discharge.- 13 years (1927-40), 692 second-feet.

Extremes.- Maximum discharge observed during year, 3,730 second-feet Apr. 21 (gage height, 13.35 feet); minimum discharge, 106 second-feet Oct. 10, 21, 23, 24, 26.
1926-40: Maximum discharge, 6,730 second-feet Jan. 24-26, 1937; maximum gage height, 18.20 feet Jan. 25, 1937; minimum discharge, 52 second-feet Sept. 5-8, 1930.

Remarks.- Records fair except those for periods of ice effect, which are poor. Gage read once daily below 8.0 feet and twice daily above.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	117	138	140	210	592	618	935	382	382	255	179
2	123	117	138	115	210	566	592	2,020	382	360	245	170
3	111	117	138	115	210	566	540	1,780	360	338	235	170
4	111	117	138	115	210	540	540	1,410	360	296	226	170
5	111	117	138	115	210	490	490	1,110	360	275	216	162
6	111	123	130	115	208	490	440	935	338	275	216	162
7	117	123	138	115	208	490	465	852	338	275	216	162
8	111	117	130	115	196	465	490	771	317	275	206	162
9	111	123	130	125	196	440	566	719	360	275	255	154
10	106	123	123	140	208	440	566	642	382	275	235	154
11	111	138	130	155	243	415	566	642	382	255	245	162
12	111	138	130	175	340	490	1,630	592	382	275	275	162
13	111	130	130	195	415	1,630	2,840	567	382	360	449	154
14	111	130	130	243	415	1,780	2,400	543	360	519	449	154
15	111	123	130	267	390	1,480	1,860	543	360	449	360	154
16	111	123	130	390	390	1,240	1,450	495	338	382	296	154
17	111	123	130	365	390	1,020	1,170	472	338	338	275	145
18	111	123	130	303	465	881	1,020	472	338	317	255	145
19	111	138	130	243	1,630	774	1,820	472	404	296	255	145
20	111	138	130	185	2,020	774	3,150	449	449	275	245	145
21	106	138	130	185	1,700	774	3,630	449	404	275	226	137
22	111	138	130	*205	1,450	696	3,100	426	382	275	226	137
23	106	138	138	220	1,170	618	2,310	426	360	338	216	137
24	106	130	155	220	935	592	1,740	495	338	382	206	137
25	111	138	155	185	827	566	1,450	495	317	360	197	154
26	106	130	155	175	722	540	1,200	495	296	317	197	162
27	117	130	165	175	670	540	1,050	495	296	317	197	145
28	130	130	155	175	670	566	935	449	296	296	206	137
29	130	130	155	185	618	592	879	449	338	296	197	137
30	123	130	155	195	-	592	825	426	360	275	188	137
31	123	-	155	210	-	592	-	404	-	275	179	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,514	130	106	113	6,970
November	3,830	138	117	128	7,600
December	4,289	165	123	138	8,510
Calendar year 1939	254,095	4,940	106	696	504,000
January	5,861	390	115	189	11,630
February	17,526	2,020	196	604	34,760
March	22,231	1,780	415	717	44,090
April	40,332	3,630	440	1,344	80,000
May	21,430	2,020	404	691	42,510
June	10,699	449	296	357	21,220
July	9,898	519	255	319	19,630
August	7,644	449	179	247	15,160
September	4,585	179	137	153	9,090
Water year 1939-40	151,839	3,630	106	415	301,200

*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Jan. 1-13, Jan. 20 to Feb. 5.

Little River ditch 259 near Kennett, Mo.

Location.- Wire-weight gage, lat. 36°14'10", long. 89°58'35", in NW¼ sec. 3, T. 18 N., R. 10 E., at bridge on State Highway 84, about 4 miles east of Kennett. Datum of gage is 241.00 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Records available.- November 1926 to September 1940.

Average discharge.- 13 years (1927-40), 107 second-feet.

Extremes.- Maximum discharge observed during year, 1,110 second-feet Apr. 20 (gage height, 7.84 feet); minimum observed, 1.5 second-feet Sept. 26.
1926-40: Maximum discharge, 4,140 second-feet (including some overflow from levee breaks on Mississippi River) Apr. 29, 1927 (gage height, 15.57 feet, from graph based on gage readings); no flow Aug. 3 to Sept. 2, 1936.

Remarks.- Records fair except those for periods of ice effect, which are poor. Gage read once daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	2.9	4.8	4.4	6	52	62	319	37	30	10	11
2	2.7	2.7	4.6	b4	5	49	54	174	34	28	11	11
3	3.1	2.9	4.4	b3	4.8	44	51	127	34	25	11	10
4	3.1	2.9	4.4	b3	6	40	48	97	33	23	10	10
5	2.9	2.7	4.1	b3	6	37	39	84	31	20	10	10
6	2.9	2.7	4.1	b3	6	35	37	70	34	19	9	10
7	3.4	3.1	4.1	b3	6	30	45	66	32	20	9	9
8	3.1	2.9	3.6	b3	6	31	58	62	28	19	9	9
9	3.4	2.9	3.8	b4	5	28	54	58	52	18	22	8
10	3.4	2.9	4.1	4.1	8	27	48	58	62	17	28	8
11	2.7	3.6	3.8	4.8	12	25	265	53	66	16	34	7
12	2.7	3.4	3.8	4.6	13	62	715	47	58	20	50	8
13	2.9	3.1	3.4	5	14	265	301	42	43	25	37	7
14	2.4	2.9	3.4	7	29	229	166	46	43	32	33	8
15	2.6	2.9	3.6	6	29	127	166	42	51	30	29	7
16	2.7	3.4	3.8	7	27	97	116	41	35	28	24	6
17	2.7	3.1	3.6	7	22	88	97	40	35	25	21	6
18	2.7	3.8	3.4	3.8	605	70	283	37	37	22	20	6
19	2.9	4.4	3.4	b3	565	66	893	39	38	20	18	5
20	2.7	3.8	3.6	b4	277	58	1,110	35	37	17	14	4.3
21	2.9	3.4	3.6	b6	173	58	582	35	35	18	14	3.9
22	2.9	3.4	3.4	*6	101	53	283	34	33	20	13	3.5
23	2.7	3.4	4.1	6	c92	45	204	54	30	18	13	3.5
24	2.9	3.4	4.4	6	84	44	159	54	30	19	12	3.2
25	2.9	3.4	3.8	5	79	41	133	48	28	16	12	2.0
26	2.9	2.9	3.6	b5	70	40	106	50	25	17	11	1.5
27	3.8	3.1	4.4	b5	66	52	92	48	23	16	13	3.2
28	3.4	3.1	4.4	b5	62	62	79	46	28	15	11	3.0
29	3.1	3.4	4.1	6	54	58	84	41	27	14	12	2.8
30	3.4	4.1	4.4	5	-	84	74	40	31	13	11	2.5
31	2.7	-	4.1	5	-	79	-	39	-	12	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	91.7	3.8	2.4	2.96	182
November	96.6	4.4	2.7	3.22	192
December	122.1	4.8	3.4	3.94	242
Calendar year 1939	41,788.0	1,780	2.4	114	82,880
January	146.7	7	3	4.73	291
February	2,432.8	605	4.8	83.9	4,830
March	2,076	265	25	67.0	4,120
April	6,404	1,110	37	213	12,700
May	2,026	319	34	65.4	4,020
June	1,110	66	23	37.0	2,200
July	632	32	12	20.4	1,250
August	542	50	9	17.5	1,080
September	189.4	11	1.5	6.31	376
Water year 1939-40	15,869.3	1,110	1.5	43.4	31,480

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
c Stage-discharge relation affected by dredging; discharge interpolated.

White River at Beaver, Ark.

Location.- Wire-weight gage, lat. 36°28'20", long. 93°45'55", in sec. 20, T. 21 N., R. 26 W., at Missouri & North Arkansas Railway bridge, a quarter of a mile east of Beaver and 2¾ miles upstream from Leatherwood Creek. Datum of gage is 883.04 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,270 square miles.

Records available.- July 1909 to December 1910, May 1923 to September 1940.

Average discharge.- 17 years (1923-40), 1,561 second-feet.

Extremes.- Maximum discharge during year, 18,400 second-feet Apr. 13 (gage height, 16.00 feet, from graph based on gage readings); minimum, 24 second-feet Oct. 1-4 (gage height, 2.01 feet).
1909-10, 1923-40: Maximum discharge observed, 65,000 second-feet Apr. 16, 1927 (gage height, 37.0 feet); minimum discharge, 3.0 second-feet Aug. 31, Sept. 1, 1936.

Remarks.- Records good except those for periods of ice effect, which are fair. Gage read twice daily.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 24 to Dec. 1, July 1 to Aug. 11)

Oct. 1 to Nov. 23				Nov. 24 to Sept. 30					
2.0	23	2.6	152	2.2	66	3.5	582	8.0	4,400
2.1	36	2.8	214	2.4	107	4.0	872	10.0	7,550
2.2	52	3.0	292	2.6	161	5.0	1,540	14.0	14,700
2.3	72	3.3	436	2.8	231	6.0	2,330		
2.4	96	3.6	604	3.0	317	7.0	3,250		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	204	239	224	*144	638	472	6,010	201	1,690	110	122
2	26	170	256	*209	144	582	472	5,980	187	998	101	120
3	26	146	224	201	146	527	445	3,660	174	724	92	194
4	26	129	231	b190	141	472	418	2,590	168	582	94	239
5	26	115	231	b170	141	445	610	2,000	155	472	86	695
6	26	104	227	b155	144	418	392	1,610	149	392	86	638
7	26	96	227	b150	144	392	527	1,330	144	317	78	472
8	26	91	216	b145	144	366	610	1,130	132	294	78	366
9	35	86	194	b140	144	342	872	1,060	152	247	78	247
10	50	86	187	b140	149	317	1,060	872	149	220	99	227
11	54	82	174	b165	152	342	5,880	753	342	201	117	191
12	60	79	164	227	155	445	8,920	695	500	187	117	164
13	49	79	152	231	158	472	13,500	610	198	168	112	144
14	44	77	161	281	164	582	4,820	554	174	155	107	138
15	46	77	144	392	168	554	3,160	500	164	146	122	122
16	46	86	132	418	168	472	2,330	445	155	144	127	112
17	49	123	130	418	168	418	1,840	418	144	132	138	107
18	50	218	122	366	187	392	1,540	418	138	127	155	99
19	46	236	122	b340	220	342	2,160	392	132	138	161	94
20	46	218	120	b310	342	317	1,920	366	122	187	171	90
21	42	250	114	b280	554	299	1,610	342	117	174	224	86
22	41	263	112	b250	582	281	1,470	366	472	753	212	78
23	39	250	132	b235	582	264	1,260	342	666	872	194	84
24	39	231	174	b220	582	281	1,130	342	418	500	174	82
25	47	212	184	b200	638	281	998	305	290	342	155	90
26	91	191	184	b190	666	317	1,060	299	231	264	161	1,480
27	604	174	201	b180	724	342	1,060	281	194	212	181	1,670
28	410	158	239	b165	724	366	998	264	220	178	194	812
29	604	155	231	b155	666	582	1,860	247	2,840	155	174	554
30	410	161	231	b145	-	638	4,810	231	6,490	138	138	445
31	267	-	231	b140	-	500	-	216	-	117	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	3,375	604	24	109	0.086	0.10	6,690
November	4,547	263	77	152	.120	.13	9,020
December	5,686	256	112	183	.144	.17	11,280
Calendar year 1939	392,511	17,400	21	1,075	.846	11.51	778,600
January	7,032	418	140	227	.179	.21	13,950
February	9,041	724	141	312	.246	.27	17,930
March	12,986	638	264	419	.330	.38	25,760
April	68,204	13,500	392	2,273	1.79	2.00	135,300
May	34,631	6,010	216	1,117	.880	1.01	68,690
June	15,618	6,490	117	521	.410	.46	30,980
July	11,226	1,690	117	362	.285	.33	22,270
August	4,163	224	78	134	.106	.12	8,260
September	9,962	1,670	78	332	.261	.29	19,760
Water year 1939-40	186,471	13,500	24	509	.401	5.47	369,900

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

White River near Reeds Spring, Mo.

Location.- Water-stage recorder, lat. 36°37'20", long. 93°25'20", in NE¼SE¼ sec. 9, T. 22 N., R. 23 W., at bridge on State Highway 13, 5¾ miles downstream from James River and 12 miles south of Reeds Spring. Datum of gage is 739.00 feet above mean sea level (general adjustment of 1929).

Drainage area.- 3,690 square miles.

Records available.- February 1938 to September 1940.

Extremes.- Maximum discharge during year, 32,300 second-feet Apr. 13 (gage height, 15.57 feet); minimum, 154 second-feet Oct. 6, 7 (gage height, 0.12 foot).
1938-40: Maximum discharge observed, 95,100 second-feet Feb. 18, 1938 (gage height, 31.00 feet); minimum discharge, 145 second-feet Sept. 27, 1939 (gage height, 0.09 foot).
Maximum stage known, 48.0 feet from floodmark, Apr. 14, 1927.

Remarks.- Records excellent except those for periods of ice effect, which are fair.

Rating table, water year 1939-40 except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 24 to Jan. 2, Jan. 12-18)

Oct. 1 to Jan. 18		Jan. 19 to Sept. 30			
0.2	176	0.7	392	4.0	3,180
.6	316	1.0	524	5.0	4,590
1.0	483	1.5	784	7.0	8,340
1.5	730	2.0	1,110	10.0	15,400
2.1	1,090	2.5	1,520	14.0	27,100
		3.0	1,990	15.1	30,600

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	210	577	631	657	b520	2,150	2,320	11,900	689	5,560	524	1,190
2	188	483	785	606	515	2,100	1,990	13,200	657	2,440	475	973
3	188	422	758	b590	b540	1,890	1,890	10,700	621	1,610	453	844
4	178	364	730	b580	479	1,650	2,270	7,740	586	1,270	497	1,310
5	175	359	667	b540	479	1,520	2,740	6,020	562	1,010	695	1,390
6	163	336	631	b470	466	1,350	2,320	4,940	543	844	695	1,520
7	163	328	597	b440	453	1,270	2,560	4,120	548	756	515	1,350
8	160	316	577	b430	470	1,230	2,990	3,430	529	668	439	1,080
9	188	298	543	b420	470	1,190	3,430	4,450	515	611	435	907
10	251	309	515	b420	457	1,190	3,690	3,970	529	557	652	784
11	254	301	488	b510	457	1,480	18,600	3,110	663	520	2,540	673
12	262	298	457	730	466	2,500	30,600	2,560	844	475	2,740	621
13	290	298	430	932	457	3,830	29,400	2,210	876	439	2,050	562
14	268	294	413	994	439	3,560	16,900	1,940	1,150	418	1,310	520
15	237	286	400	1,060	453	2,990	10,500	1,700	973	392	1,270	492
16	234	309	396	1,090	457	2,440	8,140	1,560	876	375	1,790	453
17	224	371	376	1,060	466	2,100	6,580	1,430	756	379	1,560	426
18	213	567	371	962	510	1,840	5,660	1,350	689	371	1,480	405
19	210	962	351	631	538	1,610	5,660	1,350	647	396	1,480	388
20	207	1,020	347	b590	581	1,430	5,840	1,310	616	637	1,270	367
21	204	872	336	b560	756	1,270	5,300	1,230	581	678	1,110	350
22	197	785	339	b550	1,080	1,150	4,590	1,150	548	844	1,010	338
23	191	730	392	b540	1,230	1,080	3,970	1,110	784	5,180	907	342
24	186	677	543	b530	1,480	1,080	3,560	1,080	1,190	4,820	784	354
25	191	626	704	b520	1,750	1,040	3,180	1,040	940	2,440	716	461
26	251	572	730	b510	1,790	1,080	2,990	973	784	1,650	657	616
27	626	534	758	b510	1,890	1,190	3,110	940	663	1,230	652	3,880
28	1,130	492	758	b510	1,990	1,310	3,110	907	601	940	2,540	2,100
29	901	465	758	b520	2,100	1,790	4,590	844	586	784	1,790	1,350
30	872	479	758	b550	-	2,500	8,140	784	7,270	668	1,520	1,010
31	730	-	704	b540	-	2,560	-	727	-	581	1,560	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	9,744	1,130	160	314	0.085	0.10	19,330
November	14,750	1,020	286	492	.133	.15	29,260
December	17,243	785	336	556	.151	.17	34,200
Calendar year 1939	1,207,873	38,900	148	3,309	.897	12.18	2,396,000
January	19,552	1,090	420	631	.171	.20	38,780
February	23,739	2,100	439	819	.222	.24	47,090
March	55,370	3,830	1,040	1,786	.484	.56	109,800
April	206,620	30,600	1,890	6,887	1.87	2.09	409,800
May	99,775	13,200	727	3,219	.872	1.01	197,900
June	27,816	7,270	515	927	.251	.28	55,170
July	39,543	5,560	371	1,276	.346	.40	78,430
August	36,116	2,740	435	1,165	.316	.36	71,640
September	27,056	3,880	338	902	.244	.27	53,660
Water year 1939-40	577,324	30,600	160	1,577	.427	5.83	1,145,000

b Stage-discharge relation affected by ice.

White River at Forsyth, Mo.

Location.- Water-stage recorder, lat. 36°40'55", long. 93°06'05", in SE¼ sec. 33, T. 24 N., R. 20 W., in Forsyth, at bridge on State Highway 78, a quarter of a mile downstream from Swan Creek. Datum of gage is 640.64 feet above mean sea level (general adjustment of 1929).

Drainage area.- 4,610 square miles.

Records available.- January to September 1926 and February 1930 to September 1940.

Average discharge.- 10 years (1930-40), 4,231 second-feet.

Extremes.- Maximum discharge during year, 42,500 second-feet Apr. 12 (gage height, 16.32 feet); minimum, 78 second-feet (regulated) Aug. 4, 8 (gage height, 1.72 feet); minimum daily, 163 second-feet (regulated) June 23.

1926, 1930-40: Maximum discharge, 127,000 second-feet Mar. 11, 1935 (gage height, 35.23 feet); minimum, 30 second-feet Sept. 2, 3, 1936; minimum gage height, 1.20 feet Sept. 25, 1932, July 14, 1934; minimum daily discharge, 34 second-feet Sept. 3, 1936.

Maximum stage known, 45.36 feet, from floodmark, Apr. 16, 1927 (discharge, 160,000 second-feet, by computation of flow over dam plus flow through hydroelectric plant turbines).

Remarks.- Records good. Flow regulated by hydroelectric plant of Empire District Electric Co., 2 miles above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	†258	730	371	381	687	a2,570	3,950	12,600	701	7,600	477	†1,180
2	229	778	898	798	402	a2,110	2,180	14,800	†336	4,700	578	678
3	187	549	†1,240	744	626	†a2,450	2,440	14,200	797	1,950	468	1,320
4	193	480	740	646	†441	2,820	2,870	10,500	556	1,180	†370	949
5	188	†220	914	825	1,080	1,660	3,060	†8,160	755	2,940	665	1,430
6	170	273	896	439	530	1,360	3,140	6,560	982	948	675	1,550
7	200	269	796	†240	472	1,270	†3,410	5,710	424	†651	695	1,840
8	†232	466	735	256	420	1,750	3,680	4,900	213	518	376	†688
9	250	353	759	1,270	556	2,640	3,660	4,270	†357	838	707	1,020
10	515	245	†438	807	258	†2,050	4,530	5,710	711	475	3,770	599
11	174	455	421	853	†372	1,980	24,800	4,480	1,090	373	†3,760	664
12	164	†245	826	1,180	613	3,020	39,300	†1,940	1,140	538	2,010	642
13	347	438	576	1,200	583	4,520	34,600	3,040	1,190	427	1,850	521
14	320	336	496	†1,700	368	5,520	†25,600	2,400	1,420	†454	1,860	515
15	†216	355	450	1,400	730	3,590	14,200	1,950	1,400	399	1,570	†342
16	298	401	371	1,360	426	3,100	10,500	1,340	†705	201	1,440	559
17	206	351	†388	1,540	606	†2,200	8,900	1,160	1,310	346	2,540	420
18	211	997	637	1,050	†579	3,590	7,920	1,240	1,080	333	†820	426
19	238	†2,230	641	714	800	3,080	7,220	†1,410	1,140	536	1,530	493
20	276	2,190	520	681	727	2,060	7,000	1,700	504	1,060	1,580	496
21	182	1,190	591	†863	1,150	1,410	†7,000	1,740	687	†1,000	1,030	180
22	†204	895	968	1,040	1,190	1,410	6,340	1,590	317	2,170	1,240	†182
23	222	903	908	1,080	1,790	713	5,920	1,670	†163	4,900	863	242
24	260	1,000	†1,030	a900	2,630	†420	5,310	1,180	1,040	5,390	532	396
25	195	762	2,180	561	†1,230	1,230	4,410	719	1,090	2,850	†855	447
26	419	†374	2,420	502	3,210	1,560	2,820	†484	1,010	1,520	542	973
27	1,100	938	211	a650	2,560	2,070	2,170	1,110	1,000	1,320	731	2,520
28	1,110	499	221	†a750	2,710	1,930	†2,780	1,170	593	†466	1,660	3,430
29	†1,590	773	424	604	2,790	2,540	5,590	1,100	640	890	2,400	†905
30	1,120	547	198	589	-	3,420	7,540	741	†3,020	660	2,180	1,200
31	508	-	†411	a750	-	†3,260	-	700	-	592	1,090	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	11,782	1,590	164	380	23,370
November	20,262	2,230	220	675	40,190
December	22,675	2,420	198	731	44,980
Calendar year 1939	1,571,140	48,000	113	4,304	3,116,000
January	26,373	1,700	240	851	52,310
February	30,536	3,210	258	1,053	60,570
March	73,303	5,520	420	2,365	145,400
April	262,840	39,300	2,170	8,761	521,300
May	120,274	14,800	484	3,880	238,600
June	26,371	3,020	163	879	52,310
July	48,225	7,600	201	1,556	95,650
August	40,864	3,770	370	1,318	81,050
September	26,807	3,430	180	894	53,170
Water year 1939-40	710,312	39,300	163	1,941	1,409,000

†Sunday.
a No gage-height record; discharge computed on basis of power-plant records.

White River near Flippin, Ark.

Location.- Water-stage recorder, lat. 36°18'50", long. 92°33'20", in NE¼ sec. 10, T. 19 N., R. 15 W., 3 miles northeast of Flippin and 11 miles upstream from Crooked Creek. Datum of gage is 419.66 feet above mean sea level (general adjustment of 1929, Corps of Engineers, U. S. Army, bench mark).
Drainage area.- 6,170 square miles.
Records available.- October 1928 to September 1940.
Average discharge.- 12 years, 5,802 second-feet.
Extremes.- Maximum discharge during year, 57,800 second-feet Apr. 11 (gage height, 20.33 feet); minimum, 295 second-feet Oct. 9 (gage height, 2.20 feet).
1928-40: Maximum discharge observed, 164,000 second-feet Mar. 12, 1935 (gage height, 38.1 feet, former site and datum); minimum observed, 105 second-feet Sept. 14, 15, 1936. Maximum stage known, 45.4 feet Apr. 16, 1927, former site and datum, or about 42 feet, present site and datum.
Remarks.- Records excellent except those for periods of ice effect, which are fair. Low flow regulated by power plant at Forsyth, Mo.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Feb. 4		Feb. 5 to Sept. 30			
2.2	295	2.3	350	5.9	5,830
2.4	400	2.5	470	8.0	11,300
2.7	595	2.9	800	11.0	20,700
3.1	950	3.3	1,220	15.0	35,400
3.5	1,420	3.9	2,010	18.4	49,700
4.0	2,120	4.7	3,340		
4.5	2,910				
5.0	3,820				

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	362	1,510	1,090	760	b1,180	3,720	4,940	10,400	1,170	819	676	2,720
2	345	930	992	643	b1,190	3,620	5,490	15,800	1,120	6,890	895	1,800
3	335	832	796	743	b1,160	3,160	4,110	17,400	1,060	5,830	746	1,670
4	356	1,030	1,120	1,090	b1,120	2,900	3,250	16,100	746	3,340	800	1,270
5	356	814	1,490	1,190	1,070	3,720	3,620	12,400	1,040	2,250	609	1,720
6	340	726	1,210	1,030	866	3,070	4,520	9,610	985	2,510	593	1,360
7	330	627	1,190	1,170	1,400	2,400	4,010	8,020	965	2,240	668	1,810
8	330	442	1,220	b1,000	975	2,080	6,530	7,010	1,270	1,440	857	1,940
9	310	448	1,080	b1,060	810	2,160	5,600	6,290	1,030	935	1,160	2,160
10	350	539	1,020	b1,180	755	2,980	5,720	5,160	764	945	1,100	1,150
11	412	659	1,030	b1,300	857	3,340	39,600	6,530	2,450	1,050	4,760	1,380
12	506	588	760	1,480	668	5,160	49,700	5,490	4,010	764	6,680	895
13	627	512	659	1,720	538	6,060	45,800	3,820	2,900	609	5,050	866
14	400	581	920	2,120	819	6,770	38,300	3,340	2,480	601	2,520	915
15	335	473	796	2,190	925	7,510	27,700	3,530	2,810	668	3,070	848
16	418	603	743	2,580	659	5,720	17,400	3,070	2,240	585	2,510	693
17	454	553	700	2,260	945	4,420	13,300	2,400	2,160	737	2,200	659
18	389	619	611	2,190	828	4,010	12,400	2,080	1,500	545	2,480	538
19	424	718	553	1,960	975	4,420	13,300	1,940	1,870	378	2,720	719
20	378	1,440	692	b1,250	1,120	4,310	13,600	1,870	1,650	478	2,080	569
21	367	2,990	832	b1,100	1,660	3,530	11,300	2,160	1,660	561	1,940	585
22	372	2,580	760	b1,040	1,580	2,640	10,200	2,400	1,110	1,270	1,940	642
23	406	1,820	778	b1,020	2,010	2,240	9,070	2,240	1,030	1,390	1,510	593
24	345	1,490	1,290	b1,000	2,240	2,160	8,280	2,240	782	4,610	1,510	405
25	335	1,340	1,600	*b982	2,720	1,720	7,510	2,160	617	5,830	1,300	425
26	362	1,470	1,780	b1,000	3,250	1,160	6,530	1,770	926	4,620	800	361
27	499	1,220	3,720	b1,050	3,060	2,160	4,840	1,270	1,440	2,480	1,260	577
28	560	743	2,040	b1,100	3,820	2,810	3,910	935	1,410	1,940	2,810	905
29	1,250	1,140	971	*b1,130	3,530	3,530	4,310	1,560	1,380	1,700	1,860	3,620
30	1,340	890	760	*b1,160	-	4,110	8,020	1,660	1,100	905	2,980	2,640
31	1,750	-	814	b1,170	-	4,940	-	1,540	-	1,140	3,070	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	15,343	1,750	310	495	0.080	0.09	30,430
November	30,327	2,990	442	1,011	.164	.18	60,150
December	34,017	3,720	553	1,097	.178	.21	67,470
Calendar year 1939	2,236,403	53,100	259	6,127	.993	13.48	4,436,000
January	40,668	2,580	643	1,312	.213	.25	80,660
February	42,730	3,820	538	1,473	.239	.26	84,750
March	112,530	7,510	1,160	3,630	.588	.68	223,200
April	392,860	49,700	3,250	13,100	2.12	2.37	779,200
May	162,195	17,400	935	5,232	.848	.98	321,700
June	45,675	4,010	617	1,522	.247	.28	90,600
July	60,060	6,890	378	1,937	.314	.36	119,100
August	63,354	6,680	593	2,044	.331	.38	125,700
September	36,435	3,620	361	1,214	.197	.22	72,270
Water year 1939-40	1,036,194	49,700	310	2,831	.459	6.26	2,055,000

Peak discharge.- Apr. 11 (5 p.m.) 57,800 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

White River at Calico Rock, Ark.

Location.- Water-stage recorder, lat. 36°07', long. 92°09', in SW¼ sec. 23, T. 17 N., R. 11 W., at Calico Rock, just upstream from Calico Creek, and 6 miles upstream from Piney Creek. Datum of gage is 317.45 feet above mean sea level (general adjustment of 1929). Staff gage at same site, Oct. 1 to Jan. 26, and staff gage at site 500 feet downstream, Jan. 27 to Aug. 13. Datum of each gage was 318.45 feet above mean sea level (general adjustment of 1929).

Drainage area.- 10,000 square miles (authority, U. S. Weather Bureau).

Records available.- October 1939 to September 1940. Gage-height records collected at same site since 1904 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 95,000 second-feet Apr. 12 (gage height, 22.05 feet, datum then in use, from floodmarks), from rating curve extended above 26,000 second-feet; minimum discharge observed, 1,040 second-feet Oct. 3, 4 (gage height, -0.6 foot, datum then in use).
Maximum stage known, 51.9 feet, present datum, Jan. 31, 1916, from records of U. S. Weather Bureau.

Remarks.- Records good except those for period of ice effect, which are fair. Low flow slightly regulated by power plant at Forsyth, Mo.

Cooperation.- Gage readings for period Oct. 1 to Jan. 26 furnished by U. S. Weather Bureau. Result of one discharge measurement furnished by Corpe of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,140	2,970	1,940	1,810	2,110	5,000	7,740	20,200	2,760	3,420	1,830	3,630
2	1,140	2,350	1,940	1,810	2,040	5,100	7,240	25,300	2,460	4,180	1,850	3,130
3	1,040	1,690	1,940	1,570	2,110	4,900	7,490	26,100	2,320	8,510	1,610	2,500
4	1,040	1,690	1,690	1,810	1,980	4,320	5,740	24,100	2,250	6,180	1,490	2,420
5	1,140	1,690	2,070	1,810	1,830	4,410	5,420	19,800	1,920	4,410	1,610	2,000
6	1,350	1,690	2,500	2,070	1,830	4,800	5,850	15,800	2,110	3,000	1,470	2,350
7	1,140	1,570	2,070	1,690	1,680	3,940	7,490	13,200	2,040	4,320	1,410	2,070
8	1,140	1,570	2,070	1,690	2,250	3,500	10,400	11,300	2,110	3,000	1,380	2,500
9	1,140	1,690	2,070	1,940	1,830	3,240	11,000	10,200	2,460	2,460	1,920	2,650
10	1,240	1,690	1,940	1,940	1,650	3,580	10,200	9,050	2,760	2,040	2,760	2,650
11	1,240	1,690	1,810	1,810	1,590	4,410	46,300	9,050	3,240	1,920	2,460	1,810
12	1,240	1,690	1,810	2,350	1,670	5,210	87,200	8,780	9,320	1,980	7,240	1,940
13	1,240	1,460	1,690	2,970	1,510	7,490	71,200	7,990	8,250	1,530	7,000	1,540
14	1,460	1,460	1,570	3,300	1,380	8,780	53,600	5,740	5,850	1,360	5,520	1,480
15	1,240	1,570	1,690	3,830	1,630	9,320	43,200	5,960	5,520	1,340	3,740	1,520
16	1,140	1,690	1,690	4,010	1,730	8,510	28,900	5,420	4,800	1,390	4,200	1,460
17	1,140	1,460	1,690	4,010	1,530	7,240	21,700	5,000	4,030	1,340	3,470	1,350
18	1,140	1,350	1,570	b3,400	2,040	6,070	18,700	4,410	3,850	1,490	3,220	1,300
19	1,240	1,460	1,570	b2,700	2,110	5,320	31,000	3,940	3,420	1,440	3,740	1,160
20	1,240	2,070	1,570	b2,100	2,890	6,070	33,600	3,760	3,330	1,250	3,380	1,310
21	1,240	2,500	1,570	b1,800	3,000	5,420	24,900	3,580	3,160	1,730	2,500	1,200
22	1,240	2,650	1,690	b1,900	3,330	4,600	20,200	4,320	3,500	1,540	3,050	1,180
23	1,240	3,300	1,810	b2,200	3,160	3,940	17,200	4,220	3,160	2,110	2,730	1,220
24	1,240	2,970	1,940	b2,100	3,500	3,670	15,200	3,940	2,690	2,390	2,350	1,270
25	1,240	2,650	2,500	b1,800	3,940	3,240	13,200	3,940	2,250	6,300	2,350	1,190
26	1,240	2,350	2,810	b1,800	4,600	2,620	11,600	3,760	1,980	6,300	2,070	1,150
27	1,240	2,500	3,470	b2,000	4,030	2,840	10,200	3,080	2,110	4,800	1,690	1,140
28	1,350	2,210	4,590	2,460	5,320	4,220	8,780	2,760	2,690	2,920	2,730	1,630
29	1,690	1,940	2,810	2,180	5,000	4,900	8,250	2,460	2,760	2,540	3,470	2,140
30	2,210	2,070	2,070	2,110	-	6,070	14,000	3,000	3,420	2,390	2,650	4,490
31	2,350	-	1,810	2,110	-	6,760	-	2,920	-	1,620	4,200	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	40,110	2,350	1,040	1,294	0.129	0.15	79,560
November	59,640	3,300	1,350	1,988	.199	.22	118,300
December	63,960	4,590	1,570	2,063	.206	.24	126,900
Calendar year	-	-	-	-	-	-	-
January	71,080	4,010	1,570	2,293	.229	.26	141,000
February	73,090	5,320	1,380	2,520	.252	.27	145,000
March	159,490	9,320	2,620	5,145	.514	.59	316,300
April	657,500	87,200	5,420	21,920	2.19	2.45	1,304,000
May	273,080	26,100	2,460	8,809	.881	1.02	541,600
June	102,520	9,320	1,920	3,417	.342	.38	203,300
July	91,200	8,510	1,250	2,942	.294	.34	180,900
August	91,090	7,240	1,380	2,938	.294	.34	180,700
September	57,580	4,490	1,140	1,919	.192	.21	114,200
Water year 1939-40	1,740,340	87,200	1,040	4,755	.476	6.47	3,452,000

b Stage-discharge relation affected by ice.

White River at Batesville, Ark.

Location.- Water-stage recorder, lat. 35°46', long. 91°39', in NE¼ sec. 21, T. 13 N., R. 6 W., at Batesville, a quarter of a mile upstream from lock and dam 1 and 1 mile downstream from Polk Bayou. Datum of gage is 237.72 feet above mean sea level (general adjustment of 1929).

Drainage area.- 11, 100 square miles.

Records available.- July 1937 to September 1940. Gage-height records collected at lower lock gage since 1904 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 93,600 second-feet Apr. 12 (gage height, 16.66 feet); minimum, 1,310 second-feet Sept. 28 (gage height, 6.55 feet).
1937-40: Maximum dicharge, 260,000 second-feet Feb. 19, 1938 (gage height, 26.7 feet, former site, from gage reading at flood crest); minimum discharge observed, 1,100 second-feet Oct. 5-7, 9-18, 1938 (gage height, 6.5 feet).
Maximum stage known, 30.7 feet Feb. 1, 1916, former site.

Remarks.- Records good. Navigation dam is control below flow of about 80,000 second-feet. Low flow slightly regulated by power plant at Forsyth, Mo.

Cooperation.- Gage readings for the period Jan. 9, 19-24 furnished by Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

6.6	1,420	8.6	9,340	14.0	57,500
6.8	1,920	9.8	16,700	16.2	86,600
7.2	3,150	11.0	26,000		
7.8	5,470	12.5	40,450		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,520	2,410	2,380	2,200	2,500	5,430	7,540	22,700	3,360	3,610	1,890	4,020
2	1,400	2,660	2,290	2,120	2,690	5,470	8,040	25,100	3,150	3,500	1,920	3,720
3	1,400	2,440	2,290	2,090	2,660	5,510	7,790	27,800	2,850	5,190	1,840	3,120
4	1,440	2,090	2,260	1,980	2,630	5,220	7,300	26,900	2,760	7,300	1,820	2,600
5	1,380	1,950	2,120	1,980	2,440	4,640	5,910	23,500	2,660	5,650	1,740	2,500
6	1,710	2,030	2,230	2,090	2,320	4,640	5,820	18,800	2,410	4,210	1,740	2,230
7	1,820	1,980	2,560	2,230	2,200	5,260	8,550	15,400	2,530	3,260	1,760	2,380
8	1,540	1,840	2,350	2,230	2,140	4,440	9,620	13,100	2,500	3,980	1,660	2,230
9	1,470	1,760	2,320	1,920	2,530	4,020	12,800	11,600	2,560	3,160	1,840	2,560
10	1,610	1,660	2,320	2,030	2,260	3,800	11,300	10,400	3,050	2,690	3,120	2,690
11	1,520	1,690	2,230	2,630	2,060	4,060	19,800	9,080	3,610	2,290	3,150	2,600
12	1,490	1,740	2,170	2,440	2,000	5,010	82,400	9,620	4,970	2,200	3,360	1,980
13	1,490	1,840	2,140	2,890	2,090	6,140	86,600	8,550	9,890	2,230	7,300	2,030
14	1,520	1,760	1,980	3,220	1,980	8,290	66,400	7,790	7,540	2,000	6,590	1,790
15	1,610	1,660	1,840	3,540	1,820	9,080	51,500	5,910	5,820	1,890	4,970	1,690
16	1,520	1,710	1,980	3,760	1,950	9,620	37,400	6,590	5,430	1,790	3,830	1,710
17	1,420	1,640	2,000	4,100	2,260	8,290	25,100	5,870	4,930	1,840	4,020	1,690
18	1,400	1,790	1,920	4,140	3,050	7,060	21,100	5,390	4,560	1,790	3,720	1,590
19	1,490	2,200	1,890	3,150	3,460	6,360	32,400	4,800	4,290	1,740	3,320	1,520
20	1,470	2,260	1,790	2,500	3,290	5,600	42,600	4,370	3,800	1,710	3,680	1,420
21	1,440	2,290	1,710	2,200	3,500	6,140	34,000	4,210	3,540	1,980	3,220	1,490
22	1,470	3,290	1,760	1,920	3,680	5,690	25,100	4,330	3,400	1,890	2,660	1,470
23	1,420	4,060	2,060	2,500	3,800	4,800	20,300	4,720	3,570	1,820	3,050	1,400
24	1,420	3,320	2,120	2,500	3,870	4,330	17,800	4,560	3,260	2,200	2,790	1,520
25	1,420	2,920	2,140	2,500	4,020	4,100	15,400	4,370	2,920	3,090	2,500	1,560
26	1,540	2,690	2,530	2,200	4,330	3,760	13,700	4,330	2,530	5,820	2,410	1,400
27	1,710	2,560	2,950	2,060	5,010	3,430	12,200	4,140	2,320	5,600	2,260	1,350
28	1,690	2,600	3,500	2,200	4,460	3,610	10,200	3,610	2,500	4,370	2,200	1,350
29	1,760	2,410	4,430	2,560	5,600	5,730	9,890	3,260	3,020	3,020	2,980	1,690
30	1,920	2,120	3,080	2,820	-	6,360	11,300	3,020	2,920	2,630	3,290	2,320
31	2,230	-	2,380	2,500	-	7,060	-	3,400	-	2,410	2,690	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	48,240	2,230	1,380	1.556	0.140	0.16	95,680
November	67,370	4,060	1,640	2,246	.202	.23	133,600
December	71,770	4,480	1,710	2,315	.209	.24	142,400
Calendar year 1939	4,654,820	158,000	1,290	12,750	1.15	15.62	9,232,000
January	79,200	4,140	1,920	2,555	.230	.27	157,100
February	86,620	5,600	1,820	2,987	.269	.29	171,800
March	172,950	9,620	3,430	5,579	.503	.58	343,000
April	718,860	86,600	5,820	23,960	2.16	2.41	1,426,000
May	307,220	27,800	3,020	9,910	.893	1.03	609,400
June	112,650	9,890	2,320	3,755	.338	.38	223,400
July	96,880	7,300	1,710	3,125	.282	.32	192,200
August	93,520	7,300	1,660	3,017	.272	.31	185,500
September	61,620	4,020	1,350	2,054	.185	.21	122,200
Water year 1939-40	1,916,900	86,600	1,350	5,237	.472	6.43	3,802,000

Note.- Discharge for period Jan. 9, 19-24 computed from once-daily readings of upper lock gage at site a quarter of a mile downstream; discharge for the period Jan. 25 to Feb. 3 computed from twice-daily readings of wire-weight gage and fragmentary recorder record.

White River at Newport, Ark.

Location.- Staff gage, lat. 35°36'20", long. 91°17'20", NE¼ sec. 10, T. 11 N., R. 3 W., at highway bridge at Newport, 2¾ miles upstream from site of former gaging station (published as White River near Newport, Ark.) and 7½ miles downstream from Black River. Datum of gage is 194.09 feet above mean sea level (general adjustment of 1929).

Drainage area.- 19,790 square miles.

Records available.- September 1927 to September 1931 (published as White River near Newport), and October 1937 to September 1940. Gage-height records collected at same site since 1885 are contained in reports of U. S. Weather Bureau.

Extremes.- 1937-38: Maximum discharge during year, 259,000 second-feet Feb. 20 (gage height, 33.4 feet, from reading at flood crest); minimum discharge observed, 4,780 second-feet Sept. 30 (gage height, 0.0 foot).

1938-39: Maximum discharge during year, 144,000 second-feet Apr. 20 (gage height, 30.3 feet, from reading at flood crest); minimum discharge observed, 4,260 second-feet Sept. 27-29 (gage height, -0.4 foot).

1939-40: Maximum discharge during year, 75,200 second-feet Apr. 14; maximum gage height, 24.4 feet Apr. 15, from reading at flood crest; minimum discharge observed, 4,130 second-feet (gage height, -0.5 foot).

Maximum stage known, 35.6 feet Apr. 16, 1927, from records of U. S. Weather Bureau.

Remarks.- Records for water year 1939-40 fair. Gage read once daily.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records for October 1937 to September 1939 were collected and computed by Corps of Engineers and prepared for publication by Geological Survey. Gage readings furnished by U. S. Weather Bureau.

Discharge, in second-feet, 1937-40

1937-38

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,460	6,000	6,800	18,000	45,200	65,400	123,000	34,200	60,800	15,100	12,200	6,000
2	5,460	5,860	6,670	16,200	41,400	60,800	128,000	30,700	55,700	14,200	13,200	5,860
3	6,000	5,720	6,540	15,100	38,000	57,100	114,000	29,600	51,000	13,500	12,700	5,720
4	7,180	5,720	6,540	13,700	34,700	54,400	96,000	25,900	45,200	13,200	12,300	5,590
5	21,200	5,590	6,540	12,800	34,700	51,400	82,000	24,600	38,900	12,200	11,700	5,590
6	19,300	5,460	6,400	12,200	32,000	48,400	74,500	23,200	33,900	11,500	10,900	5,590
7	18,000	5,320	6,130	11,800	27,300	45,600	67,800	22,400	29,900	10,900	10,400	5,590
8	14,400	5,320	6,130	11,400	25,500	43,100	63,900	21,000	28,400	10,700	10,100	5,590
9	10,400	5,320	6,000	10,600	23,000	40,700	61,300	20,000	34,500	10,400	9,950	5,590
10	8,200	5,720	6,000	10,200	20,600	38,900	60,200	21,200	40,100	10,200	9,800	5,590
11	7,360	7,360	6,000	10,100	19,500	37,400	61,300	25,200	40,700	9,950	9,500	5,590
12	6,810	9,800	5,860	9,350	18,500	35,300	62,300	27,300	37,100	9,800	9,050	5,590
13	6,260	9,800	5,860	8,900	17,600	33,100	60,800	26,600	32,800	9,350	9,500	5,590
14	6,130	10,100	5,590	8,200	16,800	30,400	59,200	31,200	29,400	9,050	8,480	5,590
15	6,000	8,900	5,590	8,200	21,200	27,800	56,200	49,000	26,200	9,050	8,200	5,460
16	5,720	8,340	6,000	8,060	44,300	25,700	54,400	53,200	23,800	8,620	8,060	5,460
17	5,590	8,060	6,630	7,780	70,400	24,400	67,800	49,700	23,000	8,200	7,640	5,460
18	6,130	8,060	12,300	7,640	94,500	23,200	76,000	44,500	21,600	8,200	7,500	5,320
19	7,500	8,060	19,700	7,500	168,000	22,000	73,000	39,500	22,200	8,620	7,500	5,320
20	9,350	8,060	26,900	7,360	259,000	21,200	70,000	35,300	26,800	8,900	7,220	5,180
21	10,600	7,500	29,400	7,780	254,000	21,000	66,000	32,000	31,500	9,800	6,800	5,180
22	9,800	7,500	29,600	11,200	216,000	22,400	62,300	29,900	32,600	10,700	6,670	5,180
23	8,900	7,360	29,600	15,300	177,000	21,400	57,600	32,300	31,500	10,900	6,540	5,050
24	8,340	7,080	28,700	19,300	135,000	20,800	54,400	46,200	28,900	10,100	6,540	4,920
25	7,640	6,670	25,900	38,000	107,000	20,600	51,000	67,400	26,200	9,350	6,400	4,920
26	7,360	6,400	23,000	54,500	95,000	19,900	48,900	79,000	23,400	8,900	6,260	4,920
27	7,080	6,400	20,800	59,200	79,000	20,400	46,600	81,200	20,400	8,620	6,130	4,920
28	6,800	6,400	21,000	59,200	72,200	27,300	43,400	80,500	18,300	8,060	6,130	4,920
29	6,400	6,670	21,400	59,200	-	43,400	40,400	71,500	16,700	7,780	6,000	4,920
30	6,260	6,940	20,600	52,700	-	74,300	37,400	64,400	15,600	7,920	6,000	4,780
31	6,130	-	19,900	48,900	-	101,000	-	60,800	-	9,800	6,130	-

Discharge, in second-feet, of White River at Newport, Ark., 1937-40--Continued

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,780	4,780	6,800	6,000	45,400	62,800	20,800	53,600	61,800	24,200	7,780	6,130
2	4,780	4,920	6,400	6,000	51,900	66,000	18,700	50,200	53,200	23,400	7,780	6,000
3	4,780	4,920	6,800	6,000	53,600	66,500	17,800	47,300	44,800	21,600	7,500	5,860
4	4,650	4,920	7,080	6,000	53,600	64,400	16,700	44,500	38,600	24,700	7,360	5,720
5	4,650	5,720	10,300	7,500	51,900	64,400	15,600	41,000	34,200	44,800	7,080	5,460
6	4,520	8,060	10,700	9,500	50,200	76,000	20,400	38,300	30,700	41,000	6,940	5,320
7	4,520	12,500	9,650	9,500	49,700	82,000	33,400	35,600	27,300	32,000	6,940	5,320
8	4,520	16,600	8,900	9,500	48,900	81,200	42,800	33,400	24,600	24,800	6,540	5,180
9	4,520	31,500	8,620	8,900	47,300	77,500	45,600	31,800	22,400	20,200	6,400	5,050
10	4,520	31,800	8,060	8,900	46,600	76,800	47,100	29,100	19,500	16,800	6,400	4,920
11	4,390	24,400	7,640	9,200	46,600	77,500	47,000	28,200	17,800	17,800	6,800	4,920
12	4,390	19,900	7,500	9,800	45,900	74,500	44,500	30,700	18,000	16,000	6,670	4,780
13	4,390	16,700	7,220	10,400	45,200	70,800	42,000	33,700	17,200	13,400	6,130	4,780
14	4,390	14,400	6,940	10,600	44,200	66,500	38,900	41,000	16,500	12,200	6,130	4,650
15	4,390	11,800	6,940	10,400	45,600	63,400	35,900	54,000	16,200	11,200	6,670	4,650
16	4,390	10,400	6,670	10,200	46,200	60,800	38,900	64,400	17,400	10,600	7,220	4,650
17	4,390	9,650	6,670	9,950	45,200	56,600	58,700	65,400	16,500	10,200	7,220	4,520
18	4,390	9,500	6,670	9,800	43,400	53,600	89,000	61,800	15,300	9,950	6,800	4,520
19	4,390	9,800	6,260	9,350	41,700	50,200	130,000	54,000	14,000	9,200	6,670	4,390
20	4,390	9,950	6,130	9,350	46,200	47,300	144,000	46,600	13,400	8,900	6,670	4,390
21	5,050	9,800	6,130	9,350	57,100	44,800	135,000	41,700	12,500	8,900	6,670	4,390
22	4,780	10,400	6,130	9,200	66,400	42,000	125,000	39,800	11,700	8,760	6,400	4,390
23	4,650	9,500	6,130	9,200	69,200	39,200	102,000	40,100	12,000	8,480	6,260	4,390
24	4,650	8,900	6,000	9,650	70,000	37,100	90,000	46,600	12,200	8,760	6,260	4,390
25	5,050	7,360	6,000	10,200	67,000	[illegible],000	80,500	50,600	13,000	8,200	6,540	4,390
26	5,320	8,200	6,000	9,650	63,900	32,600	72,200	49,300	13,000	8,200	6,940	4,390
27	5,180	7,780	6,000	9,650	61,800	29,900	66,000	47,600	14,400	8,200	6,940	4,260
28	4,920	7,220	6,000	9,650	61,300	27,100	61,300	59,200	16,000	8,060	6,540	4,260
29	4,780	6,940	6,000	10,100	-	24,400	59,200	74,500	19,300	7,640	6,400	4,260
30	4,780	6,940	6,000	18,200	-	23,200	56,600	79,000	21,400	7,780	6,260	4,390
31	4,780	-	6,000	35,800	-	22,000	-	70,000	-	7,780	6,400	-

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,520	5,180	5,720	6,000	6,670	9,650	14,200	35,300	8,480	8,480	5,720	7,080
2	5,180	5,320	5,720	5,590	6,670	9,500	14,200	40,400	8,340	8,060	5,320	7,360
3	5,050	5,050	5,720	5,460	6,260	9,350	14,200	43,800	8,060	7,640	5,050	7,220
4	4,780	5,460	5,590	5,320	6,000	9,200	13,900	46,200	7,640	8,460	5,590	6,940
5	4,650	5,180	5,590	5,320	6,000	8,900	13,200	46,600	7,500	10,100	5,320	6,670
6	4,520	4,920	5,460	5,320	5,860	8,620	12,000	45,600	7,360	9,200	5,460	6,130
7	4,520	5,050	5,460	5,320	5,720	8,340	11,800	43,100	7,080	7,920	5,180	5,720
8	4,920	5,050	5,720	5,320	5,590	8,760	14,400	39,800	6,940	7,220	5,180	5,590
9	4,920	4,920	5,590	5,180	5,590	8,340	15,400	36,200	6,940	7,500	5,180	5,590
10	4,920	4,920	5,590	5,180	5,720	7,920	17,600	32,600	6,940	7,080	5,720	5,590
11	5,050	4,780	5,460	5,180	5,590	7,640	17,200	28,900	7,220	6,400	6,940	5,590
12	5,050	4,780	5,320	6,000	5,460	7,780	35,300	25,000	7,640	6,130	7,500	5,590
13	4,920	4,920	5,320	6,670	5,320	8,760	63,400	23,000	8,900	6,000	7,220	5,180
14	4,780	4,920	5,320	7,360	5,320	10,200	75,200	21,000	12,500	6,000	9,950	4,920
15	4,780	4,920	5,050	7,500	5,320	12,800	73,800	19,100	11,500	6,000	10,100	4,780
16	4,780	4,780	4,920	7,920	5,320	14,600	63,400	16,500	9,800	5,860	9,500	4,520
17	4,780	4,780	4,920	8,340	5,320	15,600	56,600	15,600	9,800	5,860	8,480	4,520
18	4,650	4,780	4,920	8,340	5,720	15,300	53,600	14,400	9,350	5,590	8,340	4,390
19	4,520	5,050	4,920	8,340	7,360	14,200	49,700	13,500	8,900	5,460	8,200	4,390
20	4,520	5,460	4,920	7,500	8,900	13,400	52,700	12,300	8,760	5,320	8,200	4,260
21	4,520	6,000	4,920	7,220	9,350	12,300	53,600	11,000	8,340	5,320	8,200	4,130
22	4,520	6,130	4,780	6,940	9,500	12,300	54,000	10,900	8,060	5,320	7,640	4,130
23	4,520	6,670	4,780	6,670	9,350	12,000	51,000	11,000	7,640	5,860	6,940	4,130
24	4,390	7,360	4,920	6,670	9,050	11,400	48,000	11,400	7,640	5,720	6,940	4,130
25	4,390	6,940	5,320	6,670	8,900	11,000	44,500	11,000	7,360	5,860	6,800	4,130
26	4,390	6,540	5,320	6,670	8,900	10,900	41,700	10,700	7,080	6,260	6,540	4,130
27	4,520	6,260	5,460	6,670	9,050	10,600	39,200	10,400	6,670	8,200	6,400	4,130
28	4,650	6,130	6,000	6,670	9,650	10,400	36,800	10,100	6,400	8,060	6,400	4,130
29	4,780	6,000	6,400	6,670	9,050	10,400	34,500	9,500	6,260	7,500	6,400	4,130
30	4,780	5,860	7,080	6,670	-	12,700	32,800	8,900	7,500	6,400	6,940	4,130
31	5,050	-	6,000	6,670	-	13,900	-	8,620	-	6,000	7,220	-

Monthly discharge, in second-feet, White River at Newport, Ark., 1937-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October 1937	267,760	21,200	5,460	8,637	0.436	0.50	531,100
November	211,490	10,100	5,320	7,050	.356	.40	419,500
December	434,080	29,600	5,590	14,000	.707	.82	861,000
Calendar year	-	-	-	-	-	-	-
January 1938	640,370	59,200	7,360	20,660	1.04	1.20	1,270,000
February	2,187,400	259,000	16,800	78,120	3.95	4.11	4,339,000
March	1,178,800	101,000	19,900	38,030	1.92	2.22	2,338,000
April	2,019,700	128,000	37,400	67,320	3.40	3.80	4,006,000
May	1,279,500	81,200	20,000	41,270	2.09	2.40	2,538,000
June	947,100	60,800	15,600	31,570	1.60	1.78	1,879,000
July	313,570	15,100	7,780	10,120	.511	.59	622,000
August	265,500	13,200	6,000	8,565	.433	.50	526,600
September	160,980	6,000	4,780	5,366	.271	.30	319,300
Water year 1937-38	9,906,250	259,000	4,780	27,140	1.37	18.62	19,650,000
October 1938	144,080	5,320	4,390	4,648	.235	.27	285,800
November	345,260	31,800	4,780	11,510	.582	.65	684,800
December	218,340	10,700	6,000	7,043	.356	.41	433,100
Calendar year 1938	9,700,600	259,000	4,390	26,580	1.34	18.23	19,240,000
January 1939	317,500	35,800	6,000	10,240	.518	.60	629,800
February	1,466,000	70,000	41,700	52,360	2.65	2.76	2,908,000
March	1,696,100	82,000	22,000	54,710	2.76	3.19	3,364,000
April	1,795,600	144,000	15,600	59,850	3.02	3.37	3,562,000
May	1,483,000	79,000	28,200	47,840	2.42	2.79	2,941,000
June	664,900	61,800	11,700	22,160	1.12	1.25	1,319,000
July	483,710	44,800	7,640	15,600	.788	.91	959,400
August	209,310	7,780	6,130	6,752	.341	.39	415,200
September	144,720	6,130	4,260	4,824	.244	.27	287,000
Water year 1938-39	8,968,520	144,000	4,260	24,570	1.24	16.86	17,790,000
October 1939	146,320	5,180	4,390	4,720	.239	.28	290,200
November	164,110	7,360	4,780	5,470	.276	.31	325,500
December	168,210	7,080	4,780	5,426	.274	.32	333,600
Calendar year 1939	8,739,480	144,000	4,130	23,940	1.21	16.44	17,330,000
January 1940	201,350	8,340	5,180	6,495	.328	.38	399,400
February	202,510	9,650	5,320	6,983	.353	.38	401,700
March	336,760	15,600	7,640	10,860	.549	.63	668,000
April	1,117,900	75,200	11,800	37,260	1.88	2.10	2,217,000
May	712,420	46,600	8,620	22,980	1.16	1.34	1,413,000
June	242,600	12,500	6,260	8,087	.409	.46	481,200
July	210,800	10,100	5,320	6,800	.344	.40	418,100
August	214,570	10,100	5,050	6,922	.350	.40	425,600
September	153,330	7,360	4,130	5,111	.258	.29	304,100
Water year 1939-40	3,870,880	75,200	4,130	10,580	.535	7.29	7,677,000

White River at De Valls Bluff, Ark.

Location.- Water-stage recorder, lat. 34°47', long. 91°27', in sec. 16, T. 2 N., R 4 W., 1 mile northeast of De Valls Bluff and 23 miles upstream from Cache River. Datum of gage is 152.93 feet above mean sea level (general adjustment of 1929).

Drainage area.- 23,800 square miles.

Records available.- December 1927 to September 1940.

Average discharge.- 12 years (1928-40), 23,560 second-feet.

Extremes.- Maximum discharge during year, 60,100 second-feet Apr. 25, 26 (gage height, 23.10 feet); minimum, 4,730 second-feet Oct. 1, 2, 29; minimum gage height, 3.18 feet Sept. 28.

1927-40: Maximum discharge, 151,000 second-feet Jan. 23, 1937 (gage height, 29.20 feet); minimum, 3,200 second-feet Aug. 30 to Sept. 4, 1936 (gage height, 1.4 feet). Maximum stage known, 34.6 feet Apr. 23, 1927.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,730	4,890	6,440	6,890	7,250	13,800	15,000	51,000	12,400	8,130	8,260	8,130
2	4,730	4,970	6,330	7,010	7,490	13,600	16,400	50,100	11,800	8,390	7,740	8,390
3	4,810	5,060	6,220	6,770	7,490	13,400	17,000	48,100	11,200	8,910	7,250	8,390
4	4,970	5,240	6,010	6,550	7,490	13,100	17,500	48,100	10,700	9,180	6,770	8,390
5	5,150	5,330	6,010	6,220	7,250	13,000	17,500	47,300	10,300	9,320	6,440	8,390
6	5,150	5,510	5,910	6,010	7,130	12,500	17,200	47,300	9,880	9,600	6,220	8,260
7	5,060	5,510	5,910	5,910	7,010	12,200	17,500	46,500	9,600	10,300	6,110	8,000
8	4,970	5,420	5,810	5,810	6,890	11,800	18,400	46,500	9,320	10,600	6,220	7,490
9	4,890	5,330	5,710	5,710	7,010	11,300	20,000	46,500	9,040	10,200	6,330	7,130
10	4,970	5,330	5,710	5,710	7,250	11,200	22,500	45,700	8,780	9,600	6,330	6,890
11	5,150	5,330	5,810	5,810	7,490	10,900	23,800	44,900	8,520	9,040	6,440	6,660
12	5,150	5,240	5,710	5,810	7,740	10,700	24,700	44,100	8,650	8,650	6,660	6,550
13	5,150	5,150	5,710	5,910	7,870	10,700	26,200	43,400	8,910	8,260	7,130	6,440
14	5,150	5,060	5,610	6,550	8,130	10,900	29,000	42,000	9,180	7,870	7,870	6,330
15	5,150	5,060	5,610	7,250	8,260	11,300	32,300	40,000	10,000	7,490	8,520	6,220
16	5,150	5,060	5,510	7,870	8,130	12,500	34,500	37,600	11,600	7,250	9,600	6,010
17	5,060	5,060	5,420	8,390	8,000	14,200	36,600	35,000	12,400	7,130	10,600	5,810
18	5,060	5,150	5,330	9,040	9,320	15,900	40,000	31,900	12,500	7,010	10,900	5,610
19	5,060	5,150	5,330	f9,320	11,200	17,000	43,400	29,000	12,000	7,010	10,700	5,420
20	4,970	5,150	5,240	f9,600	12,400	17,500	44,900	26,700	11,600	6,770	10,400	5,330
21	4,890	5,240	5,240	f9,600	13,200	17,200	47,300	24,300	11,200	6,550	10,000	5,240
22	4,890	5,330	5,240	f9,040	14,200	16,700	50,100	22,100	11,000	6,330	9,880	5,150
23	4,890	5,610	5,330	f8,260	14,800	16,200	55,300	20,400	11,000	6,220	9,600	5,060
24	4,810	5,910	5,330	f7,740	15,300	15,800	58,800	18,900	10,700	a6,220	9,320	4,970
25	4,810	6,220	5,330	f7,490	15,100	15,300	60,100	17,700	10,300	a6,330	8,910	5,060
26	4,610	6,660	5,420	f7,490	15,000	14,600	60,100	16,900	10,000	a6,550	8,520	4,890
27	4,810	6,890	5,710	f7,250	14,600	14,300	58,800	16,100	9,600	a6,550	8,260	4,810
28	4,810	6,770	5,810	f7,250	14,300	14,000	56,500	15,400	9,180	a6,890	8,130	4,810
29	4,730	6,660	5,910	f7,010	14,000	13,700	55,300	14,600	8,780	a7,610	8,000	4,890
30	4,810	6,440	6,110	f7,010	-	13,700	53,000	13,800	8,390	a8,260	7,870	4,810
31	4,810	-	6,440	7,130	-	14,000	-	13,100	-	a8,650	8,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	153,550	5,150	4,730	4,953	304,600
November	165,730	6,890	4,890	5,524	328,700
December	177,210	6,440	5,240	5,716	351,500
Calendar year 1939	10,032,850	102,000	4,570	27,490	19,900,000
January	223,410	9,600	5,710	7,207	443,100
February	291,300	15,300	6,890	10,040	577,800
March	423,000	17,500	10,700	13,640	839,000
April	1,069,800	60,100	15,100	35,660	2,122,000
May	1,045,000	51,000	13,100	33,710	2,073,000
June	308,530	12,500	8,390	10,280	612,000
July	246,870	10,600	6,220	7,964	489,700
August	252,980	10,900	6,110	8,161	501,800
September	189,530	8,390	4,810	6,318	375,900
Water year 1939-40	4,546,910	60,100	4,730	12,420	9,019,000

a No gage-height record; discharge computed on basis of readings of U. S. Weather Bureau gage at Des Arc and Clarendon.
f Fragmentary gage-height record; discharge computed from graph based on available record.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

West Fork of White River near Fayetteville, Ark.

Location.- Water-stage recorder, lat. 36°03', lat. 94°07', in NE¼ sec. 24, T. 16 N., R. 30 W., 3 miles southeast of Fayetteville and 3½ miles upstream from mouth. Datum of gage is 1,158.06 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.- 118 square miles.

Records available.- July 1937 to September 1940.

Extremes.- Maximum discharge during year, 4,100 second-feet Sept. 24 (gage height, 11.61 feet); minimum, 0.4 second-foot Oct. 14-25.
1937-40: Maximum discharge, 6,930 second-feet Feb. 18, 1938 (gage height, 16.18 feet), from rating curve extended above 3,600 second-feet; no flow July 23-25, July 27 to Aug. 3, Aug. 6-14, 1937.

Remarks.- Records good except those below 20 second-feet, which are poor. City of Fayetteville diverts water for municipal use and returns effluent from sewage-disposal plant above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	5.0	20	18	9.0	61	29	538	10	34	1.0	3.3
2	.5	4.5	21	16	10	55	27	315	9.6	25	1.0	377
3	.5	4.7	24	14	10	49	57	218	8.2	20	1.0	233
4	.5	4.4	22	14	11	43	38	160	6.1	15	1.2	40
5	.5	4.0	20	12	11	39	29	124	2.2	12	1.4	15
6	.5	4.2	18	12	11	35	40	98	1.2	10	1.2	10
7	.5	3.4	16	13	11	34	154	80	1.1	8.5	1.0	11
8	.5	3.7	14	10	14	32	114	69	10	7.0	1.0	7.8
9	.5	3.0	13	9.7	16	28	80	60	9.5	6.1	1.1	5.4
10	13	4.8	12	9.7	18	26	116	53	2.4	4.6	7.0	3.8
11	2.0	5.6	12	17	19	49	1,870	47	2.6	4.0	5.2	2.8
12	.7	7.3	10	42	20	68	750	40	2.9	3.9	a1.9	2.3
13	.5	12	9.1	64	19	55	380	36	1.7	3.0	a1.6	2.1
14	.4	12	8.5	55	18	44	250	32	1.2	2.8	a1.4	1.9
15	.4	14	7.9	48	18	38	177	30	1.0	2.7	a1.3	1.6
16	.4	18	6.8	43	18	34	135	26	1.0	2.3	a1.0	1.4
17	.4	23	6.6	39	22	32	167	23	4.8	2.0	81	1.3
18	.4	29	6.4	34	128	30	218	25	4.0	1.9	54	1.2
19	.4	44	5.6	26	128	28	148	28	1.6	2.0	24	1.2
20	.4	40	5.0	26	104	27	114	30	1.3	2.4	16	1.2
21	.4	31	4.7	21	86	24	95	26	2.7	2.2	12	1.4
22	.4	26	4.8	19	84	22	83	23	1.5	2.2	9.9	1.5
23	.4	22	14	18	90	20	75	26	1.3	2.0	16	2.7
24	.4	19	20	16	104	24	64	27	10	1.7	11	572
25	.4	16	21	14	133	24	58	26	4.5	1.5	6.8	161
26	4.4	13	20	13	112	25	68	23	4.5	1.3	5.2	28
27	9.1	12	22	11	95	24	78	20	3.6	1.1	9.2	20
28	3.3	10	22	12	83	23	138	18	663	1.0	8.2	14
29	1.6	9.7	21	11	70	30	859	16	192	.8	5.0	6.5
30	6.2	18	20	10	-	30	694	14	56	.9	4.3	3.1
31	5.4	-	19	9.9	-	32	-	13	-	1.0	3.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	55.8	13	0.4	1.80	111
November	423.3	44	3.0	14.1	840
December	446.4	24	4.7	14.4	885
Calendar year 1939	31,111.7	2,500	.4	85.2	61,710
January	677.3	64	9.7	21.8	1,340
February	1,472.0	133	9.0	50.8	2,920
March	1,085	68	20	35.0	2,150
April	7,105	1,870	27	237	14,090
May	2,264	538	13	73.0	4,490
June	1,021.5	663	1.0	34.0	2,030
July	184.9	34	.8	5.96	367
August	295.8	81	1.0	9.54	587
September	1,533.5	572	1.2	51.1	3,040
Water year 1939-40	16,564.5	1,870	.4	45.3	32,850

a No gage-height record; discharge computed on basis of recorded range in stage and weather records.

Kings River near Berryville, Ark.

Location.- Water-stage recorder, lat. 36°24', long. 93°38', in sec. 15, T. 20 N., R. 25 W., a quarter of a mile downstream from Osage Creek and 4 miles northwest of Berryville. Datum of gage is 990.81 feet above mean sea level (general adjustment of 1929).

Drainage area.- 509 square miles.

Records available.- April 1939 to September 1940.

Extremes.- Maximum discharge during year, 12,400 second-feet Apr. 11 (gage height, 13.93 feet); minimum, 4.3 second-feet Oct. 1 (gage height, 1.69 feet).
1939-40: Maximum discharge, 19,000 second-feet Apr. 17, 1939 (gage height, 17.0 feet, from graph based on gage readings), from rating curve extended above 6,000 second-feet on basis of velocity-area studies; minimum, 2.9 second-feet Sept. 28, 1939 (gage height, 1.62 feet).

Remarks.- Records good except those for periods of no gage-height record, which are fair.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 25

1.8	8	3.0	167	5.0	1,060
2.0	19	3.3	248	6.0	1,740
2.2	34	3.6	350	7.0	2,590
2.4	56	4.0	520	8.0	3,610
2.7	104	4.5	770	10.0	6,030

Dec. 26 to Sept. 30

2.0	19	3.3	257	6.0	1,770
2.2	35	3.6	362	7.0	2,620
2.4	58	4.0	530	8.0	3,620
2.7	106	4.5	780		
3.0	172	5.0	1,070		

Note.- Same as preceding table above 8.6 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	48	69	75	48	344	332	3,300	83	a540	94	47
2	7.3	40	90	68	48	294	287	2,260	77	a375	93	37
3	6.6	36	86	69	48	254	270	1,500	71	a275	46	58
4	5.9	33	76	66	50	223	235	1,200	66	a220	131	114
5	5.6	32	69	58	48	195	206	862	61	a180	65	177
6	5.9	28	62	58	51	175	201	700	57	a155	40	122
7	5.9	27	56	58	51	165	322	566	57	a130	30	85
8	5.6	26	52	58	48	162	476	476	53	a110	25	66
9	10	25	48	56	48	150	516	416	143	a95	26	56
10	40	27	45	56	47	141	609	362	144	a83	154	48
11	21	28	42	71	46	261	6,760	318	144	a74	185	42
12	28	35	40	130	45	485	6,100	277	311	a68	130	36
13	28	43	39	165	45	424	2,320	248	300	h61	102	32
14	22	43	37	172	45	340	1,500	223	235	a58	88	29
15	19	40	35	160	45	283	1,200	206	185	a56	78	27
16	17	41	34	141	45	245	862	193	148	52	68	25
17	15	54	33	133	46	215	725	177	133	48	88	23
18	14	80	32	a123	57	193	862	172	112	44	82	21
19	13	117	32	a113	88	172	950	160	99	92	68	20
20	12	127	32	a103	141	155	1,220	160	88	117	57	18
21	12	119	31	a93	172	141	950	148	a130	319	51	17
22	11	100	33	h83	204	130	752	141	a210	238	46	17
23	10	83	44	h72	235	122	625	150	a150	148	42	18
24	9.5	70	83	h68	300	135	544	155	a110	106	37	25
25	9	59	129	h66	370	141	444	158	a88	83	32	578
26	37	54	126	h51	389	188	584	148	a75	68	41	577
27	120	49	112	h46	396	257	752	135	a71	56	39	297
28	225	44	102	h52	490	308	752	122	a240	48	52	195
29	127	41	93	h51	420	494	3,050	110	2,920	42	57	146
30	81	45	85	h42	-	432	3,100	99	970	36	56	114
31	59	-	78	h45	-	385	-	90	-	31	52	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	987.9	225	5.6	31.9	0.063	0.07	1,960
November	1,594	127	25	53.1	.104	.12	3,160
December	1,925	129	31	62.1	.122	.14	3,820
Calendar year	-	-	-	-	-	-	-
January	2,602	172	42	83.9	.165	.19	5,160
February	4,066	490	45	140	.275	.30	8,060
March	7,609	494	122	245	.481	.56	15,090
April	37,506	6,760	201	1,250	2.46	2.74	74,390
May	15,252	3,300	90	492	.967	1.11	30,250
June	7,531	2,920	53	251	.493	.55	14,940
July	4,008	540	31	129	.253	.29	7,950
August	2,155	185	25	69.5	.137	.16	4,270
September	3,067	578	17	102	.200	.22	6,080
Water year 1939-40	88,302.9	6,760	5.6	241	.473	6.45	175,100

Peak discharge.- Apr. 11 (9 p.m.) 12,400 sec.-ft.; Apr. 29 (8 p.m.) 4,760 sec.-ft.; June 29 (about 6 a.m.) 5,000 sec.-ft.

a No gage-height record; discharge interpolated or computed on basis of range in stage indicated by recorder pen, rainfall records, and records for station on Buffalo River near St. Joe.

h Discharge computed on basis of twice-daily wire-weight gage readings.

James River at Galena, Mo.

Location.- Water-stage recorder, lat. 36°48'20", long. 93°27'50", in NW¼ sec. 7, T. 24 N., R. 23 W., at bridge on State Highways 13 and 44, in Galena, half a mile upstream from Railey Creek. Datum of gage is 923.37 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,000 square miles.

Records available.- October 1921 to September 1940.

Average discharge.- 18 years (1922-40), 958 second-feet.

Extremes.- Maximum discharge during year, 13,100 second-feet Apr. 12 (gage height, 12.44 feet); minimum, 71 second-feet Oct. 4 (gage height, 1.60 feet); minimum gage height, 1.56 feet July 16.

1921-40: Maximum discharge, 60,400 second-feet Mar. 11, 1935 (gage height, 27.05 feet); minimum, 22 second-feet Aug. 26, 27, 29, 30, Sept. 4, 1936; minimum gage height, 0.45 foot Aug. 30, 1936.

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	86	131	b110	125	h514	719	2,260	229	187	212	412
2	89	89	131	b105	125	508	585	2,690	220	185	195	333
3	84	89	131	b100	125	450	738	1,820	206	209	195	543
4	75	88	119	b95	133	390	1,340	1,410	203	185	306	561
5	76	86	113	b90	129	351	1,120	1,160	200	166	297	401
6	77	83	119	b85	135	313	927	992	195	156	218	309
7	77	86	108	b80	139	294	863	863	190	154	185	257
8	83	94	113	b80	137	283	1,190	832	182	141	163	238
9	83	83	108	b80	135	313	1,260	1,120	215	133	185	209
10	95	86	108	b90	133	485	1,120	663	212	131	297	198
11	117	102	106	115	135	555	4,230	744	251	129	1,280	182
12	115	102	102	127	129	1,270	10,300	658	301	131	1,300	170
13	97	99	100	135	129	1,740	4,520	591	627	131	927	166
14	95	94	102	b135	129	1,260	2,890	531	485	127	719	156
15	89	94	97	b135	125	992	2,150	490	390	131	603	146
16	88	95	100	b140	h123	800	1,740	450	325	121	567	144
17	84	106	99	b150	h123	688	1,480	412	294	121	514	135
18	83	125	102	b125	h125	609	1,690	407	277	121	473	135
19	83	139	99	b110	h127	526	1,560	439	263	215	423	123
20	82	131	97	b100	h129	468	1,340	428	235	283	371	119
21	82	125	97	b95	h131	407	1,160	380	238	203	313	117
22	82	131	97	b95	h131	366	1,020	375	257	469	273	115
23	82	131	106	b95	141	337	960	356	329	3,250	248	127
24	80	119	129	b95	h146	337	863	329	309	1,410	238	127
25	77	117	137	b95	h150	317	800	329	283	992	212	257
26	88	123	133	b95	h168	309	744	321	251	646	195	270
27	104	111	135	b95	h193	305	695	283	229	485	309	200
28	95	106	135	b100	h260	325	878	277	212	371	508	177
29	97	106	125	b110	h333	417	1,120	263	232	297	396	150
30	90	108	117	119	-	664	1,020	244	223	260	863	133
31	86	-	b115	121	-	794	-	229	-	232	579	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	2,727	117	75	88.0	0.088	0.10	5,410
November	3,134	139	83	104	.104	.12	6,220
December	3,511	137	97	113	.113	.13	6,960
Calendar year 1939	266,676	8,580	75	731	.731	9.93	529,000
January	3,302	150	80	106	.106	.12	6,550
February	4,243	333	123	146	.146	.16	8,420
March	17,387	1,740	283	561	.561	.65	34,490
April	51,022	10,300	585	1,701	1.70	1.90	101,200
May	22,566	2,690	229	728	.728	.84	44,760
June	8,063	627	182	269	.269	.30	15,990
July	11,772	3,250	121	380	.380	.44	23,350
August	13,564	1,300	163	438	.438	.50	26,900
September	6,610	561	115	220	.220	.25	13,110
Water year 1939-40	147,901	10,300	75	404	.404	5.51	293,400

Peak discharge.- Apr. 12 (12:30 p.m.) 13,100 sec.-ft.; May 1 (9:30 p.m.) 3,680 sec.-ft.; July 23 (12 m.) 5,050 sec.-ft.

b Stage-discharge relation affected by ice.

h Computed on basis of twice-daily wire-weight gage readings.

101604-O U.S. GOVERNMENT PRINTING OFFICE · 1946

Buffalo River near St. Joe, Ark.

Location.- Water-stage recorder, lat. 35°59', long. 92°45', in SW¼ sec. 36, T. 16 N., R. 17 W., at bridge on U. S. Highway 65, 1¼ miles downstream from Mill Creek, 4 miles upstream from Bear Creek, and 4½ miles southwest of St. Joe. Prior to Mar. 1, 1940, wire-weight gage at same site and datum. Datum of gage is 560.35 feet above mean sea level (general adjustment of 1929).
Drainage area.- 825 square miles.
Records available.- October 1939 to September 1940.
Extremes.- Maximum discharge during year, 13,000 second-feet Apr. 11 (gage height, 13.79 feet); minimum, 23 second-feet (estimated) Oct. 3-5.
Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Gage read twice daily prior to Mar. 1, 1940.
Cooperation.- Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 31 to Jan. 15		Jan. 16 to Apr. 6		Apr. 7 to Sept. 30			
4.15	29	4.3	97	4.1	63	6.0	1,200
4.2	38	4.4	136	4.2	97	7.0	2,190
4.25	53	4.6	235	4.4	167	8.0	3,410
4.3	75	5.0	467	4.7	300	9.0	4,830
4.4	122	5.5	800	5.0	462	10.0	6,390
4.6	227			5.5	800		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	30	65	113	91	485	681	5,910	148	536	74	91
2	24	30	57	103	91	424	584	3,960	141	378	70	88
3	23	30	57	103	85	365	571	2,710	130	336	74	86
4	23	30	49	103	80	330	618	2,080	120	320	77	84
5	23	30	57	94	77	296	590	1,670	114	271	74	91
6	26	28	57	98	80	268	584	1,340	110	230	77	100
7	30	28	57	94	80	246	2,590	1,090	107	196	74	114
8	26	28	65	94	80	235	2,770	926	117	179	70	104
9	25	28	57	94	80	225	1,820	800	154	163	77	94
10	40	30	65	89	80	219	1,420	688	405	148	91	88
11	35	30	65	98	85	214	6,630	597	2,530	137	276	81
12	31	30	57	94	91	209	7,190	517	1,870	127	310	74
13	28	30	57	142	91	214	3,410	445	974	117	346	66
14	26	34	53	205	97	252	2,410	411	611	110	331	63
15	25	38	57	249	104	290	1,870	373	439	107	257	59
16	25	42	57	284	115	284	1,520	336	346	100	217	56
17	25	40	53	240	131	268	1,380	310	295	97	188	56
18	24	42	49	209	274	262	2,080	286	266	91	257	52
19	24	75	49	b174	709	252	5,280	266	252	120	310	49
20	24	64	45	b155	688	235	5,130	252	290	120	295	46
21	24	65	42	b155	559	219	3,150	239	950	114	239	43
22	24	65	45	b150	479	199	2,300	243	611	107	196	43
23	24	65	61	*b141	430	188	1,870	226	394	107	160	40
24	24	65	65	b127	424	230	1,520	266	310	100	141	49
25	27	65	61	b104	461	284	1,240	262	257	94	123	150
26	35	61	57	b94	504	313	1,080	252	217	88	114	422
27	40	61	108	b91	504	336	1,040	234	192	81	117	305
28	34	57	122	b94	516	330	998	208	200	74	107	217
29	29	57	103	94	553	400	4,720	192	1,820	74	94	171
30	27	65	113	88	-	681	4,680	175	926	74	91	148
31	26	-	113	91	-	828	-	163	-	74	88	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	846	40	23	27.3	0.033	0.04	1,680
November	1,363	84	28	45.4	.055	.06	2,700
December	2,018	122	42	65.1	.079	.09	4,000
Calendar year	-	-	-	-	-	-	-
January	4,064	284	88	131	.159	.18	8,060
February	7,639	709	77	263	.319	.34	15,150
March	9,581	828	188	309	.375	.43	19,000
April	71,726	7,190	571	2,391	2.90	3.23	142,300
May	27,427	5,910	163	885	1.07	1.24	54,400
June	15,296	2,530	107	510	.618	.69	30,340
July	4,870	536	74	157	.190	.22	9,660
August	5,015	346	70	162	.196	.23	9,950
September	3,132	422	40	104	.126	.14	6,210
Water year 1939-40	152,977	7,190	23	418	.507	6.89	303,400

Peak discharge.- Apr. 11 (9 p.m.) 13,000 sec.-ft.; Apr. 19 (7 p.m.) 7,030 sec.-ft.; Apr. 29 (5 p.m.) 7,360 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- No gage-height record, Oct. 1-30, Nov. 1-4; discharge computed on basis of two discharge measurements and records for station near Rush.

Buffalo River near Rush, Ark.

Location.- Water-stage recorder, lat. 36°07', long. 92°33', in sec. 15, T. 17 N., R. 15 W., three-quarters of a mile upstream from Rush Creek, 1½ miles southeast of Rush, and about 24 miles upstream from mouth. Datum of gage is 458.70 feet above mean sea level (White River Power Co. bench mark) or 451.98 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 1,091 square miles (revised).

Records available.- October 1928 to September 1946.

Average discharge.- 12 years, 1,267 second-feet.

Extremes.- Maximum discharge during year, 14,000 second-feet Apr. 12 (gage height, 9.98 feet); minimum, 43 second-feet Oct. 2-6; minimum gage height, 0.59 foot Sept. 22-24.

1928-40: Maximum discharge observed, 68,100 second-feet Feb. 18, 1938 (gage height, 25.2 feet, site then in use); minimum observed, 15 second-feet Aug. 30 to Sept. 2, 1936.

Maximum stage known, 45.5 feet from floodmarks, (published in error as 46.5 ft. in Water-Supply Paper 877), former site, Aug. 19, 1915 (discharge, 164,000 second-feet from slope-area determination by Corps of Engineers, U. S. Army). Flood of Apr. 14, 1927, reached a stage of 35.9 feet from floodmarks, former site (discharge, 110,000 second-feet from slope-area determination by Corps of Engineers, U. S. Army).

Remarks.- Records good except those for period of ice effect, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	58	108	149	123	575	798	7,130	199	798	83	101
2	46	58	105	145	120	511	675	5,900	186	557	80	104
3	43	58	97	127	116	456	646	3,920	173	454	75	101
4	43	58	94	127	112	417	639	2,790	168	414	73	98
5	43	55	97	120	105	378	675	2,140	155	376	73	95
6	53	h55	94	116	108	347	632	1,700	147	315	73	98
7	66	h55	94	116	105	323	2,080	1,380	140	270	75	107
8	48	h55	94	97	101	311	3,920	1,140	140	238	71	125
9	46	h53	94	101	105	306	2,520	982	186	219	85	114
10	55	h53	94	123	108	288	1,830	846	333	199	121	104
11	55	h60	94	112	108	288	3,740	735	1,900	181	125	95
12	50	h72	94	120	108	282	10,800	637	2,850	168	315	85
13	48	h69	94	116	120	288	5,090	564	1,520	159	351	80
14	48	h66	90	191	120	294	3,270	515	942	147	414	80
15	46	h66	90	260	120	335	2,400	487	667	140	363	78
16	48	72	90	311	127	360	1,890	434	515	136	292	75
17	48	75	87	323	153	347	1,560	401	440	125	248	73
18	48	84	84	300	232	335	2,040	376	389	117	243	68
19	48	108	84	b210	603	329	7,050	363	351	107	333	66
20	48	112	81	b195	790	311	7,700	327	333	147	376	63
21	46	90	78	b180	712	294	4,790	315	669	159	333	61
22	46	87	75	b170	h617	276	3,270	303	966	140	270	59
23	46	90	90	b160	h546	254	2,460	303	600	140	228	59
24	46	94	112	*b153	h525	276	1,990	303	454	132	195	63
25	46	90	94	b145	511	306	1,600	333	363	125	173	91
26	53	90	94	b140	539	378	1,340	321	303	111	151	249
27	72	90	101	b135	568	410	1,180	303	264	98	144	440
28	69	90	131	b130	575	417	1,140	276	259	88	151	333
29	60	90	145	b125	596	525	3,100	254	924	85	136	248
30	55	94	145	b125	-	575	6,410	233	1,520	85	117	204
31	55	-	149	123	-	862	-	214	-	83	111	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	1,570	72	43	50.6	0.046	0.05	3,110
November	2,247	112	53	74.9	.069	.08	4,460
December	3,073	149	75	99.1	.091	.10	6,100
Calendar year 1939	619,772	50,600	41	1,698	1.56	‡21.13	1,229,000
January	4,945	323	97	160	.147	.17	9,810
February	8,773	790	101	303	.278	.30	17,400
March	11,654	862	254	376	.345	.40	23,120
April	87,235	10,800	632	2,908	2.67	2.97	173,000
May	35,925	7,130	214	1,159	1.06	1.22	71,260
June	18,056	2,850	140	602	.552	.62	35,810
July	6,513	798	83	210	.192	.22	12,920
August	5,878	414	71	190	.174	.20	11,660
September	3,617	440	59	121	.111	.12	7,170
Water year 1939-40	189,486	10,800	43	518	.475	6.45	375,800

Peak discharge.- Apr. 12 (5 a.m.) 14,000 sec.-ft.
*Winter discharge measurement made on this day.
‡Computed on basis of revised figure of drainage area.
b Stage-discharge relation affected by ice.
h Discharge computed on basis of one or more readings daily of staff gage.

101604-0 U.S. GOVERNMENT PRINTING OFFICE: 1936

North Fork River at Tecumseh, Mo.
(Formerly published as North Fork of White River at Tecumseh, Mo.)

Location.- Water-stage recorder, lat. 36°36'16", long. 92°17'19", in NW¼NE¼ sec. 16, T. 22 N., R. 12 W., at bridge on State Highway 80, at Tecumseh, half a mile downstream from Bryant Creek. Datum of gage is 547.75 feet above mean sea level (general adjustment of 1929). Prior to June 1, 1940, wire-weight gage at same site and datum.
Drainage area.- 1,180 square miles.
Records available.- October 1921 to September 1940.
Average discharge.- 18 years (1922-40), 1,212 second-feet.
Extremes.- Maximum discharge during year, 13,800 second-feet Apr. 11 (gage height, 8.9 feet, from graph based on gage readings); minimum, 367 second-feet Sept. 23 (gage height, 0.75 foot).
1921-40: Maximum discharge observed, 53,000 second-feet June 13, 1928 (gage height, 24.00 feet), from rating curve extended above 40,000 second-feet; minimum, 280 second-feet Sept. 16, 1936; minimum gage height, 0.74 foot Aug. 16, 30, 31, 1936.
Maximum stage known, 31.6 feet from floodmarks, in July 1905.
Remarks.- Records good. Gage read twice daily prior to June 1, 1940.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 10		Apr. 11 to Sept. 30			
0.9	450	0.7	334	3.0	2,690
1.0	513	1.0	538	4.0	4,200
1.4	807	1.5	922	6.0	7,800
1.8	1,200	2.0	1,410	7.3	10,400
2.2	1,640				

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	482	513	513	513	482	546	990	2,220	640	531	420	454
2	482	513	513	482	482	546	942	2,150	632	524	420	454
3	482	482	513	482	482	546	895	1,820	617	517	427	461
4	482	482	513	482	482	546	807	1,580	610	510	517	454
5	482	482	513	482	482	513	766	1,410	610	503	524	448
6	482	450	513	482	482	513	726	1,320	603	496	475	434
7	513	482	513	482	482	546	990	1,220	603	489	448	420
8	580	482	482	482	482	580	1,140	1,150	603	489	448	407
9	513	482	482	450	482	580	1,140	1,090	596	489	531	414
10	546	513	482	482	482	651	1,480	1,040	654	503	625	407
11	513	513	482	513	450	851	10,400	991	746	489	625	400
12	513	513	482	580	450	1,360	8,450	956	769	468	596	393
13	482	513	482	580	450	1,640	3,880	922	746	468	538	393
14	482	482	450	651	450	1,360	2,760	956	692	468	517	387
15	482	482	450	688	450	1,200	2,280	906	669	461	510	387
16	482	482	450	688	450	1,040	1,890	865	662	468	510	387
17	482	482	450	688	450	942	1,700	840	662	468	503	387
18	482	513	450	651	482	895	2,280	824	647	461	503	380
19	482	651	450	513	513	807	2,340	856	617	446	489	380
20	482	766	450	546	482	766	3,040	808	617	448	475	380
21	482	688	450	546	482	766	2,550	793	617	468	454	374
22	450	616	450	513	482	726	2,150	777	610	482	454	374
23	450	580	513	513	482	688	1,890	761	603	503	461	374
24	450	580	513	513	513	726	1,640	753	596	524	448	414
25	513	546	513	482	482	651	1,460	753	581	489	434	434
26	513	513	546	450	482	688	1,370	730	574	461	441	441
27	726	513	513	482	513	726	1,280	707	560	448	489	407
28	688	513	513	482	513	726	1,180	692	560	427	517	393
29	580	513	482	482	546	1,090	1,260	677	560	434	489	393
30	546	513	482	482	-	1,140	1,320	662	545	427	489	387
31	513	-	513	482	-	1,090	-	654	-	420	468	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	15,837	726	450	511	0.433	0.50	31,410
November	15,853	766	450	528	.447	.50	31,440
December	15,121	546	450	488	.414	.48	29,990
Calendar year 1939	469,186	16,400	450	1,285	1.09	14.80	930,700
January	16,344	688	450	527	.447	.52	32,420
February	13,942	546	450	481	.408	.44	27,650
March	25,445	1,640	513	821	.696	.80	50,470
April	64,996	10,400	726	2,167	1.84	2.05	128,900
May	31,883	2,220	654	1,028	.871	1.00	63,240
June	18,801	769	545	627	.531	.59	37,290
July	14,781	531	420	477	.404	.47	29,320
August	15,245	625	420	492	.417	.48	30,240
September	12,218	461	374	407	.345	.38	24,230
Water year 1939-40	260,466	10,400	374	712	.603	8.21	516,600

101604-O U.S. GOVERNMENT PRINTING OFFICE 1936

North Fork River near Henderson, Ark.
(Formerly published as North Fork of White River near Henderson, Ark.)

Location.- Water-stage recorder, lat. 36°22', long. 92°14', in SE¼NW¼ sec. 26, T. 20 N., R. 12 W., half a mile downstream from Bennetts Bayou, half a mile east of Henderson, and 19 miles upstream from mouth. Datum of gage is 432.67 feet above mean sea level (general adjustment of 1929).
Drainage area.- 1,612 square miles (revised).
Records available.- July 1909 to December 1910, October 1928 to September 1940.
Average discharge.- 12 years (1928-40), 1,430 second-feet.
Extremes.- Maximum discharge during year, 30,600 second-feet Apr. 11 (gage height, 15.22 feet); minimum, 406 second-feet Sept. 30.
1928-40: Maximum discharge observed, 50,400 second-feet Mar. 11, 1935 (gage height, 22.2 feet, site and datum then in use); minimum observed, 312 second-feet Aug. 1-3, 15-17, 23, Sept. 1, 1936 (published in error as 3.2 second-feet in Water-Supply Paper 877).
Maximum stage known, 29.5 feet in August 1915, former site and datum.
Remarks.- Records good.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 22 to Sept. 30)

Oct. 1 to Apr. 22				Apr. 23 to Sept. 30	
1.9	487	3.5	3,300	1.9	543
2.1	683	6.0	8,700	2.2	669
2.3	930	10.0	17,900	2.5	1,290
2.6	1,400			3.0	2,240
				3.3	2,960

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	524	590	580	543	506	642	1,280	2,930	717	602	462	489
2	515	571	571	534	496	642	1,180	2,800	706	602	462	480
3	515	561	561	515	487	642	1,140	2,480	685	602	462	498
4	524	561	543	524	487	621	1,060	2,240	674	572	489	489
5	524	552	543	515	496	611	990	2,000	674	563	543	480
6	534	561	543	515	496	601	1,050	1,800	674	553	525	471
7	543	561	524	524	496	611	1,280	1,650	674	553	480	462
8	611	561	524	524	496	621	1,540	1,500	674	553	471	453
9	601	561	515	534	496	632	1,540	1,390	717	553	602	445
10	611	590	515	515	496	662	1,540	1,310	696	543	728	437
11	580	552	515	561	496	811	20,900	1,230	948	534	717	430
12	571	543	506	611	496	1,220	14,400	1,160	1,080	525	685	430
13	552	524	506	706	506	1,830	6,100	1,110	934	516	621	430
14	534	50	496	786	506	1,730	4,180	1,080	845	516	572	430
15	534	496	496	838	506	1,480	3,300	1,110	798	507	534	430
16	534	506	496	824	506	1,320	2,820	1,030	774	498	553	430
17	534	506	496	786	524	1,200	2,550	987	774	498	525	422
18	534	590	487	740	561	1,120	2,640	961	750	480	516	422
19	534	764	487	683	561	1,040	5,790	1,000	728	471	498	414
20	534	798	478	662	561	975	4,730	961	696	498	489	414
21	534	786	470	706	561	904	3,850	908	685	534	489	414
22	534	706	470	662	561	864	3,120	895	663	516	480	414
23	524	652	534	580	561	824	2,760	869	663	543	480	414
24	524	611	561	580	590	864	2,520	857	641	572	480	430
25	543	590	561	571	590	851	2,260	857	631	543	471	462
26	632	561	561	611	601	824	2,080	833	[illegible]	516	471	453
27	706	552	571	611	621	838	1,940	810	602	498	507	437
28	838	543	561	590	632	877	1,860	774	674	489	572	430
29	740	534	552	515	642	1,120	1,880	762	631	471	525	422
30	652	561	543	515	-	1,440	1,940	750	612	471	525	414
31	611	-	534	506	-	1,440	-	728	-	471	507	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	17,781	838	515	574	0.356	0.41	35,270
November	17,550	798	496	585	.363	.40	34,810
December	16,300	580	470	526	.326	.38	32,330
Calendar year 1939	649,891	29,800	470	1,781	1.10	‡14.99	1,289,000
January	18,887	838	506	609	.378	.44	37,460
February	15,534	642	487	536	.333	.36	30,810
March	29,857	1,830	601	963	.597	.69	59,220
April	104,220	20,900	990	3,474	2.16	2.40	206,700
May	39,772	2,930	728	1,283	.796	.92	78,890
June	21,632	1,080	602	721	.447	.50	42,910
July	16,363	602	471	528	.328	.38	32,460
August	16,441	728	462	530	.329	.38	32,610
September	13,246	498	414	442	.274	.31	26,270
Water year 1939-40	327,583	20,900	414	895	.555	7.57	649,700

Peak discharge.- Apr. 11 (3 p.m.) 30,600 sec.-ft.; Apr. 19 (8 a.m.) 8,700 sec.-ft.
‡Computed on basisof revised figure of drainage area.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
101604 - O U. S. GOVERNMENT PRINTING OFFICE 1936

Black River near Annapolis, Mo.

Location.- Water-stage recorder, lat. 37°20'20", long. 90°47'00", in sec. 25, T. 31 N., R. 2 E., half a mile downstream from Mayberry Branch and 7 miles southwest of Annapolis. Datum of gage is 469.72 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 484 square miles.

Records available.- April 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period April to September, 32,500 second-feet Apr. 17 (gage height, 17.4 feet); minimum, 104 second-feet Sept. 26-29; minimum gage height, 2.19 feet Sept. 21.
1939-40: Maximum discharge during water year, 6,920 second-feet Apr. 19 (gage height, 8.51 feet); minimum, 87 second-feet Aug. 3 (gage height, 2.26 feet).

Remarks.- Records good except those for period of ice effect and those estimated, which are fair.

Cooperation.- Results of 15 discharge measurements and gage-height record for period Apr. 12 to Sept. 30, 1939, furnished by Corps of Engineers, U. S. Army.

Rating tables, Apr. 12, 1939, to Sept. 30, 1940, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 18 to Oct. 23, 1939, and Sept. 29, 30, 1940)

Apr. 12, 1939, to Sept. 30, 1939

2.1	101	3.5	465	7.0	4,380
2.2	108	3.8	615	9.0	8,030
2.3	119	4.2	885	11.0	12,400
2.5	153	4.9	1,520	13.0	17,600
2.8	225	5.5	2,160	14.0	20,600
3.1	315	6.0	2,840		

Oct. 1, 1939, to Sept. 30, 1940

2.2	78	3.6	434	5.2	1,630
2.4	109	3.8	530	5.6	2,060
2.6	148	4.0	646	6.0	2,560
3.0	248	4.4	923	6.5	3,270
3.4	362	4.8	1,240	7.5	4,970

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	545	354	332	140	145
2							-	506	326	289	134	140
3							-	470	302	262	134	134
4							-	441	283	247	132	131
5							-	405	265	233	130	128
6							-	389	250	217	126	125
7							-	371	239	202	122	124
8							-	409	262	199	119	120
9							-	708	697	202	119	119
10							-	740	488	212	117	117
11							-	639	405	199	124	116
12							694	582	364	185	521	114
13							657	576	465	171	663	112
14							582	550	470	162	385	112
15							598	520	401	153	283	111
16							6,970	488	350	153	236	110
17							20,500	449	309	151	207	111
18							6,250	413	283	149	189	109
19							2,700	401	268	153	185	107
20							2,010	389	268	155	180	107
21							1,900	371	259	147	173	106
22							1,680	354	265	140	173	106
23							1,420	326	245	147	343	106
24							1,180	302	222	153	289	105
25							1,060	289	215	155	239	105
26							982	289	245	147	212	104
27							885	506	506	138	192	104
28							775	720	488	134	175	104
29							675	550	441	153	164	107
30							598	453	382	162	157	115
31							-	393	-	147	149	-

Peak discharge.- Apr. 17 (1 p.m.) 32,500 sec.-ft.
Note.- Water-stage recorder not working properly Apr. 13, 14, 17, 18, 23, 24, Apr. 30 to May 5, June 12, 13, 24, 25, 28, July 8; gage heights obtained from graph based on gage readings and trace of recorder pen, when available.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologi l Survey

Discharge, in second-feet, of Black River near Annapolis, Mo., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	142	188	188	164	369	470	1,540	174	347	95	188
2	116	135	186	186	162	344	430	1,340	169	286	93	171
3	113	129	176	181	157	323	403	976	162	248	90	164
4	111	125	169	181	153	303	375	764	155	217	96	153
5	107	123	162	178	155	281	347	640	148	191	114	144
6	111	122	157	176	157	267	326	552	142	171	118	140
7	269	122	150	174	153	272	335	479	a143	162	111	131
8	191	120	148	171	150	267	338	430	a165	148	131	129
9	157	118	146	166	150	264	323	552	176	144	209	123
10	144	133	144	164	155	289	309	504	162	138	230	118
11	142	166	140	181	150	2,930	1,740	430	171	127	278	114
12	135	176	140	222	150	4,430	2,970	388	217	127	292	109
13	129	166	138	297	157	2,430	1,630	356	256	125	403	109
14	123	155	135	484	160	1,630	1,160	341	227	122	418	104
15	116	148	133	785	157	1,160	908	362	206	114	353	104
16	116	144	133	586	157	879	758	338	196	109	859	104
17	116	140	133	484	160	691	1,910	315	194	109	547	103
18	116	144	133	395	176	1,010	4,360	303	181	106	744	101
19	116	248	131	341	191	1,290	4,950	323	171	106	764	99
20	114	564	129	315	194	879	3,660	303	162	104	510	99
21	114	499	127	275	194	652	2,000	281	155	109	395	99
22	114	388	127	270	194	530	1,530	264	146	109	341	99
23	113	332	142	253	191	452	1,240	256	140	107	306	101
24	111	292	176	227	196	418	999	248	133	107	289	107
25	123	262	194	184	199	388	828	238	129	106	272	111
26	125	238	196	b174	201	362	697	227	125	103	240	113
27	150	217	206	b170	214	356	586	217	120	99	235	109
28	162	204	201	b168	344	356	525	206	344	96	289	107
29	176	191	194	b166	418	403	494	196	1,080	95	245	101
30	164	184	191	b165	-	520	479	188	470	92	230	98
31	150	-	191	164	-	515	-	181	-	92	206	-

Peak discharge.- Mar. 11 (9 p.m.) 6,720 sec.-ft.; Apr. 12 (12:30 a.m.) 4,340 sec.-ft.; Apr. 18 (9 a.m.) 6,120 sec.-ft.; Apr. 19 (5 p.m.) 6,920 sec.-ft.

a No gage-height record; discharge estimated.

b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
April 12-30, 1939	52,116	20,500	582	2,743	5.67	4.01	103,400
May	14,544	740	289	469	.969	1.12	28,850
June	10,317	697	215	344	.711	.79	20,460
July	5,649	332	134	182	.376	.43	11,200
August	6,512	663	117	210	.434	.50	12,920
September	3,454	145	104	115	.238	.27	6,850
The period	-	-	-	-	-	-	183,700
October 1939	4,158	269	107	134	.277	.32	8,250
November	6,127	564	118	204	.421	.47	12,150
December	4,916	206	127	159	.329	.38	9,750
Calendar year	-	-	-	-	-	-	-
January 1940	8,071	785	164	260	.537	.62	16,010
February	5,359	418	150	185	.382	.41	10,630
March	25,260	4,430	264	815	1.68	1.94	50,100
April	37,080	4,950	309	1,236	2.55	2.84	73,550
May	13,738	1,540	181	443	.915	1.05	27,250
June	6,419	1,080	120	214	.442	.49	12,730
July	4,316	347	92	139	.287	.33	8,560
August	9,503	859	90	307	.634	.73	18,850
September	3,552	188	98	118	.244	.27	7,050
Water year 1939-40	128,499	4,950	90	351	.725	9.85	254,900

Black River at Leeper, Mo.

Location.- Water-stage recorder, lat. 37°04'30", long. 90°42'35", in SW¼NE¼ sec. 27, T. 28 N., R. 3 E., at Missouri Southern Railroad bridge at Leeper, 2¼ miles downstream from McKenzie Creek. Datum of gage is 424.66 feet above mean sea level (general adjustment of 1929).
Drainage area.- 957 square miles.
Records available.- June 1921 to September 1940.
Average discharge.- 19 years, 932 second-feet.
Extremes.- Maximum discharge during year, 10,800 second-feet Apr. 20 (gage height, 9.23 feet); minimum, 202 second-feet July 31 (gage height, 1.14 feet).
1921-40: Maximum discharge, 78,400 second-feet May 14, 1933 (gage height, 20.01 feet); minimum, 133 second-feet Aug. 11, 1934 (gage height, 1.22 feet).
Maximum stage known, about 24.7 feet from floodmarks, in March 1904 (discharge, 125,000 second-feet, from rating curve extended above 55,000 second-feet).
Remarks.- Records excellent.
Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 20

1.4	210	4.0	1,810
1.8	368	4.5	2,330
2.2	549	5.0	2,940
2.6	761	6.5	5,070
3.0	1,000	8.2	8,440
3.5	1,360		

Apr. 21 to Sept. 30

1.15	204	2.2	566
1.4	270	2.5	715
1.8	402	3.0	1,000

Note.- Same as preceding table above 3.0 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	233	303	377	348	335	579	790	1,210	346	590	209	363
2	229	295	372	343	327	539	761	1,760	335	505	204	339
3	225	283	360	335	323	506	705	1,360	329	444	209	322
4	221	279	348	335	315	487	667	1,140	322	395	221	306
5	221	271	335	331	315	469	615	1,000	316	366	219	294
6	218	271	331	323	315	451	579	910	297	326	229	285
7	850	271	327	323	311	446	599	825	297	310	285	273
8	549	271	323	323	311	446	584	770	294	300	256	264
9	415	266	315	319	311	429	569	825	282	294	335	262
10	360	271	311	319	307	424	539	825	310	285	402	250
11	335	295	307	348	307	790	1,410	742	316	276	406	245
12	323	311	299	368	303	5,360	3,990	663	319	264	417	239
13	311	319	295	398	303	3,880	2,810	613	359	259	452	234
14	291	315	291	683	303	2,500	2,010	580	388	253	562	232
15	275	311	291	908	303	1,810	1,620	571	384	248	575	229
16	268	303	287	938	303	1,450	1,360	562	352	245	715	224
17	264	299	287	819	303	1,210	2,680	544	349	237	880	221
18	264	303	287	733	339	1,060	4,730	522	332	234	940	221
19	260	372	275	535	390	1,720	7,380	518	310	232	1,060	221
20	252	501	271	579	385	1,450	8,360	505	316	234	880	219
21	244	733	264	520	390	1,140	4,160	488	303	245	715	216
22	244	678	260	511	385	969	2,740	472	285	245	608	216
23	244	599	279	492	381	908	2,110	452	285	234	526	214
24	244	530	319	451	381	790	1,720	440	285	229	505	219
25	256	483	327	420	385	705	1,450	425	270	226	468	226
26	275	455	339	407	385	678	1,280	410	264	224	432	219
27	315	429	356	394	398	646	1,140	395	256	216	421	221
28	331	407	356	381	407	630	1,030	391	391	211	460	216
29	331	394	356	368	506	705	970	380	867	209	452	216
30	327	372	352	364	-	790	910	366	798	206	413	206
31	315	-	348	352	-	848	-	356	-	204	388	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	9,490	850	218	306	0.320	0.37	18,820
November	11,192	733	268	373	.390	.44	22,200
December	9,845	377	260	318	.332	.38	19,530
Calendar year 1939	323,413	19,500	188	886	.926	12.57	641,500
January	14,268	938	319	460	.481	.55	28,300
February	10,027	506	303	346	.362	.39	19,890
March	34,815	5,360	424	1,123	1.17	1.35	69,050
April	60,268	8,360	539	2,009	2.10	2.34	119,500
May	21,020	1,760	356	678	.708	.82	41,690
June	10,557	867	256	352	.368	.41	20,940
July	8,746	590	204	282	.295	.34	17,350
August	14,844	1,060	204	479	.501	.58	29,440
September	7,412	363	206	247	.258	.29	14,700
Water year 1939-40	212,484	8,360	204	581	.607	8.26	421,400

Peak discharge.- Mar. 12 (10 a.m.) 6,190 sec.-ft.; Apr. 11 (4 p.m.) 2,440 sec.-ft.; Apr. 12 (11:30 a.m.) 4,750 sec.-ft.; Apr. 18 (9 p.m.) 6,380 sec.-ft.; Apr. 20 (3 a.m.) 10,800 sec.-ft.
Note.- Once-daily wire-weight gage readings used Jan. 17-23, May 5, 6, June 6-17, Sept. 11-18.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Black River at Poplar Bluff, Mo.

Location.- Wire-weight gage, lat. 36°45'25", long. 90°23'25", in NW¼SE¼ sec. 2, T. 24 N., R. 6 E., at bridge on U. S. Highway 60 at Poplar Bluff, and 5 miles downstream from Indian Creek. Datum of gage is 319.40 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,220 square miles.

Records available.- October 1936 to September 1937, October 1939 to September 1940. Gage-height records collected at same site since July 1935, and at site 300 feet downstream September 1923 to July 1935, are contained in reports of U. S. Weather Bureau.

Extremes.- 1936-37: Maximum discharge during year, 27,300 second-feet Jan. 16 (gage height, 17.66 feet, from graph based on gage readings); minimum, 302 second-feet Aug. 20, 21, Aug. 27 to Sept. 1, Sept. 20-24, 30.

1939-40: Maximum discharge during year, 10,300 second-feet Apr. 21 (gage height, 15.78 feet); minimum, 302 second-feet July 31, Aug. 2-6, Sept. 17-24, 26-30.

Maximum discharge known, 100,000 second-feet (estimated) March 1904; maximum stage known, 19.1 feet Mar. 12, 1935 (affected by levees constructed since 1904).

Remarks.- Records good except those below about 1,000 second-feet during the 1936-37 water year, which are poor, and those for days of questionable gage heights, which are fair.

Cooperation.- Gage-height record October 1936 to September 1937 furnished by U. S. Weather Bureau. Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, 1936-37, 1939-40

1936-37

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	482	1,210	454	4,190	4,480	1,210	761	3,370	539	510	372	302
2	454	1,600	454	3,690	4,610	1,140	729	5,430	539	482	372	324
3	454	3,480	454	3,350	3,840	1,080	697	5,670	510	454	347	324
4	454	4,490	454	2,570	3,050	1,020	761	6,800	510	2,200	347	347
5	454	4,650	454	2,170	2,610	1,020	1,400	7,800	569	3,510	347	372
6	426	3,340	857	1,690	2,370	985	1,660	5,310	601	1,830	372	399
7	399	2,270	889	2,330	2,060	953	1,760	4,130	697	1,080	372	372
8	454	1,860	825	3,890	1,890	921	1,760	3,300	697	825	372	372
9	1,400	1,530	825	6,530	2,130	889	1,760	[illegible]	697	697	347	347
10	2,920	1,340	825	9,910	2,270	825	1,6[illegible]	[illegible]	[illegible]	633	347	399
11	6,210	1,210	825	6,980	2,270	825	1,460	1,890	1,500	569	347	347
12	3,970	1,110	761	4,470	2,060	a809	1,270	1,700	1,430	539	347	347
13	2,340	1,020	761	3,520	1,830	793	1,210	1,660	1,400	510	347	347
14	1,730	985	761	5,320	1,790	793	1,110	1,460	1,180	482	347	347
15	1,430	857	761	21,900	1,660	761	1,080	1,340	1,050	454	347	347
16	1,180	825	761	24,300	1,560	761	985	1,240	921	454	324	347
17	1,050	761	761	14,900	1,340	761	921	1,140	857	426	324	324
18	985	729	761	6,960	1,270	761	889	1,080	825	426	324	324
19	889	697	633	4,460	1,240	729	857	1,020	857	539	324	324
20	793	665	569	3,620	1,240	761	825	953	825	697	302	302
21	761	633	569	3,920	1,340	825	889	889	857	601	302	302
22	793	601	569	4,470	1,530	825	1,240	825	793	569	347	302
23	825	601	569	4,650	1,630	825	3,370	793	697	510	399	302
24	857	569	539	3,940	1,700	889	3,090	761	633	482	347	302
25	889	539	510	3,620	1,560	953	2,680	729	601	482	324	399
26	1,790	539	510	3,200	1,430	889	2,470	697	569	454	324	347
27	1,760	482	510	2,710	1,370	857	2,170	665	569	426	302	324
28	1,730	454	569	2,440	1,270	857	1,890	633	697	426	302	324
29	1,560	482	569	2,540	-	825	1,700	633	569	399	302	324
30	1,370	454	1,430	2,780	-	793	1,600	601	510	399	302	302
31	1,300	-	3,910	3,520	-	761	-	569	-	372	302	-

a No gage-height record; discharge interpolated.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog al Survey

Discharge, in second-feet, of Black River at Poplar Bluff, Mo., 1936-37, 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	377	432	488	432	460	602	1,080	2,040	488	990	351	488
2	377	432	488	432	432	660	1,050	2,000	488	810	302	460
3	377	404	460	432	432	660	1,020	2,210	488	720	302	432
4	377	404	450	432	432	631	960	1,900	460	631	302	432
5	377	404	432	432	432	602	900	1,640	460	573	302	404
6	377	404	432	432	432	573	840	1,450	460	544	302	404
7	432	377	432	404	404	573	870	1,320	432	516	326	377
8	950	377	404	404	404	573	930	1,200	432	488	377	377
9	810	377	404	404	404	573	870	1,110	432	488	377	377
10	602	377	404	432	404	544	840	1,140	432	460	460	351
11	544	404	404	488	404	810	1,450	1,110	488	432	488	326
12	488	404	404	516	404	2,310	4,980	1,020	488	432	516	326
13	460	404	377	488	404	4,490	5,150	960	488	404	516	326
14	432	432	377	720	404	5,100	4,440	900	516	404	516	326
15	432	432	377	870	404	3,740	2,950	870	544	404	602	326
16	404	404	377	960	404	2,460	2,210	840	544	377	631	326
17	404	404	377	1,020	404	1,900	1,870	810	516	377	720	302
18	404	404	377	930	602	1,640	3,220	780	516	377	930	302
19	377	432	377	840	990	1,480	4,930	750	516	351	960	302
20	377	488	377	750	690	1,900	7,490	720	488	351	1,110	302
21	377	544	351	780	602	1,710	10,300	720	516	377	1,020	302
22	377	720	351	690	573	1,450	7,630	690	488	404	870	302
23	377	720	377	631	573	1,260	5,220	660	460	377	750	302
24	377	660	404	602	544	1,170	3,740	631	460	351	660	302
25	377	631	404	573	544	1,080	2,620	631	460	351	631	326
26	377	573	432	516	544	1,020	2,100	602	432	351	602	302
27	488	544	460	544	544	990	1,840	573	432	326	544	302
28	460	516	460	488	544	960	1,640	573	460	326	544	302
29	432	488	460	488	544	960	1,580	544	631	326	544	302
30	432	488	460	460	-	1,050	1,800	544	900	326	544	302
31	432	-	432	460	-	1,050	-	516	-	302	516	-

Note.- Gage-height record questionable Oct. 2-6, 22-26.

Monthly discharge, in second-feet, 1936-37, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October 1936	42,109	6,210	399	1,358	1.11	1.28	83,520
November	39,983	4,650	454	1,333	1.09	1.22	79,310
December	24,099	3,910	454	777	.637	.73	47,800
Calendar year	-	-	-	-	-	-	-
January 1937	174,740	24,300	1,890	5,637	4.62	5.33	346,600
February	57,400	4,610	1,240	2,050	1.68	1.75	113,900
March	27,096	1,210	729	874	.716	.83	53,740
April	44,624	3,370	697	1,487	1.22	1.36	88,510
May	68,198	7,800	569	2,200	1.80	2.08	135,300
June	23,909	1,500	510	797	.663	.73	47,420
July	22,437	3,510	372	724	.593	.68	44,500
August	10,481	399	302	338	.277	.32	20,790
September	10,142	399	302	338	.277	.31	20,120
Water year 1936-37	545,218	24,300	302	1,494	1.22	16.62	1,082,000
October 1939	13,894	960	377	448	.367	.42	27,560
November	14,080	720	377	469	.384	.43	27,930
December	12,819	488	351	414	.339	.39	25,430
Calendar year	-	-	-	-	-	-	-
January 1940	18,050	1,020	404	582	.477	.55	35,800
February	14,358	990	404	495	.406	.44	28,480
March	44,521	5,100	544	1,436	1.18	1.36	88,310
April	86,540	10,300	840	2,885	2.36	2.63	171,600
May	31,454	2,210	516	1,015	.832	.96	62,390
June	14,915	900	432	497	.407	.45	29,580
July	13,946	990	302	450	.369	.43	27,660
August	17,615	1,110	302	568	.466	.54	34,940
September	10,310	488	302	344	.282	.31	20,450
Water year 1939-40	292,502	10,300	302	799	.655	8.91	580,100

Black River near Corning, Ark.

Location.- Wire-weight gage, lat. 36°24'05", long. 90°32'30", near center of sec. 4, T. 20 N., R. 5 E., at highway bridge, 2¼ miles east of Corning and 13 miles downstream from Cane Creek. Datum of gage is 272.90 feet above mean Gulf level (Corps of Engineers, U. S. Army, bench mark). Prior to Nov. 28, 1938, staff gage at same site and datum.

Drainage area.- 1,749 square miles.

Records available.- October 1938 to September 1940. Gage-height records collected at site 7 miles downstream January 1925 to December 1929 contained in reports of U. S. Weather Bureau.

Extremes.- 1938-39: Maximum discharge during year, 18,000 second-feet Apr. 22 (gage height, 13.15 feet); minimum, 282 second-feet Sept. 26-29: minimum gage height observed, -0.11 foot Sept. 28.

1939-40: Maximum discharge during year, 6,900 second-feet Apr. 22-26; maximum gage height observed, 11.62 feet Apr. 25; minimum discharge, 302 second-feet Sept. 23 (gage height, 0.13 foot).

Maximum stage since July 1918, 14.4 feet Apr. 18, 1927, according to records of Corps of Engineers, U. S. Army.

Remarks.- Records good. Gage read once daily.

Cooperation.- Results of 22 discharge measurements and gage-height record for the 1938-39 water year furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	323	334	429	495	3,620	4,160	1,260	2,520	1,120	852	371	399
2	323	334	414	495	5,150	5,150	1,230	2,240	1,070	898	371	385
3	323	334	445	495	6,900	5,450	1,150	1,970	1,040	898	371	371
4	323	358	445	530	8,650	5,450	1,120	1,800	1,020	852	371	358
5	323	358	445	566	9,250	5,850	1,120	1,670	994	786	371	346
6	323	371	478	742	8,650	8,050	1,520	1,550	970	742	358	346
7	312	399	512	874	7,450	9,900	2,920	1,430	898	682	358	334
8	312	429	548	808	6,900	11,900	3,720	1,370	852	642	346	323
9	312	461	584	764	5,850	11,900	4,280	1,290	830	622	346	323
10	312	512	584	722	5,450	12,600	4,550	1,290	786	602	346	312
11	312	566	546	722	5,450	11,900	4,700	1,340	764	584	346	312
12	312	622	548	742	5,850	9,900	4,410	1,430	808	584	346	312
13	312	622	530	764	5,150	8,050	4,040	1,490	874	584	334	302
14	312	602	530	764	4,700	6,350	3,530	1,550	898	548	358	302
15	312	566	495	786	4,160	5,450	3,200	1,580	874	512	385	302
16	312	548	495	808	3,930	5,450	3,060	1,550	830	495	512	302
17	312	512	478	764	3,720	4,900	3,620	1,460	830	495	584	292
18	312	530	478	742	3,530	4,550	5,150	1,400	830	478	566	292
19	312	566	478	742	3,280	4,040	8,050	1,340	808	461	512	292
20	323	602	461	722	3,200	3,530	9,900	1,290	764	461	478	302
21	334	584	478	722	3,720	3,060	12,600	1,490	742	445	445	312
22	346	548	478	702	4,160	2,620	17,200	1,550	722	429	429	302
23	346	512	476	682	4,160	2,330	16,400	1,490	702	429	414	292
24	334	478	478	662	4,040	2,040	12,600	1,370	682	414	414	292
25	334	461	495	662	3,820	1,860	8,050	1,310	662	414	445	292
26	334	461	495	662	3,530	1,700	6,350	1,230	662	414	495	282
27	334	445	495	662	3,360	1,580	4,700	1,170	642	399	530	282
28	334	445	495	642	3,440	1,490	3,930	1,120	642	399	512	282
29	334	429	512	662	-	1,400	3,360	1,070	662	414	478	282
30	334	429	495	1,310	-	1,340	2,920	1,040	786	399	445	312
31	334	-	495	2,420	-	1,290	-	1,100	-	385	414	-

Discharge, in second-feet, of Black River near Corning, Ark., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	312	414	530	478	584	786	1,460	3,440	662	734	325	590
2	312	399	512	478	566	764	1,430	3,530	642	862	313	551
3	312	399	512	461	530	786	1,400	3,620	622	906	325	513
4	312	385	495	478	530	830	1,340	3,440	602	862	325	477
5	312	385	478	445	512	830	1,290	3,200	584	776	325	477
6	312	385	478	429	478	786	1,200	2,990	548	671	313	460
7	371	371	461	445	*478	786	1,170	2,740	548	650	313	443
8	358	371	445	445	478	764	1,150	2,380	530	570	313	411
9	478	371	445	429	478	742	1,200	2,040	512	532	338	396
10	642	385	445	478	478	764	1,260	1,830	512	495	396	381
11	622	385	429	*530	512	764	1,490	1,640	495	460	477	381
12	530	385	429	548	548	970	2,080	1,520	495	460	551	366
13	478	385	414	584	566	1,860	3,130	1,430	495	460	590	352
14	445	399	*414	682	566	2,620	4,280	1,310	495	513	570	352
15	399	399	414	830	566	3,130	4,900	1,260	512	513	570	338
16	385	399	399	1,020	548	3,530	5,150	1,170	512	477	570	338
17	385	399	399	1,100	548	3,720	4,900	1,100	530	427	610	325
18	371	399	414	1,120	742	3,720	4,410	1,040	566	411	650	325
19	358	414	399	1,100	1,400	3,530	4,280	1,020	584	396	734	325
20	358	429	399	970	*1,970	3,060	4,280	970	566	381	818	313
21	358	445	385	898	2,080	2,680	5,150	922	566	366	906	313
22	346	478	385	786	1,900	2,380	6,900	922	530	411	972	313
23	334	530	385	b745	1,640	2,120	6,900	922	530	411	972	302
24	346	622	399	*b715	1,340	1,970	6,900	946	512	427	906	313
25	346	682	414	b690	1,100	1,800	6,900	922	477	411	818	325
26	334	662	429	b665	946	1,640	6,900	898	460	381	734	313
27	358	642	445	b650	852	1,520	5,450	830	443	366	692	313
28	358	602	461	642	808	1,430	4,700	808	443	352	671	313
29	399	566	461	642	786	1,370	4,280	764	460	352	630	313
30	414	548	478	622	-	1,400	3,720	722	610	338	610	313
31	414	-	478	602	-	1,400	-	702	-	338	590	-

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October 1938	10,015	346	312	323	0.185	0.21	19,860
November	14,418	622	334	481	.275	.31	28,600
December	15,319	584	414	494	.282	.33	30,380
Calendar year	-	-	-	-	-	-	-
January 1939	23,835	2,420	495	769	.440	.51	47,280
February	141,070	9,250	3,200	5,038	2.88	3.00	279,800
March	165,240	12,600	1,290	5,330	3.05	3.51	327,700
April	160,640	17,200	1,120	5,355	3.06	3.42	318,600
May	45,500	2,520	1,040	1,468	.839	.97	90,250
June	24,764	1,120	642	825	.472	.53	49,120
July	17,319	898	385	559	.320	.37	34,350
August	13,051	584	334	421	.241	.28	25,890
September	9,437	399	282	315	.180	.20	18,720
Water year 1938-39	640,608	17,200	282	1,755	1.00	13.64	1,271,000
October 1939	12,059	642	312	389	.222	.26	23,920
November	13,635	682	371	454	.260	.29	27,040
December	13,631	530	385	440	.252	.29	27,040
Calendar year 1939	640,181	17,200	282	1,754	1.00	13.63	1,270,000
January 1940	20,707	1,120	429	668	.382	.44	41,070
February	24,530	2,080	478	846	.484	.52	48,650
March	54,452	3,720	742	1,757	1.00	1.16	108,000
April	109,600	6,900	1,150	3,653	2.09	2.33	217,400
May	51,028	3,620	702	1,646	.941	1.09	101,200
June	16,043	662	443	535	.306	.34	31,820
July	15,709	906	338	507	.290	.33	31,160
August	17,927	972	313	578	.330	.38	35,560
September	11,245	590	302	375	.214	.24	22,300
Water year 1939-40	360,566	6,900	302	985	.563	7.67	715,200

400452 O - 41 - 6

Black River at Pocahontas, Ark.

Location.- Water-stage recorder, lat. 36°15', long. 90°58', in SW¼ sec. 27, R. 1 E., T. 19 N., at Pocahontas, 1½ miles downstream from Fourche Creek, 6 miles downstream from Current River, and 15 miles upstream from Spring River. Prior to July 24, 1940, wire-weight gage at same site and datum. Datum of gage is 242.43 feet above mean Gulf level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 4,900 square miles.

Records available.- January 1936 to September 1940.

Extremes.- Maximum discharge observed during year, 15,000 second-feet Apr. 23, 24; maximum gage height observed, 17.85 feet Apr. 24; minimum discharge, 1,570 second-feet Sept. 20-24, 29, 30; minimum gage height, 0.58 foot Sept. 23.

1936-40: Maximum discharge observed, 31,600 second-feet Jan. 21, 22, 1937 (gage height, 24.0 feet, site then in use); minimum observed, 1,190 second-feet Aug. 28 to Sept. 2, 1936 (gage height, 0.6 foot, site then in use).

Maximum stage known, 25.9 feet Apr. 17, 1927, present site.

Remarks.- Records good. Wire-weight gage read twice daily.

Cooperation.- Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 12		Mar. 13 to Sept. 30			
1.0	1,630	0.5	1,530	12.0	9,400
2.0	2,130	1.0	1,760	14.0	11,010
3.0	2,700	2.0	2,260	16.0	12,900
4.0	3,300	4.0	3,450	17.5	14,600
6.0	4,650	8.0	6,250		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,030	1,780	1,980	1,880	1,980	2,700	5,060	13,700	2,790	2,370	1,660	2,160
2	1,780	1,780	1,930	1,880	1,980	2,580	4,850	13,900	2,730	2,310	1,660	2,110
3	1,730	1,730	1,930	1,830	1,980	2,580	4,570	13,300	2,670	2,260	1,710	2,060
4	1,680	1,730	1,930	1,830	1,980	2,460	4,360	12,600	2,610	2,310	1,860	2,010
5	1,680	1,730	1,880	1,830	1,930	2,460	4,080	11,800	2,550	2,310	1,810	1,960
6	1,630	1,730	1,880	1,780	1,930	2,400	3,870	10,900	2,490	2,260	2,010	1,910
7	1,680	1,730	1,830	1,780	1,930	2,400	3,870	10,000	2,430	2,260	2,110	1,860
8	2,080	1,680	1,830	1,780	1,930	2,400	4,220	9,160	2,370	2,160	2,010	1,860
9	2,180	1,680	1,830	1,730	1,880	2,460	4,080	8,280	2,370	2,110	2,370	1,810
10	1,980	1,730	1,780	1,830	1,930	2,460	3,940	7,560	2,430	2,060	2,610	1,760
11	1,930	1,780	1,780	2,280	1,880	2,520	4,780	7,080	2,490	2,010	2,430	1,760
12	1,930	1,780	1,780	2,580	1,930	2,760	8,600	6,600	2,490	1,960	2,550	1,710
13	1,930	1,780	1,730	2,640	1,930	4,010	10,700	6,250	2,490	2,610	3,030	1,660
14	1,830	1,780	1,730	2,760	1,980	6,040	11,200	5,830	2,730	2,260	3,730	1,660
15	1,780	1,730	1,730	3,060	1,980	6,760	11,100	5,410	2,730	2,010	3,450	1,660
16	1,730	1,730	1,730	3,180	1,980	6,680	10,700	4,990	2,610	2,010	3,150	1,660
17	1,730	1,730	1,730	3,120	1,980	6,180	10,100	4,640	2,550	1,960	2,970	1,610
18	1,680	1,780	1,730	3,060	2,460	5,760	9,640	4,290	2,550	1,910	2,970	1,610
19	1,680	1,880	1,680	2,880	3,600	5,410	10,400	4,010	2,790	1,860	3,030	1,610
20	1,680	1,980	1,680	2,760	4,020	5,200	12,300	3,870	2,550	1,860	2,850	1,570
21	1,630	2,080	1,680	2,700	3,880	5,340	13,800	3,730	2,430	1,810	2,670	1,570
22	1,630	2,180	1,680	2,700	3,670	5,410	14,500	3,590	2,430	2,210	2,610	1,570
23	1,630	2,180	1,680	2,520	3,540	5,480	15,000	3,660	2,370	2,110	2,550	1,570
24	1,630	2,130	1,780	2,340	3,480	5,480	15,000	3,590	2,260	1,960	2,490	1,570
25	1,630	2,080	1,830	2,180	3,480	5,550	14,800	3,450	2,210	1,910	2,490	1,660
26	1,630	2,080	1,830	2,130	3,420	5,480	14,400	3,330	2,160	1,860	2,430	1,660
27	1,730	2,080	1,880	2,080	3,300	5,340	13,800	3,270	2,110	1,810	2,370	1,610
28	1,780	2,030	1,930	2,130	3,120	5,200	13,200	3,210	2,210	1,760	2,490	1,610
29	1,780	2,030	1,930	2,130	2,880	5,410	12,900	3,090	2,910	1,760	2,430	1,570
30	1,780	1,980	1,930	2,030	-	5,620	12,800	2,970	2,610	1,710	2,370	1,570
31	1,780	-	1,930	2,030	-	5,340	-	2,910	-	1,660	2,260	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	54,980	2,180	1,630	1,774	0.362	0.42	109,100
November	56,100	2,180	1,680	1,870	.382	.43	111,300
December	56,180	1,980	1,680	1,812	.370	.43	111,400
Calendar year 1939	2,050,510	28,000	1,540	5,618	1.15	15.57	4,067,000
January	71,440	3,180	1,730	2,305	.470	.54	141,700
February	73,960	4,020	1,880	2,550	.520	.56	146,700
March	135,870	6,760	2,400	4,383	.894	1.03	269,500
April	282,620	15,000	3,870	9,421	1.92	2.14	560,600
May	200,970	13,900	2,910	6,483	1.32	1.52	398,600
June	75,120	2,790	2,110	2,504	.511	.57	149,000
July	63,420	2,370	1,660	2,046	.418	.48	125,800
August	77,130	3,730	1,660	2,488	.508	.59	153,000
September	51,970	2,160	1,570	1,732	.353	.39	103,100
Water year 1939-40	1,199,760	15,000	1,570	3,278	.669	9.10	2,380,000

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Black River at Black Rock, Ark.

Location.- Staff gage, lat. 36°06', long. 91°06', in NW¼ sec. 21, T. 17 N., R. 1 W., at St. Louis-San Francisco Railway bridge, at Black Rock, 3¾ miles below Spring River. Datum of gage is 229.56 feet above mean sea level (general adjustment of 1929).

Drainage area.- 7,300 square miles (revised).

Records available.- June 1929 to September 1931, October 1939 to September 1940. Gage-height records collected at same site since 1904 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 22,800 second-feet May 1 (gage height, 18.2 feet, from graph based on gage readings); minimum discharge observed, 2,180 second-feet Sept. 20-23 (gage height, 1.1 feet).

1929-31, 1939-40: Maximum discharge observed, 41,100 second-feet Jan. 15, 1930 (gage height, 23.6 feet); minimum observed, 1,800 second-feet Sept. 19-24, 1931 (gage height, 0.5 foot).

Maximum stage known, 31.9 feet Aug. 21, 1915, from records of U. S. Weather Bureau.

Remarks.- Records good. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army. Gage-height record collected in cooperation with U. S. Weather Bureau.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,440	2,720	2,900	2,810	2,900	3,710	6,490	22,400	4,160	3,620	2,450	3,080
2	3,170	2,630	2,900	2,720	2,900	3,620	6,290	22,300	3,980	3,440	2,360	2,900
3	2,630	2,630	2,900	2,720	2,900	3,530	6,090	21,200	3,890	3,260	2,360	2,810
4	2,630	2,630	2,810	2,720	2,810	3,440	5,690	19,800	3,800	3,260	3,260	2,720
5	2,540	2,540	2,810	2,720	2,810	3,350	5,390	18,600	3,710	3,170	2,900	2,720
6	2,540	2,540	2,720	2,720	2,810	3,350	4,990	17,200	3,620	3,170	2,720	2,630
7	2,540	2,540	2,720	2,630	2,810	3,350	5,290	16,600	3,620	3,080	2,990	2,630
8	2,540	2,540	2,630	2,450	2,810	3,440	5,690	13,900	3,530	3,080	2,990	2,540
9	2,540	2,540	2,630	2,450	2,810	3,440	6,790	12,400	3,530	3,080	3,350	2,540
10	2,810	2,540	2,540	2,450	2,810	3,440	5,690	11,200	3,620	2,900	3,800	2,450
11	2,900	2,630	2,540	3,350	2,720	3,440	8,210	10,300	3,800	2,900	3,710	2,450
12	2,900	2,720	2,450	3,890	2,720	3,710	18,200	9,440	3,890	2,810	3,710	2,360
13	2,810	2,630	2,450	3,890	2,720	4,790	21,000	8,770	3,890	3,080	3,890	2,360
14	2,810	2,630	2,450	4,070	2,810	7,010	18,900	8,220	3,890	3,260	4,520	2,360
15	2,720	2,630	2,450	4,340	2,810	8,000	17,500	7,670	3,890	2,900	4,430	2,360
16	2,630	2,540	2,540	4,520	2,810	8,220	16,600	7,120	3,890	2,810	4,070	2,360
17	2,630	2,540	2,540	4,430	2,810	7,890	15,500	6,490	3,710	2,810	3,980	2,270
18	2,630	2,540	2,540	4,340	3,800	7,230	14,600	6,190	3,710	2,720	3,890	2,270
19	2,540	2,900	2,540	4,160	4,890	6,790	15,900	6,090	4,070	2,720	4,250	2,270
20	2,540	3,260	2,540	4,070	5,390	6,490	20,800	6,090	3,800	2,630	3,890	2,180
21	2,540	3,350	2,540	3,890	5,290	6,290	22,200	5,490	3,620	2,720	3,530	2,180
22	2,540	3,350	2,450	3,800	4,890	6,290	21,700	4,990	3,530	3,080	3,440	2,180
23	2,540	3,350	2,450	3,710	4,610	6,390	21,500	5,390	3,360	2,990	3,350	2,180
24	2,540	3,260	2,630	3,530	4,520	6,490	21,300	5,290	3,350	2,900	3,260	2,270
25	2,450	3,260	2,630	3,350	4,520	6,490	21,000	5,090	3,260	2,720	3,260	2,450
26	2,540	3,170	2,630	3,170	4,430	6,490	20,600	4,890	3,260	2,630	3,260	2,360
27	2,540	3,080	2,810	3,170	4,340	6,390	19,800	4,700	3,170	2,540	3,260	2,270
28	2,630	2,990	2,810	3,260	4,250	6,290	19,200	4,520	3,080	2,450	3,620	2,270
29	2,720	2,990	2,810	3,170	3,800	6,900	18,600	4,430	6,190	2,450	3,530	2,270
30	2,720	2,900	2,810	3,080	-	7,340	18,900	4,340	3,890	2,450	3,350	2,270
31	2,720	-	2,810	2,900	-	6,900	-	4,250	-	2,450	3,260	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	82,970	3,440	2,450	2,676	0.367	0.42	164,600
November	84,570	3,350	2,540	2,819	.386	.43	167,700
December	81,980	2,900	2,450	2,645	.362	.42	162,600
Calendar year	-	-	-	-	-	-	-
January	104,480	4,520	2,450	3,370	.462	.53	207,200
February	102,500	5,390	2,720	3,534	.484	.52	203,300
March	170,500	8,220	3,360	5,500	.753	.87	338,200
April	429,310	22,200	4,990	14,310	1.96	2.19	851,500
May	304,260	22,400	4,250	9,815	1.34	1.55	603,500
June	112,700	6,190	3,080	3,757	.515	.57	223,500
July	90,080	3,620	2,450	2,906	.398	.46	178,700
August	106,640	4,520	2,360	3,440	.471	.54	211,500
September	72,960	3,080	2,180	2,432	.333	.37	144,700
Water year 1940	1,742,950	22,400	2,180	4,762	.652	8.87	3,457,000

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Cane Creek at Harviell, Mo.

Location.- Wire-weight gage, lat. 36°39'50", long. 90°28'00", in NE¼NE¼ sec. 12, T. 23 N., R. 5 E., at bridge on State Highway 14, a quarter of a mile east of Harviell. Datum of gage is 300.30 feet above mean sea level (general adjustment of 1929).

Drainage area.- 188 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 3,070 second-feet Apr. 12 (gage height, 18.53 feet); minimum discharge observed, 8 second-feet Oct. 22-25 (gage height, 3.4 feet).
Maximum stage known, 19.2 feet, Jan. 15, 1937, from information furnished by gage observer.

Remarks.- Records fair except those below 150 second-feet, which are poor. Gage read once daily prior to Oct. 27 and twice daily thereafter except during high stages when it was read bi-hourly.

Cooperation.- Result of one discharge measurement furnished by Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 23 to Nov. 30, Aug. 20 to Sept. 30)

3.4	8	5.5	82	14.0	1,160
3.8	12	6.0	117	15.5	1,450
4.2	20	6.5	158	16.5	1,740
4.3	23	7.0	206	17.5	2,170
4.6	35	9.0	435	18.0	2,500
5.0	54	12.0	835	18.2	2,680

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	17	19	27	32	64	117	955	25	39	12	17
2	12	16	23	25	31	62	96	565	25	27	12	16
3	11	16	23	23	29	59	79	294	23	25	12	15
4	11	15	20	b20	29	56	67	186	22	27	13	14
5	12	16	20	b20	29	54	64	149	22	23	12	13
6	12	16	20	b20	29	52	62	125	20	20	12	12
7	12	17	19	b20	31	49	86	103	20	19	11	12
8	14	17	19	b20	31	62	125	96	19	18	11	12
9	14	16	19	b20	31	64	149	89	18	17	31	12
10	14	16	19	b20	35	59	117	86	17	17	96	11
11	11	20	18	54	35	330	674	79	20	16	103	11
12	10	22	18	73	32	1,490	2,640	70	20	17	82	11
13	10	19	18	76	31	1,360	1,950	67	20	110	44	10
14	9	19	18	117	32	891	593	59	19	64	32	10
15	11	19	18	149	31	411	294	59	18	27	25	10
16	11	18	18	125	31	250	196	59	17	18	22	10
17	11	18	18	73	29	176	158	56	18	17	22	10
18	10	18	18	67	144	149	387	54	20	16	29	10
19	10	23	17	62	294	125	1,150	54	22	15	23	10
20	10	32	17	b60	376	103	2,420	52	20	14	19	10
21	11	29	17	b55	233	96	1,360	46	20	14	17	10
22	8	27	17	b50	149	79	500	42	19	22	16	10
23	8	23	18	b45	110	70	305	46	19	37	15	10
24	8	20	25	*44	96	76	239	52	18	35	14	10
25	8	20	32	42	86	79	176	52	16	22	14	11
26	10	19	29	39	79	82	141	42	16	17	13	12
27	15	19	29	37	82	82	133	35	16	15	12	12
28	22	19	29	35	82	86	117	32	23	13	17	12
29	25	19	29	32	73	117	176	31	79	13	31	11
30	22	19	29	32	-	149	749	29	70	12	29	11
31	19	-	27	32	-	133	-	27	-	12	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	383	25	8	12.4	0.066	0.08	760
November	584	32	15	19.5	.104	.12	1,160
December	660	32	17	21.3	.113	.13	1,310
Calendar year	-	-	-	-	-	-	-
January	1,514	149	20	48.8	.260	.30	3,000
February	2,332	376	29	80.4	.428	.46	4,630
March	6,915	1,490	49	223	1.19	1.37	13,720
April	15,320	2,640	62	511	2.72	3.04	30,390
May	3,691	955	27	119	.633	.73	7,320
June	701	79	16	23.4	.124	.14	1,390
July	758	110	12	24.5	.130	.15	1,500
August	823	103	11	26.5	.141	.16	1,630
September	345	17	10	11.5	.061	.07	684
Water year 1939-40	34,026	2,640	8	93.0	.495	6.75	67,490

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Current River near Eminence, Mo.

Location.- Water-stage recorder, lat. 37°11'00", long. 91°15'30", in SW¼NE¼ sec. 15, T. 29 N., R. 3 W., 1 mile downstream from Jacks Fork and 8 miles northeast of Eminence. Datum of gage is 568.82 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,230 square miles.

Records available.- August 1921 to September 1940.

Average discharge.- 19 years, 1,430 second-feet.

Extremes.- Maximum discharge during year, 9,790 second-feet Apr. 17 (gage height, 8.64 feet); minimum, 473 second-feet Sept. 28, 30 (gage height, 0.98 foot).
1921-40: Maximum discharge, 59,600 second-feet Mar. 11, 1935 (gage height, 24.35 feet); minimum, 360 second-feet July 21-25, July 27 to Aug. 13, 1934; minimum gage height, that of Sept. 28, 30, 1940.

Remarks.- Records excellent except those for periods of ice effect, which are fair.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 24-30)

Oct. 1 to Apr. 12				Apr. 13 to Sept. 30			
1.1	490	4.0	2,940	0.9	454	4.0	3,000
1.3	595	5.0	4,060	1.2	607	5.0	4,090
1.6	790	6.0	5,330	1.6	860	6.0	5,330
2.0	1,090	6.9	6,680	2.0	1,160	7.1	7,010
3.0	1,950			3.0	2,030		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	595	556	562	556	515	720	1,250	2,360	713	613	512	619
2	556	546	551	546	515	700	1,170	2,700	701	602	507	596
3	551	540	551	535	510	662	1,090	2,320	695	596	893	580
4	540	540	551	b530	510	643	1,010	1,980	677	585	1,220	575
5	530	540	551	b520	515	613	935	1,760	659	575	923	569
6	525	540	546	b520	515	601	875	1,620	648	564	751	558
7	530	540	540	b510	515	649	895	1,490	677	564	659	548
8	530	540	535	b510	515	643	995	1,400	881	569	619	543
9	530	540	530	510	515	674	1,090	1,400	825	569	758	538
10	540	578	530	535	510	797	1,050	1,360	764	558	1,120	528
11	540	595	530	562	510	2,040	2,610	1,280	1,000	558	3,050	522
12	535	573	530	613	510	4,300	6,620	1,200	1,160	575	2,410	517
13	530	556	520	694	505	3,480	3,860	1,160	1,000	569	1,580	517
14	520	546	520	818	505	2,480	2,900	1,120	909	558	1,240	512
15	515	540	515	928	500	1,860	2,320	1,080	832	553	1,290	517
16	515	540	515	882	500	1,540	1,980	1,040	784	543	1,540	522
17	530	540	515	*804	505	1,370	5,300	1,000	770	538	1,320	512
18	535	573	515	720	530	1,330	6,600	968	758	533	1,080	507
19	535	928	515	b630	540	1,580	6,920	1,000	719	538	968	507
20	525	1,010	515	b610	535	1,370	7,010	1,000	719	533	888	502
21	525	898	515	b590	530	1,210	4,810	930	707	538	818	502
22	525	776	510	b570	520	1,130	3,750	923	683	533	764	497
23	525	694	546	b550	515	1,010	3,220	895	671	533	738	502
24	525	649	590	b530	525	1,000	2,700	867	653	548	701	522
25	540	613	568	b510	525	912	2,320	860	648	543	683	548
26	556	595	558	b500	530	890	2,030	846	630	528	665	497
27	619	578	584	b500	551	935	1,800	804	619	512	776	488
28	601	568	568	b500	613	1,050	1,670	784	683	507	860	473
29	595	562	556	b510	727	1,210	1,620	751	665	497	713	478
30	573	562	551	b510	-	1,370	1,580	738	630	502	665	473
31	562	-	556	b510	-	1,370	-	725	-	517	636	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	16,853	619	515	544	0.442	0.51	33,430
November	18,356	1,010	540	612	.498	.56	36,410
December	16,749	590	510	540	.439	.51	33,220
Calendar year 1939	531,179	28,800	508	1,455	1.18	16.07	1,054,000
January	18,313	928	500	591	.480	.55	36,320
February	15,311	727	500	528	.429	.46	30,370
March	40,139	4,300	601	1,295	1.05	1.21	79,610
April	81,983	7,010	875	2,733	2.22	2.48	162,600
May	38,361	2,700	725	1,237	1.01	1.16	76,090
June	22,480	1,160	619	749	.609	.68	44,590
July	17,051	613	497	550	.447	.52	33,820
August	31,347	3,050	507	1,011	.822	.95	62,180
September	15,769	619	473	526	.428	.48	31,280
Water year 1939-40	332,712	7,010	473	909	.739	10.07	659,900

Peak discharge.- Apr. 12 (7 a.m.) 9,190 sec.-ft.; Apr. 17 (2:30 p.m.) 9,790 sec.-ft.; Apr. 18 (11:30 a.m.) 8,620 sec.-ft.; Apr. 19 (9 a.m.) 7,880 sec.-ft.; Apr. 20 (3:30 a.m.) 8,240 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604-O U.S. GOVERNMENT PRINTING OFFICE 1936

Current River at Van Buren, Mo.

Location.- Water-stage recorder, lat. 36°59', long. 91°01', in NE¼NW¼ sec. 25, T. 27 N., R. 1 W., at bridge on U. S. Highway 60, in Van Buren, 700 feet downstream from Davis Creek. Datum of gage is 442.78 feet above mean sea level (general adjustment of 1929). Prior to Oct. 1, 1939, at datum 3.00 feet higher.

Drainage area.- 1,640 square miles.

Records available.- June 1921 to September 1940 in reports of U. S. Geological Survey. September 1912 to June 1921 in reports of University of Missouri and of Missouri Geological Survey.

Average discharge.- 19 years (1921-40), 1,809 second-feet.

Extremes.- Maximum discharge during year, 12,000 second-feet Apr. 19 (gage height, 9.57 feet); minimum, 625 second-feet July 30, 31 (gage height, 2.79 feet).

1921-40: Maximum discharge, 86,600 second-feet Mar. 11, 1935, from rating curve extended above 62,000 second-feet (gage height, 22.84 feet, present datum); minimum, 490 second-feet Aug. 26-28, 30, 31, 1936.

Maximum stage known, 29.0 feet, present datum, Mar. 26, 1904, from floodmarks.

Revisions.- The minimum discharge for the water year 1939 has been revised to 700 second-feet Sept. 20-28, superseding figure and date published in Water-Supply Paper 877.

Remarks.- Records good except those for periods of ice effect and those for days of no gage-height record, which are fair.

Revisions.- Revised figures of discharge for the water year 1938-39, superseding those published in Water-Supply Paper 877 are given herein.

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	748	748	754	779	5,070	5,780	1,410	2,940	2,120	1,670	858	802
2	748	748	761	767	4,060	4,500	1,410	2,690	1,960	1,460	830	802
3	748	748	992	767	3,560	3,720	1,320	2,510	1,810	1,340	830	775
4	748	991	1,150	785	2,940	3,400	1,320	2,350	1,670	1,260	830	775
5	748	1,500	1,110	857	2,500	8,160	1,650	2,250	1,580	1,220	830	775
6	748	1,280	1,070	1,190	2,230	9,060	7,630	2,150	1,540	1,180	802	750
7	748	1,360	992	1,280	2,060	5,810	7,570	2,060	1,500	1,110	802	750
8	748	2,350	956	1,150	1,940	4,410	4,760	2,150	1,500	1,110	802	750
9	736	2,110	905	1,150	1,840	3,800	3,890	2,750	1,720	1,080	802	750
10	736	1,590	864	1,190	2,430	3,400	3,320	3,440	1,580	1,080	802	750
11	736	1,320	844	1,150	3,160	3,800	2,860	2,880	1,500	1,080	830	725
12	736	1,190	824	1,150	2,940	3,890	2,500	2,630	1,500	1,010	1,800	725
13	748	1,110	792	1,110	2,430	3,980	2,170	2,400	1,500	978	1,670	725
14	748	1,030	779	1,070	2,170	3,640	2,060	2,400	1,460	978	1,300	725
15	742	956	773	1,030	2,000	3,320	1,940	2,350	1,420	945	1,110	725
16	736	912	767	992	1,790	2,940	3,340	2,250	1,340	945	978	725
17	736	891	792	956	1,640	2,640	21,000	2,110	1,340	915	915	725
18	742	919	785	956	1,590	2,430	27,800	1,970	1,340	915	885	775
19	773	905	779	919	1,900	2,230	9,240	1,920	1,260	915	885	725
20	798	884	773	912	5,490	2,060	6,960	1,830	1,300	945	885	700
21	773	878	767	905	5,250	1,940	5,810	1,830	1,260	915	858	700
22	767	850	761	905	3,800	1,840	5,070	1,970	1,260	915	858	700
23	761	830	779	919	3,090	1,790	4,500	1,880	1,300	915	1,010	700
24	748	816	779	956	2,640	1,690	4,070	1,790	1,260	945	1,180	700
25	748	798	773	919	2,430	1,640	3,670	1,710	1,380	915	1,040	700
26	748	779	792	919	2,170	1,640	3,670	1,750	1,760	865	945	700
27	748	773	798	898	2,170	1,590	4,680	3,360	1,760	865	885	700
28	748	767	785	905	4,020	1,550	4,320	4,780	1,720	858	858	700
29	748	754	785	1,150	-	1,500	3,670	3,580	2,340	858	830	725
30	748	748	779	7,270	-	1,500	3,220	2,840	2,120	915	830	775
31	748	-	773	8,940	-	1,450	-	2,400	-	885	802	-

Peak discharge.- Feb. 20 (7 p.m.) 7,940 sec.-ft.; Mar. 1 (9 a.m.) 6,490 sec.-ft.; Mar. 6 (10 p.m.) 10,200 sec.-ft.; Apr. 7 (1 a.m.) 10,500 sec.-ft.; Apr. 18 (2 a.m.) 45,400 sec.-ft.; May 28 (3 a.m.) 6,810 sec.-ft.

9-238 September 1937

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog il Survey

Discharge, in second-feet, of Current River at Van Buren, Mo., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	802	725	835	780	705	945	1,690	2,460	945	835	655	835
2	775	700	808	780	705	945	1,560	3,270	945	808	655	780
3	750	700	808	755	705	890	1,480	2,910	918	808	730	780
4	725	675	780	b750	705	890	1,360	2,580	890	780	1,360	755
5	725	675	780	b750	705	862	1,260	2,280	890	755	1,360	755
6	725	700	780	b740	705	835	1,190	2,070	890	755	1,060	755
7	725	700	755	b730	705	862	1,190	1,920	890	755	945	730
8	725	700	755	b730	705	862	1,190	1,820	1,040	755	862	730
9	700	700	755	730	705	862	1,320	1,780	1,120	755	975	730
10	725	725	755	755	680	945	1,320	1,730	1,040	755	1,320	705
11	725	775	755	808	680	1,370	2,680	1,640	1,120	730	1,800	705
12	725	750	730	862	680	4,430	7,240	1,560	1,640	730	3,590	680
13	700	725	730	945	680	4,540	5,620	1,480	1,400	730	2,120	680
14	700	725	730	1,100	680	3,340	3,820	1,440	1,220	730	1,600	680
15	875	700	730	1,160	655	2,640	3,050	1,440	1,120	705	1,360	680
16	700	700	730	1,190	655	2,180	2,640	1,360	1,060	680	1,730	680
17	700	700	730	1,100	655	1,870	4,140	1,320	1,040	680	1,690	680
18	700	725	730	*1,040	730	1,730	7,940	1,290	1,040	680	1,520	680
19	700	945	730	a980	780	1,960	9,450	1,290	975	680	1,260	680
20	675	1,260	705	a930	780	1,920	9,730	1,290	945	680	1,160	680
21	675	1,220	705	b850	755	1,640	6,740	1,220	945	705	1,060	680
22	675	1,100	680	b800	755	1,520	5,010	1,190	918	705	1,000	655
23	675	1,000	755	b760	730	1,400	4,350	1,160	890	680	945	655
24	675	945	835	b730	755	1,360	3,660	1,120	890	680	918	680
25	725	890	808	b700	755	1,260	3,200	1,120	862	705	890	705
26	725	862	808	b700	755	1,190	2,780	1,100	835	680	862	680
27	775	835	835	b700	780	1,260	2,460	1,060	835	655	890	655
28	775	808	808	b700	808	1,320	2,280	1,040	918	630	1,160	655
29	775	808	780	b710	918	1,560	2,180	1,000	975	655	1,000	655
30	750	808	780	b710	-	1,730	2,120	975	862	630	918	655
31	725	-	780	705	-	1,780	-	945	-	630	862	-

Peak discharge.- Mar. 13 (1 a.m.) 5,010 sec.-ft.; Apr. 12 (6 p.m.) 9,740 sec.-ft.; Apr. 19 (7 p.m.) 12,000 sec.-ft.; Aug. 12 (3 a.m.) 4,820 sec.-ft.

*Winter discharge measurements made on this day.

a No gage-height record; discharge computed on basis of records for stations near Eminence and at Doniphan.

b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October 1938	23,236	798	736	750	0.457	0.53	46,090
November	31,537	2,350	748	1,051	.641	.72	62,550
December	26,033	1,150	754	840	.512	.59	51,640
Calendar year 1938	754,627	28,000	736	2,067	1.26	17.12	1,497,000
January 1939	44,846	8,940	767	1,447	.882	1.02	88,950
February	79,310	5,490	1,590	2,832	1.73	1.80	157,300
March	101,100	9,060	1,450	3,261	1.99	2.29	200,500
April	156,850	27,800	1,320	5,228	3.19	3.56	311,100
May	75,920	4,780	1,710	2,449	1.49	1.72	150,600
June	47,100	2,340	1,260	1,570	.957	1.07	93,420
July	32,027	1,870	858	1,033	.630	.73	63,520
August	29,542	1,800	802	953	.581	.67	58,600
September	22,054	802	700	736	.448	.50	43,740
Water year 1938-39	669,555	27,800	700	1,834	1.12	15.20	1,328,000
October 1939	22,327	802	675	720	.439	.51	44,280
November	24,281	1,260	675	809	.493	.55	48,160
December	23,685	835	680	764	.466	.54	46,980
Calendar year 1939	659,042	27,800	675	1,806	1.10	14.96	1,307,000
January 1940	25,680	1,190	700	828	.505	.58	50,940
February	21,011	918	655	725	.442	.48	41,670
March	50,898	4,540	835	1,842	1.00	1.15	101,000
April	104,650	9,730	1,190	3,488	2.13	2.38	207,600
May	48,860	3,270	945	1,576	.961	1.11	96,910
June	30,058	1,640	835	1,002	.611	.68	59,620
July	22,141	835	630	714	.435	.50	43,920
August	38,257	3,590	655	1,234	.752	.87	75,880
September	21,055	835	655	702	.428	.48	41,760
Water year 1939-40	432,903	9,730	630	1,183	.721	9.83	858,700

Current River at Doniphan, Mo.

Location.- Water-stage recorder, lat. 36°37'25", long. 90°50'55", in NW¼NW¼ sec. 27, T. 23 N., R. 2 E., half a mile upstream from State Highway 14, 1 mile west of Doniphan, and 2½ miles upstream from Briar Creek. Datum of gage is 322.21 feet above mean sea level (general adjustment of 1929).

Drainage area.- 2,030 square miles.

Records available.- June 1921 to September 1940.

Average discharge.- 19 years, 2,694 second-feet.

Extremes.- Maximum discharge during year, 12,500 second-feet Apr. 20 (gage height, 9.02 feet); minimum, 1,050 second-feet Sept. 30 (gage height, 1.86 feet).

1921-40: Maximum discharge, 94,400 second-feet Mar. 12, 1935 (gage height, 23.89 feet, site and datum then in use), from rating curve extended above 60,000 second-feet; minimum, 880 second-feet Aug. 1-14, 16, 1934, Aug. 30, 31, Sept. 1, 1936; minimum gage height, 1.75 feet Aug. 4, 7, 9-11, 1934, site and datum then in use.

Maximum stage known, 26.8 feet, from floodmarks (referred to site and datum in use Oct. 1, 1932 to July 2, 1936), in March 1904 (discharge, about 130,000 second-feet, from rating curve extended above 60,000 second-feet).

Remarks.- Records excellent except those for period of ice effect, which are good.

Rating tables, water year 1939-40 except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 13		Mar. 14 to Sept. 30			
2.0	1,080	1.8	995	5.0	5,110
2.5	1,570	2.0	1,180	6.0	6,830
3.5	2,790	3.0	2,240	8.8	12,100
4.5	4,180	4.0	3,520		
5.1	5,060				

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	g1,210	1,160	1,260	1,160	1,160	1,360	2,480	3,380	1,480	1,330	1,090	1,330
2	g1,210	1,160	1,210	1,160	1,120	1,360	2,300	3,980	1,480	1,280	1,080	1,280
3	g1,210	1,160	1,210	1,160	1,120	1,360	2,240	4,130	1,480	1,270	1,080	1,270
4	g1,210	1,160	1,210	1,160	1,120	1,300	2,120	3,740	1,430	1,250	1,280	1,250
5	g1,160	1,120	1,210	1,160	1,120	1,260	2,010	3,380	1,430	1,220	1,800	1,200
6	g1,160	1,120	1,160	1,120	1,120	1,210	1,900	3,110	1,380	1,210	1,640	1,190
7	g1,160	1,160	1,160	1,120	1,120	1,260	1,900	2,920	1,380	1,200	1,480	1,170
8	g1,160	1,160	1,160	1,120	1,120	1,260	1,900	2,730	1,430	1,210	1,360	1,160
9	g1,160	1,120	1,120	1,120	1,120	1,260	1,960	2,660	1,640	1,210	1,430	1,160
10	1,160	1,160	1,120	1,160	1,120	1,300	2,070	2,600	1,640	1,210	1,640	1,150
11	1,160	1,210	1,120	1,160	1,120	1,570	3,340	2,640	1,590	1,190	2,010	1,120
12	1,160	1,210	1,120	1,210	1,120	3,010	6,570	2,420	1,850	1,230	3,250	1,100
13	1,160	1,210	1,120	1,260	1,120	5,080	8,490	2,300	2,010	1,210	3,260	1,100
14	1,120	1,160	1,120	1,460	1,120	4,620	5,790	2,240	1,850	1,210	2,480	1,090
15	1,120	1,160	1,120	1,670	1,120	3,820	4,780	2,180	1,740	1,180	2,070	1,110
16	1,120	1,160	1,120	1,620	1,080	3,250	4,130	2,120	1,640	1,160	2,010	1,110
17	1,120	1,160	1,120	1,620	1,120	2,920	3,740	2,070	1,590	1,170	2,300	1,110
18	1,120	1,160	1,120	1,520	1,160	2,660	6,840	2,010	1,530	1,150	2,180	1,080
19	1,120	1,300	1,120	1,460	1,210	2,540	9,340	1,960	1,530	1,160	1,960	1,080
20	1,120	1,570	1,120	1,300	1,210	2,790	11,900	1,960	1,480	1,160	1,800	1,070
21	1,120	1,680	1,080	b1,250	1,210	2,540	9,970	1,900	1,480	1,230	1,640	1,070
22	1,120	1,620	1,080	b1,220	1,210	2,360	7,180	1,850	1,480	1,190	1,590	1,070
23	1,120	1,460	1,160	b1,200	1,160	2,180	5,790	1,850	1,430	1,170	1,480	1,070
24	1,120	1,410	1,160	b1,180	1,160	2,120	4,940	1,800	1,380	1,160	1,430	1,140
25	1,160	1,300	1,210	b1,160	1,160	2,010	4,450	1,740	1,380	1,150	1,430	1,120
26	1,210	1,300	1,210	1,160	1,160	1,900	3,980	1,740	1,330	1,150	1,360	1,150
27	1,300	1,260	1,260	1,160	1,160	1,900	3,600	1,690	1,330	1,130	1,430	1,090
28	1,300	1,210	1,210	1,160	1,210	1,900	3,320	1,640	1,380	1,120	1,480	1,070
29	1,260	1,210	1,210	1,160	1,210	2,120	3,180	1,590	1,430	1,100	1,640	1,070
30	1,210	1,210	1,160	1,160	-	2,300	3,600	1,590	1,380	1,090	1,480	1,060
31	1,210	-	1,160	1,160	-	2,480	-	1,530	-	1,080	1,380	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	36,260	1,300	1,120	1,169	0.576	0.66	71,900
November	37,440	1,680	1,120	1,248	.615	.69	74,260
December	35,920	1,260	1,080	1,159	.571	.66	71,250
Calendar year 1939	919,760	33,000	1,080	2,520	1.24	16.84	1,824,000
January	38,590	1,620	1,120	1,245	.613	.71	76,540
February	33,260	1,210	1,080	1,147	.565	.61	65,970
March	69,000	5,080	1,210	2,226	1.10	1.27	136,900
April	135,810	11,900	1,900	4,527	2.23	2.49	269,400
May	73,350	4,130	1,530	2,366	1.17	1.35	145,500
June	45,580	2,010	1,330	1,519	.748	.83	90,410
July	36,800	1,330	1,080	1,187	.585	.67	72,990
August	53,570	3,250	1,080	1,728	.851	.98	106,300
September	34,040	1,330	1,060	1,135	.559	.62	67,520
Water year 1939-40	629,610	11,900	1,060	1,720	.847	11.54	1,249,000

Peak discharge.- Apr. 13 (9 a.m.) 9,540 sec.-ft.; Apr. 18 (3 p.m.) e,430 sec.-ft.; Apr. 19 (12 m.) 10,100 sec.-ft.; Apr. 20 (1 p.m.) 12,500 sec.-ft.

b Stage-discharge relation affected by ice.

g Obtained from graph based on gage readings.

~~UNITED STATES DEPARTMENT OF THE INTERIOR~~
Geological Survey

101604-0 U. S. GOVERNMENT PRINTING OFFICE : 1936

Jacks Fork at Eminence, Mo.

Location.- Wire-weight gage, lat. 37°89'15", long. 91°21'30", in W½ sec. 26, T. 29 N., R. 4 W., at bridge on State Highway 19 at Eminence, 1 mile downstream from Pine Hollow. Datum of gage is 617.91 feet above mean sea level (general adjustment of 1929).

Drainage area.- About 376 square miles.

Records available.- October 1921 to September 1940.

Average discharge.- 19 years, 430 second-feet.

Extremes.- Maximum discharge during year, 4,450 second-feet Apr. 12 (gage height, 6.5 feet, from graph based on gage readings); minimum discharge observed, 107 second-feet Jan. 25 (gage height, 2.03 feet); minimum gage height, 1.83 feet July 29-31.
1921-40: Maximum discharge observed, about 40,000 second-feet June 13, 1928 (gage height, 16.24 feet, site and datum then in use); minimum discharge, 64 second-feet Aug. 28, 1936; minimum gage height, that of July 29-31, 1940.

Remarks.- Records good. Gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	161	140	152	149	129	214	339	650	159	147	114	161
2	152	134	155	143	126	193	296	835	156	142	114	152
3	137	132	152	137	126	180	276	685	152	138	179	147
4	132	132	149	143	126	177	238	550	152	136	334	147
5	126	132	146	134	123	173	231	488	147	134	254	138
6	126	134	140	140	126	161	220	432	144	132	221	132
7	126	132	140	140	126	170	228	381	152	132	179	132
8	118	129	140	134	126	170	296	334	161	132	159	134
9	123	129	140	116	123	177	361	334	192	129	166	132
10	123	134	134	134	123	214	317	313	179	125	358	132
11	126	146	137	146	123	484	955	292	221	125	685	132
12	129	140	134	167	118	790	2,840	273	292	142	759	132
13	129	143	134	190	118	790	1,240	254	292	138	488	129
14	123	140	134	276	118	627	674	254	254	129	381	125
15	123	137	129	296	120	511	722	254	221	125	432	125
16	126	134	129	296	118	408	583	238	206	121	550	125
17	123	134	129	257	112	339	519	238	206	121	406	125
18	129	140	126	224	126	317	519	221	206	121	334	123
19	123	183	123	161	134	296	1,490	221	192	118	292	121
20	126	296	126	180	134	257	2,110	221	192	118	273	119
21	123	296	126	180	134	238	1,320	206	192	125	254	119
22	126	238	126	161	129	231	952	206	179	123	221	119
23	126	210	140	155	132	217	797	192	179	119	206	119
24	123	190	152	132	132	217	650	192	166	118	192	121
25	132	177	149	109	134	210	550	192	161	118	179	121
26	134	170	149	132	143	206	488	192	152	116	179	123
27	158	158	155	137	152	224	460	179	147	114	192	121
28	158	155	152	143	170	296	406	179	161	111	221	121
29	161	155	149	134	210	361	381	166	166	111	192	119
30	152	152	149	137	-	408	381	166	154	111	179	116
31	146	-	146	137	-	384	-	164	-	114	166	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	4,120	161	118	133	0.354	0.41	8,170
November	4,822	296	129	161	.428	.48	9,560
December	4,342	155	123	140	.372	.43	8,610
Calendar year 1939	156,370	10,300	112	428	1.14	15.47	310,200
January	5,122	296	109	165	.439	.51	10,160
February	3,811	210	112	131	.348	.38	7,560
March	9,640	790	161	311	.827	.95	19,120
April	21,039	2,840	220	701	1.86	2.08	41,730
May	9,502	835	164	307	.816	.94	18,850
June	5,533	292	144	184	.489	.55	10,970
July	3,885	147	111	125	.332	.38	7,710
August	8,659	759	114	286	.761	.88	17,570
September	3,862	161	116	129	.343	.38	7,660
Water year 1939-40	84,537	2,840	109	231	.614	8.37	167,700

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Big Spring near Van Buren, Mo.

Location.- Staff gage, lat. 36°57', long. 91°00', in sec. 6, T. 26 N., R. 1 E., 400 feet downstream from spring outlet and 4 miles southeast of Van Buren. Datum of gage is 429.08 feet above mean sea level (general adjustment of 1929).

Records available.- January to June 1922, April 1923 to September 1940.

Average discharge.- 14 years, (1923-26, 1929-40), 385 second-feet; 13 years (1923-26, 1929-39), 389 second-feet (published in error in Water-Supply Paper 877).

Extremes.- Maximum discharge during year, 680 second-feet Apr. 20, during period of backwater from Current River; minimum, 290 second-feet Oct. 13-29, Nov. 3.
1922-40: Maximum discharge, 1,300 second-feet (estimated) sometime in June 1928, during period of backwater from Current River; minimum, 247 second-feet July 4-6, 12, 1936.

Remarks.- Records fair except those for periods of backwater from Current River and those for days of no gage-height record, which are poor. Gage read once daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	302	302	302	302	302	302	368	c530	346	346	310	302
2	302	302	302	302	302	302	357	c520	346	346	310	302
3	302	290	302	302	295	302	357	c520	346	346	310	302
4	302	302	302	302	295	302	346	c510	346	336	318	302
5	302	302	302	302	295	295	336	c500	346	336	310	302
6	302	302	302	302	295	295	336	c500	346	327	310	302
7	302	302	302	302	295	295	336	493	346	327	310	302
8	302	302	302	295	295	295	346	454	346	327	310	302
9	302	302	302	295	295	295	346	454	346	327	310	302
10	302	302	302	295	295	295	346	438	346	327	310	302
11	302	302	302	302	295	329	c450	421	346	327	318	302
12	302	302	302	302	295	c400	c600	421	357	327	c350	302
13	290	302	302	302	295	c440	c660	421	346	327	380	302
14	290	302	302	310	295	c440	c660	407	346	327	327	302
15	290	302	302	318	295	c420	c650	393	346	318	327	295
16	290	302	302	318	a295	402	c640	393	346	318	336	295
17	290	302	302	310	295	a400	c630	393	346	318	327	295
18	290	302	302	310	295	393	c620	380	346	316	327	295
19	290	302	302	310	295	380	c660	380	346	318	327	295
20	290	310	302	310	295	380	c680	380	346	318	316	295
21	290	310	302	310	295	380	c670	368	346	318	310	296
22	290	310	302	310	295	368	c670	368	346	318	310	295
23	290	310	302	302	295	357	c650	368	346	316	310	295
24	290	310	302	302	295	346	c650	368	346	318	310	295
25	290	302	302	302	295	336	c630	368	346	318	310	295
26	290	a300	302	302	295	336	c620	368	336	316	310	295
27	290	a300	302	302	295	336	c610	357	336	318	310	295
28	290	a300	302	302	295	346	c600	357	336	318	310	295
29	290	a300	302	302	295	346	592	357	336	318	310	295
30	302	a300	302	302	-	368	538	346	327	318	310	295
31	302	-	302	302	-	368	-	346	-	318	310	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	9,158	302	290	295	18,160
November	9,078	310	290	303	18,010
December	9,362	302	302	302	18,570
Calendar year 1939	159,665	1,190	280	437	316,700
January	9,429	318	295	304	18,700
February	8,569	302	295	295	17,000
March	10,849	440	295	350	21,520
April	15,954	680	336	532	31,640
May	12,879	530	346	415	25,550
June	10,332	357	327	344	20,490
July	10,059	346	318	324	19,950
August	9,655	380	310	318	19,550
September	8,946	302	295	298	17,750
Water year 1939-40	124,472	660	290	340	246,900

a No gage-height record; discharge computed on basis of weather records and records for Greer Spring at Greer.
c Stage-discharge relation affected by backwater from Current River; discharge computed on basis of two discharge measurements, gage heights, weather records, records for Greer Spring at Greer, and records for Current River at Van Buren.

~~UNITED STATES DEPARTMENT OF THE INTERIOR~~
Geolog al Survey
U. S. GOVERNMENT PRINTING OFFICE 1936—O-[illegible]

Little Black River near Fairdealing, Mo.

Location.- Wire-weight gage, lat. 36°39'40", long. 90°34'25", in NW¼NW¼ sec. 7, T. 23 N., R. 5 E., at bridge on State Highway 14, 2½ miles downstream from Beaverdam Creek and 2½ miles east of Fairdealing. Datum of gage is 297.15 feet above mean sea level (general adjustment of 1929).

Drainage area.- 183 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 4,220 second-feet Apr. 12 (gage height, 18.12 feet); minimum discharge observed, 20 second-feet July 28 (gage height, 1.70 feet).
Maximum stage known, about 22.5 feet Jan. 15, 1937, from information by local resident.

Remarks.- Records fair except those below about 150 second-feet, which are poor. Gage read twice daily at medium and low stages and bi-hourly at high stages.

Cooperation.- Results of one discharge measurement furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	30	40	b40	40	62	103	912	46	32	21	25
2	46	29	40	b40	40	62	91	481	43	30	22	26
3	58	29	40	b40	40	58	87	313	38	30	22	28
4	46	29	40	b40	40	55	79	217	32	30	32	30
5	46	29	40	b40	40	52	68	172	32	30	21	27
6	46	29	40	b40	43	52	68	145	a31	25	23	24
7	35	30	40	b40	40	58	95	119	a30	28	22	24
8	35	30	40	43	40	62	163	103	a29	29	22	26
9	46	30	38	43	40	62	145	103	a28	28	49	26
10	52	38	40	55	40	62	127	95	a27	28	65	25
11	46	38	40	68	40	161	993	87	a37	27	62	24
12	46	38	38	72	40	765	3,260	79	a37	32	49	25
13	40	38	38	68	40	756	1,050	76	a37	32	40	26
14	40	35	35	99	40	516	459	72	a36	29	38	25
15	38	35	35	95	40	353	313	72	35	28	35	24
16	26	35	35	79	40	244	244	65	35	27	32	23
17	24	35	35	72	40	181	208	65	35	27	43	23
18	24	38	38	62	173	154	447	65	35	26	38	22
19	24	46	38	55	263	119	1,620	65	38	26	35	24
20	24	49	35	b50	283	111	2,240	62	38	35	32	24
21	26	49	35	b50	244	99	926	55	38	29	30	23
22	24	43	35	52	226	87	459	55	35	49	32	24
23	23	43	35	52	87	72	333	65	35	43	32	30
24	a23	40	49	52	72	79	263	62	32	32	30	32
25	a23	40	46	49	68	79	217	58	32	29	26	35
26	a29	38	46	46	65	79	172	52	28	22	28	28
27	32	40	49	46	68	83	119	52	25	26	38	29
28	38	40	49	43	72	79	127	49	46	20	38	28
29	40	38	49	43	65	99	145	49	52	21	35	29
30	32	40	43	43	-	83	1,020	46	38	24	32	30
31	30	-	43	40	-	119	-	46	-	22	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	1,097	58	23	35.4	0.193	0.22	2,180
November	1,101	49	29	36.7	.201	.22	2,180
December	1,244	49	35	40.1	.219	.25	2,470
Calendar year	-	-	-	-	-	-	-
January	1,657	99	40	53.5	.292	.34	3,290
February	2,369	283	40	81.7	.446	.46	4,700
March	4,903	765	52	158	.863	.99	9,720
April	15,641	3,260	68	521	2.85	3.18	31,020
May	3,957	912	46	128	.699	.81	7,850
June	1,060	52	25	35.3	.193	.22	2,100
July	896	49	20	28.9	.158	.18	1,780
August	1,052	65	21	33.9	.185	.21	2,090
September	789	35	22	26.3	.144	.16	1,560
Water year 1939-40	35,766	3,260	20	97.7	.534	7.26	70,940

a No gage-height record; discharge computed on basis of weather records and records for Cane Creek at Harviell.
b Stage-discharge relation affected by ice.

9-233 April 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog al Survey

101604-D U.S. GOVERNMENT PRINTING OFFICE: 1936

Spring River at Imboden, Ark.

Location.- Water-stage recorder, lat. 36°12', long. 91°10', in E½ sec. 15, T. 18 N., R. 2 W., at Imboden, 8 miles upstream from Eleven Point River and 11 miles upstream from mouth. Datum of gage is 254.07 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,140 square miles.

Records available.- February 1936 to September 1940.

Extremes.- Maximum discharge during year, 13,100 second-feet Apr. 12 (gage height, 17.86 feet); minimum, 218 second-feet Sept. 16 (gage height, 2.85 feet).

1936-40: Maximum discharge observed, 47,800 second-feet Feb. 18, 1938 (gage height, 23.97 feet); minimum observed, 185 second-feet Aug. 1, 1936 (gage height, 2.0 feet, former site).

Maximum stage known, about 30.9 feet in August 1915.

Remarks.- Records good except those for periods of incomplete gage-height record, which are fair. Low flow slightly regulated by power plant at Mammoth Spring, Ark.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Jan. 10		Jan. 11 to Sept. 30					
3.2	318	3.0	259	4.8	1,160	12.0	6,250
3.5	440	3.3	370	6.0	1,960	15.0	8,750
3.9	636	3.9	656	8.0	3,350	17.2	11,600
4.2	801						

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	384	384	436	384	f422	482	735	5,200	594	520	350	392
2	367	376	414	f371	413	472	698	2,930	589	496	330	383
3	359	371	392	f371	392	454	677	2,100	559	449	346	400
4	367	371	392	f380	409	449	646	1,760	544	449	472	392
5	359	371	392	f380	387	440	609	1,590	535	418	530	370
6	363	363	392	f340	409	431	589	1,420	472	431	396	350
7	380	384	348	f392	400	454	816	1,320	511	404	396	346
8	363	363	322	f376	392	482	898	1,230	501	387	422	346
9	355	371	371	f340	379	454	898	1,160	549	413	431	346
10	405	388	371	400	383	454	843	1,100	559	409	516	326
11	371	422	376	735	379	482	5,570	1,040	635	409	625	304
12	367	400	371	708	370	554	11,600	954	982	409	620	242
13	369	380	363	666	387	735	4,120	926	735	409	540	416
14	351	388	351	735	379	762	2,440	926	630	392	496	323
15	351	384	355	735	370	735	1,960	926	599	379	482	259
16	351	449	359	703	362	692	1,650	870	574	379	431	266
17	351	414	355	635	400	661	1,520	843	569	392	431	323
18	351	431	359	594	735	635	1,590	816	564	366	630	312
19	344	589	351	f559	926	614	5,090	843	635	383	661	290
20	348	773	340	h525	789	574	6,250	762	530	392	477	283
21	351	584	344	h511	692	564	3,350	789	544	520	449	308
22	344	529	344	h506	614	535	2,510	816	511	458	409	304
23	340	496	384	h511	579	530	2,100	762	496	413	396	308
24	344	463	405	h482	574	549	1,820	762	496	413	477	404
25	344	449	384	h520	540	525	1,620	735	458	400	422	370
26	371	436	388	h520	516	525	1,490	703	449	370	396	326
27	409	427	414	h574	516	549	1,360	682	440	370	444	308
28	392	418	392	h444	506	564	1,290	651	837	362	609	323
29	380	f414	392	h426	482	1,070	1,420	640	1,180	354	501	308
30	388	f405	384	h418	-	843	3,210	620	604	334	454	300
31	388	-	380	h409	-	762	-	594	-	350	404	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	11,297	409	340	364	0.319	0.37	22,410
November	12,993	773	363	433	.380	.42	25,770
December	11,621	436	322	375	.329	.38	23,060
Calendar year 1939	527,547	33,900	322	1,445	1.27	17.20	1,046,000
January	15,650	735	340	505	.443	.51	31,040
February	14,102	926	362	486	.426	.46	27,970
March	18,032	1,070	431	582	.511	.59	35,770
April	69,369	11,600	589	2,312	2.03	2.26	137,600
May	36,470	5,200	594	1,176	1.03	1.19	72,340
June	17,881	1,180	440	696	.523	.58	35,470
July	12,630	520	334	407	.357	.41	25,050
August	14,543	661	330	469	.411	.47	28,850
September	9,928	416	242	331	.290	.32	19,690
Water year 1939-40	244,516	11,600	242	668	.586	7.96	485,000

Peak discharge.- Apr. 12 (7:30 a.m.) 13,100 sec.-ft.; Apr. 19 (11 p.m.) 7,370 sec.-ft.; May 1 (7 a.m.) 6,180 sec.-ft.

f Gage-height record incomplete; discharge computed from gage-height graph based on fragmentary recorder record.

h Computed from stage graph based on twice-daily readings of wire-weight gage.

Eleven Point River near Bardley, Mo.

Location.- Water-stage recorder, lat. 36°38'55", long. 91°12'03", in NW¼ sec. 20, T. 23 N., R. 2 W., at bridge on State Highway 14, about 7 miles southwest of Bardley and 7½ miles upstream from Fredericks Fork. Datum of gage is 410.84 feet above mean sea level (general adjustment of 1929). Prior to Oct. 21, 1939, wire-weight gage at same site and datum.

Drainage area.- 690 square miles.

Records available.- October 1921 to September 1940.

Average discharge.- 19 years, 740 second-feet.

Extremes.- Maximum discharge during year, 6,530 second-feet Apr. 12 (gage height, 8.33 feet); minimum, 220 second-feet Sept. 30 (gage height, 2.15 feet).

1921-40: Maximum discharge, 40,000 second-feet Apr. 14, 1927 (gage height, 18.74 feet, present datum, from floodmarks, from rating curve extended above 15,000 second-feet; minimum, 188 second-feet Aug. 30, 31, Sept. 1, 6, 16, 1936; minimum gage height, 1.06 feet, present datum, Sept. 6-11, 1925.

Maximum stage known, 19.7 feet, present datum, from floodmarks, in August 1915 (discharge, about 44,000 second-feet), from rating curve extended above 15,000 second-feet.

Remarks.- Records excellent. Wire-weight gage read twice daily to Oct. 19.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 3 to Sept. 11)

2.1	201	3.4	925	9.0	7,530
2.4	322	4.0	1,460	10.0	9,380
2.8	513	5.0	2,470		
3.0	630	7.0	4,820		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	412	335	348	288	293	288	471	1,180	461	353	297	288
2	394	322	348	284	284	293	461	1,130	451	348	301	284
3	380	322	a344	284	280	284	446	1,040	h446	353	301	280
4	375	318	a336	284	280	280	432	976	h441	353	309	276
5	366	314	a327	284	280	272	407	917	h432	344	318	272
6	366	318	a318	272	280	268	398	877	h422	340	314	268
7	375	318	309	268	288	284	417	837	h417	340	314	268
8	375	318	301	272	284	280	436	783	h412	340	309	264
9	375	318	305	268	276	276	446	768	h422	340	326	260
10	375	331	309	276	272	293	441	732	h600	322	357	256
11	366	322	305	284	268	384	2,350	696	h461	322	461	252
12	357	322	301	348	268	768	4,330	683	h552	322	451	240
13	353	322	293	389	272	768	2,100	663	h492	318	394	240
14	348	318	288	482	268	718	1,600	663	h477	318	371	240
15	344	314	288	492	268	643	1,410	650	h461	318	371	240
16	340	314	293	h451	268	606	1,280	630	h441	314	384	240
17	340	314	293	h422	272	558	1,180	612	h436	318	384	240
18	340	331	293	h398	284	530	1,160	612	h422	318	380	236
19	340	436	288	h371	288	497	2,330	606	407	314	348	236
20	335	541	288	h348	284	471	2,690	587	412	318	340	236
21	331	487	280	h344	284	446	2,000	575	412	331	331	236
22	335	436	276	h335	284	422	1,700	558	398	318	322	236
23	331	412	293	h331	288	412	1,510	547	394	309	322	236
24	326	394	293	h318	297	412	1,360	535	384	305	309	256
25	335	375	288	h309	288	380	1,230	530	384	309	301	256
26	353	366	293	h301	288	375	1,150	524	375	309	297	236
27	380	353	301	h288	301	394	1,070	508	366	305	309	232
28	398	344	284	h297	301	422	1,020	492	371	301	318	232
29	380	344	284	305	293	441	1,030	482	362	301	314	228
30	362	348	280	305	-	471	1,040	477	362	297	301	224
31	353	-	284	297	-	482	-	471	-	297	293	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	11,140	412	326	359	0.520	0.60	22,100
November	10,607	541	314	354	.513	.57	21,040
December	9,331	348	276	301	.436	.50	18,510
Calendar year 1939	294,920	15,100	270	808	1.17	15.90	585,000
January	10,195	492	268	329	.477	.55	20,220
February	8,181	301	268	282	.409	.44	16,230
March	13,418	768	268	433	.628	.72	26,610
April	37,895	4,330	398	1,263	1.83	2.04	75,160
May	21,341	1,180	471	688	.997	1.15	42,330
June	12,873	600	362	429	.622	.69	25,530
July	9,995	353	297	322	.467	.54	19,820
August	10,447	461	293	337	.488	.56	20,720
September	7,488	288	224	250	.362	.40	14,850
Water year 1939-40	162,911	4,330	224	445	.645	8.76	323,100

a No gage-height record; discharge computed on basis of weather records and records for Greer Spring at Greer.
h Discharge computed from graph based on once-daily gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604-O U.S. GOVERNMENT PRINTING OFFICE 1936

Eleven Point River near Elevenpoint, Ark.

Location.- Water-stage recorder, lat. 36°21', long. 91°07', in SE¼SE¼ sec. 30, T. 20 N., R. 1 W., 1½ miles southwest of Elevenpoint and 18 miles upstream from mouth. Zero of gage is 291.98 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,115 square miles.

Records available.- November 1929 to June 1933, February 1936 to September 1940.

Extremes.- Maximum discharge during year, 6,770 second-feet Apr. 12 (gage height, 11.38 feet); minimum, 345 second-feet Sept. 30 (gage height, 2.43 feet).
1929-33, 1936-40: Maximum discharge, 22,500 second-feet Apr. 18, 1939 (gage height, 16.55 feet), from rating curve extended above 12,000 second-feet; minimum discharge observed, 226 second-feet Sept. 9, 1936 (gage height, 2.17 feet, datum then in use).

Remarks.- Records good.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

2.4	330	8.0	3,960
3.0	656	10.0	5,430
4.0	1,260	11.0	6,330
6.0	2,580		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	656	492	524	443	443	475	744	2,580	685	581	416	422
2	581	481	508	437	437	470	726	1,810	668	564	427	416
3	547	470	497	427	422	464	714	1,620	662	547	459	416
4	536	459	486	427	416	454	685	1,460	650	530	587	411
5	519	454	481	432	422	448	650	1,390	639	519	437	406
6	514	454	475	427	427	432	644	1,300	633	519	437	401
7	508	448	470	432	427	448	761	1,230	615	519	454	396
8	508	448	459	427	427	459	744	1,170	610	514	552	390
9	514	443	454	416	416	448	738	1,140	604	508	621	390
10	541	475	454	475	411	464	732	1,110	668	497	726	385
11	497	481	454	558	406	502	3,930	1,080	767	486	779	380
12	492	464	448	570	401	749	5,760	1,020	767	502	702	380
13	486	459	443	615	406	1,050	3,680	984	738	486	644	375
14	481	459	443	702	401	1,020	2,380	984	702	475	581	375
15	475	454	443	755	396	941	1,980	984	691	475	541	370
16	475	459	432	720	396	875	1,750	935	691	497	552	370
17	475	454	443	668	411	827	1,620	917	679	508	558	365
18	475	492	443	633	508	797	1,580	911	662	464	581	365
19	475	621	443	592	552	755	2,850	905	633	464	541	360
20	475	691	432	564	536	720	4,310	875	615	464	514	360
21	475	714	432	541	514	685	3,050	851	627	738	497	355
22	475	650	427	524	492	656	2,380	845	598	508	486	350
23	475	610	459	514	475	633	2,110	845	581	470	475	355
24	475	587	470	502	475	644	1,880	833	575	464	464	432
25	486	558	454	492	464	610	1,680	815	558	443	448	385
26	502	541	459	475	470	592	1,550	797	541	432	432	365
27	547	519	470	470	475	604	1,460	773	552	432	481	355
28	552	514	459	464	475	627	1,390	755	1,920	432	492	350
29	564	502	448	459	481	755	1,420	732	1,200	427	464	350
30	530	508	437	459	-	744	2,780	720	627	416	448	345
31	508	-	443	448	-	761	-	708	-	416	432	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	15,819	656	475	510	0.457	0.53	31,380
November	15,361	714	443	512	.459	.51	30,470
December	14,190	524	427	458	.411	.47	28,150
Calendar year 1939	448,730	17,600	399	1,229	1.10	14.96	890,000
January	16,068	755	416	518	.465	.54	31,870
February	12,982	552	396	448	.402	.43	25,750
March	20,109	1,050	432	649	.582	.67	39,890
April	56,678	5,760	644	1,889	1.69	1.89	112,400
May	33,079	2,580	708	1,067	.957	1.10	65,610
June	21,158	1,920	541	705	.632	.71	41,970
July	15,297	738	416	493	.442	.51	30,340
August	16,228	779	416	523	.469	.54	32,190
September	11,375	432	345	379	.340	.38	22,560
Water year 1939-40	248,344	5,760	345	679	.609	8.28	492,600

Peak discharge.- Apr. 11 (5:30 p.m.) 5,510 sec.-ft.; Apr. 12 (5 p.m.) 6,770 sec.-ft.; Apr. 20 (6:30 a.m.) 4,750 sec.-ft.; June 28 (10:30 p.m.) 5,590 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Greer Spring at Greer, Mo.

Location.- Water-stage recorder, lat. 36°47'10", long. 91°20'50", in SE¼SW¼ sec. 36, T. 25 N., R. 4 W., 300 feet downstream from lower outlet of spring, 1 mile upstream from Eleven Point River, and 1 mile north of Greer. Datum of gage is 564.00 feet above mean sea level (general adjustment of 1929).

Records available.- August to December 1904 and November 1921 to September 1940.

Average discharge.- 18 years (1922-40), 333 second-feet.

Extremes.- Maximum discharge during year, 605 second-feet Apr. 20 (gage height, 1.40 feet); minimum, 167 second-feet Sept. 28-30 (gage height, 0.38 foot).
1921-40: Maximum discharge, 905 second-feet Jan. 14, 1937 (gage height, 1.84 feet), from rating curve extended above 600 second-feet; minimum, 116 second-feet Aug. 26-31, Sept. 14-17, 1936.

Remarks.- Records good. Occasional run-off from small drainage area above station included in records.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	251	214	214	194	188	188	259	485	288	234	191	197
2	247	207	211	191	185	188	255	469	285	234	188	194
3	243	207	211	188	185	185	247	458	281	230	186	191
4	243	207	207	188	185	181	243	448	261	226	197	188
5	239	207	207	185	185	178	232	437	277	217	204	188
6	236	207	204	185	185	178	225	432	277	217	197	188
7	247	207	204	185	181	178	229	427	273	217	194	185
8	251	204	207	185	181	178	251	417	273	210	194	188
9	247	204	207	181	178	185	247	407	269	207	191	188
10	239	204	207	181	178	191	247	407	277	207	207	188
11	236	204	204	194	178	243	464	397	288	201	240	185
12	232	201	204	221	175	324	586	392	316	201	254	165
13	229	201	201	232	175	328	574	382	316	197	248	165
14	225	201	197	259	172	320	574	382	308	197	237	185
15	225	204	197	259	172	303	555	378	296	194	234	182
16	221	204	197	255	169	290	543	368	292	194	254	179
17	221	204	197	251	169	282	526	360	285	197	248	179
18	218	204	197	243	172	282	508	360	277	197	237	179
19	218	247	197	232	175	266	574	355	269	194	226	176
20	218	282	194	229	172	255	599	346	266	194	220	179
21	218	274	194	225	172	247	586	342	262	194	217	179
22	221	259	191	221	172	239	574	337	258	194	210	176
23	221	247	194	214	172	229	562	329	258	194	204	176
24	218	239	194	211	175	221	549	325	254	194	201	176
25	214	229	197	207	175	214	537	321	251	191	197	173
26	214	221	197	204	176	211	514	316	248	197	194	170
27	218	214	201	201	188	218	502	312	244	197	204	170
28	225	214	197	201	188	229	491	308	244	194	210	170
29	225	211	194	194	185	243	480	300	240	191	207	167
30	221	211	194	191	-	270	480	296	237	191	204	167
31	218	-	194	191	-	270	-	296	-	191	197	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	7,099	251	214	229	14,080
November	6,539	282	201	218	12,970
December	6,211	214	191	200	12,320
Calendar year 1939	121,199	657	150	332	240,400
January	6,498	259	181	210	12,890
February	5,165	188	169	178	10,240
March	7,314	328	178	236	14,510
April	13,213	599	225	440	26,210
May	11,589	485	296	374	22,990
June	8,190	316	237	273	16,240
July	6,293	234	191	203	12,480
August	6,594	254	188	213	13,080
September	5,433	197	167	181	10,780
Water year 1939-40	90,138	599	167	246	178,800

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologi l Survey

Strawberry River near Evening Shade, Ark.

Location.- Water-stage recorder, lat. 36°06', long. 91°36', in NE¼ sec. 27, T. 17 N., R. 6 W., at highway bridge, 2 miles north of Evening Shade and 5¾ miles upstream from Piney Fork. Datum of gage is 406.97 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark). Prior to July 23, 1939, wire-weight gage at same site and datum.

Drainage area.- 225 square miles.

Records available.- February 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period, 8,750 second-feet Apr. 17 (gage height, 19.78 feet, from reading at flood crest); minimum, 7.4 second-feet Sept. 20, 21 (gage height, 3.51 feet).

1939-40: Maximum discharge during year, 4,650 second-feet Apr. 11 (gage height, 15.42 feet); minimum, 6.7 second-feet Oct. 24, 25 (gage height, 3.49 feet).

Remarks.- Records good except those prior to July 1939, which are fair, and those for periods of missing gage heights, which are poor. Gage read once daily, oftener during rises, prior to July 23, 1939.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	639	93	148	102	57	34	13
2					-	421	89	143	93	41	30	13
3					-	364	86	122	81	1,650	28	12
4					-	344	81	116	82	1,470	26	12
5					-	5,390	187	110	73	235	25	11
6					-	1,270	1,940	109	65	159	24	11
7					-	580	496	110	56	112	23	11
8					-	443	364	149	59	87	22	11
9					-	364	293	244	53	53	25	10
10					-	324	244	144	50	49	27	10
11					-	628	237	116	86	52	42	10
12					-	461	212	130	68	45	42	10
13					-	364	176	530	218	42	157	9.8
14					-	293	165	314	84	39	289	9.4
15					-	146	171	237	64	37	110	9.4
16					-	144	3,550	194	49	35	45	9.4
17					286	155	7,460	165	42	33	31	9.4
18					283	194	1,300	142	41	31	26	9.8
19					500	170	676	132	39	30	24	9.4
20					1,540	165	503	142	37	129	27	8.2
21					761	146	503	142	36	63	21	7.8
22					374	134	380	182	33	34	18	8.2
23					293	130	316	148	251	32	16	7.8
24					251	122	272	110	82	28	15	7.8
25					434	116	237	116	45	27	15	7.8
26					553	114	218	137	39	26	16	8.2
27					899	116	206	398	91	25	17	8.2
28					1,850	114	218	237	42	84	36	8.2
29					-	111	176	170	159	119	23	10
30					-	113	154	128	78	57	16	21
31					-	106	-	116	-	39	14	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Discharge, in second-feet, of Strawberry River near Evening Shade, Ark., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	8.2	18	19	21	55	127	1,220	28	57	21	27
2	9.4	8.2	16	18	21	51	107	416	26	45	20	66
3	9.4	8.2	16	17	20	48	95	273	25	39	163	123
4	9.0	8.2	15	18	20	44	97	212	24	33	181	43
5	8.6	8.2	14	17	20	41	80	182	23	29	32	29
6	25	8.2	14	16	20	39	72	157	23	27	24	24
7	14	8.6	14	16	20	40	262	139	22	25	20	22
8	11	8.6	14	16	19	41	322	121	21	24	18	20
9	12	8.6	13	15	19	40	195	109	27	24	21	19
10	23	9.8	13	56	19	39	165	97	453	23	158	18
11	14	12	13	190	19	40	2,150	87	221	21	107	17
12	11	12	13	177	19	42	2,150	78	243	22	62	16
13	14	11	12	132	19	57	473	72	97	21	49	15
14	10	12	11	171	19	76	330	65	61	19	30	15
15	9.4	10	11	161	18	73	251	63	48	18	26	15
16	8.6	10	11	101	18	65	206	63	40	53	23	15
17	8.6	11	11	83	22	60	184	56	35	38	54	14
18	8.6	16	11	69	182	57	271	53	42	20	335	14
19	8.2	266	11	51	251	54	2,810	52	60	22	164	14
20	8.2	124	11	45	211	50	1,250	47	43	68	56	13
21	7.8	49	10	42	170	46	503	45	34	126	36	13
22	7.8	30	10	40	129	42	356	123	29	36	29	13
23	7.4	22	15	38	106	40	286	65	27	186	26	13
24	7.0	19	21	36	100	45	230	52	24	220	23	15
25	7.0	18	17	34	90	45	200	47	23	72	22	15
26	14	16	17	32	80	57	176	41	21	41	21	13
27	18	15	19	30	73	116	157	38	20	34	59	13
28	20	15	20	28	68	118	145	35	211	29	357	12
29	13	14	19	25	61	236	204	33	708	25	92	12
30	9.8	14	19	23	-	219	347	31	100	23	46	11
31	9.0	-	19	21	-	156	-	29	-	21	33	-

Peak discharge.- Apr. 11 (12 p.m.) 4,650 sec.-ft.; Apr. 19 (2 p.m.) 3,680 sec.-ft.; May 1 (10:30 a.m.) 1,540 sec.-ft.; June 29 (12:30 a.m.) 2,290 sec.-ft.

Note.- Discharge for periods of no water-stage recorder record, Jan. 19-31, June 6-11, 18, 19, and July 30 to Aug. 6, 1940, computed from graphs based on occasional wire-weight gage readings, recorder graph for prior and subsequent periods, and records for station near Poughkeepsie.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
February 17-28, 1939	8,024	1,850	251	669	2.97	1.33	15,920
March	14,185	5,390	106	458	2.04	2.34	28,140
April	21,003	7,460	81	700	3.11	3.47	41,660
May	5,381	530	109	174	.773	.89	10,670
June	2,298	251	33	76.6	.340	.38	4,560
July	4,920	1,650	25	159	.707	.81	9,760
August	1,264	289	14	40.8	.181	.21	2,510
September	303.8	21	7.8	10.1	.045	.05	603
The period	-	-	-	-	-	-	113,800
October 1939	352.8	25	7.0	11.4	.051	.06	700
November	780.8	266	8.2	26.0	.116	.13	1,550
December	448	21	10	14.5	.064	.07	889
Calendar year	-	-	-	-	-	-	-
January 1940	1,737	190	15	56.0	.249	.29	3,450
February	1,854	251	18	63.9	.284	.31	3,680
March	2,132	236	39	68.8	.306	.35	4,230
April	14,201	2,810	72	473	2.10	2.35	28,170
May	4,101	1,220	29	132	.587	.68	8,130
June	2,759	708	20	92.0	.409	.46	5,470
July	1,441	220	18	46.5	.207	.24	2,860
August	2,308	357	18	74.5	.331	.38	4,580
September	669	123	11	22.3	.099	.11	1,330
Water year 1939-40	32,783.6	2,810	7.0	89.6	.398	5.43	65,040

Strawberry River near Poughkeepsie, Ark.

Location.- Water-stage recorder, lat. 36°07', long. 91°27', in NW¼ sec. 19, T. 17 N., R. 4 W., half a mile downstream from Hurricane Creek and 2½ miles northeast of Poughkeepsie. Datum of gage is 298.07 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 476 square miles (revised).

Records available.- February 1936 to September 1940.

Extremes.- Maximum discharge during year, 5,230 second-feet Apr. 19 (gage height, 12.43 feet); minimum discharge observed, 46 second-feet Oct. 26 (gage height, 1.42 feet).
1936-40: Maximum discharge, 31,600 second-feet Feb. 18, 1938 (gage height, 23.6 feet, from graph based on gage readings), from rating curve extended above 20,000 second-feet; minimum discharge observed, 10 second-feet Oct. 3, 1938 (gage height, 1.22 feet).

Remarks.- Records good except those for periods of ice effect and of doubtful gage-height record, which are fair, and those for period of no gage-height record, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Feb. 19 to Apr. 10, July 1-20)

1.5	60	3.0	405	9.5	2,830
1.6	77	4.0	685	10.3	3,370
1.9	137	5.5	1,160	11.0	3,930
2.4	253	7.7	1,940		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	60	83	83	83	189	353	h1,710	148	175	60	104
2	60	60	81	77	83	182	308	1,140	139	141	58	h288
3	57	60	70	75	81	166	283	685	133	133	55	a275
4	55	58	70	74	81	157	256	527	126	122	266	a140
5	55	58	68	74	81	146	234	431	120	116	h104	a90
6	345	60	67	70	83	141	222	366	114	108	68	a77
7	256	60	65	70	81	141	353	326	112	102	h60	a68
8	88	60	65	72	79	148	670	286	110	100	57	a62
9	68	60	63	79	75	141	444	h266	120	96	67	h58
10	86	65	63	110	74	135	379	248	454	94	468	a56
11	126	72	62	366	72	137	1,560	236	326	90	366	a54
12	74	70	62	431	70	148	3,290	215	471	86	161	a54
13	67	70	60	340	74	194	1,060	h205	276	85	h152	a54
14	63	65	58	340	72	219	730	194	182	75	108	a54
15	56	63	57	353	68	217	583	191	159	67	90	a55
16	55	60	58	260	68	203	471	h180	131	65	83	h57
17	54	60	58	215	81	189	431	170	131	243	79	a56
18	54	77	57	189	405	182	499	166	135	161	745	a54
19	52	543	57	150	730	177	3,880	168	189	122	h353	a52
20	52	346	55	b140	597	166	2,840	146	146	104	157	h50
21	52	168	54	b130	457	155	1,290	150	124	468	h120	a49
22	52	116	54	b125	379	148	931	212	104	340	100	a50
23	52	100	72	b120	320	139	h745	290	98	180	86	a54
24	52	90	88	b110	300	157	611	231	90	485	81	h63
25	52	83	86	b100	276	157	513	212	85	366	77	a72
26	68	79	85	b90	246	173	457	198	79	196	h74	a67
27	126	74	88	b85	234	243	405	184	74	124	94	a60
28	104	70	86	b90	224	280	366	175	136	92	513	a55
29	79	70	83	96	207	995	h431	166	887	h74	306	a50
30	68	70	81	90	-	625	597	157	258	70	h144	h49
31	60	-	81	85	-	431	-	150	-	h65	116	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	2,569	345	52	82.9	0.174	0.20	5,100
November	2,947	543	58	98.2	.206	.23	5,850
December	2,137	88	54	68.9	.145	.17	4,240
Calendar year 1939	192,687	14,900	40	528	†1.11	†15.05	382,200
January	4,689	431	70	151	.317	.37	9,300
February	5,681	730	68	196	.412	.44	11,270
March	6,881	995	135	222	.466	.54	13,650
April	25,192	3,880	222	840	1.76	1.97	49,970
May	9,981	1,710	146	322	.676	.78	19,800
June	5,657	887	74	189	.397	.44	11,220
July	4,745	485	65	153	.321	.37	9,410
August	5,268	745	55	170	.357	.41	10,450
September	2,327	288	49	77.6	.163	.18	4,620
Water year 1939-40	78,074	3,880	49	213	.447	6.10	154,900

†Computed on basis of revised figure for drainage area.
a No gage-height record; discharge computed on basis of one discharge measurement, and records for station at Evening Shade.
b Stage-discharge relation affected by ice.
h Computed on basis of once-daily wire-weight gage reading.
Note.- Discharge for periods of doubtful gage-height record, Apr. 21 to May 16 and July 26 to Sept. 2, computed from gage heights based on recorder trace and occasional wire-weight gage readings.

400452 O - 41 - 7

Little Red River near Heber Springs, Ark.

Location.- Water-stage recorder, lat. 35°32', long. 92°00', in NE¼ sec. 6, T. 10 N., R. 9 W., 2¾ miles downstream from Peter Creek and 3 miles northeast of Heber Springs. Datum of gage is 271.81 feet above mean sea level (general adjustment of 1929).
Drainage area.- 1,160 square miles.
Records available.- September 1927 to June 1935, March 1936 to September 1940.
Average discharge.- 11 years (1927-34, 1936-40), 1,789 second-feet.
Extremes.- Maximum discharge during year, 17,300 second-feet May 1 (gage height, 17.55 feet); minimum, 0.5 second-foot Nov. 8, 9 (gage height, 1.20 feet).
1927-35, 1936-39: Maximum diecharge observed, 74,400 second-feet Apr. 6, 1928 (gage height, 42.35 feet, site and datum then in use); no flow at times in October 1929, August 1930, August and September 1936.
Maximum stage known, 44.0 feet, site and datum in use prior to Dec. 15, 1938, in April 1927 (discharge, 78,900 second-feet).
Remarks.- Records good.
Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 30

1.2	0.5	2.2	34	5.0	799
1.3	.9	2.4	56	6.0	1,300
1.4	1.5	2.6	84	7.0	1,950
1.5	2.8	2.8	115	8.0	2,730
1.6	4.8	3.0	153	9.0	3,670
1.7	7.4	3.4	241	11.0	5,990
1.8	11	3.9	373	13.0	8,790
2.0	20	4.4	540	16.0	14,100

May 1 to Sept. 30

1.7	7.6	2.2	44
1.8	12	2.4	65
1.9	17	2.6	88
2.0	25	2.8	116

Note.- Same as preceding table above 2.9 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	0.7	38	185	126	685	1,300	13,900	203	157	34	53
2	9.3	.7	39	172	122	642	1,090	8,690	181	149	33	48
3	9.0	.6	39	159	117	579	942	5,100	159	145	35	49
4	7.7	.6	39	149	115	522	869	3,450	139	130	31	50
5	6.4	.5	43	137	113	486	776	2,650	124	116	24	49
6	5.1	.5	44	128	117	435	752	2,090	114	106	21	54
7	4.4	.5	43	122	120	403	4,370	1,640	106	94	19	92
8	3.4	.5	42	117	122	382	8,410	1,330	97	86	18	113
9	2.8	.5	44	110	126	435	4,660	1,120	92	88	31	97
10	2.8	.8	49	115	137	522	3,180	966	108	82	46	81
11	2.5	.8	49	139	145	540	3,560	822	155	74	72	65
12	2.0	.8	46	205	155	522	6,250	707	295	66	119	54
13	1.8	.8	44	300	170	579	4,770	600	575	57	207	47
14	1.5	.9	43	522	183	620	3,360	522	620	53	260	41
15	1.4	.8	42	642	196	642	2,650	468	503	50	248	35
16	1.3	.8	41	730	205	642	2,170	419	391	48	198	31
17	1.3	.8	39	620	234	600	1,760	379	361	42	155	27
18	1.2	.9	37	522	606	560	2,490	379	303	38	145	24
19	1.1	1.5	36	452	1,390	522	7,020	620	338	38	116	20
20	1.0	3.2	36	361	1.880	486	11,000	503	845	36	94	17
21	1.0	8.4	35	324	1,540	452	6,250	400	730	42	81	16
22	1.0	12	35	288	1,240	403	4,110	347	685	46	70	15
23	.9	23	45	266	1,040	379	3,090	350	752	73	65	14
24	.9	26	55	227	918	361	2,410	356	560	80	62	14
25	.9	29	72	207	869	350	1,950	353	435	89	55	16
26	.9	33	113	187	822	376	1,640	338	341	89	50	13
27	1.0	34	225	174	799	486	1,390	313	282	80	49	12
28	.9	34	230	159	752	620	1,190	298	239	67	64	12
29	.9	34	214	147	730	642	1,660	282	203	55	80	11
30	.8	35	200	141	-	1,380	5,990	251	178	46	70	9.4
31	.7	-	198	135	-	1,670	-	225	-	39	60	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	83.3	9.3	0.7	2.69	0.0023	0.003	165
November	285.6	35	.5	9.52	.0082	.009	566
December	2,255	230	35	72.7	.063	.07	4,470
Calendar year 1939	765,758.4	65,800	.5	2,098	1.81	24.55	1,519,000
January	8,131	730	110	262	.226	.26	16,130
February	15,089	1,880	113	520	.448	.48	29,930
March	17,923	1,670	350	578	.498	.57	35,550
April	101,079	11,000	752	3,369	2.90	3.24	200,500
May	50,138	13,900	225	1,617	1.39	1.61	99,450
June	10,114	845	92	337	.291	.32	20,060
July	2,361	157	36	76.2	.006	.08	4,680
August	2,612	260	18	84.3	.073	.08	5,180
September	1,179.4	113	9.4	39.3	.034	.04	2,340
Water year 1939-40	211,250.3	13,900	.5	577	.497	6.76	419,000

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Middle Fork of Little Red River at Shirley, Ark.

Location.- Water-stage recorder, lat. 35°39', long. 92°18', in SW¼ sec. 20, T. 12 N., R. 12 W., at Missouri & Arkansas Railway bridge, half a mile downstream from Sugar Camp or Wevers Creek and 1 mile east of Shirley. Datum of gage is 483.12 feet above mean sea level (general adjustment of 1929). Prior to June 6, 1939, wire-weight gage at same site and datum.

Drainage area.- 294 square miles.

Records available.- February 1939 to September 1940.

Extremes.- 1939: Maximum discharge observed during period February to September, 16,800 second-feet Apr. 17 (gage height, 19.49 feet); minimum discharge, 0.2 second-foot Sept. 19, 20, 25-28; minimum gage height, 4.56 feet Sept. 28.
1939-40: Maximum discharge, 3,480 second-feet Apr. 19 (gage height, 11.40 feet); minimum, 0.1 second-foot Oct. 25 (gage height, 4.54 feet).
Flood of Mar. 10, 1935, reached a stage of 27.3 feet, from information furnished by local residents.

Remarks.- Records fair except those for periods of no gage-height record and those for discharges below 50 second-feet, which are poor. Gage read once daily prior to June 6, 1939.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating tables, Feb. 15, 1939, to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)

Feb. 15, 1939, to June 19, 1940

4.5	0	5.6	64	10.0	1,980
4.6	.3	5.8	97	11.0	2,970
4.7	1.5	6.0	134	12.0	4,340
4.8	3.6	6.3	206	14.0	7,450
4.9	6.5	6.6	300	16.0	10,800
5.0	10	7.0	455	18.0	14,600
5.2	21	8.0	905		
5.4	38	9.0	1,400		

June 20 to Sept. 30, 1940

4.5	0	4.9	5.5
4.6	.2	5.0	9.1
4.7	1.1	5.2	20
4.8	2.8	5.4	37

Note.- Same as preceding table above 5.5 feet.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	2,410	240	324	468	180	24	2.8
2					-	1,350	193	321	351	157	20	2.8
3					-	1,000	168	237	286	149	23	2.5
4					-	1,060	156	198	209	124	18	2.1
5					-	6,930	410	175	198	128	15	1.5
6					-	2,380	4,680	154	173	107	18	1.4
7					-	1,450	1,620	138	156	80	14	1.3
8					-	1,080	1,050	196	145	67	11	1.0
9					-	1,010	905	786	122	54	16	.9
10					-	3,100	680	415	106	44	16	.8
11					-	3,100	612	220	92	35	13	1.5
12					-	1,500	473	300	108	30	11	1.1
13					-	1,300	383	1,140	158	27	9.8	1.0
14					-	1,000	209	815	393	23	9.1	.9
15					2,130	838	439	554	198	20	8.7	.8
16					1,500	658	6,890	407	158	16	7.2	.7
17					1,075	541	14,800	293	124	14	6.9	.3
18					1,250	455	3,680	262	98	13	21	.3
19					1,430	379	1,600	347	85	10	13	.2
20					4,320	328	1,200	626	74	10	11	.2
21					1,880	307	975	714	353	11	9.5	.3
22					1,110	259	496	1,550	180	10	8.0	.3
23					1,110	220	496	1,910	128	17	7.6	.3
24					910	203	518	1,000	111	17	7.6	.3
25					2,840	185	435	911	188	13	5.6	.2
26					2,400	180	383	5,060	206	10	5.1	.2
27					2,270	173	427	8,050	130	14	4.8	.2
28					5,270	173	702	1,950	145	74	4.2	.2
29					-	183	491	950	192	100	3.6	.4
30					-	240	815	743	262	70	3.2	.8
31					-	297	-	635	-	36	3.0	-

Discharge, in second-feet, of Middle Fork of Little Red River at Shirley, Ark., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.9	19	46	h22	152	324	2,240	38	33	3.3	7.7
2	.3	1.0	19	43	h22	138	265	1,400	33	34	3.3	6.9
3	.3	1.0	18	40	h22	126	220	1,020	30	33	3.9	5.9
4	.3	1.0	19	38	h21	112	187	815	25	27	4.2	5.9
5	.2	1.1	20	36	h20	102	163	680	23	22	3.9	5.9
6	.2	1.1	20	33	h24	92	218	563	20	40	3.3	5.2
7	.2	1.3	20	31	h25	89	1,600	455	19	29	2.8	4.7
8	.2	1.1	20	29	28	87	1,490	367	17	23	2.3	4.2
9	.2	1.4	19	27	30	92	724	300	25	18	4.4	3.6
10	1.3	2.5	19	34	33	106	306	240	40	15	8.4	3.1
11	1.0	3.9	19	53	35	107	1,000	188	32	13	26	2.6
12	.7	3.9	19	67	37	104	1,730	147	28	12	31	2.1
13	.4	3.2	18	83	39	106	1,100	120	137	10	25	2.0
14	.2	4.8	18	154	40	120	880	109	112	8.7	23	1.4
15	.2	6.5	19	180	43	130	750	95	78	8.0	26	1.1
16	.2	6.9	18	149	45	128	613	90	58	7.7	25	1.1
17	.2	7.6	19	126	51	124	714	80	49	7.3	20	1.0
18	.2	8.4	19	102	97	116	1,150	80	57	6.2	18	.7
19	.2	13	19	h85	344	107	2,150	83	57	5.5	15	.7
20	.2	12	18	h70	307	100	2,130	74	143	6.6	12	.6
21	.2	12	17	h60	276	92	1,350	67	322	6.2	10	.5
22	.2	12	16	h50	256	85	950	64	388	6.6	9.1	.5
23	.2	12	25	h42	234	77	748	60	226	6.2	8.7	.5
24	.2	12	40	h35	214	83	590	60	154	4.7	8.0	.7
25	.1	12	44	h35	209	97	470	60	114	4.2	7.3	.9
26	2.9	12	45	h32	198	161	375	69	85	4.2	6.6	.7
27	1.9	12	38	h31	190	136	293	66	66	4.7	7.3	.6
28	.9	13	56	h27	183	104	237	58	54	4.7	11	.5
29	.8	14	58	h24	168	148	568	56	51	4.2	11	.3
30	.9	15	54	h23	-	415	988	48	40	3.9	9.6	.2
31	.9	-	50	h22	-	403	-	44	-	3.9	8.7	-

h No water-stage recorder record; discharge computed on basis of once-daily readings of wire-weight gage.

Note.- Discharge for periods of incomplete or no gage-height record, Feb. 18-27, Mar. 2-5, Mar. 26 to Apr. 4, Apr. 7 to May 14, estimated on basis of records for station on South Fork of Little Red River near Clinton (unpublished data), observer's weekly gage readings, and rainfall records.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
February 15-28, 1939	29,495	5,270	910	2,107	7.17	3.73	58,500
March	34,289	6,930	173	1,106	3.76	4.34	68,010
April	46,126	14,800	156	1,538	5.23	5.83	91,490
May	31,381	8,050	138	1,012	3.44	3.97	62,240
June	5,597	468	74	187	.636	.71	11,100
July	1,660	180	10	53.5	.182	.21	3,290
August	349.9	24	3.0	11.3	.038	.04	694
September	27.3	2.8	.2	.91	.0031	.003	54
The period	-	-	-	-	-	-	295,400
October 1939	16.3	2.9	.1	.53	.0018	.002	32
November	208.6	15	.9	6.95	.024	.03	414
December	822	58	16	26.5	.090	.10	1,630
Calendar year	-	-	-	-	-	-	-
January 1940	1,807	180	22	58.3	.198	.23	3,580
February	3,213	344	20	111	.378	.41	6,370
March	4,039	415	77	130	.442	.51	8,010
April	24,283	2,150	163	809	2.75	3.07	48,160
May	9,798	2,240	44	316	1.07	1.24	19,430
June	2,521	388	17	84.0	.286	.32	5,000
July	412.5	40	3.9	13.3	.045	.05	818
August	358.1	31	2.3	11.6	.039	.05	710
September	71.8	7.7	.2	2.39	.0081	.009	142
Water year 1939-40	47,550.3	2,240	.1	130	.442	6.02	94,300

Lagrue Bayou near Stuttgart, Ark.

Location.- Water-stage recorder, lat. 34°31'55", long. 91°21'20", in NW¼ sec. 17, T. 2 S., R. 3 W., 11 miles east of Stuttgart and 24 miles upstream from Little Lagrue Bayou. Prior to Sept. 13, staff gage at same site and datum. Datum of gage is 175.14 feet above mean Gulf level (Corps of Engineers, U. S. Army, bench mark).

Records available.- August 1935 to September 1940.

Extremes.- Maximum discharge during year, 850 second-feet Feb. 22 (gage height, 10.71 feet, from reading at flood crest); minimum, 0.1 second-foot Nov. 2-9.

1935-40: Maximum discharge, 2,960 second-feet Jan. 24, 1937 (gage height, 16.9 feet, from floodmark), from rating curve extended above 1,200 second-feet; no flow during periods in May, June, and August 1936, August 1937, and October, November, 1938.

Remarks.- Records fair except those below about 10 second-feet, which are poor. Flow affected by seasonal diversions for irrigation. Gage read twice daily prior to Sept. 13.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 20 to Feb. 17)

Oct. 1 to Feb. 17

0.6	0.2	2.5	50
.8	.9	3.0	75
1.0	3.0	4.0	134
1.2	6.6	5.0	194
1.4	10	6.0	261
1.7	18	7.0	332
2.0	28		

Feb. 18 to Sept. 30

0.7	1.0	1.8	27	6.0	283
.8	1.6	2.3	47	8.0	454
.9	2.6	3.0	81	9.0	545
1.0	4.0	3.5	107	10.0	686
1.2	8.5	4.0	137	10.7	850
1.4	13.5	5.0	205		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	122	0.2	2S	146	17.0	373	91	347	19.3	20	5.8	5.0
2	110	.1	48	128	12.0	275	47	299	13.8	54	4.S	3.9
3	86	.1	75	110	18.0	205	31	235	10.8	64	3.9	4.8
4	70	.1	65	S6	13.0	137	23	191	7.8	101	9.8	4.4
5	48	.1	58	65	13.0	96	18.6	177	5.2	101	12.8	2.3
6	32	.1	50	50	20	66	18.6	156	3.7	76	9.0	1.5
7	15.0	.1	42	38	102	47	111	131	3.2	58	8.2	1.7
8	12.0	.1	36	38	176	35	227	101	3.4	47	8.0	2.1
9	8.9	.1	28	36	219	28	219	86	2.6	39	9.5	4.8
10	5.1	.2	23	36	289	23	156	51	3.7	37	19.3	13.5
11	2.8	.3	1S.0	40	332	21	113	31	3.9	30	27	9.5
12	2.4	.6	14.0	110	348	19.0	125	19.3	12.0	32	31	9.5
13	2.3	.6	12.0	146	348	27	107	13.2	27	35	29	12.2
14	4.2	.5	9.7	158	348	31	91	10.2	30	34	29	14.1
15	3.3	7.0	7.9	219	332	30	81	8.2	25	30	27	11.0
16	2.4	13.0	7.0	247	324	25	74	5.S	23	25	23	8.0
17	1.6	9.9	5.3	240	356	22	74	4.6	29	22	21	7.0
18	1.1	9.7	4.9	206	556	19.6	215	3.6	56	20	1S.2	7.0
19	.S	20	4.5	182	635	17.6	517	3.0	74	19.0	16.5	6.5
20	.7	104	3.7	1S8	725	15.6	545	3.9	86	17.6	9.8	3.7
21	.5	152	3.0	158	820	13.8	535	2.4	96	16.2	8.8	1.8
22	.4	146	2.8	122	850	12.8	499	9.2	81	15.6	10.8	1.1
23	.4	134	20	86	820	11.8	454	16.2	66	14.4	5.6	.9
24	.3	110	77	70	790	12.2	400	35	47	13.2	5.4	1.0
25	.2	98	176	42	725	14.7	373	61	35	12.8	3.9	1.5
26	.2	80	206	32	651	16.5	347	43	29	11.2	3.2	5.5
27	.3	60	219	24	579	15.3	323	29	27	10.0	6.0	43
28	.3	48	233	20	517	22	283	30	23	6.8	7.5	37
29	.3	36	240	18.0	454	68	283	37	18.6	10.8	5.0	35
30	.2	27	219	17.0	-	191	331	34	16.8	11.0	2.3	30
31	.2	-	170	18.0	-	184	-	27	-	7.2	5.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	533.9	122	0.2	17.2	1,060
November	1,057.8	152	.1	35.3	2,100
December	2,105.8	240	2.8	67.9	4,180
Calendar year 1939	99,274.6	2,500	.1	272	196,900
January	3,076.0	247	17.0	99.2	6,100
February	11,389.0	850	12.0	393	22,590
March	2,074.9	373	11.8	66.9	4,120
April	6,712.2	545	18.6	224	13,310
May	2,200.6	347	2.4	71.0	4,360
June	878.8	96	2.6	29.3	1,740
July	990.8	101	6.8	32.0	1,970
August	386.7	31	2.3	12.5	767
September	289.3	43	.9	9.64	574
Water year 1939-40	31,695.8	850	.1	86.6	62,870

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River at Granite, Colo.

Location.- Water-stage recorder, lat. 39°03', long. 106°16', in sec. 31, T. 11 S., R. 79 W., at Granite, just upstream from Cache Creek. Datum of gage is 8,915.72 feet above mean sea level.
Drainage area.- 431 square miles.
Records available.- April to October 1895, May 1897 to September 1899, April 1910 to September 1927, and October 1933 to September 1940 in reports of Geological Survey. May 1897 to September 1899 and April 1910 to September 1940 in reports of State engineer.
Average discharge.- 30 years (1910-40), 334 second-feet.
Extremes.- Maximum discharge during year, 1,180 second-feet June 2 (gage height, 3.81 feet); minimum daily, 54 second-feet Feb. 14-20.
1895, 1897-99, 1910-40: Maximum discharge, 2,900 second-feet June 16, 1924 (gage height, 4.57 feet); minimum not determined.
Remarks.- Records good except those for period of ice effect, which are fair. Small diversions above station for irrigation. Sugar Loaf and Twin Lakes Reservoirs are on tributaries above station (combined capacity, 72,120 acre-feet). The following records, furnished by the office of the State engineer, show diversions from Colorado River Basin to Arkansas River Basin above station.

Ditch or tunnel	Diversions from-	Diversion in acre-feet
Buske-Ivanhoe tunnel..	Frying Pan River...	4,019
Columbine ditch.....	Eagle River.....	1,108
Ewing ditch.....	....do.....	172
Wurtz ditch.....	....do.....	994
Fremont Pass ditch....	Tenmile River.....	634
Twin Lakes tunnel.....	Roaring Fork.....	27,040
Total.....		33,967

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	114	114	68	60	70	96	144	964	505	156	130
2	107	118	64	69	60	70	85	142	1,130	419	156	128
3	100	116	64	70	60	68	78	125	1,150	396	156	125
4	96	105	64	140	60	64	75	166	990	405	154	137
5	92	118	65	160	60	70	80	186	859	364	156	154
6	89	123	65	160	59	65	83	166	676	305	154	144
7	89	114	67	140	59	64	75	205	615	280	186	132
8	94	114	67	100	59	70	72	236	604	263	180	128
9	96	114	67	*84	58	71	72	273	891	270	152	132
10	94	105	67	75	58	74	70	328	964	290	144	140
11	94	105	67	73	58	72	65	448	997	280	144	135
12	94	98	67	70	56	72	68	587	997	253	290	123
13	94	87	64	70	55	67	71	581	1,060	211	478	140
14	92	83	65	68	*54	70	82	500	885	290	473	142
15	91	83	67	68	54	77	103	419	707	682	452	152
16	89	83	68	67	54	130	85	700	694	725	462	152
17	87	78	68	66	54	132	75	1,020	731	700	473	147
18	85	80	68	65	54	123	92	846	788	663	467	156
19	85	74	68	64	54	80	98	609	744	632	484	149
20	82	77	68	63	54	78	109	713	682	626	527	147
21	80	75	68	63	55	82	116	750	694	626	494	154
22	82	72	68	63	58	87	116	638	814	626	438	174
23	82	74	67	62	60	87	111	452	1,010	581	360	191
24	80	70	66	62	62	85	116	396	957	242	253	256
25	78	68	65	62	64	89	132	433	878	172	154	283
26	92	70	65	62	68	94	159	527	846	174	161	249
27	164	77	64	62	70	91	177	598	827	174	180	225
28	164	123	63	61	70	92	186	604	744	186	177	197
29	172	120	65	61	68	80	186	700	763	216	169	197
30	159	120	65	61	-	78	183	651	609	253	152	205
31	114	-	67	61	-	89	-	878	-	194	137	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,124	172	78	101	6,200
November.....	2,858	123	68	95.3	5,670
December.....	2,097	114	63	67.6	4,160
Calendar year 1939.....	128,604	1,620	63	352	225,100
January.....	2,420	160	61	78.1	4,800
February.....	1,715	70	54	59.1	3,400
March.....	2,541	132	64	82.0	5,040
April.....	3,116	186	65	104	6,180
May.....	15,021	1,020	125	485	29,790
June.....	25,270	1,150	604	842	50,120
July.....	12,003	725	172	387	23,810
August.....	8,519	527	137	275	16,900
September.....	4,924	283	123	164	9,770
Water year 1939-40.....	83,608	1,150	54	228	165,800

*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 19 to Mar. 2.

Arkansas River at Salida, Colo.

Location.- Water-stage recorder, lat. 38°31', long. 106°01', in sec. 31, T. 50 N., R. 9 E., at Salida, 3 miles upstream from South Arkansas River. Datum of gage is 7,051.45 feet above mean sea level (general adjustment of 1912).

Drainage area.- 1,210 square miles.

Records available.- April 1895 to October 1903, November 1909 to September 1927, and October 1933 to September 1940 in reports of Geological Survey. April 1895 to October 1903 and November 1909 to September 1940 in reports of State engineer.

Average discharge.- 30 years (1910-40), 617 second-feet.

Extremes.- Maximum discharge during year, 1,510 second-feet June 3 (gage height, 2.73 feet); minimum daily, 124 second-feet Apr. 12.
1895-1903, 1909-40: Maximum discharge, 5,100 second-feet June 16, 1924 (gage height, 7.2 feet, former site and datum); minimum daily, that of Apr. 12, 1940.

Remarks.- Records excellent. Diversions above station for irrigation. Flow regulated by Clear Creek Reservoir (capacity, 11,444 acre-feet) and as noted in description for station at Granite.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-6)

0.7	124	1.8	645
1.0	220	2.0	800
1.2	300	2.2	980
1.5	450	2.7	1,480

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	254	198	243	214	188	204	159	239	1,220	761	275	287
2	228	201	235	194	188	194	169	224	1,350	676	254	266
3	220	204	201	188	188	191	162	224	1,470	612	235	250
4	214	207	204	201	178	191	153	228	1,300	585	250	247
5	214	201	198	279	182	188	159	279	1,060	532	243	243
6	204	210	188	283	182	191	172	287	834	500	243	250
7	198	217	188	275	201	182	169	271	730	429	250	228
8	207	210	188	266	191	185	156	372	730	434	275	217
9	220	217	188	194	185	201	140	382	817	414	258	214
10	217	210	191	207	191	204	140	440	1,080	414	254	231
11	214	204	182	207	204	207	134	565	1,010	398	250	224
12	220	207	182	201	194	191	124	800	1,060	388	247	220
13	220	204	169	201	185	175	127	868	1,120	377	558	224
14	207	194	172	185	194	172	130	834	1,190	351	585	228
15	194	188	182	175	201	182	140	625	932	612	572	224
16	198	185	194	182	198	207	166	676	885	817	578	239
17	204	182	198	188	185	243	156	1,090	817	777	585	231
18	194	182	194	188	191	231	137	1,250	904	745	585	243
19	185	182	178	178	201	214	153	885	942	738	585	250
20	182	182	182	188	185	182	175	842	876	714	612	258
21	185	191	185	185	188	178	172	868	826	777	591	279
22	185	188	178	172	191	182	175	842	826	761	645	258
23	182	185	182	175	191	178	182	738	1,220	792	612	283
24	182	185	185	182	194	175	185	552	1,160	585	532	398
25	182	182	182	188	188	172	182	605	1,110	323	332	469
26	185	178	182	182	201	169	194	722	1,010	292	275	429
27	207	182	175	201	198	172	214	868	1,040	257	279	408
28	231	204	185	198	210	166	239	876	961	253	287	346
29	243	239	169	198	210	162	239	942	952	305	300	296
30	239	250	188	198	-	146	235	860	923	351	314	296
31	220	-	220	191	-	146	-	1,120	-	346	337	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	6,435	254	182	208	12,760
November	5,969	250	178	199	11,840
December	5,888	243	169	190	11,680
Calendar year 1939	195,222	2,240	169	535	387,200
January	6,264	283	172	202	12,420
February	5,583	210	178	193	11,070
March	5,781	243	146	186	11,470
April	5,038	239	124	168	9,990
May	20,374	1,250	224	657	40,410
June	30,355	1,470	730	1,012	60,210
July	16,376	817	283	528	32,480
August	12,198	645	235	393	24,190
September	8,236	469	214	275	16,340
Water year 1939-40	128,497	1,470	124	351	254,900

U. S. GOVERNMENT PRINTING OFFICE 1936—O 162002

Arkansas River at Canon City, Colo.

Location.- Water-stage recorder, lat. 38°26', long. 105°15', in sec. 32, T. 18 S., R. 70 W., in Canon City, just upstream from Sand Creek. Datum of gage is 5,343.87 feet above mean sea level.
Drainage area.- 3,090 square miles.
Records available.- May 1888 to September 1927 and October 1933 to September 1940 in reports of Geological Survey. May 1888 to September 1940 in reports of State engineer.
Average discharge.- 53 years (1887-1940), 721 second-feet.
Extremes.- Maximum discharge during year, 3,870 second-feet Sept. 3 (gage height, 4.78 feet); minimum daily, 82 second-feet Apr. 10.
1888-1940: Maximum discharge, 19,000 second-feet Aug. 2, 1921 (gage height, 10.7 feet), from rating curve extended above 4,000 second-feet; minimum daily, that of Apr. 10, 1940.
Remarks.- Records good except those for periods of ice effect, which are fair. Diversions above station for irrigation. For statements on regulation, see descriptions for stations at Granite and at Salida.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Feb. 25 to Mar. 20, July 21 to Sept. 28)

0.4	88	1.5	476	2.3	1,060
.6	130	1.6	538	3.0	1,800
.8	196	1.8	656		
1.0	270	2.0	800		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	207	196	251	310	240	302	90	146	1,110	733	282	255
2	169	165	255	306	225	262	102	159	1,200	643	218	218
3	165	162	236	290	220	247	102	159	1,310	559	196	454
4	156	172	207	270	220	221	100	149	1,290	518	179	247
5	146	189	221	290	220	210	96	179	1,070	472	182	165
6	146	189	221	370	220	221	100	270	872	432	179	152
7	146	207	200	453	220	218	108	247	712	411	207	169
8	152	203	186	350	220	207	98	251	656	342	189	189
9	172	193	169	326	220	228	84	334	663	326	179	270
10	182	207	162	270	225	247	82	342	934	302	169	274
11	169	193	159	282	228	274	96	415	925	326	186	193
12	172	186	159	278	240	270	90	571	952	302	189	182
13	182	186	152	278	*210	262	84	793	997	362	318	152
14	189	182	156	262	207	282	86	778	1,100	302	559	143
15	162	165	189	240	274	262	84	623	952	338	547	146
16	152	159	200	259	260	302	100	507	848	691	507	146
17	169	140	218	278	240	362	133	808	770	719	523	156
18	179	143	221	290	225	314	123	1,260	785	684	507	156
19	159	143	214	200	240	286	152	1,040	848	636	553	162
20	136	140	200	200	255	247	126	785	832	643	507	172
21	133	165	203	250	235	196	110	832	778	793	523	176
22	140	182	193	260	240	143	106	872	733	763	502	207
23	140	165	196	260	250	152	100	785	916	756	670	193
24	136	165	196	250	260	169	102	597	1,070	643	497	362
25	143	165	218	220	255	140	104	523	1,020	390	415	390
26	156	165	225	250	236	152	104	603	925	259	232	403
27	165	189	210	290	255	121	123	756	916	247	207	330
28	193	200	190	300	270	126	143	840	925	240	207	290
29	221	232	210	290	298	119	159	925	856	247	214	262
30	228	259	230	275	-	100	146	889	880	294	225	266
31	210	-	278	255	-	84	-	880	-	318	259	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	5,175	228	133	167	10,260
November	5,407	259	140	180	10,720
December	6,325	278	152	204	12,550
Calendar year 1939	192,163	2,210	133	526	381,200
January	8,603	370	200	278	17,060
February	6,908	298	207	238	13,700
March	6,726	362	84	217	13,340
April	3,233	159	82	108	6,410
May	18,318	1,260	146	591	36,330
June	27,845	1,310	656	928	55,230
July	14,691	793	240	474	29,140
August	10,327	670	169	333	20,480
September	6,880	454	143	229	13,650
Water year 1939-40	120,438	1,310	82	329	238,900

Peak discharge.- Sept. 3 (5:30 p.m.) 3,870 sec.-ft.
*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 27-30, Jan. 19 to Feb. 24.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
U. S. GOVERNMENT PRINTING OFFICE 1936—O-162002

Arkansas River at Portland, Colo.

Location.- Water-stage recorder, lat. 38°24', long. 105°01', in sec. 21, T. 19 S., R. 68 W., at lower edge of Portland, a short distance upstream from Hardscrabble Creek. Datum of gage is 5,921.56 feet above mean sea level (general adjustment of 1929).

Drainage area.- 3,790 square miles.

Records available.- May 1939 to September 1940.

Extremes.- Maximum discharge during year, 3,970 second-feet Aug. 19 (gage height, 5.46 feet); minimum daily, 98 second-feet Apr. 1.
1939-40: Maximum discharge, 6,290 second-feet Aug. 19, 1939 (gage height, 5.68 feet); minimum daily, that of Apr. 1, 1940.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Diversions above station for irrigation. For statements on regulation, see descriptions for stations at Salida and at Granite.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	253	259	283	277	283	292	98	148	1,200	773	295	250
2	199	229	283	286	268	262	103	142	1,290	637	235	217
3	188	229	271	283	241	244	114	148	1,430	567	190	342
4	178	238	232	274	256	190	104	114	1,440	543	172	366
5	175	253	244	286	250	180	100	133	1,150	490	196	205
6	170	244	238	389	244	a200	131	220	1,000	425	284	185
7	162	250	226	413	259	214	150	235	733	397	232	178
8	170	253	211	405	271	190	185	241	658	342	178	202
9	188	244	208	385	244	a225	178	317	658	314	193	314
10	214	265	217	320	244	256	178	317	890	289	150	612
11	223	256	208	331	265	262	205	365	970	314	175	259
12	220	247	202	334	280	262	193	515	980	298	172	208
13	220	253	190	334	238	232	175	805	1,020	385	226	193
14	232	241	188	304	223	241	136	910	1,110	310	450	226
15	226	229	205	280	286	241	122	741	1,010	280	465	190
16	211	223	226	260	283	253	122	531	940	665	445	185
17	223	205	241	289	253	314	170	789	781	725	475	190
18	229	208	244	271	235	295	162	1,390	757	658	495	196
19	214	205	235	196	271	265	162	1,260	833	611	850	202
20	196	202	223	211	271	253	188	890	824	611	520	202
21	188	208	235	286	238	208	202	980	950	725	510	217
22	188	226	232	280	259	180	196	1,000	773	930	579	268
23	182	229	229	289	274	178	140	900	862	733	680	351
24	182	214	232	274	277	193	126	733	1,180	618	495	417
25	188	214	247	256	262	178	119	585	1,070	465	460	479
26	188	214	253	307	256	178	127	695	960	373	271	460
27	199	226	232	381	265	155	129	881	920	256	217	397
28	211	229	211	381	274	152	150	1,110	940	241	202	381
29	265	247	244	328	295	138	162	1,110	862	259	220	331
30	271	283	247	295	-	122	155	1,040	881	304	223	334
31	265	-	262	289	-	114	-	950	-	334	232	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	6,418	271	162	207	12,730
November	7,023	283	202	234	13,930
December	7,199	283	188	232	14,280
Calendar year	-	-	-	-	-
January	9,514	413	196	307	18,870
February	7,568	295	223	261	15,010
March	6,667	314	114	215	13,220
April	4,482	205	98	149	8,890
May	20,195	1,390	114	651	40,060
June	29,072	1,440	658	969	57,660
July	14,872	930	241	480	29,500
August	10,487	850	150	338	20,800
September	8,757	612	178	292	17,370
Water year 1939-40	132,254	1,440	98	361	262,300

Peak discharge.- July 22 (1 a.m.) 2,080 sec.-ft.; Aug. 19 (5:15 p.m.) 3,970 sec.-ft.; Sept. 3 (10:30 p.m.) 2,950 sec.-ft.
a No gage-height record; discharge interpolated.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River near Pueblo, Colo.

Location.- Water-stage recorder, lat. 38°16', long. 104°41', in sec. 34, T. 20 S., R. 65 W., at intake of south-side waterworks, 4 miles west of center of Pueblo. Datum of gage is 4,689.82 feet above mean sea level (general adjustment of 1929).
Drainage area.- 4,730 square miles.
Records available.- May 1885 to September 1886 September 1894 to September 1927, and October 1933 to September 1940 (at present site) and June to December 1887 (at site 5 miles upstream) in reports of Geological Survey. May 1885 to September 1886 and September 1894 to September 1940 in reports of State engineer. (Records for May 1925 to September 1934 do not include water diverted above station into intake of north-side waterworks.)
Average discharge.- 36 years (1894-1924, 1934-40), 748 second-feet; 9 years (1925-34), 624 second-feet (not including water diverted above station into intake of north-side waterworks.).
Extremes.- Maximum discharge during year, 3,860 second-feet Aug. 19, from rating curve extended above 2,700 second-feet; minimum daily, 20 second-feet Apr. 1.
1885-87, 1894-1940: Maximum discharge, 103,000 second-feet June 3, 1921 (gage height, 24.66 feet, from gage at Pueblo), by slope-area method, including estimated discharge of Dry Creek, 19,500 second-feet; minimum daily, 18 second-feet (including 13 second-feet diverted above station into intake of north-side waterworks) Apr. 7, 1935.
Remarks.- Records good except those for periods of ice effect, which are fair. Records include water diverted above station into intake of north-side waterworks for municipal supply of Pueblo. Diversions above station for irrigation. For statements on regulation, see descriptions for stations at Salida and Granite.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	181	187	213	204	362	213	20	84	994	658	186	233
2	142	151	201	285	311	207	26	93	1,100	552	140	223
3	127	134	199	218	312	219	29	80	1,270	648	124	199
4	125	142	164	189	296	200	42	79	1,340	471	83	903
5	111	156	148	178	285	150	48	83	1,180	493	78	210
6	110	155	152	158	297	172	58	101	936	384	107	172
7	135	146	152	286	287	155	90	172	748	339	299	124
8	117	158	135	297	338	149	99	163	609	348	48	118
9	136	159	128	294	347	148	104	197	633	227	52	185
10	157	167	127	291	290	193	92	250	716	195	35	703
11	174	173	218	289	333	220	115	254	884	166	27	320
12	174	169	204	279	395	237	123	359	876	217	53	211
13	163	165	195	267	356	196	117	613	977	255	41	199
14	168	151	178	271	287	194	125	806	1,040	292	240	208
15	147	147	191	271	411	206	68	778	1,050	200	362	247
16	133	137	212	311	360	194	49	562	941	386	394	165
17	122	125	224	357	249	237	78	602	826	625	379	154
18	131	130	228	327	250	282	104	1,060	678	541	446	167
19	123	122	230	178	222	231	89	1,100	727	559	686	174
20	104	130	223	113	244	204	104	893	727	593	691	158
21	91	132	221	135	221	156	137	776	689	588	494	153
22	88	140	240	244	211	119	133	741	802	885	588	190
23	78	155	253	236	237	102	121	796	715	615	578	246
24	72	151	261	278	252	114	42	755	1,090	569	502	628
25	86	139	233	225	244	119	42	530	980	469	432	385
26	108	140	221	191	214	110	44	554	934	304	346	567
27	113	137	198	311	196	101	50	721	821	285	212	385
28	115	148	176	264	201	90	64	976	815	168	184	331
29	155	158	168	316	184	68	92	1,250	767	143	177	287
30	202	182	145	364	-	56	94	867	736	122	198	254
31	206	-	166	414	-	21	-	777	-	186	216	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	4,094	206	72	132	8,120
November	4,486	187	122	150	8,900
December	6,004	261	127	194	11,910
Calendar year 1939	177,514	2,180	55	486	352,100
January	8,041	414	113	259	15,950
February	8,192	411	184	282	16,250
March	5,063	262	21	163	10,040
April	2,399	137	20	80.0	4,760
May	17,072	1,250	79	551	33,860
June	26,601	1,340	609	887	52,760
July	12,483	665	122	403	24,760
August	8,398	691	27	271	16,660
September	8,499	903	118	283	16,860
Water year 1939-40	111,332	1,340	20	304	220,800

Peak discharge.- May 29 (8 p.m.) 2,770 second-feet; Aug. 19 (8 p.m.) 3,860 sec.-ft.; Sept. 4 (1 a.m.) 3,530 sec.-ft.
Note.- Stage-discharge relation affected by ice Dec. 26-31, Jan. 7-13, Jan. 28 to Feb. 8.

U. S. GOVERNMENT PRINTING OFFICE 1936—O-163001

Arkansas River near Avondale, Colo.

Location.- Water-stage recorder, lat. 38°15', long. 104°24', in sec. 1, T. 21 S., R. 63 W., half a mile upstream from Sixmile Creek and 2½ miles west of Avondale.

Drainage area.- 6,350 square miles.

Records available.- May 1939 to September 1940.

Extremes.- Maximum discharge during year, 7,180 second-feet May 29 (gage height, 4.61 feet), from rating curve extended above 2,100 second-feet; minimum daily, 50 second-feet Apr. 2.
1939-40: Maximum discharge, that of May 29, 1940; minimum daily, that of Apr. 2, 1940.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Storage and diversion above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	196	220	228	344	458	338	60	94	1,180	899	333	192
2	192	200	236	344	394	388	50	95	1,290	780	264	173
3	184	176	232	360	388	355	65	92	1,440	899	220	162
4	180	173	228	382	388	344	115	90	1,580	636	152	1,520
5	176	176	192	350	422	311	118	92	1,690	692	92	292
6	173	188	204	256	399	311	133	95	1,530	512	88	162
7	170	184	204	300	404	292	159	133	1,240	416	236	130
8	170	176	200	360	404	292	180	216	910	422	244	102
9	166	184	188	372	410	276	196	188	692	311	188	80
10	166	192	180	382	382	280	184	232	750	268	127	2,040
11	173	196	220	410	404	333	220	236	1,110	200	110	452
12	184	204	248	399	422	344	232	272	1,000	240	102	355
13	180	196	236	399	382	296	220	434	1,070	244	98	264
14	176	184	232	322	360	284	204	660	1,100	272	88	366
15	188	184	236	316	416	296	180	710	1,200	192	306	512
16	160	184	248	292	470	268	136	564	910	410	377	240
17	145	176	268	377	410	256	162	512	949	604	360	196
18	150	166	272	366	360	311	184	1,030	700	588	491	184
19	155	159	272	252	360	296	180	1,290	750	548	649	188
20	145	159	276	240	388	260	178	1,100	790	564	1,630	180
21	138	166	268	196	377	244	178	910	750	604	498	176
22	132	156	264	236	372	208	176	1,000	899	1,010	620	204
23	127	170	268	236	394	180	170	988	692	676	790	256
24	124	184	260	244	410	176	140	877	1,000	644	652	730
25	132	170	268	236	382	188	80	636	1,050	484	533	612
26	136	166	284	240	366	170	70	588	1,000	416	440	740
27	140	173	228	260	344	173	75	790	910	484	300	533
28	155	180	228	355	360	152	82	1,290	888	173	280	434
29	170	184	192	428	328	145	94	3,250	910	159	256	377
30	212	196	240	452	-	127	97	1,960	866	1,510	236	333
31	236	-	311	446	-	124	-	1,520	-	410	212	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	5,131	236	124	166	10,180
November	5,422	220	156	181	10,750
December	7,411	311	180	239	14,700
Calendar year	-	-	-	-	-
January	10,152	452	196	327	20,140
February	11,354	470	328	392	22,520
March	8,018	388	124	259	15,900
April	4,318	232	50	144	8,560
May	21,944	3,250	90	708	43,530
June	30,846	1,690	692	1,028	61,180
July	16,267	1,510	159	525	32,270
August	10,972	1,630	88	354	21,760
September	12,185	2,040	80	406	24,170
Water year 1939-40	144,020	3,250	50	393	285,700

Peak discharge.- July 30 (2:30 a.m.) 3,890 sec.-ft.; Aug. 20 (12:01 a.m.) 4,380 sec.-ft.
Note.- Discharge for periods of no gage-height record, Oct. 16-29, Apr. 1-3, Apr. 20 to May 5, July 11-13, 15, computed on basis of 1 discharge measurement, records for station near Pueblo, and records of diversions.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog al Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-162860

Arkansas River near Nepesta, Colo.

Location.- Water-stage recorder upstream from diversion dam of Oxford Farmers Co. canal, lat. 38°11', long. 104°10', in sec. 31, T. 21 S., R. 60 W., 1½ miles west of Nepesta.

Drainage area.- 9,130 square miles.

Records available.- September 1897 to October 1903, July 1909 to November 1912, and October 1933 to September 1940 in reports of Geological Survey. September 1897 to October 1903, July 1909 to November 1912, and January 1914 to September 1940 in reports of State engineer.

Extremes.- Maximum discharge during year, 8,100 second-feet May 29 (gage height, 5.25 feet), from rating curve extended above 6,300 second-feet; minimum daily, 12 second-feet Aug. 14.

1897-1903, 1909-12, 1914-40: Maximum discharge, 180,000 second-feet at point 9 miles upstream June 4, 1921, by slope-area method; no flow at times during 1902, 1910, 1931, 1934.

Remarks.- Records fair. Storage and diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	136	144	200	255	283	72	66	956	380	279	80
2	125	141	167	215	250	362	45	66	1,160	510	267	110
3	120	149	155	230	260	348	55	62	1,190	818	198	96
4	70	125	170	220	245	317	62	66	1,100	561	198	1,070
5	56	136	158	215	212	312	68	62	1,230	579	98	365
6	58	152	155	190	192	292	92	45	1,120	494	48	232
7	67	155	158	170	*158	264	112	62	972	345	160	85
8	69	146	146	180	152	242	140	174	626	345	189	26
9	93	158	141	185	164	202	167	196	606	279	122	20
10	91	179	146	200	176	212	174	170	678	198	37	2,030
11	100	173	155	*210	170	307	218	209	517	149	30	615
12	122	176	189	218	192	338	218	218	456	117	17	370
13	122	170	173	215	235	283	237	293	456	126	18	300
14	125	152	170	211	322	278	196	565	525	144	12	413
15	125	167	*176	208	411	269	169	660	570	222	18	988
16	98	186	192	215	500	246	150	706	699	425	16	282
17	91	212	196	222	376	212	185	489	699	174	16	169
18	84	205	205	208	317	205	205	471	646	112	56	102
19	103	192	227	160	292	241	170	950	615	78	192	104
20	103	182	242	170	317	205	140	992	748	66	892	104
21	103	199	212	200	292	200	133	648	748	124	222	83
22	91	192	199	210	288	185	156	525	860	279	157	222
23	86	144	176	202	338	150	156	516	646	340	419	149
24	77	158	185	211	362	112	153	412	615	213	239	818
25	69	144	200	180	397	118	115	516	525	98	133	657
26	73	144	180	205	312	137	72	471	525	166	108	988
27	96	144	150	220	333	127	66	671	479	720	88	390
28	100	155	146	240	259	118	64	1,020	360	385	42	370
29	115	164	154	270	307	100	53	2,750	380	133	63	275
30	117	158	180	290	-	92	59	1,360	315	940	49	310
31	136	-	195	280	-	89	-	1,170	-	305	58	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,031	146	56	97.8	6,010
November	4,894	212	125	163	9,710
December	5,442	242	141	176	10,790
Calendar year 1939	129,128	2,550	30	354	256,100
January	6,550	290	160	211	12,990
February	8,084	500	152	279	16,030
March	6,846	362	89	221	13,580
April	3,922	237	45	131	7,780
May	16,581	2,750	45	535	32,890
June	21,022	1,230	315	701	41,700
July	9,825	940	66	317	19,490
August	4,441	892	12	143	8,810
September	11,823	2,030	20	394	23,450
Water year 1939-40	102,461	2,750	12	280	203,200

Peak discharge.- May 29 (9 a.m.) 8,100 sec.-ft.; June 30 (5 p.m.) 5,800 sec.-ft.
*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 24 to Feb. 4.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River at La Junta, Colo.

Location.- Water-stage recorder, lat. 37°59', long. 103°31', in sec. 2, T. 24 S., R. 55 W., at East Bridge in La Junta, just upstream from King Arroyo. Datum of gage is 4,039.60 feet above mean sea level (general adjustment of 1929).

Drainage area.- 12,200 square miles.

Records available.- May to August 1889, December 1893 to December 1895, January to December 1901, April to October 1903, August to November 1908, April 1912 to December 1913, and October 1933 to September 1940 in reports of Geological Survey. December 1893 to December 1895, January to December 1901, April to October 1903, August to November 1908, and April 1912 to September 1940 in reports of State engineer. This station has been maintained at several different sites in La Junta, but all records are equivalent.

Average discharge.- 28 years (1912-40), 255 second-feet.

Extremes.- Maximum discharge, 4,420 second-feet Sept. 10 (gage height, 6.70 feet); minimum daily, 1.3 second-feet Jan. 28.
1889, 1893-95, 1901, 1903, 1912-40: Maximum discharge, 200,000 second-feet June 4, 1921 (gage height, 18.4 feet), by slope-area method; no flow Jan. 20-23, Mar. 20-22, 1915.

Remarks.- Records good. Storage and diversion above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	7.4	9.4	39	131	20	13	33	394	35	199	54
2	64	8.1	4.9	64	99	72	7.4	34	934	71	82	58
3	55	7.4	3.6	124	63	67	8.1	21	697	67	28	59
4	55	7.4	3.6	115	45	67	11	23	614	124	20	84
5	46	5.5	2.8	86	37	48	6.8	30	314	76	33	489
6	42	5.5	3.3	66	30	48	19	30	294	73	37	71
7	40	6.2	3.6	158	28	88	12	35	275	57	46	4.7
8	39	6.2	3.1	80	22	67	11	41	314	55	33	9.6
9	49	7.4	6.8	54	15	35	5.5	14	265	37	36	14
10	47	7.4	8.7	47	11	19	23	8.7	121	46	39	761
11	45	6.2	7.4	64	14	21	23	25	91	49	42	61
12	41	6.2	3.3	62	14	28	23	23	101	51	44	39
13	40	5.5	11	76	11	93	22	30	115	51	42	86
14	52	9.4	30	57	8.7	156	21	36	113	55	36	113
15	53	12	22	28	3.3	106	16	94	92	62	36	364
16	47	12	23	15	5.5	82	17	205	142	67	39	319
17	45	13	28	12	3.3	42	46	226	152	93	40	57
18	40	15	33	20	3.6	27	64	437	242	117	78	34
19	36	14	45	29	14	16	76	294	170	46	168	9.6
20	31	19	59	79	11	40	13	462	530	46	142	8.8
21	28	17	60	57	8.7	67	6.2	462	128	53	152	7.1
22	24	11	55	31	46	36	8.1	324	148	66	18	7.1
23	18	11	71	22	63	48	7.4	184	238	60	7.1	8.8
24	9.4	20	100	58	82	41	8.7	162	123	91	33	27
25	5.5	19	97	35	126	27	7.4	107	75	91	22	663
26	4.2	40	86	48	158	13	23	178	64	102	20	339
27	4.9	36	72	10	117	11	32	152	23	325	27	456
28	5.5	8.1	66	1.3	90	10	27	68	30	310	40	280
29	5.5	3.3	71	2.8	67	5.5	32	679	58	122	48	117
30	5.5	12	45	3.3	-	16	35	280	57	108	54	91
31	5.5	-	49	28	-	16	-	344	-	544	56	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,050.0	69	4.2	33.9	2,080
November	358.2	40	3.3	11.9	710
December	1,083.5	100	2.8	35.0	2,150
Calendar year 1939	52,857.7	1,720	2.8	145	104,800
January	1,571.4	158	1.3	50.7	3,120
February	1,327.1	158	3.3	45.8	2,630
March	1,432.5	156	5.5	46.2	2,840
April	624.6	76	5.5	20.8	1,240
May	5,041.7	679	8.7	163	10,000
June	6,914	934	23	230	13,710
July	3,150	544	35	102	6,250
August	1,697.1	199	7.1	54.7	3,370
September	4,691.7	761	4.7	156	9,310
Water year 1939-40	28,941.8	934	1.3	79.1	57,410

Arkansas River at Caddoa, Colo.

Location.- Water-stage recorder, lat. 38°06', long. 102°55', in northwest corner of sec. 4, T. 23 S., R. 49 W., 2 miles east of Caddoa and just upstream from Caddoa Creek. Datum of gage is 3,741.04 feet above mean sea level (general adjustment of 1929, Corps of Engineers, U. S. Army bench mark). Prior to Feb. 22, 1940, water-stage recorder at site 3 miles upstream. Datum of gage was 3,760.23 feet above mean sea level (Corps of Engineers, U. S. Army bench mark).

Drainage area.- 19,000 square miles.

Records available.- March 1938 to September 1940.

Extremes.- Maximum discharge during year, 6,200 second-feet Sept. 11 (gage height, 5.00 feet), from rating curve extended above 4,900 second-feet; minimum daily, 8 second-feet Sept. 3.

1938-40: Maximum discharge, 11,800 second-feet July 18, 1938 (gage height, 5.85 feet, site and datum then in use), from rating curve extended above 5,800 second-feet; minimum daily, 5 second-feet July 16, 1939.

Remarks.- Records good except those for period of ice effect, which are fair, and those for period of no gage-height record, which are poor. Storage and diversions above station for irrigation.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	23	63	202	58	158	50	33	450	25	222	10
2	41	23	53	160	76	177	45	31	373	29	115	9
3	43	27	46	180	86	173	35	29	533	67	62	8
4	40	27	46	202	99	163	33	29	470	58	40	17
5	40	26	43	191	111	135	31	24	1,050	40	35	41
6	43	25	40	137	128	124	33	22	561	54	68	131
7	46	26	35	102	146	108	45	22	382	28	46	42
8	51	28	32	86	*128	116	45	77	346	19	27	15
9	56	29	32	102	163	109	42	60	533	27	17	9
10	58	33	30	92	160	87	42	47	1,930	27	13	31
11	63	33	28	*68	168	70	60	35	1,360	18	18	3,460
12	60	33	26	65	157	58	70	29	500	27	18	824
13	58	33	28	80	*202	63	63	28	282	22	27	315
14	51	30	32	86	174	60	53	28	192	31	24	276
15	48	29	33	96	128	108	37	28	149	31	19	153
16	48	29	36	76	137	108	35	26	100	18	19	334
17	48	29	32	70	124	101	60	73	75	22	316	328
18	56	29	30	65	120	94	83	194	60	11	448	169
19	58	32	40	65	157	63	120	242	112	30	307	94
20	60	33	43	65	202	63	112	194	118	31	638	72
21	58	40	63	65	a192	58	144	230	72	21	256	48
22	56	41	51	65	a182	58	242	310	47	19	177	40
23	51	43	186	63	a172	58	177	296	56	82	87	30
24	44	41	252	63	a162	58	154	450	153	38	120	30
25	40	41	274	60	a152	55	124	269	131	25	120	86
26	36	48	308	60	a142	55	87	230	77	27	83	448
27	29	58	360	58	a132	50	66	283	50	409	53	402
28	28	80	308	56	a122	60	53	930	38	266	28	380
29	28	80	260	51	a112	66	47	511	30	156	20	293
30	28	86	209	*46	-	70	47	1,020	25	97	17	216
31	28	-	260	53	-	70	-	430	-	216	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,428	63	26	46.1	2,830
November	1,135	86	23	37.8	2,250
December	3,279	360	26	106	6,500
Calendar year 1939	68,601	1,820	5	188	136,000
January	2,850	202	46	91.9	5,650
February	4,112	202	58	142	8,160
March	2,816	177	50	90.8	5,590
April	2,235	242	31	74.5	4,430
May	6,210	1,020	22	200	12,320
June	10,275	1,930	25	342	20,380
July	1,991	409	11	64.2	3,950
August	3,455	638	13	111	6,850
September	8,311	3,460	8	277	16,480
Water year 1939-40	48,097	3,460	8	131	95,390

*Winter discharge measurement made on this day.
a No gage-height record; discharge estimated.
Note.- State-discharge relation affected by ice Dec. 28 to Feb. 13.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River at Lamar, Colo.

Location.- Water-stage recorder, lat. 38°06', long. 102°37', in sec. 30, T. 22 S., R. 46 W., at highway bridge, 1 mile north of Lamar. Datum of gage is 3,629.61 feet above mean sea level (general adjustment of 1929).

Drainage area.- 19,800 square miles.

Records available.- May to December 1913 and October 1933 to September 1940 in reports of Geological Survey. May 1913 to September 1940 in reports of State engineer.

Average discharge.- 27 years, 262 second-feet.

Extremes.- Maximum discharge during year, 4,080 second-feet June 11 (gage height, 4.40 feet); minimum daily, 0.7 second-foot July 18-20, Sept. 9.
1913-40: Maximum discharge, 165,000 second-feet June 5, 1921, by slope-area method; no flow at times during 1913-15.

Remarks.- Records fair. Storage and diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	2.2	2.4	2.6	5.2	5.2	2.2	2.4	17	4.0	108	1.0
2	2.2	1.6	2.8	2.8	5.2	24	2.4	2.6	14	3.1	73	1.0
3	2.2	1.8	2.8	3.0	5.2	6.8	2.4	2.6	14	2.5	52	1.3
4	2.4	1.8	3.0	3.0	5.2	6.3	2.4	2.6	14	12	30	.9
5	2.4	1.8	3.6	b3.0	5.5	6.8	2.4	2.2	124	9.0	25	.9
6	2.4	2.2	4.4	b3.0	5.5	7.4	2.4	1.8	397	3.7	29	1.9
7	2.6	2.4	3.8	b3.0	5.2	5.8	2.4	1.8	34	3.7	46	1.0
8	2.6	2.6	3.8	b3.0	6.3	6.3	2.4	3.0	32	1.9	42	.8
9	2.6	2.6	3.6	3.8	6.3	6.8	2.4	2.0	13	3.4	17	.7
10	2.6	3.0	3.3	3.8	4.1	5.5	2.4	2.0	132	1.6	12	4.0
11	2.6	3.0	3.0	3.3	4.4	5.5	2.4	1.8	1,270	1.6	9.0	724
12	2.6	2.8	2.8	3.3	7.9	5.5	2.4	2.2	156	1.6	6.5	342
13	4.1	2.8	2.6	3.8	8.4	5.8	2.4	2.2	33	1.6	9.0	37
14	4.1	2.6	2.6	5.2	5.8	5.5	2.4	2.4	21	1.6	4.0	20
15	4.1	2.8	2.6	6.3	5.2	5.2	2.4	2.4	6	1.6	6.5	11
16	4.1	2.6	2.6	5.8	4.7	5.2	2.4	2.8	a2	1.6	6.5	10
17	4.4	2.4	2.6	3.8	2.2	4.4	2.6	3.3	a2	.9	6.5	7.5
18	4.1	2.4	2.8	3.8	3.6	4.1	2.8	3.3	a2	.7	39	5.8
19	3.8	2.4	2.8	b3.0	3.3	3.8	5.2	3.0	a2	.7	116	5.8
20	3.0	2.2	2.8	b3.0	3.6	3.6	2.6	3.3	a2	.7	255	5.0
21	1.6	2.2	2.8	b3.5	4.4	3.6	2.6	3.6	a2	1.9	a8.0	4.6
22	1.8	2.2	3.6	b3.5	4.4	3.3	2.6	2.4	3.1	2.5	4.5	3.8
23	1.6	2.0	4.1	b3.5	3.0	3.0	2.6	2.6	2.8	1.6	4.5	5.0
24	1.6	2.0	3.3	b3.5	3.3	3.0	2.6	2.6	2.5	12	7.0	4.0
25	1.4	2.0	b3.0	b3.0	3.8	2.8	2.6	2.6	21	7.5	34	3.0
26	1.0	2.0	b3.0	b3.5	5.0	2.8	2.6	2.5	16	6.5	33	3.0
27	2.8	2.2	b3.0	5.2	4.4	2.8	2.6	16	12	21	13	3.0
28	2.8	2.4	b2.0	4.4	3.8	2.8	2.6	185	9.0	24	3.7	3.8
29	2.6	2.4	b3.0	5.2	3.6	2.4	2.6	73	6.5	48	2.8	2.8
30	2.6	2.4	b3.0	6.3	-	2.2	2.0	146	4.5	48	2.8	3.8
31	2.2	-	2.8	6.8	-	2.2	-	26	-	48	2.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	83.1	4.4	1.0	2.68	165
November	69.8	3.0	1.6	2.33	138
December	94.3	4.4	2.0	3.04	187
Calendar year 1939	4,051.9	155	.7	11.1	8,030
January	120.7	6.8	2.6	3.89	239
February	138.5	6.4	2.2	4.78	275
March	160.4	24	2.2	5.17	318
April	76.8	5.2	2.0	2.56	152
May	512.0	185	1.8	16.5	1,020
June	2,366.4	1,270	2	78.9	4,690
July	278.5	48	.7	8.98	552
August	1,008.1	255	2.8	32.5	2,000
September	1,218.4	724	.7	40.6	2,420
Water year 1939-40	6,127.0	1,270	.7	16.7	12,160

a No gage-height record; discharge computed on basis of observer's notes.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolo[illegible]al Survey

Arkansas River at Holly, Colo.

Location.- Water-stage recorder, lat. 38°02', long. 102°07', in sec. 14, T. 23 S., R. 42 W., just upstream from Wild Horse Creek, 400 feet upstream from highway bridge, and half a mile south of Holly.

Drainage area.- 25,000 square miles.

Records available.- December 1893 to December 1894, May 1901 to April 1902 (published as at Barton or at Byron), October 1907 to September 1927, and October 1933 to September 1940 in reports of Geological Survey. October 1907 to September 1940 in reports of State engineer.

Average discharge.- 33 years (1907-40), 330 second-feet.

Extremes.- Maximum discharge during year, 1,680 second-feet Sept. 12 (gage height, 4.58 feet); minimum daily, 0.1 second-foot Aug. 14-16.

1893-4, 1901-2, 1907-40: Maximum discharge, 136,000 second-feet Oct. 20, 1908 (gage height, 11.0 feet, datum then in use), by slope-area method; no flow Aug. 9, 1924, May 27 to June 6, June 26 to July 3, 1925.

Revision.- The maximum discharge for water year 1939 has been revised to 750 second-feet May 26 (gage height, 3.78 feet) superseding figure published in Water-Supply Paper 877.

Remarks.- Records fair. Storage and several diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	3.0	3.4	1.8	12	48	29	3.0	115	3.4	0.2	2.1
2	12	3.0	3.4	2.1	17	54	23	4.4	62	3.4	.2	2.1
3	14	4.4	2.5	2.5	20	66	20	9.2	56	3.9	.2	2.1
4	13	4.4	2.3	2.1	20	58	19	23	40	3.9	.2	2.1
5	13	3.0	2.5	3.0	25	54	18	11	44	3.0	.2	28
6	11	3.4	3.4	4.8	25	54	20	14	296	3.0	.2	147
7	5.3	3.9	3.9	5.8	25	50	20	15	209	2.5	.7	25
8	2.5	4.8	4.4	11	30	52	19	88	108	2.5	237	5.8
9	1.6	4.8	3.9	14	12	52	20	39	98	2.1	1.0	3.4
10	2.1	2.3	3.9	14	38	41	17	34	139	1.6	.3	3.4
11	2.1	3.0	3.4	7.9	44	41	7.9	28	457	1.4	.3	3.4
12	2.3	3.0	2.5	4.4	44	31	9.2	31	307	1.4	.2	966
13	2.3	3.4	3.0	5.3	66	26	13	28	204	1.2	.2	164
14	2.3	3.9	3.4	5.3	69	34	9.9	19	160	.7	.1	27
15	2.5	3.9	3.4	5.6	64	36	9.2	20	95	.7	.1	12
16	1.8	3.9	3.9	6.4	52	32	6.7	22	76	1.0	.1	6.7
17	2.3	3.9	4.8	5.8	60	31	5.3	20	44	.5	433	3.4
18	2.5	3.9	5.8	4.9	60	36	5.8	52	38	.5	8.6	3.0
19	1.8	3.9	3.0	3.7	62	34	9.9	24	38	.5	5.3	2.5
20	2.1	4.4	3.9	3.9	56	28	8.6	39	38	.5	3.4	2.1
21	1.8	4.4	5.3	4.2	52	28	7.2	5.3	21	.5	4.4	2.1
22	2.5	4.4	3.0	4.2	52	29	5.3	3.4	15	1.0	3.4	2.1
23	3.0	4.4	7.2	4.2	54	22	4.8	5.8	13	1.0	3.0	2.1
24	3.0	4.8	2.5	4.2	46	29	8.6	9.9	11	.7	2.5	3.4
25	3.0	4.4	2.3	4.4	58	36	6.3	11	9.2	.5	3.0	3.4
26	2.5	3.4	2.3	6.4	58	34	7.2	17	7.2	.5	3.0	3.4
27	2.3	3.4	2.5	10	52	34	14	24	4.8	.7	2.3	3.4
28	2.3	3.4	2.0	12	46	32	11	313	4.8	.5	1.8	3.4
29	2.1	3.4	2.2	11	48	26	5.8	471	3.9	.5	1.6	3.4
30	2.1	3.4	2.2	12	-	20	4.4	130	3.9	.5	2.1	9.9
31	3.0	-	2.1	12	-	25	-	164	-	.3	2.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	137.1	14	1.6	4.42	272
November	113.6	4.8	2.3	3.79	225
December	104.3	7.2	2.0	3.36	207
Calendar year 1939	21,211.6	610	.3	58.1	42,070
January	198.9	14	1.8	6.42	395
February	1,267	69	12	43.7	2,510
March	1,173	66	20	37.8	2,330
April	365.1	29	4.4	12.2	724
May	1,678.0	471	3.0	54.1	3,330
June	2,717.8	457	3.9	90.6	5,390
July	44.4	3.9	.3	1.43	88
August	720.9	433	.1	23.3	1,430
September	1,447.7	966	2.1	48.3	2,870
Water year 1939-40	9,967.8	966	.1	27.2	19,770

Note.- Stage-discharge relation affected by ice Dec. 28-30, Jan. 15-29.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolo, :al Survey

U. S. GOVERNMENT PRINTING OFFICE 1939—O 187060

Arkansas River at Syracuse, Kans.

Location.- Water-stage recorder, lat. 37°58', long. 101°45', in NW¼ sec. 18, T. 24 S., R. 40 W., at highway bridge half a mile south of Syracuse.

Drainage area.- 25,500 square miles.

Records available.- August 1902 to July 1906, June 1921 to September 1940.

Average discharge.- 19 years (1921-40), 300 second-feet.

Extremes.- Maximum discharge during year, 2,230 second-feet June 12 (gage height, 4.70 feet); minimum, 1 second-foot many times during year.
1902-6, 1921-40: Maximum gage height, about 11.75 feet, present datum, June 6, 1921 (discharge not determined); minimum discharge, 1 second-foot at times in 1931, 1934, 1937, 1939, and 1940. Bank-full stage, 7.0 feet.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	1	3	10	28	50	3	3	176	4	1	2
2	1	1	3	10	27	81	2	3	114	4	1	2
3	1	1	2	10	27	70	2	2	78	4	2	2
4	1	1	2	10	32	72	1	4	67	3	6	2
5	1	3	2	10	41	64	1	5	64	3	4	2
6	1	3	2	10	55	64	1	4	67	4	3	8
7	1	2	2	10	67	50	3	4	590	3	4	25
8	1	2	3	10	81	36	4	34	292	3	4	8
9	1	2	2	10	75	32	6	154	173	3	56	4
10	1	2	2	10	86	36	9	50	196	2	4	3
11	1	1	3	15	133	36	7	19	150	2	2	3
12	1	1	1	15	143	37	7	10	1,270	2	2	123
13	1	1	2	15	104	39	3	8	565	2	2	738
14	1	1	3	15	137	43	1	8	372	2	2	120
15	1	2	2	15	147	32	1	7	224	2	2	40
16	1	3	2	15	140	25	1	7	172	2	2	28
17	1	1	3	15	126	20	5	180	131	2	6	6
18	1	1	3	15	130	23	5	67	93	2	153	5
19	1	1	3	15	108	25	6	55	73	2	28	4
20	1	1	3	15	101	20	5	20	53	2	12	4
21	1	1	4	15	95	17	3	13	30	2	6	3
22	1	1	5	15	84	16	4	8	24	1	4	3
23	1	1	5	15	81	17	3	7	18	1	3	6
24	1	2	5	15	67	19	3	6	14	1	2	31
25	1	3	7	15	62	16	2	7	12	1	2	9
26	1	5	8	15	59	12	6	7	10	1	13	4
27	1	3	10	15	52	15	5	50	7	1	3	4
28	1	3	10	19	43	10	3	41	5	1	2	3
29	1	3	10	19	39	10	3	380	5	1	1	4
30	1	7	10	19	-	7	4	396	4	1	13	4
31	1	-	9	23	-	4	-	188	-	1	4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	31	1	1	1.0	61
November	60	7	1	2.0	119
December	131	10	1	4.2	260
Calendar year 1939	28,493	602	1	78.1	56,510
January	435	23	10	14.0	863
February	2,370	147	27	81.7	4,700
March	998	81	4	32.2	1,980
April	109	9	1	3.6	216
May	1,747	396	2	56.4	3,470
June	5,049	1,270	4	168	10,010
July	65	4	1	2.1	129
August	349	153	1	11.3	692
September	1,200	738	2	40.0	2,380
Water year 1939-40	12,544	1,270	1	34.3	24,880

Note.- Stage-discharge relation affected by ice Dec. 23 to Jan. 31.

9-232 February 1936
400452 O - 41 - 8

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog al Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O 162082

Arkansas River at Garden City, Kans.

Location.- Water-stage recorder and wire-weight gage, lat. 37°57', long. 100°52', in NW¼ sec. 19, T. 24 S., R. 32 W., half a mile south of Garden City.

Drainage area.- 28,800 square miles.

Records available.- June 1922 to September 1940.

Average discharge.- 18 years, 181 second-feet.

Extremes.- Maximum discharge observed during year, 77 second-feet July 1 (gage height, 2.89 feet); no flow numerous times during year.
1922-40: Maximum discharge, 21,200 second-feet Aug. 9, 1929; maximum gage height, 8.56 feet (based on resident engineer's notes) May 31, 1936; no flow during several periods. Bank-full stage, 7.0 feet.

Remarks.- Records fair. Wire-weight gage read once daily. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	7	4	3	3	0	2	1	77	0	
2		0	6	3	3	4	1	0	1	3	0	
3		0	6	3	3	2	0	0	1	2	0	
4		0	6	3	3	2	1	0	2	2	0	
5		0	3	3	3	2	2	0	2	2	0	
6		0	2	4	2	2	2	0	2	1	1	
7		0	6	3	2	3	3	0	3	1	0	
8		0	6	4	2	3	0	0	3	1	3	
9		0	3	3	2	2	0	0	3	1	1	
10		5	1	3	3	2	0	0	3	0	0	
11		5	6	1	3	3	3	0	3	0	1	
12		5	5	4	2	2	3	0	3	0	0	
13		5	5	3	2	2	2	0	3	0	0	
14		5	6	3	3	3	2	0	2	0	0	
15		5	3	3	3	3	3	0	2	0	0	
16		5	3	3	3	2	3	0	2	0	0	
17		5	3	3	3	3	2	0	3	0	0	
18		5	3	3	3	3	2	0	3	0	0	
19		6	3	3	5	3	0	0	0	0	0	
20		6	3	4	3	2	1	0	1	0	0	
21		6	3	3	3	4	0	1	0	0	0	
22		5	0	3	4	3	0	1	0	0	0	
23		5	2	3	3	4	0	1	0	0	0	
24		5	4	2	4	4	1	1	0	0	0	
25		5	3	3	2	2	0	2	0	0	0	
26		7	3	3	3	3	0	0	0	0	0	
27		7	4	0	2	3	0	0	0	0	0	
28		7	3	2	2	3	0	0	0	0	0	
29		6	4	2	3	3	1	0	0	0	0	
30		6	3	2	-	2	2	1	0	0	2	
31		-	4	3	-	2	-	1	-	0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	116	7	0	3.9	230
December	119	7	0	3.8	236
Calendar year 1939	8,766	374	0	24.0	17,390
January	89	4	0	2.9	177
February	82	5	2	2.8	163
March	84	4	2	2.7	167
April	34	3	0	1.1	67
May	10	2	0	.3	20
June	43	3	0	1.4	85
July	90	77	0	2.9	179
August	8	3	0	.3	16
September	0	0	0	0	0
Water year 1939-40	675	77	0	1.8	1,350

Note.- Discharge record based on wire-weight gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River at Larned, Kans.

Location.- Water-stage recorder, lat. 38°10', long. 99°06', in NE¼ sec. 5, 22 S., R. 16 W., at Larned, about 800 feet upstream from Pawnee River. Datum of gage is 1,990.88 feet above mean sea level (general adjustment of 1929).

Drainage area.- 31,000 square miles (revised).

Records available.- June 1922 to September 1940 (discontinued).

Average discharge.- 18 years, 201 second-feet.

Extremes.- Maximum discharge during year, 3,370 second-feet May 9 (gage height, 5.73 feet); no flow at times.
1922-40: Maximum discharge, 14,300 second-feet Aug. 25, 1923 (gage height, 9.5 feet); no flow during several periods. Bank-full stage, 8.5 feet.

Remarks.- Records fair below 100 second-feet and poor above. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	51	27	82	75	55	2	16
2					0	49	25	94	69	75	1	16
3					0	112	23	38	73	73	0	16
4					0	450	23	32	72	c75	0	13
5					0	189	23	34	57	c80	0	11
6					0	124	25	30	66	82	0	9
7					0	94	26	28	1,100	48	0	7
8					0	84	24	37	c2,230	46	0	5
9					0	69	23	2,530	c2,230	47	176	3
10					0	60	26	c1,060	c1,230	43	254	2
11					0	54	26	474	c1,230	37	122	2
12					h28	51	26	230	c730	34	76	h0
13					h58	50	27	152	396	34	51	h0
14					h66	49	26	122	306	29	42	h0
15					h103	58	25	106	260	27	31	h0
16					h56	50	24	92	227	29	27	h0
17					h69	46	c92	94	199	23	28	h0
18					h43	40	c565	c92	171	21	23	h0
19					h41	40	139	c474	148	19	20	h0
20					43	39	82	c855	126	16	19	h0
21					57	38	60	c730	108	16	16	h0
22					60	38	36	c434	101	14	13	h0
23					58	34	35	230	86	14	10	h0
24					70	35	34	h181	81	13	e	h0
25					51	34	32	152	73	13	7	h0
26					66	33	32	120	70	9	4	h0
27					60	32	32	99	63	7	4	h0
28					56	32	31	90	62	5	4	h0
29					52	31	38	86	57	5	1	h0
30					-	30	49	92	55	4	8	h0
31					-	29	-	81	-	2	9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	16,021	700	0	43.9	31,770
January	0	0	0	0	0
February	1,037	103	0	35.8	2,060
March	2,125	450	29	68.5	4,210
April	1,656	565	23	55.2	3,280
May	8,951	2,530	28	289	17,750
June	11,751	2,230	55	392	23,310
July	995	82	2	32.1	1,970
August	956	254	0	30.8	1,900
September	100	16	0	3.3	198
Water year 1939-40	27,571	2,530	0	75.3	54,680

c Stage-discharge relation affected by backwater from Pawnee River; discharge computed on basis of four discharge measurements.
h Computed from once-daily wire-weight gage readings.

Arkansas River at Wichita, Kans.

Location.- Water-stage recorder and wire-weight gage, lat. 37°41', long. 97°21', in SE¼ sec. 20, T. 27 S., R. 1 E., on Douglas Avenue Bridge in Wichita, half a mile downstream from Little Arkansas River.

Drainage area.- 41,600 square miles.

Records available.- June 1921 to March 1935, at site 1½ miles upstream from Little Arkansas River, and July 1934 to September 1940, at present site, in reports of Geological Survey. July 1897 to September 1940 (gage heights only), at present site, in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 3,690 second-feet May 12 (gage height, 5.07 feet); minimum observed, 12 second-feet Jan. 14.

1934-40: Maximum discharge, 12,500 second-feet June 3, 1935 (gage height, 9.67 feet); minimum, 3 second-feet Sept. 3, 1934 (gage height, 0.37 foot).

Maximum stage observed by U. S. Weather Bureau, 13.5 feet June 10, 1923.

Remarks.- Records fair. Diversions above station for irrigation.

Cooperation.- Gage-height record collected in cooperation with U. S. Weather Bureau.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	60	90	85	56	255	126	718	543	275	72	48
2	90	60	85	90	67	301	121	578	509	275	76	94
3	85	60	85	98	76	280	108	532	475	475	112	85
4	90	63	80	76	90	291	98	443	448	1,220	94	366
5	94	67	85	45	108	296	94	470	432	985	108	1,290
6	94	126	85	94	90	280	98	464	443	896	67	1,460
7	90	80	90	94	98	265	135	422	492	985	85	791
8	103	112	90	52	130	311	130	784	475	1,420	72	486
9	144	76	94	67	94	301	117	1,460	498	1,220	153	390
10	121	94	98	45	98	291	90	1,890	877	854	291	486
11	117	94	94	41	135	291	80	2,280	3,020	770	216	584
12	112	98	94	34	168	286	63	3,090	3,460	537	153	498
13	108	94	90	56	149	265	63	1,710	3,090	464	103	358
14	103	85	90	12	172	250	60	1,220	1,980	416	140	280
15	98	76	94	67	206	230	63	861	1,380	379	140	260
16	94	80	94	85	182	230	52	738	1,100	363	135	226
17	90	85	98	60	172	221	196	698	910	353	140	201
18	85	85	98	b60	126	206	332	1,020	777	342	168	187
19	80	85	94	b70	140	196	770	1,940	672	296	182	172
20	76	76	94	b70	126	192	578	1,460	597	245	140	163
21	72	72	94	b70	158	182	597	1,420	532	230	112	149
22	67	76	94	b70	153	172	543	2,030	492	211	117	144
23	67	76	112	b80	182	168	448	2,030	453	196	90	140
24	63	80	108	b80	172	158	400	1,710	432	182	56	140
25	60	76	108	80	168	153	332	1,220	395	168	41	168
26	60	80	108	80	192	158	348	962	363	149	117	144
27	60	80	94	63	187	149	322	826	337	135	30	172
28	56	76	a94	56	206	149	395	757	311	144	48	149
29	60	76	a96	56	221	135	358	634	296	126	56	130
30	60	85	98	48	-	130	578	621	291	80	63	144
31	56	-	85	63	-	126	-	578	-	103	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,649	144	56	85.5	5,250
November	2,433	126	60	81.1	4,830
December	2,913	112	80	94.0	5,780
Calendar year 1939	128,914	5,250	49	353	255,700
January	2,047	98	12	66.0	4,060
February	4,122	221	56	142	8,180
March	6,918	311	126	223	13,720
April	7,695	770	52	256	15,260
May	35,566	2,280	422	1,147	70,540
June	26,080	3,460	291	869	51,730
July	14,494	1,420	80	468	28,750
August	3,418	291	30	110	6,780
September	9,905	1,460	48	330	19,650
Water year 1939-40	118,240	3,460	12	323	234,500

a No gage-height record; discharges interpolated.
b Stage-discharge relation affected by ice.
Note.- Discharge Dec. 30 to Feb. 5 computed on basis of once-daily wire-weight gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River at Arkansas City, Kans.

Location.- Water-stage recorder, lat. 37°04', long. 97°03', in NW¼ sec. 25, T. 34 S., R. 3 E., at Chestnut Avenue highway bridge, half a mile west of Arkansas City and 5 miles upstream from Walnut River.

Drainage area.- 44,700 square miles.

Records available.- September 1902 to July 1906 (incomplete) and September 1921 to September 1940.

Average discharge.- 19 years (1921-40) 1,161 second-feet.

Extremes.- Maximum discharge during year, 11,400 second-feet Sept. 5 (gage height, 13.98 feet); minimum discharge observed, 121 second-feet Oct. 25 (gage height, 6.34 feet).
1902-6, 1921-40: Maximum gage height, 25.64 feet June 11, 1923, from floodmarks (discharge not determined); minimum discharge, 1 second-foot Oct. 9, 1921 (due to diversion by Kansas Gas & Electric Co.'s power canal, which was washed out June 10, 1923). Minimum discharge after canal washed out, 30 second-feet Aug. 19, 1933. Bankfull stage, 16 feet.

Remarks.- Records fair. Discharge determined by parametric shift method. Backwater may occur during flashy peaks on Walnut River. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a178	139	212	205	205	550	376	1,460	907	463	310	267
2	171	139	209	205	220	560	357	1,560	865	510	307	328
3	171	139	a216	200	240	560	335	1,460	823	1,200	300	454
4	171	141	224	200	260	570	335	1,200	782	4,910	318	3,860
5	171	a142	224	200	280	580	314	1,080	750	8,300	437	8,860
6	171	144	224	200	290	580	314	980	724	2,260	361	6,500
7	169	144	233	195	310	580	a325	965	756	1,560	328	6,500
8	a180	160	242	195	315	570	335	972	1,760	1,320	365	2,800
9	192	194	230	195	320	560	a335	3,190	2,950	1,460	365	1,410
10	209	212	a230	195	330	560	a330	4,400	2,260	1,460	328	837
11	221	209	230	195	330	550	a325	4,400	2,440	1,120	339	704
12	221	209	230	190	340	530	a325	3,430	4,030	914	432	691
13	192	209	230	190	340	520	a320	3,860	4,030	788	399	672
14	166	209	230	190	345	500	a315	2,440	3,350	717	354	561
15	160	203	230	190	350	490	314	1,930	2,260	659	321	495
16	160	218	230	190	350	490	332	1,560	1,660	653	318	459
17	160	233	a230	190	350	480	432	1,280	1,360	623	310	441
18	163	227	230	190	360	470	2,380	1,360	1,240	600	297	432
19	163	a221	230	190	360	470	1,000	3,860	1,510	583	287	411
20	163	215	230	190	360	463	802	6,100	1,660	561	287	380
21	163	215	221	190	370	454	893	4,030	1,080	545	293	365
22	a162	215	221	190	390	437	893	3,270	907	561	270	365
23	160	203	221	190	410	415	851	3,110	851	535	264	324
24	160	203	a221	190	450	a413	698	2,950	762	454	258	339
25	171	200	a221	190	480	411	611	2,380	717	428	245	339
26	160	a200	221	190	500	407	907	1,930	672	407	236	339
27	149	200	220	190	520	407	3,190	1,510	617	392	258	328
28	136	200	215	190	540	384	2,510	1,280	583	368	264	318
29	a138	212	215	195	540	384	2,100	1,120	540	342	354	318
30	139	215	210	195	-	380	1,710	1,000	500	324	342	318
31	139	-	210	200	-	a378	-	950	-	321	287	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	5,229	221	136	169	10,370
November	5,770	233	139	192	11,440
December	6,940	242	209	224	13,770
Calendar year 1939	262,224	14,400	136	718	520,200
January	6,005	205	190	194	11,910
February	10,455	540	205	361	20,740
March	15,103	580	378	487	29,960
April	24,264	3,190	314	809	48,130
May	71,017	6,100	950	2,291	140,900
June	43,346	4,030	500	1,445	85,980
July	35,338	8,300	321	1,140	70,090
August	9,834	437	236	317	19,510
September	40,415	8,860	267	1,347	80,160
Water year 1939-40	273,716	8,860	136	748	543,000

a No gage-height record; discharge computed on basis of records at Wichita, Kans., or by interpolation.
Note.- Stage-discharge relation affected by ice Dec. 27 to Mar. 19.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River at Ralston, Okla.

Location.- Water-stage recorder, lat. 36°30'10", long. 96°43'30", in NW¼ sec. 1, T. 23 N., R. 5 E., at bridge on State Highway 18, at Ralston, 2 miles downstream from Salt Creek and 2 miles upstream from Grayhorse Creek. Datum of gage is 776.80 feet above mean sea level (general adjustment of 1912).

Drainage area.- 54,100 square miles.

Records available.- March 1938 to September 1940. Gage-height records collected in same vicinity since 1922 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 27,800 second-feet Sept. 5 (gage height, 10.26 feet); minimum discharge recorded, 160 second-feet Nov. 2 (gage height, 0.17 foot), but may have been less during period of ice effect.

1938-40: Maximum discharge observed, 75,600 second-feet May 23, 1938 (gage height, 16.44 feet); minimum discharge recorded, that of Nov. 2, 1939.

Maximum stage known, 23.24 feet June 11, 1923, at site 1,200 feet downstream and at same datum, from reports of U. S. Weather Bureau.

Remarks.- Records good except those for periods of ice effect, which are poor.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	246	169	265			703	420	4,270	2,000	1,020	524	425
2	246	169	258			703	400	4,370	1,810	970	491	535
3	246	176	258		350	726	390	3,180	1,690	970	480	667
4	246	176	265			718	375	2,540	1,520	1,430	480	9,270
5	242	176	265			718	442	2,330	1,470	3,010	474	20,400
6	238	179	265		h342	726	476	2,000	1,370	6,060	571	13,700
7	224	179	265		*h342	750	525	1,690	1,350	7,550	583	9,040
8	216	189	265		h342	784	507	1,640	1,230	4,240	647	8,730
9	269	199	261		h342	862	476	1,640	1,160	3,090	798	6,580
10	311	h202	265	(*)	h390	826	476	1,470	4,790	2,620	861	4,370
11	319	h238	273		h415	776	513	5,670	7,270	2,400	790	3,180
12	281	h265	*265		h415	742	598	6,060	5,210	2,470	647	2,330
13	246	h269	269		h365	734	585	4,990	5,440	2,260	634	1,870
14	238	h261	269		h415	734	571	4,170	5,440	2,060	595	1,580
15	242	h258	269		h500	734	591	4,370	5,930	1,640	709	1,450
16	238	h261	269	190	h531	734	598	3,520	5,100	1,420	768	1,330
17	227	h261	269		h750	703	564	2,770	4,080	1,270	861	1,160
18	220	h261	269		h818	664	507	3,470	3,260	1,160	730	1,020
19	206	261	261		h776	627	488	3,340	2,850	1,040	709	910
20	202	258	261		750	591	7,580	4,270	2,470	970	654	837
21	199	258	h261		734	558	4,680	12,700	3,340	928	608	775
22	199	254	h269		679	538	2,850	9,560	2,930	877	577	730
23	195	254	h277		679	519	2,330	7,130	2,400	919	513	723
24	192	246	h306	(*)	679	519	2,060	7,840	2,060	1,170	480	667
25	192	242	h311		703	525	1,810	5,680	1,750	997	458	621
26	192	242	h319		687	519	1,690	4,570	1,520	845	436	608
27	182	246	h311		649	494	1,520	3,880	1,360	790	420	577
28	179	242	(*)		656	464	2,860	3,260	1,200	695	410	692
29	172	246	310		703	454	6,450	2,770	1,180	621	395	1,260
30	172	265			-	448	4,570	2,400	1,090	577	400	1,100
31	169	-			-	437	-	2,190	-	553	405	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	6,946	319	169	224	13,780
November	6,902	269	169	230	13,690
December	8,600	-	-	277	17,060
Calendar year 1939	502,758	16,800	169	1,377	997,300
January	5,890	-	-	190	11,680
February	15,412	818	-	531	30,570
March	20,030	862	437	646	39,730
April	47,902	7,580	375	1,597	95,010
May	129,740	12,700	1,470	4,185	257,300
June	84,270	7,270	1,090	2,809	167,100
July	56,622	7,550	553	1,827	112,300
August	18,108	861	395	584	35,920
September	97,137	20,400	425	3,238	192,700
Water year 1939-40	497,559	20,400	-	1,359	986,800

*Winter discharge measurement made on this day.
h No water-stage recorder graph; discharge computed from once-daily readings of wire-weight gage.
Note.- Stage-discharge relation affected by ice Dec. 28 to Feb. 5.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Arkansas River at Tulsa, Okla.

Location.- Water-stage recorder and wire-weight gage, lat. 36°08'40", long. 96°00'10", in NW¼ sec. 11, T. 19 N., R. 12 E., at bridge on U. S. Highway 66, in Tulsa, 17 miles downstream from Cimarron River. Datum of gage is 618.37 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 74,700 square miles.

Records available.- March 1938 to September 1940. Gage-height records collected in same vicinity since 1904 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 143,000 second-feet Sept. 4 (gage height, 16.2 feet), from rating curve extended above 100,000 second-feet; minimum daily, 147 second-feet Jan. 20, occurred during period of ice effect.

1938-40: Maximum discharge, that of Sept. 4, 1940; minimum daily, that of Jan. 20, 1940.

Maximum stage known, 19.8 feet June 13, 1923, from reports of U. S. Weather Bureau.

Remarks.- Records good except those above 5,000 second-feet and those prior to Jan. 10, which are fair, and those for period of ice effect, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	294	246	363	294	236	852	523	6,000	3,110	2,080	838	1,050
2	294	246	309	336	288	950	500	4,600	2,880	1,820	754	768
3	288	246	327	294	318	922	478	4,780	2,590	2,210	702	665
4	282	232	327	d291	363	880	445	4,100	2,370	3,460	652	66,800
5	282	232	327	288	412	922	434	3,420	2,160	9,130	782	48,800
6	282	232	327	186	467	894	569	2,850	2,040	6,800	782	27,800
7	282	232	300	165	456	866	665	2,610	1,930	7,330	615	17,600
8	276	232	318	161	*372	880	728	2,440	1,820	10,000	702	14,400
9	294	232	318	182	354	908	740	2,390	2,060	7,000	1,950	11,400
10	372	258	318	*212	345	908	824	2,500	3,240	4,760	2,220	9,440
11	345	276	318	228	363	964	1,840	2,080	6,980	3,950	1,780	6,400
12	318	288	318	240	390	978	5,460	2,810	10,200	3,550	1,730	4,950
13	345	327	294	264	412	922	4,780	6,200	6,800	3,820	1,900	3,820
14	336	276	294	236	401	908	3,950	5,300	7,400	3,290	2,970	3,020
15	336	276	294	224	401	894	2,700	4,420	7,600	3,020	2,350	2,390
16	282	309	288	240	546	852	1,850	4,100	8,000	2,740	3,060	2,020
17	276	336	288	270	810	852	1,560	4,100	7,000	2,500	4,100	1,830
18	294	336	282	b229	978	838	1,310	3,550	5,820	2,120	2,570	1,740
19	294	372	282	b188	1,120	810	1,040	3,190	4,780	1,870	3,260	1,650
20	264	345	276	*b147	1,240	768	880	4,200	3,950	1,780	2,200	1,550
21	276	327	276	b149	1,120	740	2,700	3,420	3,550	1,960	2,170	1,410
22	258	300	276	b151	1,080	702	7,600	11,100	3,550	1,740	3,020	1,310
23	240	288	372	b153	1,080	665	4,630	12,600	3,820	1,510	2,790	1,220
24	220	276	390	b155	1,010	665	2,990	9,270	3,950	1,930	1,910	1,160
25	277	294	354	b157	936	665	2,500	9,440	3,420	1,740	1,460	1,060
26	800	300	390	b159	936	652	2,440	8,000	2,920	2,160	1,160	1,020
27	474	309	390	*b160	936	652	2,300	6,400	2,550	1,870	978	936
28	294	309	354	b170	908	652	3,050	5,480	3,600	1,360	880	908
29	258	309	354	182	866	580	5,320	4,600	4,090	1,170	796	880
30	258	363	327	208	-	556	6,880	3,820	2,810	1,010	936	992
31	258	-	294	232	-	534	-	3,420	-	908	1,160	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	9,649	800	220	311	19,140
November	8,604	372	232	287	17,070
December	9,945	390	276	321	19,730
Calendar year 1939	656,622	23,400	220	1,799	1,302,000
January	6,551	336	147	211	12,990
February	19,144	1,240	236	660	37,970
March	24,833	978	534	801	49,260
April	71,686	7,600	434	2,390	142,200
May	153,190	12,600	2,080	4,942	303,800
June	126,990	10,200	1,820	4,233	251,900
July	100,608	10,000	908	3,245	199,600
August	53,177	4,100	615	1,715	105,500
September	238,989	66,800	665	7,966	474,000
Water year 1939-40	823,366	66,800	147	2,250	1,633,000

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Gage-height record doubtful; discharge interpolated.
Note.- No water-stage recorder graph Oct. 1 to Jan. 10; discharge computed from once-daily reading of wire-weight gage.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
U. S. GOVERNMENT PRINTING OFFICE 1936—O 162021

Arkansas River near Muskogee, Okla.

Location.- Water-stage recorder, lat. 35°46', long. 95°18', in NW¼ sec. 21, T. 15 N., R. 19 E., 1 mile downstream from Neosho and Verdigris Rivers and 3½ miles northeast of Muskogee. Datum of gage is 471.38 feet (revised) above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 96,800 square miles.

Records available.- March 1935 to September 1940.

Extremes.- Maximum discharge during year, 161,000 second-feet Sept. 5 (gage height, 24.68 feet); minimum daily, 500 second-feet Jan. 21-27.

1935-40: Maximum discharge, 243,000 second-feet June 9, 1935 (gage height, 30.8 feet, from reading at flood crest), from rating curve extended above 160,000 second-feet; minimum, 340 second-feet Aug. 11-14, 1936 (gage height, 3.80 feet).

Maximum stage known, 34.1 feet at site 1,600 feet downstream, sometime in June 1923, reading by Oklahoma Gas and Electric Co.

Remarks.- Records good except those for periods of ice effect and of faulty gage-height record, which are fair. Since Mar. 23 flow partly regulated by storage in Grand Reservoir on Neosho River.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	561	618	832	771	b600	1,470	650	18,000	4,270	6,200	1,260	1,190
2	554	596	771	b760	b730	1,400	929	15,100	3,760	4,140	1,120	1,380
3	547	582	753	b740	b990	1,390	1,780	11,600	3,400	3,170	977	2,080
4	554	582	735	b720	966	1,500	1,320	8,920	3,060	2,730	864	3,160
5	540	589	717	b660	864	1,470	98e	7,960	2,760	4,140	790	129,000
6	554	568	753	b600	854	1,540	1,720	6,570	2,530	8,380	h735	83,600
7	561	540	771	b520	874	1,400	3,270	5,240	h2,490	8,600	h822	47,100
8	547	561	744	b520	920	1,480	2,180	4,540	h2,490	7,170	812	31,500
9	568	603	753	b520	822	1,440	1,610	5,670	h3,760	8,920	699	23,200
10	690	547	753	b620	832	1,380	1,580	5,380	h3,460	e,120	70e	15,100
11	753	568	744	*699	854	1,500	8,610	4,960	h5,180	5,820	1,600	12,000
12	699	634	726	717	822	2,200	13,000	6,420	h10,600	7,020	2,120	8,600
13	666	634	726	735	771	2,180	9,600	6,120	h19,600	5,820	1,810	6,870
14	626	642	690	744	874	1,900	9,600	6,180	h16,200	5,240	2,530	5,520
15	666	690	674	753	885	1,740	7,740	7,170	11,200	5,240	3,280	4,540
16	708	726	666	771	801	1,610	6,140	6,120	9,240	4,010	3,760	3,880
17	634	771	*666	762	954	1,630	4,810	5,380	9,240	3,520	19,000	h3,520
18	596	771	726	b680	1,530	1,470	3,580	5,380	8,280	2,940	26,300	h3,280
19	575	753	634	b610	1,800	1,390	3,050	6,030	8,600	2,670	17,800	h3,060
20	575	753	610	b550	1,760	1,470	5,220	11,600	7,170	3,640	10,600	h3,060
21	561	771	603	b500	1,710	1,480	12,200	13,100	6,570	4,670	6,870	h2,620
22	540	762	634	b500	1,780	1,390	12,000	12,300	5,820	3,400	3,880	h2,300
23	534	822	735	b500	1,800	1,350	9,250	12,000	4,680	3,170	3,280	h2,140
24	554	812	790	b500	1,720	1,190	8,230	15,100	4,620	5,040	3,520	h2,030
25	554	762	854	b500	1,640	988	5,540	12,300	5,520	9,880	2,890	h1,960
26	814	682	822	b500	1,630	954	4,670	10,600	5,380	8,920	2,120	h2,430
27	1,290	650	812	b500	1,500	874	4,960	9,880	5,820	4,400	1,740	8,120
28	790	674	874	b520	*1,500	843	6,760	7,600	5,970	3,280	1,470	4,960
29	674	699	885	*b540	1,560	699	19,100	6,570	12,700	2,450	1,290	h3,170
30	634	843	812	b560	-	690	27,800	5,820	12,200	1,850	1,320	h2,380
31	610	-	790	b580	-	690	-	4,960	-	1,480	1,510	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	19,729	1,290	534	636	39,130
November	20,205	843	540	674	40,080
December	23,055	885	603	744	45,730
Calendar year 1939	1,975,127	67,900	534	5,411	3,918,000
January	19,152	771	500	618	37,990
February	34,343	1,800	600	1,184	66,120
March	42,708	2,200	690	1,378	84,710
April	197,887	27,800	650	6,596	392,500
May	264,770	18,000	4,540	8,541	525,200
June	206,770	19,600	2,490	6,892	410,100
July	156,030	9,880	1,480	5,033	309,500
August	127,677	26,300	699	4,119	253,200
September	423,750	129,000	1,190	14,120	840,500
Water year 1939-40	1,536,076	129,000	500	4,197	3,047,000

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h No gage-height record; discharge computed from twice-daily readings of wire-weight gage or twice-daily readings of staff gage at site 1,600 feet downstream. Readings of staff gage furnished by Oklahoma Gas and Electric Co.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog il Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-163862

Arkansas River at Van Buren, Ark.

Location.- Water-stage recorder, lat. 35°26', long. 94°22', in sec. 24, T. 9 N., R. 32 W., at Van Buren, 1½ miles downstream from Lee Creek. Zero of gage is 372.36 feet above mean sea level (general adjustment of 1929).

Drainage area.- 150,300 square miles.

Records available.- October 1927 to September 1940.

Average discharge.- 13 years, 25,390 second-feet.

Extremes.- Maximum discharge during year, 127,000 second-feet Sept. 6 (gage height, 20.45 feet); minimum discharge observed, 486 second-feet Jan. 8 (gage height, 1.72 feet).

1927-40: Maximum discharge, 418,000 second-feet June 19, 1935; maximum gage height, 34.1 feet June 19, 1935, just before break in levee; minimum discharge, 216 second-feet Aug. 19, 21, 1934.

Maximum stage known, 35.0 feet Apr. 16, 1927.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	980	1,670	1,490	1,480	1,310	3,100	1,320	52,400	8,600	15,500	3,960	3,220
2	925	1,600	1,690	1,430	1,260	3,100	1,280	43,900	7,190	15,500	3,420	3,220
3	898	1,540	1,740	1,410	1,360	2,890	1,350	31,100	6,180	11,000	2,740	3,530
4	862	1,460	1,660	1,380	1,360	2,690	1,580	25,000	5,380	9,280	2,380	3,850
5	853	1,380	1,550	1,320	1,430	2,600	2,350	19,500	4,760	21,400	2,140	8,460
6	835	1,310	1,520	1,270	1,690	2,690	2,690	15,900	4,300	21,400	1,980	96,200
7	826	1,220	1,490	930	1,660	2,600	4,840	13,800	3,960	18,200	1,720	98,900
8	808	1,190	1,410	559	1,620	2,600	9,060	11,400	3,960	19,500	1,570	65,700
9	790	1,140	1,460	730	1,620	2,480	13,800	9,280	4,880	15,500	1,780	45,900
10	925	1,220	1,460	1,220	1,640	2,350	14,200	8,120	6,890	12,200	1,600	34,800
11	898	1,240	1,420	1,480	1,620	2,500	19,400	8,280	10,300	12,600	2,120	26,600
12	952	1,300	1,430	1,550	1,550	2,690	30,500	7,800	13,000	11,000	2,380	20,500
13	1,010	1,200	1,380	1,700	1,450	2,690	43,900	7,190	13,400	8,940	2,300	17,200
14	1,030	1,140	1,300	1,670	1,550	3,000	41,200	8,280	21,000	9,280	2,560	14,200
15	934	1,160	1,270	1,560	1,460	3,320	34,100	8,120	22,400	9,280	2,560	12,200
16	934	1,220	1,300	1,580	1,320	3,100	21,400	8,120	18,200	8,940	2,740	10,300
17	862	1,420	1,320	1,550	1,460	2,790	16,800	8,600	13,800	7,800	10,500	8,940
18	952	1,490	1,220	1,380	1,780	2,370	15,500	8,600	11,800	6,180	64,300	6,890
19	952	1,550	1,220	965	2,480	2,290	12,900	9,280	14,600	5,380	67,400	5,640
20	934	1,660	1,190	773	3,440	2,220	10,900	8,600	15,500	4,640	45,200	5,000
21	907	1,550	1,180	873	4,170	2,100	9,060	11,800	13,000	4,760	29,400	4,520
22	862	1,490	1,140	919	4,300	2,100	11,300	19,100	10,700	10,300	18,600	4,180
23	844	1,460	1,240	1,240	4,040	2,100	15,900	18,600	9,280	20,500	12,600	3,850
24	871	1,410	1,430	930	3,920	2,060	13,800	17,700	7,960	16,400	8,940	3,640
25	871	1,320	1,410	762	3,920	2,040	12,100	23,400	7,490	11,000	7,490	3,530
26	1,020	1,520	1,420	919	3,790	1,980	10,200	22,400	7,190	9,960	7,040	3,320
27	1,430	1,460	1,550	862	3,530	1,820	7,810	18,600	7,190	13,000	6,040	3,120
28	1,840	1,380	1,600	1,080	3,440	1,690	6,960	15,900	8,120	12,600	5,000	3,740
29	1,940	1,340	1,520	1,190	3,320	1,610	14,200	13,400	7,960	7,640	4,640	8,120
30	1,880	1,490	1,490	1,190	-	1,490	32,900	11,000	9,960	5,770	4,410	6,600
31	1,690	-	1,560	1,110	-	1,360	-	9,960	-	4,760	3,740	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	32,315	1,940	790	1,042	64,100
November	41,530	1,670	1,140	1,384	82,370
December	44,060	1,740	1,140	1,421	87,390
Calendar year 1939	3,673,285	73,400	790	10,060	7,286,000
January	37,012	1,700	559	1,194	73,410
February	67,510	4,300	1,260	2,328	133,900
March	74,420	3,320	1,360	2,401	147,600
April	433,300	43,900	1,280	14,440	859,400
May	495,130	52,400	7,190	15,970	982,100
June	298,950	22,400	3,960	9,965	593,000
July	360,210	21,400	4,640	11,620	714,500
August	333,250	67,400	1,570	10,750	661,000
September	535,870	98,900	3,120	17,860	1,063,000
Water year 1939-40	2,753,557	98,900	559	7,523	5,462,000

Note.- Discharge, Oct. 1-27, Nov. 3 to Dec. 1, Dec. 6-26, Dec. 29 to Feb. 5, Feb. 13-17, Mar. 30 to Apr. 3, Aug. 6-14, computed from stage graph based on twice-daily readings of wire-weight gage.

Arkansas River at Dardanelle, Ark.

Location.- Water-stage recorder, lat. 35°13', long. 93°09', in sec. 29, T. 7 N., R. 20 W., at Dardanelle, 5 miles downstream from Illinois Bayou. Datum of gage is 290.16 feet above mean sea level (general adjustment of 1929).

Drainage area.- 153,600 square miles.

Records available.- July 1937 to September 1940. Gage-height records collected at same site since 1886 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 103,000 second-feet Sept. 7; maximum gage height, 16.65 feet Sept. 8; minimum discharge recorded, 1,100 second-feet Oct. 9 (gage height, 0.11 foot), but may have been less during period of ice effect.

1937-40: Maximum discharge observed, 396,000 second-feet Feb. 19, 20, 1938; maximum gage height observed, 29.55 feet Feb. 20, 1938; minimum discharge, that of Oct. 9, 1940.

Maximum stage known, 33.0 feet Apr. 19, 1927.

Remarks.- Records good except those for periods of ice effect, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,400	2,030	2,090	2,540	h2,030	5,110	3,820	45,300	11,200	8,840	6,180	4,670
2	1,320	1,860	2,340	2,540	1,860	5,000	3,520	63,100	10,300	12,200	5,110	4,020
3	1,320	1,800	2,400	2,470	1,800	4,560	3,520	55,100	8,840	15,500	4,340	3,720
4	1,270	1,750	2,610	2,340	1,800	4,340	3,720	38,900	7,720	14,000	3,720	4,780
5	1,270	1,700	2,540	*2,340	1,860	4,120	3,520	31,200	6,550	10,600	3,140	5,000
6	1,180	1,650	2,400	h2,090	1,970	3,820	3,820	25,200	5,820	14,000	2,780	4,890
7	1,180	1,600	2,280	h1,920	2,030	3,720	10,300	20,700	5,220	22,700	2,440	73,700
8	1,180	1,550	2,150	b1,200	2,210	3,720	12,900	17,200	4,780	19,200	2,200	90,300
9	1,180	1,450	*2,030	b1,200	2,340	3,620	13,600	14,700	5,110	18,700	2,280	67,200
10	1,270	1,500	2,030	b1,600	2,470	3,420	16,700	12,600	5,580	18,200	2,360	48,800
11	1,360	1,550	1,970	1,920	2,470	3,420	21,700	10,900	10,000	14,000	2,280	36,000
12	1,270	1,600	1,920	2,210	2,540	3,420	35,300	9,700	10,600	12,200	2,780	28,200
13	1,270	1,550	1,860	2,760	*2,610	3,720	41,300	9,700	12,600	12,200	3,050	22,200
14	1,220	1,550	1,800	3,340	2,610	3,820	50,600	8,840	13,600	10,600	3,050	18,200
15	1,270	1,600	1,750	3,620	2,540	3,820	47,000	8,560	16,700	9,400	2,870	15,100
16	1,320	1,550	1,800	*3,520	2,520	4,120	39,700	9,400	23,200	9,700	2,780	13,200
17	1,320	1,550	1,700	3,340	2,600	4,340	29,400	8,840	20,700	9,700	2,960	11,500
18	1,320	1,650	*1,650	b3,000	3,720	4,340	23,700	9,400	16,700	9,400	4,020	10,300
19	1,320	1,970	1,650	b2,500	4,670	3,920	25,200	10,000	14,000	8,000	48,400	8,560
20	1,320	2,470	1,600	b1,500	5,110	3,520	24,200	10,000	14,000	7,070	68,300	7,070
21	1,270	2,340	1,550	b1,500	5,460	3,230	20,200	10,000	17,200	6,180	48,800	5,940
22	1,320	2,210	1,550	b1,500	5,940	3,230	16,300	10,300	15,900	5,220	33,200	5,220
23	1,270	2,150	1,700	b1,600	6,420	3,050	15,100	15,900	13,200	6,060	22,700	4,560
24	1,270	2,090	2,210	b1,500	6,420	3,050	17,700	19,700	11,200	14,700	15,500	4,340
25	1,180	1,970	2,920	b1,500	6,180	3,140	18,700	18,700	10,000	19,200	11,200	4,020
26	1,270	1,860	2,920	b1,500	5,940	3,140	15,500	21,200	8,840	14,300	8,840	3,820
27	1,360	1,920	3,080	b1,500	5,940	3,050	14,700	24,200	8,280	10,900	8,280	3,820
28	1,400	1,860	3,160	b1,700	5,700	3,140	12,600	20,700	8,000	11,200	7,720	3,620
29	1,450	1,750	2,920	*h2,210	5,340	3,140	20,700	17,700	8,560	13,200	6,300	3,420
30	1,750	1,800	2,920	h2,150	-	3,720	30,000	15,100	8,840	11,200	5,460	4,020
31	1,970	-	2,760	h2,150	-	3,920	-	12,900	-	8,000	5,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	41,070	1,970	1,180	1,325	81,460
November	53,880	2,470	1,500	1,796	106,900
December	68,260	3,160	1,550	2,202	135,400
Calendar year 1939	5,059,230	133,000	1,180	13,860	10,260,000
January	66,760	3,620	1,200	2,154	132,400
February	105,100	6,420	1,800	3,624	208,500
March	115,680	5,110	3,050	3,732	229,400
April	595,020	50,600	3,520	19,830	1,180,000
May	605,740	63,100	8,560	19,540	1,201,000
June	333,240	23,200	4,780	11,110	661,000
July	376,370	22,700	5,220	12,140	746,500
August	348,040	68,300	2,200	11,230	690,300
September	520,190	90,300	3,420	17,340	1,032,000
Water year 1939-40	3,229,350	90,300	1,180	8,823	6,405,000

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h Discharge computed on basis of wire-weight gage readings, made at least once daily.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog. l Survey

Arkansas River at Little Rock, Ark.

Location.- Water-stage recorder, lat. 34°45', long. 92°16', in sec. 3, T. 1 N., R. 12 W., at Little Rock. Datum of gage is 223.61 feet above mean sea level (general adjustment of 1929).

Drainage area.- 157,900 square miles.

Records available.- September 1927 to September 1931 and October 1933 to September 1940 in reports of U. S. Geological Survey. Gage-height records collected at or near same site since 1873 are contained in reports of U. S. Weather Bureau. Gage-height records collected at site three-quarters of a mile upstream since 1883 and intermittent records of discharge since 1885 are contained in reports of Mississippi River Commission.

Average discharge.- 11 years (1927-31, 1933-40), 34,010 second-feet.

Extremes.- Maximum discharge during year, 92,300 second-feet Sept. 9 (gage height, 11.87 feet); minimum, 1,430 second-feet Oct. 23; minimum gage height, -1.89 feet Oct. 27.

1927-31, 1933-40: Maximum discharge, 458,000 second-feet Feb. 21, 1938; maximum gage height, 28.18 feet June 22, 23, 1935; minimum discharge, 850 second-feet Aug. 23, 1934 (gage height, -4.16 feet).

Maximum stage known, 34.6 feet sometime in June 1833. A stage of 33.0 feet was reached Apr. 20, 1927.

Remarks.- Records good except those for period of ice effect, which are fair.

Cooperation.- Results of 52 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,940	1,900	2,360	3,600	2,940	7,280	4,330	41,000	16,600	9,400	10,800	6,620
2	3,480	2,290	2,180	3,480	2,940	6,780	4,860	58,000	14,700	9,590	8,480	5,700
3	2,830	2,400	2,270	3,260	2,730	6,300	4,720	73,400	12,800	10,400	6,780	5,130
4	2,270	2,360	2,540	3,260	2,630	6,150	4,460	69,400	11,600	14,200	5,700	4,460
5	2,000	2,250	2,630	3,150	2,540	5,700	4,460	53,300	9,970	16,100	4,860	4,330
6	1,870	2,180	2,630	3,040	2,540	5,420	4,990	41,800	8,480	13,800	4,200	4,990
7	1,760	2,070	2,630	2,830	2,540	5,130	6,620	33,800	7,960	11,600	3,710	5,420
8	1,690	2,000	2,540	2,540	2,630	4,720	12,000	27,400	7,280	18,700	3,260	47,400
9	1,660	1,900	2,400	2,180	2,830	4,590	21,500	22,800	6,460	22,800	3,150	90,100
10	1,640	1,900	2,440	2,340	2,940	4,590	22,800	19,200	6,150	20,400	3,040	74,400
11	1,640	1,920	2,540	2,540	3,150	4,460	24,000	16,600	7,280	20,400	3,040	57,000
12	1,640	1,980	2,540	2,540	3,040	4,330	28,800	14,200	10,800	18,200	2,940	43,500
13	1,610	2,000	2,420	2,730	3,150	4,330	41,800	12,400	19,800	15,200	2,940	33,000
14	1,640	2,000	2,420	2,830	3,150	4,460	51,500	11,600	19,200	14,200	3,260	26,000
15	1,550	1,980	2,360	3,600	3,260	4,720	58,900	11,200	18,200	13,300	3,600	21,000
16	1,500	2,000	2,290	4,200	3,370	4,860	58,000	9,970	17,600	11,600	3,600	17,600
17	1,500	2,040	2,210	4,720	3,600	4,720	50,600	9,970	22,800	10,400	3,600	15,200
18	1,500	2,160	2,210	b4,500	4,200	4,860	41,800	10,800	26,000	10,400	3,480	13,300
19	1,520	2,040	2,180	b3,300	4,720	4,990	35,300	10,400	22,800	10,800	3,600	12,000
20	1,520	2,070	2,090	b2,400	6,460	4,990	36,100	11,600	20,400	10,400	24,200	10,400
21	1,490	2,230	2,050	b2,000	8,660	4,720	39,300	12,400	20,400	9,590	63,600	8,840
22	1,440	2,630	2,050	b2,000	9,020	4,460	36,100	13,300	24,700	10,400	55,100	7,440
23	1,440	2,730	2,250	b2,000	9,210	4,080	31,600	13,300	24,700	9,020	41,800	6,300
24	1,490	2,630	2,120	b2,000	9,210	4,080	28,000	17,600	20,400	8,130	29,400	5,700
25	1,540	2,540	2,230	b2,000	9,020	3,950	27,400	23,400	16,100	9,590	21,000	5,420
26	1,550	2,540	2,730	b2,000	8,660	3,830	27,400	24,000	13,300	18,200	15,200	4,990
27	1,550	2,380	3,260	b2,000	8,130	3,830	24,700	23,400	11,200	19,200	11,600	4,720
28	1,600	2,270	3,600	b2,500	7,780	3,950	21,000	27,400	9,970	13,800	10,400	4,460
29	1,640	2,250	3,710	3,040	7,610	3,830	19,200	26,600	9,210	11,200	10,400	4,330
30	1,660	2,340	3,830	3,370	-	3,830	24,000	22,800	9,020	12,400	9,210	3,950
31	1,710	-	3,710	3,040	-	3,950	-	19,800	-	13,300	7,780	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	54,870	3,480	1,440	1,770	108,800
November	65,980	2,730	1,900	2,199	130,900
December	79,420	3,830	2,050	2,562	157,500
Calendar year 1939	7,593,120	176,000	1,440	20,800	15,060,000
January	88,990	4,720	2,000	2,871	176,500
February	142,660	9,210	2,540	4,919	283,000
March	147,890	7,280	3,830	4,771	293,300
April	796,240	58,900	4,330	26,540	1,579,000
May	782,840	73,400	9,970	25,250	1,553,000
June	445,880	26,000	6,150	14,860	884,400
July	416,720	22,800	8,130	13,440	826,600
August	383,730	63,600	2,940	12,380	761,100
September	553,700	90,100	3,950	18,460	1,098,000
Water year 1939-40	3,958,920	90,100	1,440	10,820	7,852,000

b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolo :al Survey

Reservoirs in upper Arkansas River Basin

Sugar Loaf Reservoir (Turquoise Lake).- Inclined gage, lat. 39°15', long. 106°22', at dam on Lake Fork of Arkansas River in northeast corner of sec. 19, T. 9 S., R. 80 W.; 4 miles west of Leadville, Colo. Records available, October 1938 to September 1940 in reports of Geological Survey. May 1902 to September 1938 in files of State engineer. Maximum contents observed during year, 7,253 acre-feet June 30 (gage height, 16.75 feet); minimum observed, 1,512 acre-feet Nov. 30 to Dec. 31 (gage height, 7.47 feet). Maximum contents observed during period 1938-40, 10,270 acre-feet July 1, 1939 (gage height, 20.9 feet); minimum, 1,512 acre-feet Aug. 31 to Sept. 30, and Nov. 30 to Dec. 31, 1939 (gage height, 7.47 feet).

Reservoir is formed by earth dam; storage began May 1, 1902. Capacity, 17,416 acre-feet at gage height 30 feet (spillway crest) above gate sill. No dead storage. Water is used for irrigation of lands near Pueblo, and for manufacturing purposes at Pueblo. Gage read occasionally.

Twin Lakes Reservoir.- Staff gage, lat. 39°04', long. 106°19', at dam on Lake Creek in sec. 23, T. 11 S., R. 80 W., 3½ miles northwest of Granite, Colo. Records available, October 1938 to September 1940 in reports of Geological Survey. December 1896 to September 1938 in files of State engineer. Maximum contents observed during year, 23,496 acre-feet June 30 (gage height, 13.59 feet); minimum observed, 9,975 acre-feet Aug. 31 (gage height, 6.08 feet. Maximum contents observed during period 1938-40, 44,080 acre-feet June 30, 1939 (gage height, 23.84 feet); minimum, that of Aug. 31, 1940.

Reservoir is formed by earth dam; storage began Dec. 15, 1896. Capacity, 53,260 acre-feet at gage height 28 feet (spillway crest) above gate sill. Dead storage unknown. Records given herein represent usable contents. Storage is from Lake Creek and water diverted through Twin Lakes tunnel from Roaring Fork. Water is used for irrigation of lands east of Pueblo. Gage read occasionally.

Clear Creek Reservoir.- Staff gage, lat. 39°01', long. 106°14', at dam on Clear Creek in northwest corner of sec. 17, T. 12 S., R. 79 W., 2 miles southeast of Granite, Colo. Records available, October 1938 to September 1940 in reports of Geological Survey. October 1909 to September 1938 in files of State engineer. Maximum contents observed during year, 1,084 acre-feet May 31 (gage height, 17.50 feet); minimum observed, 135 acre-feet Aug. 31 (gage height, 6.40 feet). Maximum contents observed during period 1938-40, 5,100 acre-feet Mar. 31, 1939 (gage height, 37.2 feet); minimum, that of Aug. 31, 1940.

Reservoir is formed by earth and rock dam; storage began Oct. 7, 1909. Capacity, 11,410 acre-feet at gage height 55 feet (spillway crest) above gate sill. No dead storage. Water is used for irrigation of lands near Fowler, Colo. Clear Creek enters Arkansas River 2 miles downstream from gaging station at Granite. Gage read occasionally.

Monthly gage height and contents, water year October 1939 to September 1940

Date	Sugar Loaf Reservoir (Turquoise Lake)			Twin Lakes Reservoir			Clear Creek Reservoir		
	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	7.47	1,512	-	10.13	17,702	-	12.30	502	-
Oct. 31	7.68	1,610	+98	9.78	16,445	-627	15.00	776	+274
Nov. 30	7.47	1,512	-98	9.40	15,771	-674	15.00	776	0
Dec. 31	7.47	1,512	0	9.42	15,805	+34	15.00	776	0
Calendar year 1939	-	-	-3,991	-	-	-10,976	-	-	-2,863
Jan. 31	7.85	1,692	+180	9.25	15,502	-303	16.90	1,006	+230
Feb. 29	7.85	1,692	0	9.30	15,591	+89	16.90	1,006	0
Mar. 31	7.85	1,692	0	9.02	15,092	-499	16.90	1,006	0
Apr. 30	7.85	1,692	0	9.15	15,324	+232	16.90	1,006	0
May 31	11.95	4,046	+2,354	12.23	20,919	+5,595	17.50	1,084	+78
June 30	16.75	7,253	+3,207	13.59	23,496	+2,577	16.30	931	-153
July 31	13.35	4,944	-2,309	10.40	17,567	-5,929	12.20	493	-438
Aug. 31	10.82	3,350	-1,594	6.08	9,975	-7,592	6.40	135	-358
Sept. 30	10,37	3,075	-275	6.49	10,683	+708	10.20	537	+402
Water year 1939-40	-	-	+1,563	-	-	-6,389	-	-	+35

South Arkansas River near Salida, Colo.

Location.- Water-stage recorder, lat. 38°31', long. 106°00', in sec. 5, T. 49 N., R. 9 E., three-quarters of a mile upstream from mouth and 1¼ miles southwest of Salida.

Drainage area.- 208 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey (discontinued). April 1922 to December 1924 (at site half a mile downstream) and June 1929 to September 1940 in reports of State engineer (discontinued).

Extremes.- Maximum discharge during year, 205 second-feet Aug. 22 (gage height, 2.52 feet); minimum daily, 0.5 second-foot July 22, 23.
1922-24, 1929-40: Maximum daily discharge, 1,220 second-feet June 17, 1923; no flow at times in 1922, 1931, 1932, 1933, 1935, 1937.
Correction.- The maximum gage height for water year 1939 was published in error in Water-Supply Paper 877. Correct gage height, 2.32 feet.

Remarks.- Records good except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	3.3	17	40	55	30	4.8	1.8	4.8	2.7	2.5	7.0
2	1.6	2.5	16	36	54	22	5.1	2.0	3.1	2.7	2.5	6.4
3	1.7	1.8	15	36	52	34	4.2	2.0	2.7	3.3	2.2	5.6
4	2.0	2.5	17	33	52	37	4.0	4.2	1.8	3.3	1.5	4.6
5	2.4	2.5	17	34	52	36	4.0	49	2.4	3.5	1.3	4.4
6	2.4	3.1	16	32	51	37	4.0	44	2.9	3.3	1.7	3.8
7	2.4	3.1	12	35	52	34	3.8	12	2.9	3.3	8.6	3.8
8	2.4	3.1	12	38	52	31	3.5	8.9	3.1	3.1	7.6	5.9
9	2.5	3.5	14	47	51	25	3.1	6.2	3.5	3.3	3.8	5.1
10	2.4	4.4	14	33	54	24	2.9	5.3	3.5	3.3	3.1	4.0
11	2.4	4.6	12	40	51	18	2.9	6.4	3.3	3.1	2.7	4.0
12	2.4	4.6	12	39	45	18	2.7	8.2	3.3	2.4	2.9	4.2
13	2.2	4.8	12	41	*40	18	3.3	5.9	3.1	4.8	3.8	4.2
14	2.4	5.3	21	46	41	18	3.5	6.2	3.1	6.2	2.5	3.8
15	2.4	5.3	25	44	39	16	3.5	6.7	3.3	3.1	2.4	3.8
16	2.4	5.1	25	50	41	11	3.1	8.6	3.5	3.1	2.2	3.3
17	2.2	5.1	31	24	41	8.9	4.6	16	3.3	3.8	2.4	3.3
18	2.2	5.3	28	34	42	7.8	3.3	24	3.1	2.9	2.5	3.5
19	2.4	5.3	23	31	42	8.6	2.7	12	3.1	1.5	4.2	3.3
20	2.4	5.3	23	33	41	7.8	2.2	7.8	3.3	.8	5.3	3.5
21	2.5	5.6	24	35	40	7.5	2.5	8.6	3.5	.6	5.9	3.8
22	2.9	4.8	21	38	40	6.7	2.2	9.6	3.8	.5	10	3.8
23	2.5	4.4	24	39	39	6.4	2.0	6.4	3.3	.5	28	4.0
24	2.7	4.4	31	41	38	6.4	1.7	5.9	3.1	.6	12	6.4
25	1.8	6.4	31	42	37	6.2	1.7	5.1	2.7	1.0	13	3.8
26	2.0	7.2	22	42	35	4.8	1.5	6.2	2.7	2.7	12	3.8
27	2.0	8.9	24	45	35	5.1	2.4	4.8	2.5	2.4	9.6	3.3
28	2.4	8.9	26	52	34	5.1	2.2	4.8	2.7	2.0	7.8	2.9
29	3.1	14	30	56	33	5.1	2.0	4.0	2.2	2.2	7.5	2.9
30	4.4	18	31	56	-	4.6	2.0	4.2	2.0	2.0	7.0	2.9
31	3.5	-	39	55	-	4.4	-	4.8	-	2.4	7.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	75.4	4.4	1.7	2.43	150
November	163.1	18	1.8	5.44	324
December	665	39	12	21.5	1,320
Calendar year 1939	8,136.5	101	.8	22.3	16,130
January	1,247	56	24	40.2	2,470
February	1,279	55	33	44.1	2,540
March	504.4	37	4.4	16.3	1,000
April	91.4	5.1	1.5	3.05	181
May	301.6	49	1.8	9.73	598
June	91.6	4.8	1.8	3.05	182
July	80.4	6.2	.5	2.59	159
August	185.7	28	1.3	5.99	368
September	125.1	7.0	2.9	4.17	248
Water year 1939-40	4,809.7	56	.5	13.1	9,540

Peak discharge.- Aug. 7 (5:40 p.m.) 80 sec.-ft.; Aug. 22 (10:30 p.m.) 205 sec.-ft.
*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 27-29, Jan. 6-8, 16, Jan. 18 to Mar. 1.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog il Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-102002

Grape Creek near Westcliffe, Colo.

Location.- Water-stage recorder and concrete control, lat. 38°11', long. 105°30', in sec. 36, T. 21 S., R. 73 W., 3 miles northwest of Westcliffe.

Drainage area.- 346 square miles.

Records available.- December 1924 to June 1928 and October 1933 to September 1940 in reports of Geological Survey. December 1924 to June 1928 and March 1930 to September 1940 in reports of State engineer.

Extremes.- Maximum discharge during year, 123 second-feet Sept. 10 (gage height, 1.52 feet); minimum daily, 2.7 second-feet Oct. 6.
1924-28. 1930-40: Maximum discharge, about 1,400 second-feet July 22, 1930 (gage height, 4.60 feet), computed by weir formula with overflow estimated; minimum daily, 0.1 second-foot June 19-22, 1936.

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.7	9.0	10			41	13	8.4	16	3.7	4.6	4.6
2	3.5	8.4	13			38	13	7.3	14	3.2	4.6	3.7
3	4.0	8.4	15			34	12	6.2	12	3.5	5.1	4.0
4	3.5	9.0	18			38	13	6.2	10	3.7	6.2	4.0
5	3.2	9.0	13			40	13	5.1	8.4	4.0	6.8	3.7
6	2.7	9.0	15			33	15	5.1	6.2	5.1	7.8	3.7
7	3.5	9.0	15			28	20	5.6	6.2	4.6	18	11
8	4.0	9.5	13			30	22	9.0	4.6	4.0	7.8	7.3
9	5.6	9.5	15			31	16	8.4	4.0	3.7	7.3	12
10	6.2	11	10	(*)		33	15	6.8	4.0	3.7	6.8	56
11	6.2	13	9.5			30	20	6.8	4.0	3.5	6.2	13
12	5.1	15	9.5			26	32	5.6	4.0	3.5	4.0	7.3
13	5.1	15	10			23	39	6.2	3.5	15	4.0	7.3
14	5.6	15	12			28	23	6.2	4.0	7.3	4.0	7.3
15	5.6	15	10	17	22	34	16	5.6	4.6	7.8	3.7	6.8
16	7.3	13	9			44	13	6.2	4.0	5.1	4.6	5.6
17	9.5	12	8			44	30	18	4.0	4.0	6.2	6.2
18	9.0	13	9.5			39	45	70	3.7	3.0	10	9.0
19	9.5	13	9.5			36	32	30	3.7	3.0	28	6.8
20	8.4	13	9			34	23	12	3.2	3.2	10	5.6
21	9.0	12	9			32	15	11	3.5	6.8	9.5	5.1
22	8.4	11	9.5			31	13	32	11	54	9.0	6.8
23	8.4	12	9.5			27	12	32	7.8	9.5	7.3	9.0
24	8.4	11	9.5			24	12	15	4.6	6.8	7.8	21
25	8.4	13	9			24	11	12	4.0	5.1	7.8	15
26	8.4	15	9.5			22	11	20	4.0	4.0	6.8	9.5
27	7.3	18	9.5			22	10	22	3.5	7.8	6.2	6.8
28	7.8	17	10			19	9.5	20	3.7	6.2	6.2	6.8
29	7.8	14	11			16	9.5	20	4.0	6.2	4.0	5.6
30	8.4	9.0	12		-	16	9.0	23	4.0	5.6	8.4	5.1
31	8.4	-	12		-	15	-	18	-	6.2	7.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	201.9	9.5	2.7	6.51	400
November	360.8	18	8.4	12.0	716
December	343.5	18	8	11.1	681
Calendar year 1939	5,656.7	166	1.4	15.5	11,210
January	527	-	-	17	1,050
February	638	-	-	22	1,270
March	932	44	15	30.1	1,850
April	537.0	45	9.0	17.9	1,070
May	459.7	70	5.1	14.8	912
June	174.2	16	3.2	5.81	346
July	212.8	54	3.0	6.86	422
August	236.5	28	3.7	7.63	469
September	275.6	56	3.7	9.19	547
Water year 1939-40	4,899.0	70	2.7	13.4	9,730

Peak discharge.- July 22 (5 a.m.) 122 sec.-ft.; Aug. 19 (2 a.m.) 98 sec.-ft.; Sept. 10 (2 a.m.) 123 sec.-ft.
*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 13 to Mar. 14.

Fountain Creek near Fountain, Colo.

Location.- Water-stage recorder, lat. 38°36', long. 104°40', in sec. 4, T. 17 S., R. 65 W., 1 mile downstream from Little Fountain Creek and 6 miles south of Fountain.

Drainage area.- 676 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 22,100 second-feet May 28 (gage height, 9.19 feet), by slope-area method; minimum daily, 0.7 second-foot Aug. 19.
1938-40: Maximum discharge, that of May 28, 1940; no flow Sept. 24, 30, 1939.
Maximum stage known, 14.4 feet May 30, 1935 (discharge not determined).

Remarks.- Records poor. Wire-weight gage read daily Oct. 1-7. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1					10	18	3.4	52	38	14	2.8
2	2.4					7.6	21	6.6	47	85	12	2.8
3	5.1					6.1	19	9.4	41	82	11	50
4	4.5			(*)		8	19	7.0	38	58	12	44
5	4.5					10	20	6.6	36	50	11	12
6	3.1					12	24	2.5	34	42	10	2.8
7	3.4		(*)			14	20	6.1	35	38	12	2.4
8	3.8					12	20	22	30	39	8.4	5.6
9	4.2				(*)	16	23	13	26	44	8.0	37
10	3.4					20	27	3.4	25	45	4.6	116
11	3.0					26	28	5.6	18	45	1.6	62
12	2.4					24	27	6.1	12	33	1.8	60
13	4.0	(*)				19	21	6.8	11	28	2.0	38
14	3.4					26	21	8.2	9.6	33	1.3	24
15	3.0	10	8	25	30	21	28	7.6	10	48	1.2	26
16	2.6					13	20	5.2	8.4	54	1.0	12
17	2.8					5.6	17	10	10	3.9	.9	8.4
18	3.4					5.2	15	6.1	10	4.2	1.9	8.0
19	3.4					3.4	10	3.0	11	4.2	.7	8.0
20	3.6					3.0	5.6	2.4	10	14	2.5	8.4
21	3.8		(*)			12	5.4	13	16	50	8.4	10
22	3.0	(*)				14	6.8	16	21	33	3.9	12
23	2.6			(*)	(*)	14	5.4	11	15	12	2.4	16
24	2.7					17	3.0	3.8	14	7.2	2.4	22
25	2.6					14	6	9.4	14	5.3	3.6	22
26	2.8					13	9.4	13	14	7.6	1.4	16
27	3.0					11	12	660	12	8.0	1.3	12
28	4.0					9.4	12	1,620	12	5.6	1.6	10
29	6					5.6	11	313	13	988	2.4	9.2
30	9				-	4.8	7.6	146	13	34	2.8	11
31	8.6	-			-	13	-	53	-	18	2.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	117.2	9	2.4	3.78	232
November	300	-	-	10	595
December	248	-	-	8	492
Calendar year 1939	8,851.5	176	0	24.3	17,560
January	775	-	-	25	1,540
February	670	-	-	30	1,730
March	389.7	26	3.0	12.6	773
April	482.2	28	3.0	16.1	956
May	3,001.2	1,620	2.4	96.8	5,950
June	618.0	52	8.4	20.6	1,230
July	1,957.0	988	3.9	63.1	3,880
August	150.9	14	.7	4.87	299
September	670.4	116	2.4	22.3	1,330
Water year 1939-40	9,579.6	1,620	-	26.2	19,010

Peak discharge.- May 27 (5 p.m.) 4,250 sec.-ft.; May 28 (10 p.m.) 22,100 sec.-ft.; May 29 (10:30 p.m.) 1,180 sec.-ft.; July 29 (6:30 p.m.) 15,600 sec.-ft.

*Winter discharge measurement made on this day.

Note.- Discharge for periods of no gage-height record, Oct. 8 to Mar. 2, Mar. 4-9, Apr. 21-25, Aug. 27, 28, 31, Sept. 1, 2, computed on basis of 10 discharge measurements and weather records.

Monument Creek at Pikeview, Colo.

Location.- Wire-weight gage, lat. 38°55', long. 104°49', in sec. 18, T. 13 S., R. 66 W., at Pikeview, 1 mile downstream from Cottonwood Creek. Datum of gage is 6,203.31 feet above mean sea level (general adjustment of 1912).

Drainage area.- 204 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge observed during year, about 215 second-feet June 5 (gage height, 2.85 feet), from rating curve extended above 60 second-feet; minimum daily discharge, 0.4 second-foot Aug. 8, 9.

1938-40: Maximum discharge observed, 260 second-feet Apr. 12, 1939 (gage height, 2.96 feet), from rating curve extended above 60 second-feet; no flow July 24, 1939.

Remarks.- Records poor. Gage read twice daily. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	3.0	5.8		3.6	7.1	12	26	28	13	1.4	1.0
2	3.2	2.2	7.0		3.4	7.1	14	28	44	11	1.0	2.0
3	1.8	2.5	7.5		4.5	15	16	20	65	9.7	1.0	1.4
4	1.4	4.5	8.2	(*)	4.5	16	17	17	63	8.6	1.0	2.0
5	1.8	3.0	9.3		4.0	13	18	31	51	7.1	1.0	4.0
6	.8	4.2	7.5		4.5	6.2	19	28	42	6.6	1.4	7.1
7	1.1	7.9	4.2		4.2	2.8	20	26	42	9.7	1.0	4.9
8	1.6	7.5	3.0		3.6	4.2	22	25	40	8.8	.4	7.9
9	1.0	9.7	4.0		3.9	42	25	30	59	6.6	.4	10
10	1.2	7.1	4.0		4.5	31	27	27	28	4.0	.6	11
11	2.2	8.8	3.5		5.0	46	20	21	26	2.8	1.1	9.7
12	1.4	6.2	2.2		4.5	49	21	23	20	2.0	1.4	10
13	2.2	7.5	5.4		3.5	51	31	22	28	2.0	2.2	11
14	1.6	7.9	2.8		3.0	45	29	27	23	1.4	1.6	13
15	.6	7.5	2.2		3.3	44	34	22	26	1.2	1.4	14
16	1.0	6.2	2.2	4.5	3.6	40	27	17	20	1.2	1.0	12
17	1.6	7.5	4.9		3.4	13	29	18	11	1.2	.9	13
18	1.4	4.5	3.5		3.2	11	34	24	13	1.0	1.0	13
19	1.2	5.4	2.5		3.5	12	34	26	14	1.0	.8	15
20	2.2	6.2	3.5		3.5	13	34	32	16	1.2	1.2	11
21	2.8	4.5	6.2		3.5	13	38	43	17	1.6	1.8	14
22	2.2	5.8	5.4		3.6	12	31	42	15	4.4	1.6	13
23	2.5	5.6	7.1	(*)	3.8	9.7	31	39	9.5	1.6	1.5	7.9
24	2.0	4.5	9.3		3.2	12	28	36	14	2.5	1.3	7.5
25	1.8	3.6	8.4		3.8	14	27	68	16	3.2	1.2	8.4
26	2.5	3.2	7.1		4.0	17	23	56	11	4.2	1.1	6.2
27	2.2	3.1	6.6		4.9	17	28	54	15	4.5	1.0	7.1
28	2.8	3.5	5.4		7.1	17	24	48	18	3.0	.8	4.9
29	4.0	4.5	4.7		6.6	16	24	40	15	1.7	.7	6.6
30	3.0	5.0	4.5		-	16	23	31	14	1.6	.8	4.5
31	2.5	-	4.5		-	15	-	25	-	1.7	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	59.0	4.0	0.6	1.90	117
November	162.6	9.7	2.2	5.42	323
December	162.4	9.3	2.2	5.24	322
Calendar year 1939	5,477.4	146	0	15.0	10,850
January	139.5	-	-	4.5	277
February	117.7	7.1	3.0	4.06	233
March	627.1	51	2.8	20.2	1,240
April	760	38	12	25.3	1,510
May	972	68	17	31.4	1,930
June	803.5	65	9.5	26.8	1,590
July	130.1	13	1.0	4.20	258
August	34.5	2.2	.4	1.11	68
September	253.1	15	1.0	8.44	502
Water year 1939-40	4,221.5	68	.4	11.5	8,370

* Winter discharge measurement made on this day.

Note.- Discharge for periods of no gage-height record, Nov. 23 to Dec. 4, June 30, July 1, 2, 4, period of ice effect, Dec. 29 to Feb. 22, and periods of erroneous gage heights, June 18-23, July 16-22, Aug. 2-7, 15-31, and Sept. 1, computed on basis of nine discharge measurements and weather records.

U.S. GOVERNMENT PRINTING OFFICE 1936—O-M2003

St. Charles River at San Isabel, Colo.

Location.- Staff gage and 10-foot rectangular weir, lat. 37°59', long. 104°54', in sec. 12, T. 24 S., R. 69 W., above high-water line of Lake Isabel, three-quarters of a mile southwest of San Isabel.

Drainage area.- 18.8 square miles.

Records available.- October 1936 to September 1940.

Extremes.- 1936-40: Maximum daily discharge, 138 second-feet Apr. 20, 1938; minimum daily, 0.2 second-foot Dec. 28-30, 1939.

Remarks.- Gage read twice daily. No diversions above station.

Cooperation.- Records furnished by U. S. Forest Service.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.3	0.7	0.3	0.6	1.0	4.1	10	4.2	1.0	0.7	0.5
2	1.3	1.3	.8	.4	.6	1.2	5.2	17	3.7	1.4	.5	.5
3	1.3	1.2	.8	.4	.5	.8	4.2	16	3.6	1.7	.9	.5
4	1.3	1.1	.8	.5	.6	.8	5.0	10	3.5	2.2	.8	.4
5	1.2	1.1	.7	.5	.6	1.4	5.2	7.6	3.2	2.0	.8	.4
6	1.1	1.1	.7	.4	.5	1.0	5.3	6.1	2.8	1.3	1.2	.4
7	1.1	1.1	.7	.4	.6	1.0	4.7	6.0	2.5	1.2	1.4	.4
8	1.2	1.1	.7	.4	.5	1.0	5.3	6.0	2.8	1.0	1.3	.4
9	1.2	1.3	.7	.4	.5	1.0	2.6	6.8	3.4	.9	.9	.7
10	1.3	1.3	.7	.4	.5	1.1	2.5	6.1	2.9	.8	.7	4.0
11	1.3	1.3	.6	.3	.5	1.1	2.4	6.1	2.9	.8	.6	1.7
12	1.3	1.4	.9	.4	.5	.9	3.2	5.2	2.5	1.0	.6	1.2
13	1.3	1.2	.7	.3	.5	1.1	3.3	4.6	2.2	1.0	.5	1.2
14	1.3	1.4	.6	.3	.5	1.2	4.4	4.8	2.1	1.0	.4	1.0
15	1.3	1.6	.8	.3	.5	1.1	5.7	5.3	2.0	.8	.4	.8
16	1.3	2.7	.8	.3	.5	1.0	6.6	3.6	1.8	.7	.5	.6
17	1.3	1.4	.9	.4	.5	1.1	6.8	4.3	1.6	.7	.6	1.2
18	1.3	1.4	.7	.5	.5	1.2	6.7	6.5	1.5	.6	.6	1.0
19	1.3	1.4	.6	.5	.5	1.2	8.0	10	1.4	.6	.6	1.0
20	1.3	1.3	.7	.4	.5	1.2	11	7.4	2.2	1.4	.5	.8
21	1.3	1.0	.6	.5	.5	1.3	14	6.4	1.1	1.0	.5	2.2
22	1.2	1.0	.7	.5	.6	1.5	10	7.3	1.1	.9	.7	1.9
23	1.2	1.0	.7	.4	.6	1.9	10	10	1.3	.5	1.0	1.4
24	1.2	1.0	.3	.4	.7	2.0	23	8.4	1.3	.5	1.6	7.0
25	1.3	.9	.3	.4	.7	1.9	13	6.2	1.0	.5	.9	4.4
26	1.2	.8	.3	.5	.8	2.1	33	7.1	.9	.5	1.2	2.9
27	1.2	.7	.3	.5	.9	2.3	13	6.2	.8	.4	.7	2.2
28	1.2	.8	.2	.5	1.0	2.1	14	5.9	.9	.4	.6	1.9
29	1.2	.7	.2	.6	1.4	1.8	7.2	6.3	.9	.8	.6	1.8
30	1.5	.7	.2	.6	-	2.1	10	6.3	1.0	.8	.9	1.9
31	1.4	-	.3	.6	-	2.8	-	4.9	-	1.6	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	39.1	1.5	1.1	1.26	78
November	35.6	2.7	.7	1.19	71
December	18.7	.9	.2	.60	37
Calendar year 1939	2,225.3	63	.2	6.10	4,410
January	13.3	.6	.3	.43	26
February	17.7	1.4	.5	.61	35
March	43.2	2.8	.8	1.39	86
April	249.4	33	2.4	8.31	495
May	224.4	17	3.6	7.24	445
June	63.1	4.2	.8	2.10	125
July	30.0	2.2	.4	.97	60
August	23.8	1.6	.4	.77	47
September	46.3	7.0	.4	1.54	92
Water year 1939-40	804.6	33	.2	2.20	1,600

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologic Survey

Huerfano River at Manzanares Crossing, near Redwing, Colo.

Location.- Water-stage recorder, lat. 37°44', long. 105°20', in sec. 5, T. 27 S., R. 71 W., at Manzanares Crossing, 3½ miles southwest of Redwing.

Drainage area.- 76 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey. July 1923 to September 1940 in reports of State engineer. No winter records prior to 1936.

Extremes.- Maximum discharge during year, 291 second-feet Aug. 21 (gage height, 1.64 feet); minimum daily, 7.0 second-feet Dec. 20.
1923-40: Maximum gage height, 4.80 feet July 27, 1934 (discharge not determined); minimum daily discharge, 4 second-feet Jan. 22, 1937.

Remarks.- Records good except those for periods of no gage-height record and those for periods of ice effect, which are fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	11	12	9.8	11	13	14	20	58	22	18	17
2	15	12	11	8.8	*9.6	13	12	20	60	22	16	17
3	14	12	11	9.0	9.8	13	10	22	58	22	15	16
4	14	a10	11	9.0	10	12	12	22	56	22	16	14
5	12	9.0	10	8.4	11	13	12	25	51	24	19	11
6	11	9.0	12	7.8	11	12	a12	28	45	22	22	12
7	11	8.5	11	7.4	12	12	a10	28	42	23	24	13
8	13	8.5	10	7.4	13	13	a9	33	40	20	26	12
9	13	11	10	7.8	13	14	a10	32	38	20	26	13
10	13	12	9.5	9.0	12	14	a12	29	35	20	26	16
11	12	12	8.5	9.6	11	13	a11	28	33	20	24	16
12	11	10	9.0	12	10	12	a12	28	32	20	22	14
13	11	11	13	10	9.8	13	a13	29	28	21	20	15
14	12	10	11	9.1	9.4	13	a15	33	28	20	18	15
15	11	10	11	8.7	9.2	13	17	39	30	23	18	15
16	12	12	11	9.6	*8.7	15	20	39	30	22	20	14
17	12	12	9.5	*8.8	9.2	13	21	48	29	22	20	15
18	12	11	9.0	8.4	10	12	21	52	30	21	19	17
19	13	12	8.4	8.0	10	13	20	42	31	21	24	18
20	12	12	7.0	8.5	11	14	20	39	29	22	21	22
21	12	9.0	7.2	9.0	11	15	19	41	31	22	27	26
22	12	8.5	7.8	9.5	12	14	16	40	36	26	23	30
23	12	9.5	8.8	9.0	13	13	16	37	37	23	24	32
24	12	10	7.4	8.3	13	13	16	37	35	22	24	32
25	11	a10	7.2	7.8	14	13	17	37	33	20	28	30
26	13	a10	7.2	8.4	14	14	17	39	30	21	26	28
27	12	10	7.8	9.4	15	14	17	40	27	22	25	26
28	12	11	8.7	10	14	14	15	43	25	21	24	27
29	12	14	9.5	12	13	10	17	48	24	20	21	25
30	12	12	9.9	13	-	12	22	51	23	20	20	24
31	10	-	10	12	-	12	-	52	-	19	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	380	16	10	12.3	754
November	319.0	14	8.5	10.6	633
December	296.4	13	7.0	9.56	588
Calendar year 1939	8,258.4	80	7.0	22.6	16,380
January	285.5	13	7.4	9.21	566
February	329.7	15	8.7	11.4	654
March	404	15	10	13.0	801
April	455	22	9	15.2	902
May	1,101	52	20	35.5	2,180
June	1,084	60	23	36.1	2,150
July	665	26	19	21.5	1,320
August	676	28	15	21.8	1,340
September	582	32	11	19.4	1,150
Water year 1939-40	6,577.6	60	7.0	18.0	13,040

Peak discharge.- Aug. 19 (5 p.m.) 141 sec.-ft.; Aug. 21 (7:30 p.m.) 291 sec.-ft.
*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for Cucharas River near La Veta.
Note.- Stage-discharge relation affected by ice Dec. 19 to Mar. 20.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Huerfano River at Badito, Colo.

Location.- Chain gage, lat. 37°43', long. 105°00', in sec. 4, T. 27 S., R. 68 W., at Badito, half a mile downstream from South Oak Creek.

Drainage area.- 519 square miles.

Records available.- August to December 1912 and March 1938 to September 1940 in reports of Geological Survey. August to December 1912, April 1923 to September 1925, and March 1938 to September 1940 in reports of State engineer.

Extremes.- Maximum discharge during year, 1,310 second-feet Sept. 21 (gage height, 7.1 feet, from floodmarks), by slope-area method; no flow Aug. 12-15, Sept. 29.

1912, 1923-25, 1938-40: Maximum discharge, 3,160 second-feet Aug. 2, 1939 (gage height, 9.01 feet), from rating curve extended above 1,300 second-feet; no flow Aug. 12-15, Sept. 29, 1940.

Maximum stage known, 12.8 feet from floodmarks, July 27 or 28, 1936 (discharge, 5,000 second-feet), from rating curve extended above 650 second-feet.

Remarks.- Records poor. Gage read twice daily. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	1.5	3.5	5.5	18	16	3.7	15	14	15	3.2	12
2	6.3	.9	3.0	4.5	15	9.6	5.4	13	13	13	3.5	21
3	44	.9	4.7	*5.0	*13	9.3	6.3	11	21	9.6	130	17
4	25	.5	3.9	5.0	14	9.6	4.7	10	18	7.1	2.1	7.6
5	34	.3	3.5	4.5	15	6.3	5.4	7.9	17	11	1.9	10
6	9.0	1.0	2.4	3.5	16	8.2	9.0	9.3	15	8.7	1.1	9.6
7	6.8	1.8	2.5	3.0	18	6.8	6.5	12	16	8.5	.5	5.8
8	8.2	1.0	3.7	3.0	22	6.5	7.1	13	20	6.8	2.8	5.1
9	7.1	1.1	1.9	6.0	22	3.0	3.4	8.5	20	5.6	.3	6.8
10	11	5.4	2.4	9.0	22	5.8	3.9	12	24	8.5	.2	7.9
11	9.0	2.7	1.9	14	23	2.5	10	12	25	9.0	.1	7.6
12	7.1	3.7	1.4	16	18	5.6	7.6	12	22	8.2	0	7.6
13	6.0	2.5	4.2	14	17	4.9	6.3	13	21	7.6	0	7.9
14	7.6	2.5	8.7	12	16	4.7	7.1	12	26	6.3	0	13
15	5.8	4.2	5.4	11	25	3.0	9.0	15	22	8.5	0	10
16	5.6	5.4	2.8	14	*28	3.2	9.0	13	20	14	25	8.5
17	6.5	6.3	.8	*13	26	1.8	13	16	18	9.6	16	10
18	8.5	6.5	2.8	12	23	2.1	2.7	11	18	6.8	12	11
19	11	4.4	2.5	10	23	1.1	.9	4.6	19	11	13	11
20	5.8	4.5	2.0	11	23	1.7	3.2	10	19	24	32	14
21	6.0	4.5	2.0	12	23	1.4	7.6	13	19	9.6	7.6	155
22	7.3	4.0	2.5	13	22	1.0	6.3	8.7	17	12	19	.4
23	5.6	3.5	2.5	11	26	1.0	8.2	3.7	17	10	8.7	.2
24	6.8	2.0	2.5	10	24	a.6	7.6	13	19	8.7	9.0	.8
25	5.6	1.5	2.0	10	23	.3	7.3	14	17	6.5	16	.1
26	4.4	1.0	2.5	11	22	.7	8.7	13	17	5.4	13	.1
27	3.9	1.0	3.0	13	20	15	10	16	17	4.7	12	.1
28	6.0	1.5	4.0	18	17	4.4	12	19	15	6.5	13	.2
29	5.4	2.5	6.0	20	14	3.7	14	16	13	5.1	11	0
30	7.9	3.0	7.0	22	-	2.8	17	15	10	6.5	10	.1
31	3.0	-	7.0	20	-	2.8	-	14	-	3.5	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	289.6	44	3.0	9.34	574
November	81.6	6.5	.3	2.72	162
December	105.0	8.7	.8	3.39	208
Calendar year 1939	6,412.0	275	.2	17.6	12,720
January	336.0	22	3.0	10.8	666
February	588	20	13	20.3	1,170
March	145.4	16	.3	4.69	288
April	222.9	17	.9	7.43	442
May	375.7	19	3.7	12.1	745
June	549	26	10	18.3	1,090
July	277.3	24	3.5	8.95	550
August	374.0	130	0	12.1	742
September	360.4	155	0	12.0	715
Water year 1939-40	3,704.9	155	0	10.1	7,350

*Winter discharge measurement made on this day.
a No gage-height record; discharge estimated.
Note.- Discharge for periods of ice effect, Nov. 20-29, Dec. 19 to Feb. 25, computed on basis of five discharge measurements and weather records.

Huerfano River below Huerfano Valley Dam, near Undercliffe, Colo.

Location.- Water-stage recorder, lat. 38°03', long. 104°26', in sec. 15, T. 23 S., R. 63 W., at mouth of canyon, half a mile below diversion dam for Huerfano Valley ditch, and 5 miles southwest of Undercliffe.

Drainage area.- 1,710 square miles.

Records available.- October 1939 to September 1940. May 1938 to September 1939 at site 600 feet above diversion dam, half a mile upstream; August to December 1908 at site 1½ miles downstream. Records equivalent for high flows only.

Extreme.- Maximum gage height, 4.93 feet Aug. 22 (discharge not determined); no flow for several periods.

1938-40: Maximum discharge, 11,000 second-feet June 7, 1938 (gage height, 5.91 feet, site and datum then in use); no flow at times in each year.

Remarks.- Records poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	8.0	24	0.5	0.6	1.4	0	0	0
2				0	7.0	30	.4	.2	1.6	24	0	0
3				0	6.9	29	.4	.2	1.4	1.3	0	19
4				0	7.0	23	.3	.2	1.3	2.4	9.6	11
5				0	6.5	22	.2	.2	1.1	1.0	7.0	3.2
6				0	6.0	17	.4	.2	1.0	.6	4.2	3.2
7				0	6.0	18	.7	.2	1.3	.5	3.6	74
8				0	6.5	17	.9	.4	.9	.5	2.8	52
9				0	7.7	18	.8	.8	.8	.4	1.6	1,150
10				0	6.2	18	.7	.8	.7	.4	.6	74
11				0	7.5	18	1.4	.5	.6	.4	.2	13
12				0	7.9	18	1.0	.4	.4	18	.1	12
13				0	.5	15	1.4	.2	.3	.6	.1	20
14				0	1.0	18	1.3	0	.1	.1	.1	54
15				0	1.0	17	1.0	0	.1	0	0	3.2
16				0	1.4	12	1.0	0	.1	0	0	1.3
17				0	2.0	8.1	5.0	.1	.1	0	.2	1.2
18				0	2.5	4.5	22	7.0	0	0	4.6	1.1
19				0	5.0	4.0	24	22	0	0	8.3	1.1
20				0	5.5	3.7	20	30	0	0	8.6	1.0
21				0	7.0	3.1	20	31	0	0	11	12
22				0	9.0	2.0	18	34	0	.3	194	24
23				0	15	1.6	19	40	0	.5	26	45
24				0	28	1.4	17	42	0	.3	19	101
25				0	30	1.2	14	42	0	.2	7.2	26
26				0	39	1.0	9.9	38	0	14	3.2	43
27				.2	14	.8	6.5	28	0	7.2	.7	15
28				.5	20	.7	4.2	26	0	.7	0	17
29				6.0	18	.7	2.4	5.7	0	0	0	20
30				10	-	.6	1.5	1.0	0	0	0	29
31				8.0	-	.6	-	1.1	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January	24.7	10	0	.80	49
February	282.1	39	.5	9.73	560
March	348	30	.6	11.2	690
April	195.9	24	.2	6.53	389
May	352.8	42	0	11.4	700
June	13.2	1.6	0	.44	26
July	73.4	24	0	2.37	146
August	312.7	194	0	10.1	620
September	1,826.3	1,150	0	60.9	3,620
Water year 1939-40	3,429.1	1,150	0	9.37	6,800

Cucharas River at Boyd ranch, near La Veta, Colo.

Location.- Water-stage recorder, lat. 37°25', long. 105°03', in sec. 24, T. 30 S., R. 69 W., 6 miles south of La Veta.

Drainage area.- 75 square miles.

Records available.- October 1934 to September 1940.

Extremes.- Maximum discharge during year, 102 second-feet May 21 (gage height, 1.60 feet); minimum daily, 3.8 second-feet Dec. 7, 8.
1935-40: Maximum discharge, 291 second-feet June 3, 1937 (gage height, 2.43 feet); minimum daily, 2 second-feet on several days during period November 1934 to January 1935.

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	8.5	4.9	6.6	5.1	9.0	18	33	67	24	13	9.0
2	5.6	7.0	5.6	7.0	5.2	8.8	17	34	62	24	11	9.0
3	5.2	6.6	4.6	6.2	5.4	8.6	15	40	59	24	9.0	9.0
4	6.0	7.0	4.2	5.0	5.5	*8.9	14	47	53	30	9.0	8.5
5	5.6	6.6	4.2	4.5	5.6	9.1	14	46	54	32	12	8.0
6	5.2	6.3	4.2	4.0	5.5	8.8	14	44	50	28	14	8.0
7	6.0	6.6	3.8	5.0	5.4	8.0	12	45	50	27	20	8.0
8	6.3	6.3	3.8	6.0	5.0	8.6	10	48	48	26	16	8.0
9	6.0	5.6	4.2	6.1	5.3	9.4	12	45	50	23	12	7.0
10	6.6	5.6	4.2	6.4	5.8	9.2	14	42	48	23	10	9.5
11	6.6	6.6	4.2	6.6	5.9	8.6	12	46	43	22	12	10
12	5.6	6.0	5.2	6.8	5.4	8.0	14	45	40	22	14	10
13	5.6	5.6	7.0	5.0	6.2	8.2	14	46	35	22	10	9.5
14	6.3	6.0	6.6	5.6	7.4	8.5	16	48	35	22	9.0	8.5
15	6.0	6.6	5.6	6.2	7.0	8.0	20	49	40	22	9.0	8.0
16	5.6	6.3	6.3	6.2	6.4	9.5	20	48	39	22	10	7.5
17	6.6	6.3	5.6	*5.6	*5.8	8.0	20	61	39	20	11	9.0
18	6.6	8.0	5.6	4.1	5.9	7.5	23	89	39	19	8.0	9.5
19	6.3	8.0	4.6	4.0	6.0	9.5	26	82	35	20	11	8.5
20	6.3	8.0	7.0	4.2	6.3	10	37	88	31	22	13	8.0
21	6.3	8.0	7.0	4.3	6.5	12	49	92	30	22	12	8.5
22	6.3	7.0	6.0	4.4	6.9	14	44	91	29	20	12	9.0
23	6.0	6.3	5.4	4.2	7.0	16	40	83	29	18	14	9.0
24	6.3	5.6	5.6	3.9	7.4	16	40	81	27	17	14	9.5
25	6.3	8.5	4.2	4.4	8.0	18	42	82	26	16	12	9.0
26	6.3	11	4.0	5.0	8.4	19	43	81	26	16	10	9.0
27	6.0	8.5	4.0	5.4	8.8	20	47	74	25	14	9.0	8.0
28	6.3	8.0	4.4	5.6	9.0	18	46	71	25	14	9.0	7.5
29	7.0	9.0	5.0	5.6	*9.0	15	39	76	27	14	10	7.5
30	7.0	6.3	6.0	5.5	-	16	36	74	26	14	11	7.5
31	8.0	-	6.7	5.2	-	17	-	71	-	13	9.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	191.8	8.0	5.2	6.19	380
November	211.7	11	5.6	7.06	420
December	159.7	7.0	3.8	5.15	317
Calendar year 1939	7,023.8	74	3.8	19.2	13,920
January	164.6	7.0	3.9	5.31	326
February	187.1	9.0	5.0	6.45	371
March	355.2	20	7.5	11.5	705
April	768	49	10	25.6	1,520
May	1,902	92	33	61.4	3,770
June	1,187	67	25	39.6	2,350
July	652	32	13	21.0	1,290
August	355.5	20	8.0	11.5	705
September	257.0	10	7.0	8.57	510
Water year 1939-40	6,391.6	92	3.8	17.5	12,660

*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 22 to Mar. 14.

Apishapa River near Aguilar, Colo.

Location.- Water-stage recorder, lat. 37°23', long. 104°40', in sec. 4, T. 31 S., R. 65 W., 1½ miles southwest of Aguilar and 2 miles downstream from Mauricio Canyon Creek.

Drainage area.- 130 square miles.

Records available.- October 1939 to September 1940. March 1938 to September 1939 at site 2 miles downstream; records not equivalent.

Extremes.- Maximum discharge during year, 112 second-feet Sept. 23 (gage height, 3.23 feet), from rating curve extended above 35 second-feet; no flow several days in August and September.

Remarks.- Records poor.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.2	0.3	0.4	0.1	0.2	1.9	6.5	2.2	0.4	0	0
2	.2	.2	.3	.4	.1	.1	1.2	6.0	2.7	3.6	0	0
3	.2	.1	.3	.2	.1	.1	1.2	6.5	2.2	.3	.1	.1
4	.2	.1	.3	.3	.1	.4	2.7	8.8	2.7	2.2	.1	0
5	.2	.1	.3	.2	.1	3.2	2.2	19	3.2	11	.1	0
6	.2	.1	.3	.2	.1	.4	1.2	16	2.2	2.2	.2	0
7	.2	.1	.3	.2	.1	2.7	3.6	17	2.2	3.6	1.9	0
8	.2	.1	.2	.1	.1	3.6	.5	17	1.9	4.1	.1	0
9	.2	.1	.2	.1	.1	8.2	1.5	15	1.5	1.2	0	0
10	.1	.2	.2	.1	.1	5.6	4.1	8.2	1.2	.4	.1	.4
11	.1	.2	.3	.2	.1	.6	3.6	4.1	.8	.4	.1	.1
12	.1	.2	.2	.1	.1	3.2	6.0	4.1	.5	.2	.2	.1
13	.1	.2	.2	.1	.1	8.2	6.0	4.1	.4	.2	.1	.1
14	.2	.2	.4	.1	.1	7.0	6.5	4.6	.4	.2	0	.4
15	.2	.2	.4	.1	.1	7.0	5.1	6.5	.4	.2	.1	.8
16	.2	.2	.5	.2	.1	8.2	7.0	11	1.5	.2	0	.1
17	.2	.1	.8	.2	.1	9.4	22	11	1.5	.1	.1	.1
18	.2	.2	.5	*.1	.1	6.5	25	10	1.5	.2	.1	.1
19	.2	.2	.2	.1	.1	5.6	24	25	1.5	.2	0	.1
20	.2	.2	.4	.1	.1	5.1	17	29	1.5	.2	.1	.1
21	.2	.2	.4	.2	.1	6.5	14	30	1.5	.2	.1	.1
22	.2	.2	.4	.1	.1	6.5	13	34	1.5	.2	.4	0
23	.2	.2	.3	.1	.2	7.6	9.4	36	.8	.4	.3	.4
24	.2	.1	.2	.1	.2	8.2	12	34	.4	.3	.1	0
25	.2	.2	.3	.1	.2	8.8	12	34	.4	.3	.1	1.9
26	.2	.2	.2	.1	9.4	8.8	11	33	.4	.3	.1	4.6
27	.2	.2	.3	.1	15	6.5	12	23	.2	.4	.1	.2
28	.1	.2	.2	.2	9.4	4.6	11	17	.2	.1	.1	.1
29	.1	.2	.3	.2	6.0	2.7	11	11	.1	.4	0	0
30	.2	.2	.3	.1	-	3.6	8.2	5.6	.2	.4	.1	.2
31	.2	-	.4	.1	-	3.2	-	2.2	-	.2	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	5.6	0.2	0.1	0.18	11
November	5.1	.2	.1	.17	10
December	9.9	.8	.2	.32	20
Calendar year	-	-	-	-	-
January	4.9	.4	.1	.16	9.7
February	42.6	15	.1	1.47	84
March	152.5	9.4	.1	4.92	302
April	255.9	25	.5	8.53	508
May	497.2	36	2.2	16.0	986
June	37.7	3.2	.1	1.26	75
July	34.3	11	.1	1.11	68
August	4.9	1.9	0	.16	9.7
September	10.0	4.6	0	.33	20
Water year 1939-40	1,060.6	36	0	2.90	2,100

Peak discharge.- July 2 (12:50 a.m.) 92 sec.-ft.; Sept. 23 (5:15 p.m.) 112 sec.-ft.
*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 13, 15, 16, 19, 22-24, 30, 31, Jan. 1, 12-29.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologi l Survey

U. S. GOVERNMENT PRINTING OFFICE : 1936—O - 16206

Purgatoire River at Trinidad, Colo.

Location.- Water-stage recorder, lat. 37°10', long. 104°30', in sec. 13, T. 33 S., R. 64 W., at foot of State Street in Trinidad.

Drainage area.- 742 square miles.

Records available.- May 1896 to July 1899, August to December 1905, November 1906 to March 1907, October 1907 to November 1912, and October 1933 to September 1940 in reports of Geological Survey. May 1896 to July 1899, August to December 1905, November 1906 to March 1907, October 1907 to November 1912, and April 1916 to September 1940 in reports of State engineer.

Average discharge.- 28 years (1907-12, 1916-18, 1919-40), 84.6 second-feet.

Extremes.- Maximum discharge during year, 2,830 second-feet Sept. 10 (gage height, 4.49 feet); minimum daily, 4.5 second-feet Apr. 16.
1896-99, 1905, 1906-12, 1916-40: Maximum discharge, 45,400 second-feet Sept. 30, 1904 (gage height, 16.6 feet, on Commercial Street gage), by slope-area method; minimum daily, 1.2 second-feet Jan. 1, 1936.

Remarks.- Records good except those for periods of no gage-height record or ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	11	13	15	15	27	16	42	225	24	45	67
2	22	11	16	14	*14	32	16	40	235	67	42	29
3	13	5.0	16	*14	14	19	19	22	235	74	40	27
4	13	7.8	16	13	15	19	19	22	250	90	35	29
5	16	15	16	13	16	22	19	81	310	152	49	27
6	13	12	16	12	15	22	27	90	225	81	99	29
7	12	12	16	11	16	35	29	90	205	40	305	40
8	12	13	16	12	15	15	37	112	190	35	152	35
9	18	11	15	13	13	18	27	90	185	24	52	99
10	32	16	12	14	15	19	19	37	180	27	37	592
11	18	15	9.2	15	17	19	19	24	161	42	37	52
12	19	13	18	15	12	19	19	42	143	56	40	18
13	29	15	15	13	14	24	13	63	138	175	40	16
14	27	15	6.4	10	16	12	6.4	77	130	130	40	18
15	29	15	15	13	*17	19	5.0	70	90	103	40	32
16	32	19	12	14	15	19	4.5	63	77	121	40	19
17	22	16	12	15	*12	19	15	55	90	40	29	15
18	22	16	11	*15	11	19	35	205	74	24	22	32
19	22	19	11	9	11	22	103	185	81	32	35	42
20	16	18	10	8	11	19	90	125	77	49	103	63
21	18	a18	11	9	11	22	49	112	94	330	59	52
22	24	a17	11	8	12	24	42	152	99	107	81	63
23	15	a17	12	8	16	19	42	134	85	59	130	230
24	11	16	11	8	18	19	37	112	85	35	85	138
25	9.2	16	10	8	19	22	37	107	70	15	56	63
26	12	13	9	10	19	19	42	148	56	11	49	52
27	12	11	9	12	27	22	42	146	45	19	37	40
28	13	16	10	14	24	22	42	245	42	19	35	40
29	15	16	10	15	24	24	45	195	40	45	37	40
30	5.0	16	11	16	-	19	42	180	32	90	67	37
31	11	-	14	16	-	18	-	190	-	49	94	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	561.2	32	5.0	18.1	1,110
November	430.8	19	5.0	14.4	854
December	389.6	18	6.4	12.6	773
Calendar year 1939	16,408.9	215	5.0	45.0	32,550
January	382	16	8.0	12.3	758
February	454	27	11	15.7	900
March	649	35	12	20.9	1,290
April	957.9	103	4.5	31.9	1,900
May	3,288	245	22	106	6,520
June	3,949	310	32	132	7,830
July	2,165	330	11	69.8	4,290
August	2,012	305	22	64.9	3,990
September	2,038	592	15	67.9	4,040
Water year 1939-40	17,276.5	592	4.5	47.2	34,260

Peak discharge.- Sept. 10 (1:30 a.m.) 2,830 sec.-ft.; Sept. 23 (10 p.m.) 1,370 sec.-ft.
*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for station on Cucharas River near La Veta.
Note.- Stage-discharge relation affected by ice Nov. 26, Dec. 17 to Feb. 21.

Purgatoire River at Ninemile Dam, near Higbee, Colo.

Location.- Water-stage recorder above diversion dam of Ninemile ditch, lat. 37°45', long. 103°25', in sec. 32, T. 26 S., R. 54 W., 4 miles southwest of Higbee and 4 miles upstream from Smith Canyon. Datum of gage is 4,240.59 feet above mean sea level (general adjustment of 1929).

Drainage area.- 2,900 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey. October 1924 to September 1940 in reports of State engineer.

Average discharge.- 16 years, 90.7 second-feet.

Extremes.- Maximum discharge during year, 8,570 second-feet Sept. 10 (gage height, 5.67 feet); no flow Oct. 1 to Nov. 10, July 24, Aug. 2, 15.
1924-40: Maximum discharge, 64,500 second-feet Sept. 15, 1934 (gage height, 12.60 feet), by slope-area method; no flow at times.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	7.6	5.0	2.2	40	25	12	40	222	0.2	11
2		0	8.2	8.0	3.0	42	13	12	32	220	0	5.1
3		0	8.2	10	3.5	38	13	11	26	12	4.9	2.0
4		0	8.2	9.5	4.0	33	18	8.9	25	4.0	83	.5
5		0	6.2	8.2	4.5	34	14	7.3	14	27	127	35
6		0	6.2	7.3	28	34	14	4.6	27	52	32	84
7		0	6.5	9.0	21	40	12	3.9	111	37	15	20
8		0	6.4	9.0	24	33	13	4.2	72	22	9.5	10
9		0	7.0	9.5	24	33	11	3.9	136	11	3.5	5.7
10		0	7.3	8.9	8.0	33	13	2.5	2,090	6.2	.7	4,950
11		.3	6.5	9.0	15	33	33	1.8	310	4.5	3.4	1,550
12		1.6	5.7	9.7	20	44	22	2.0	21	102	6.6	253
13		1.9	5.7	3.1	12	60	14	2.0	87	47	7.6	129
14		2.2	6.8	3.0	10	44	6.4	2.0	57	50	1.2	84
15		3.0	5.9	4.0	20	35	4.0	2.0	47	74	0	106
16		3.3	5.7	4.0	25	33	4.0	2.5	38	28	49	63
17		3.5	5.7	8.0	15	27	46	3.9	34	8.7	82	38
18		3.5	4.6	3.0	15	27	84	6.4	31	2.2	461	25
19		2.5	4.2	1.5	16	28	46	6.4	18	2.0	375	23
20		3.7	4.0	1.0	18	30	189	77	9.4	1.0	136	22
21		4.9	4.9	1.5	16	33	302	62	5.8	21	47	13
22		5.4	4.5	1.0	14	30	194	89	33	9.0	23	16
23		5.1	4.0	1.0	19	28	136	450	84	.2	276	13
24		5.6	2.9	2.0	20	30	97	133	49	0	209	74
25		5.6	1.2	1.0	23	37	65	95	24	1.0	104	129
26		4.5	1.0	1.0	27	45	40	51	9.4	3.2	19	118
27		4.1	1.0	1.7	28	48	28	67	4.6	4.7	11	69
28		5.6	1.3	2.0	58	48	25	250	3.4	1.6	5.0	55
29		7.4	1.5	2.1	47	38	18	77	1.6	35	7.0	42
30		10	2.0	2.4	-	42	14	100	.7	13	10	32
31		-	3.8	2.3	-	35	-	95	-	3.2	69	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	83.7	10	0	2.79	166
December	154.7	8.2	1.0	4.99	307
Calendar year 1939	8,400.4	734	0	23.0	16,670
January	148.7	10	1.0	4.80	295
February	540.2	58	2.2	18.6	1,070
March	1,135	60	27	36.6	2,250
April	1,513.4	302	4.0	50.4	3,000
May	1,645.3	450	1.8	53.1	3,260
June	3,440.9	2,090	.7	115	6,820
July	1,024.5	222	0	33.0	2,030
August	2,177.6	461	0	70.2	4,320
September	7,977.3	4,950	.5	266	15,820
Water year 1939-40	19,841.3	4,950	0	54.2	39,340

Peak discharge.- June 10 (8 a.m.) 6.750 sec.-ft.; Aug. 18 (9 p.m.) 4,630 sec.-ft.; Sept. 10 (7 a.m.) 8,570 sec.-ft.

Note.- Stage-discharge relation affected by ice Jan. 7-9, 18-31. Discharge for most of year measured through Parshall flume.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologi l Survey

Purgatoire River at Highland Dam, near Las Animas, Colo.

Location.- Water-stage recorder above diversion dam of Highland ditch, lat. 37°55', long. 103°18', in sec. 1, T. 25 S., R. 53 W., 11 miles southwest of Las Animas.

Drainage area.- 3,320 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey. October 1931 to September 1940 in reports of State engineer.

Extremes.- Maximum discharge during year, 5,900 second-feet June 10 (gage height, 5.84 feet); no flow Oct. 1 to Dec. 9, June 29, 30, July 1, 11, 12, 25, Aug. 3, 16.
1931-40: Maximum discharge, 33,000 second-feet Sept. 15, 1934 (gage height, 14.00 feet, from floodmarks), by slope-area method; no flow at times during 1932-40.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	2.6	*0.5	63	29	17	88	0	8.4	15
2			0	3.2	.5	94	19	14	70	182	2.0	17
3			0	4.0	.6	88	13	13	49	40	0	11
4			0	3.8	2.0	59	13	14	41	6.2	68	5.1
5			0	*3.3	6.0	40	13	11	326	1.4	186	2.3
6			0	3.0	5.8	52	15	8.7	66	21	105	1.2
7			0	2.5	8.9	65	18	7.0	58	44	37	23
8			0	2.5	18	60	14	10	92	42	23	14
9			0	2.4	18	50	13	8.7	70	9.2	11	6.2
10			2.7	*2.5	30	38	13	6.7	2,570	1.0	6.4	1,030
11			4.4	2.5	31	37	16	3.3	669	0	27	2,830
12			4.9	3.2	27	50	20	2.3	180	0	31	318
13			3.1	4.0	7.5	82	20	1.6	116	205	5.7	129
14			2.7	4.2	9.2	78	16	.8	92	69	3.1	96
15			2.0	4.3	11	63	13	.6	74	94	.8	77
16			3.7	4.4	5.1	38	12	.6	59	55	0	96
17			4.1	3.6	8.9	46	22	5.4	44	15	561	54
18			3.9	3.2	4.9	51	53	19	31	6.2	107	32
19			2.5	3.0	13	65	67	14	23	3.9	459	23
20			1.9	3.4	13	54	57	22	17	2.9	318	17
21			1.9	3.3	13	44	218	94	13	1.7	110	16
22			2.1	3.3	16	46	212	84	9.2	115	50	12
23			1.9	3.0	16	28	132	259	6.4	14	64	11
24			1.3	2.5	19	29	99	281	70	.6	126	11
25			1.3	2.4	22	31	76	119	37	0	103	90
26			1.0	2.0	24	41	57	72	12	1,450	50	142
27			.8	2.0	29	63	44	55	5.4	129	24	92
28			.9	2.0	32	59	35	334	1.7	13	20	58
29			1.0	1.6	88	55	23	119	0	4.1	17	35
30			1.3	1.0	-	43	20	65	0	71	14	223
31			1.8	.8	-	48	-	129	-	59	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	51.2	4.9	0	1.65	102
Calendar year 1939	8,438.1	947	0	23.1	16,740
January	89.5	4.4	.8	2.89	178
February	479.9	88	.5	16.5	952
March	1,660	94	28	63.5	3,290
April	1,372	218	12	45.7	2,720
May	1,790.7	334	.6	57.8	3,550
June	4,889.7	2,570	0	163	9,700
July	2,655.2	1,450	0	85.7	5,270
August	2,548.4	561	0	82.2	5,050
September	5,486.8	2,830	1.2	183	10,880
Water year 1939-40	21,023.4	2,830	0	57.4	41,690

Peak discharge.- June 10 (5 p.m.) 5,900 sec.-ft.; Aug. 17 (5:30 a.m.) 4,650 sec.-ft.; Sept. 11 (7 a.m.) 5,380 sec.-ft.
*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 25 to Feb. 6.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Wild Horse Creek at Holly, Colo.

Location.- Water-stage recorder, lat. 38°03', long. 102°07', in sec. 15, T. 23 S., R. 42 W., just upstream from mouth, a quarter of a mile southeast of Holly.

Records available.- October 1922 to September 1927, October 1933 to September 1935, and November 1938 to September 1940 in reports of Geological Survey. October 1922 to September 1935 and November 1938 to September 1940 in reports of State engineer.

Extremes.- Maximum discharge, 624 second-feet May 8 (gage height, 4.21 feet), from rating table extended above 60 second-feet; no flow most of year.
1922-35, 1938-40: Maximum discharge, 22,000 second-feet Aug. 28, 1935, by slope-area method, at point 11 miles above station; no flow most of time.

Remarks.- Records poor. Discharge for Aug. 28, 1935, included in records for Arkansas River at Holly, and that for period Aug. 29, 1935, to about Nov. 10, 1938, included in records for Holly drain near Holly. Flow is mostly waste water from Amity canal. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	5.1	10	0	4.5	0	0	13	0	0	0
2		0	4.9	10	0	.1	4.6	0	10	0	0	0
3		0	5.3	10	0	0	6.0	0	17	0	0	0
4		0	5.5	10	0	0	4.3	0	13	0	0	.1
5		0	6.0	10	*0	0	3.3	0	5.1	0	0	.1
6		0	7.0	10	0	0	2.5	0	35	0	0	0
7		0	7.8	10	0	0	3.3	0	55	0	0	0
8		0	7.8	10	0	0	2.0	83	12	0	3.0	0
9		0	8.3	11	0	0	1.2	.4	16	0	0	0
10		0	8.6	11	0	0	.4	0	22	0	0	0
11		0	8.6	*11	0	0	4.3	0	17	0	0	0
12		0	8.3	11	0	0	4.9	0	55	.2	0	2.6
13		0	8.6	10	0	0	5.3	0	42	0	0	2.2
14		0	10	8	0	0	5.5	2.2	22	0	0	3.6
15		0	9.5	6	0	0	3.5	3.6	18	0	0	1.8
16		0	9.5	2	0	0	0	0	16	0	0	.8
17		0	9.2	2	0	0	0	0	10	0	2.3	.1
18		0	8.3	0	0	0	0	0	8.9	0	0	0
19		0	8.0	0	*0	*0	0	0	6.2	0	0	0
20		0	8	0	0	0	0	0	2.3	0	.3	0
21		0	10	0	0	0	0	0	*3.9	0	0	0
22		a.3	10	0	0	0	0	0	0	0	0	0
23		a.3	10	0	0	0	0	0	0	0	0	.5
24		a.5	10	0	0	0	0	0	0	0	0	.7
25		8.0	9	0	0	0	0	0	0	0	.1	0
26		5.5	9	0	0	0	.8	0	0	0	0	0
27		5.5	9	0	0	0	0	0	0	0	0	0
28		5.5	9	0	0	.4	1.2	0	0	0	0	0
29		5.5	9	0	2.0	.3	3.3	10	0	0	0	.5
30		5.5	9	0	-	.2	3.7	9.5	0	0	0	4.1
31		-	9	0	-	.2	-	13	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	36.6	8.0	0	1.22	73
December	257.3	10	4.9	8.30	510
Calendar year 1939	1,972.4	108	0	5.40	3,910
January	152	11	0	4.9	301
February	2.0	2.0	0	.07	4.0
March	5.7	4.5	0	.18	11
April	60.1	6.0	0	2.00	119
May	121.7	83	0	3.93	241
June	399.4	55	0	13.3	792
July	.2	.2	0	.01	.4
August	5.7	3.0	0	.18	11
September	17.1	4.1	0	.57	34
Water year 1939-40	1,057.8	83	0	2.89	2,100

*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of observer's notes.
Note.- Stage-discharge relation affected by ice Dec. 20 to Jan. 17.

Holly drain near Holly, Colo.

Location.- Water-stage recorder, lat. 38°03', long. 102°03', in sec. 16, T. 23 S., R. 41 W., just downstream from Cheyenne Creek, 100 yards west of Colorado-Kansas State line, and 3½ miles east of Holly.

Records available.- January 1924 to September 1927 and October 1933 to September 1940 in reports of Geological Survey. January 1924 to September 1940 in reports of State engineer.

Extremes.- Maximum gage height during year, 7.56 feet (discharge not determined); minimum daily discharge, 3.0 second-feet Mar. 3.

1924-40: Maximum discharge, 1,470 second-feet Sept. 3, 1938 (gage height, 10.29 feet); from rating curve extended above 500 second-feet by logarithmic plotting on basis of slope-area determinations; minimum daily, 0.5 second-foot Aug. 31, 1938.

Remarks.- Records fair. Records for Aug. 28, 1935, to about Nov. 10, 1938, include flow of Wild Horse Creek. Since Aug. 28, 1935, flow of Holly drain above Wild Horse Creek enters Arkansas River above station at Holly.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.5	13	9.6	11	8.7	3.8	6.3	15	21	12	11	9.6
2	5.0	13	9.S	12	a8.7	5.2	6.0	19	21	12	8.4	6.7
3	5.8	17	9.S	12	a8.7	3.0	5.8	16	19	12	11	8.7
4	6.0	13	9.8	14	S.7	11	6.0	15	21	9.6	9.8	8.4
5	7.8	13	a10	14	11	12	5.8	15	25	9.3	9	9.3
6	11	13	12	b15	9.0	7.6	6.0	16	33	10	7.6	13
7	12	17	12	b15	9.3	7.3	5.8	15	41	11	7.S	12
8	a11	13	11	15	8.4	7.8	6.0	90	22	9.8	9.8	7.6
9	10	13	11	15	7.3	7.6	6.3	32	21	10	9.6	7.6
10	a10	13	11	15	7.6	6.8	7.6	23	39	10	6.3	8.1
11	11	14	11	15	9.6	7.1	12	21	30	10	6.3	8.7
12	a12	13	11	13	8.1	6.3	12	20	34	11	7.5	13
13	16	17	11	15	7.S	6.8	13	19	34	13	7.1	14
14	a14	13	11	19	8.4	4.5	13	17	30	12	6.0	20
15	12	13	11	13	7.8	5.0	13	17	25	11	5.5	19
16	12	13	11	14	7.5	5.2	13	17	21	10	4.2	18
17	14	13	10	14	6.8	5.0	15	19	17	10	66	17
18	a15	15	11	a14	7.3	6.0	14	20	15	9.8	17	17
19	16	14	11	a14	9.3	6.8	13	18	13	9.6	13	15
20	a16	10	11	a13	7.5	7.3	12	16	12	8.4	12	13
21	a16	11	11	13	5.0	7.1	12	16	13	7.6	12	9.6
22	16	10	11	a13	7.5	6.8	13	16	11	7.6	11	7.8
23	a16	10	11	a13	4.5	7.5	13	16	9.6	7.3	10	12
24	16	12	10	a13	4.0	6.0	13	19	11	6.8	9.3	18
25	12	12	9.S	13	4.0	6.3	12	19	11	5.8	9.0	10
26	10	12	10	a13	4.0	6.3	14	19	11	7.5	11	11
27	10	12	19	a12	3.8	5.8	17	21	13	7.5	11	11
28	16	10	10	12	3.2	5.8	26	23	12	5.0	10	16
29	12	10	12	a12	3.5	5.5	17	23	11	5.2	10	23
30	12	11	11	a11	-	5.8	14	23	12	5.5	12	38
31	13	-	12	a10	-	6.0	-	23	-	S.1	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	371.1	16	5.0	12.0	736
November	383	17	10	12.8	760
December	341.8	19	9.6	11.0	678
Calendar year 1939	5,017.1	67	.9	13.7	9,950
January	417	19	10	13.5	827
February	207.0	11	3.2	7.14	411
March	201.0	12	3.0	6.48	399
April	342.6	26	5.S	11.4	680
May	658	90	15	21.2	1,310
June	608.6	41	9.6	20.3	1,210
July	284.4	13	5.0	9.17	564
August	350.2	66	4.2	11.3	695
September	404.1	38	7.6	13.5	802
Water year 1939-40	4,568.8	90	3.0	12.5	9,070

a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.

Amazon canal near Hartland, Kans.

Location.- Water-stage recorder, lat. 37°53', long. 101°22', in SE¼ sec. 9, T. 25 S., R. 37 W., half a mile west of Hartland and 2½ miles downstream from point of diversion from Arkansas River.

Records available.- 1921-24 (irrigation seasons only) and October 1930 to September 1940 in reports of Geological Survey. 1921-24 (irrigation seasons only) in reports of Kansas Water Commission. October 1924 to September 1935 in reports of Division of Water Resources of State Board of Agriculture.

Extremes.- Maximum discharge during year, 282 second-feet June 12 (gage height, 7.60 feet); no flow during long periods.
1921-24, 1930-40: Maximum discharge, 490 second-feet Aug. 28, 1933 (gage height, 8.80 feet); no flow during long periods.

Remarks.- Records fair. Canal diverts water for irrigation from left bank of Arkansas River in sec. 12, T. 25 S., R. 38 W.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	0		0	
2								0	0		0	
3								0	0		0	
4								0	0		a90	
5								0	8		0	
6								0	10		0	
7								0	10		0	
8								0	0		0	
9								0	0		0	
10								0	0		0	
11								0	0		0	
12								0	128		0	
13								0	198		0	
14								0	83		0	
15								0	0		0	
16								0	0		0	
17								0	32		0	
18								15	92		0	
19								0	72		0	
20								0	54		0	
21								0	37		0	
22								0	30		0	
23								0	15		0	
24								0	0		0	
25								0	0		0	
26								0	0		0	
27								0	0		0	
28								0	0		0	
29								0	0		0	
30								0	0		7	
31								0	0		0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	6,699	254	0	18.4	13,280
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	18	18	0	.6	36
June	769	198	0	25.6	1,530
July	0	0	0	0	0
August	97	90	0	3.1	192
September	0	0	0	0	0
Water year 1939-40	884	198	0	2.4	1,760

a No gage-height record; discharge computed on basis of estimates by head gateman on canal.

South Side ditch near Hartland, Kans.

Location.- Water-stage recorder, lat. 37°52', long. 101°22', in SE¼ sec. 15, T. 25 S., R. 37 W., three-quarters of a mile south of Hartland and 1½ miles downstream from point of diversion from Arkansas River.

Records available.- 1921-24 (irrigation seasons only) and October 1930 to September 1940 in reports of Geological Survey. 1921-24 (irrigation seasons only) in reports of Kansas Water Commission. October 1924 to September 1935 in reports of Division of Water Resources of State Board of Agriculture.

Extremes.- Maximum discharge during year, 256 second-feet June 12 (gage height, 7.17 feet); no flow during long periods.
1921-24, 1930-40: Maximum discharge, 367 second-feet Sept. 6, 1938 (gage height, 8.62 feet); no flow during long periods.

Remarks.- Records fair. Ditch diverts water for irrigation from right bank of Arkansas River in sec. 16, T. 25 S., R. 37 W.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0		0	0
2									0		0	0
3									0		0	0
4									0		62	0
5									0		0	0
6									0		0	0
7									0		0	0
8									0		130	0
9									0		36	0
10									0		0	0
11									0		0	0
12									100		0	0
13									148		0	145
14									a3		0	142
15									a3		0	56
16									[illegible]		0	31
17									0		0	0
18									0		10	0
19									0		43	0
20									0		0	0
21									0		0	0
22									0		0	0
23									0		0	0
24									0		0	0
25									0		0	0
26									0		0	0
27									0		0	0
28									0		0	0
29									0		0	0
30									0		0	0
31									-		0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	4,925	199	0	13.5	9,760
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	254	148	0	8.5	504
July	0	0	0	0	0
August	281	130	0	9.1	557
September	374	145	0	12.5	742
Water year 1939-40	909	148	0	2.5	1,800

a No gage-height record; discharge computed on basis of resident engineer's notes.

Great Eastern canal at Lakin, Kans.

Location.- Water-stage recorder, lat. 37°57', long. 101°15', in NE¼ sec. 22, T. 24 S., R. 36 W., at highway bridge 1 mile north of Lakin and 8 miles northeast of Hartland.

Records available.- 1921-24 (irrigation seasons only) and October 1930 to September 1940 in reports of Geological Survey. 1921-24 (irrigation seasons only) in reports of Kansas Water Commission. November 1924 to September 1935 in reports of Division of Water Reeources of State Board of Agriculture.

Extremes.- Maximum discharge during year, 607 second-feet Aug. 8 (gage height, 6.02 feet); no flow during long periods.
1921-24, 1930-40: Maximum gage height, 10.50 feet May 28, 1936, affected by backwater from highway bridge (discharge not determined); no flow during long periods.

Remarks.- Records poor. Canal diverts water from left bank of Arkansas River in sec. 16, T. 25 S., R. 37 W. for irrigation or for storage in Lake McKinney.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	15		0	102		0	0
2					0	71		0	83		0	0
3					0	56		0	68		1	0
4					0	49		0	51		58	0
5					0	47		0	43		0	0
6					0	48		0	58		33	0
7					0	50		0	72		55	0
8					0	40		0	141		212	0
9					0	26		0	18		15	0
10					0	18		41	3		13	0
11					0	23		26	0		2	0
12					51	24		9	164		0	0
13					41	26		3	148		0	164
14					68	50		0	0		0	59
15					82	40		0	0		0	0
16					b10	25		0	0		0	0
17					b13	16		0	0		0	0
18					140	10		127	0		0	0
19					164	5		55	0		0	0
20					104	0		42	0		0	0
21					102	0		26	0		0	0
22					94	0		12	0		0	0
23					57	3		6	0		0	0
24					42	1		4	0		0	0
25					33	9		0	0		0	0
26					43	5		0	0		0	0
27					38	3		0	0		0	0
28					33	4		4	0		0	0
29					17	4		12	0		0	0
30					-	1		182	0		0	0
31					-	0		182	-		0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	5,483	308	0	15.0	10,890
January	0	0	0	0	0
February	1,132	164	0	39.0	2,250
March	669	71	0	21.6	1,330
April	0	0	0	0	0
May	731	182	0	23.6	1,450
June	951	164	0	31.7	1,890
July	0	0	0	0	0
August	389	212	0	12.5	772
September	223	164	0	7.4	442
Water year 1939-40	4,095	212	0	11.2	8,130

b Stage-discharge relation affected by ice.

Farmers ditch near Garden City, Kans.

Location.- Water-stage recorder, lat. 38°00', long. 101°04', in NW¼ sec. 4, T. 24 S., R. 34 W., 4 miles downstream from head gate, 4 miles northwest of Holcomb, and 10 miles west of Garden City.

Records available.- 1921-24 (irrigation seasons only) and October 1930 to September 1940 in reports of Geological Survey. 1921-24 (irrigation seasons only) in reports of Kansas Water Commission. March 1925 to September 1935 in reports of Division of Water Resources of State Board of Agriculture.

Extremes.- Maximum discharge during year, 201 second-feet June 15 (gage height, 8.38 feet); no flow during long periods.
1921-24, 1930-40: Maximum discharge, 318 second-feet July 21, 1938 (gage height, 8.63 feet); no flow during long periods.

Remarks.- Records poor. Ditch diverts water for irrigation from left bank of Arkansas River in sec. 12, T. 24 S., R. 35 W.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	0	2	0	
2								0	0	0	0	
3								0	0	0	0	
4								0	0	0	0	
5								0	2	0	0	
6								0	2	0	0	
7								0	3	0	13	
8								0	0	0	88	
9								0	117	0	36	
10								0	108	0	2	
11								0	91	0	1	
12								0	94	0	1	
13								0	101	0	0	
14								0	161	0	0	
15								0	178	0	0	
16								0	108	0	0	
17								2	61	0	0	
18								1	39	0	0	
19								0	8	0	0	
20								0	5	0	0	
21								0	3	0	0	
22								0	2	0	0	
23								0	1	0	0	
24								0	1	0	0	
25								0	1	0	0	
26								0	0	0	0	
27								0	0	0	0	
28								0	0	0	0	
29								0	0	0	0	
30								0	0	0	0	
31								0	-	0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	2,976	291	0	8.2	5,900
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	3	2	0	.1	6
June	1,086	178	0	36.2	2,150
July	2	2	0	.1	4
August	141	88	0	4.5	280
September	0	0	0	0	0
Water year 1939-40	1,232	178	0	3.4	2,440

Garden City canal near Garden City, Kans.

Location.- Water-stage recorder, lat. 38°00', long. 101°02', in SW¼ sec. 3, T. 24 S., R. 34 W., 1½ miles downstream from point of diversion from Arkansas River, 3 miles west of Holcomb, and 9 miles west of Garden City. Datum of gage is 2,895.88 feet above mean sea level (general adjustment of 1929).

Records available.- 1921-24 (irrigation seasons only) and October 1930 to September 1940 in reports of Geological Survey. 1921-24 (irrigation seasons only) in reports of Kansas Water Commission. October 1924 to September 1935 in reports of Division of Water Resources of State Board of Agriculture.

Extremes.- Maximum discharge during year, 50 second-feet June 17 (gage height, 8.50 feet); no flow during long periods.
1921-24, 1930-40: Maximum discharge, 87 second-feet Sept. 8, 1937 (gage height, 8.90 feet); no flow during long periods.

Remarks.- Records poor. Canal diverts water for irrigation from left bank of Arkansas River in sec. 5, T. 24 S., R. 34 W.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	bl	0	1	0	2	3	0	
2				0	bl	5	0	0	0	2	0	
3				0	bl	5	0	0	0	0	0	
4				0	0	3	0	0	0	0	0	
5				0	0	3	0	0	0	0	0	
6				0	0	2	2	0	3	0	0	
7				0	0	1	4	0	5	0	1	
8				0	0	1	3	2	2	0	8	
9				0	0	1	3	1	5	0	5	
10				0	0	0	2	1	2	0	1	
11				0	0	0	3	0	1	0	2	
12				0	0	0	1	0	1	0	0	
13				0	0	1	1	0	11	0	0	
14				0	0	1	1	0	4	0	0	
15				0	0	1	1	0	7	0	0	
16				0	0	1	1	0	18	0	0	
17				0	0	1	3	1	28	0	0	
18				0	0	0	2	14	2	0	0	
19				0	0	0	1	5	1	0	0	
20				0	0	1	1	3	1	0	0	
21				0	0	1	1	3	1	0	0	
22				0	0	1	1	2	0	0	0	
23				0	0	1	1	2	0	0	0	
24				0	0	1	1	1	0	0	0	
25				0	0	2	1	1	0	0	0	
26				0	0	2	1	0	0	0	0	
27				0	0	2	1	0	0	0	0	
28				0	0	3	0	2	0	0	0	
29				0	0	2	0	1	0	0	0	
30				0	-	2	0	2	0	0	0	
31				bl	-	2	-	2	-	0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	839	36	0	2.3	1,660
January	1	1	0	0	2.0
February	3	1	0	.1	6.0
March	46	5	0	1.5	91
April	37	4	0	1.2	73
May	43	14	0	1.4	85
June	94	28	0	3.1	186
July	5	3	0	.2	9.9
August	17	8	0	.5	34
September	0	0	0	0	0
Water year 1939-40	246	28	0	.7	487

b Stage-discharge relation affected by ice.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE - 1936 — O - 1C2006

Pawnee River near Larned, Kans.

Location.- Water-stage recorder, lat. 38°11', long. 99°19', in NW¼ sec. 33, T. 21 S., R. 18 W., about 300 feet downstream from Moffet Dam and 11½ miles west of Larned.

Drainage area.- 2,300 square miles.

Records available.- November 1924 to September 1940.

Average discharge.- 16 years, 49.2 second-feet.

Extremes.- Maximum discharge during year, 10,600 second-feet June 9 (gage height, 29.83 feet); no flow at times.
1924-40: Maximum discharge, 20,000 second-feet (estimated) May 28, 1935 (gage height, 31.96 feet); no flow during periods in 1926, 1930, 1931, 1933, 1935-40. Bank-full stage, 27 feet (revised).

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	3	2	4	2	362	260	13	0	95
2			0	3	2	4	2	73	219	15	0	40
3			0	3	2	3	1	18	52	108	0	8
4			0	3	2	4	0	7	33	746	0	4
5			0	3	2	3	0	4	24	632	0	1
6			0	3	2	3	0	2	32	150	0	5
7			0	3	2	3	2	1	497	78	0	0
8			0	3	2	3	2	91	3,820	50	0	0
9			0	3	2	6	1	540	9,900	33	0	0
10			0	3	2	9	1	556	5,400	23	0	0
11			0	3	3	7	0	151	1,640	15	0	0
12			0	3	3	6	0	46	555	12	0	0
13			0	3	3	5	1	23	386	8	0	0
14			1	2	3	5	1	13	225	6	0	0
15			2	2	3	4	0	12	158	4	0	0
16			3	2	3	3	6	9	117	3	0	0
17			3	2	3	3	912	27	90	1	0	0
18			3	3	3	3	86	1,040	73	1	0	0
19			2	2	3	1	5	1,410	60	1	0	0
20			1	2	3	0	1	2,300	54	1	0	0
21			1	2	3	0	1	1,860	45	1	0	0
22			1	2	3	0	1	466	39	1	0	0
23			2	2	4	2	1	154	35	1	0	0
24			3	2	4	2	1	88	31	1	0	0
25			3	2	3	3	1	58	0	0	0	0
26			3	2	4	3	1	44	26	0	0	0
27			3	2	4	3	1	22	22	0	1	0
28			3	2	4	3	1	18	17	0	5	0
29			3	2	4	3	3	15	13	0	188	0
30			3	2	-	3	111	13	12	0	52	0
31			3	2	-	3	-	14	-	0	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	43	3	0	1.4	85
Calendar year 1939	12,468	2,690	0	34.2	24,740
January	76	3	2	2.5	151
February	83	4	2	2.9	165
March	104	9	0	3.4	206
April	1,145	912	0	38.2	2,270
May	9,437	2,300	1	304	18,720
June	23,862	9,900	12	795	47,330
July	1,884	746	0	60.8	3,740
August	266	188	0	8.6	528
September	153	95	0	5.1	303
Water year 1939-40	37,053	9,900	0	101	73,500

Peak discharge.- Apr. 17 (10 a.m.) 1,190 sec.-ft.; May 1 (10 a.m.) 480 sec.-ft.; May 10 (10 a.m.) 662 sec.-ft.; June 1 (8:30 a.m.) 570 sec.-ft.; July 5 (4 a.m.) 962 sec.-ft.; Aug. 29 (11:40 a.m.) 340 sec.-ft.

Note.- Stage-discharge relation affected by ice Dec. 23 to Feb. 17.

400452 O - 41 - 10

Cow Creek near Lyons, Kans.

Location.- Water-stage recorder, lat. 38°18', long. 98°11', in SW¼ sec. 15, T. 20 S., R. 8 W., just downstream from mouth of Little Cow Creek, 60 feet upstream from Missouri Pacific Railroad bridge, and 3 miles south of Lyons, Kans.

Drainage area.- 501 square miles (excluding 239 square miles in Cheyenne Bottoms).

Records available.- April 1938 to September 1940.

Extremes.- Maximum discharge, 3,000 second-feet July 4 (gage height, 18.30 feet); minimum, 1 second-foot many times during year.
1938-40: Maximum discharge, that of July 4, 1940; no flow at times during 1938-39. Maximum stage known about 22.75 feet July 11, 1929; from records of Missouri Pacific Railroad Co.

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	3	3	1	1	4	4	32	8	2	7	5
2	2	3	3	1	1	5	5	36	6	423	7	4
3	1	3	3	1	1	6	4	31	6	1,480	7	5
4	2	4	3	1	1	7	3	21	5	2,400	6	6
5	2	3	3	1	1	6	3	16	5	1,590	7	9
6	2	4	3	1	1	6	5	13	5	346	6	572
7	2	4	2	1	2	7	6	12	7	107	5	975
8	2	3	2	1	2	6	4	30	5	57	6	570
9	2	3	3	1	2	3	5	336	4	40	7	83
10	2	4	2	1	2	5	5	338	5	30	6	31
11	2	4	2	1	2	4	5	66	5	24	6	21
12	2	5	2	1	2	4	4	30	4	20	6	18
13	1	4	2	1	2	4	5	22	4	18	6	15
14	2	4	2	1	2	4	4	17	4	17	6	14
15	2	4	2	1	2	4	5	14	4	15	6	13
16	2	3	2	1	3	4	5	13	3	13	6	12
17	2	4	2	1	3	4	9	18	3	13	6	12
18	2	4	2	1	3	3	7	132	3	12	7	11
19	1	3	2	1	3	3	7	101	a3	12	15	10
20	1	3	2	1	2	3	6	67	a3	11	9	10
21	2	3	2	1	2	3	5	36	a3	10	6	10
22	1	3	2	1	2	3	5	27	4	11	6	10
23	1	3	2	1	2	3	4	40	a3	10	5	10
24	2	3	2	1	2	3	5	29	a3	10	4	13
25	2	3	2	1	2	3	5	18	a2	9	4	26
26	2	3	2	1	2	3	10	13	a2	9	4	71
27	2	3	2	1	2	4	525	10	2	8	5	31
28	2	3	2	1	2	4	191	10	2	8	4	13
29	2	3	1	1	3	4	49	8	2	8	4	9
30	3	3	1	1	-	4	35	8	2	7	7	8
31	3	-	1	1	-	4	-	8	-	7	6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	58	3	1	1.9	115
November	102	5	3	3.4	202
December	66	3	1	2.1	131
Calendar year 1939	7,693	1,020	1	21.1	15,260
January	31	1	1	1.0	61
February	57	3	1	2.0	113
March	132	7	3	4.3	262
April	935	525	3	31.2	1,850
May	1,602	386	8	51.7	3,180
June	117	8	2	3.9	232
July	6,727	2,400	2	217	13,340
August	192	15	4	6.2	381
September	2,597	975	4	86.6	5,150
Water year 1939-40	12,616	2,400	1	34.5	25,020

Peak discharge.- Apr. 27 (4 p.m.) 666 sec.-ft.; May 9 (11 p.m.) 609 sec.-ft.; May 18 (3 p.m.) 184 sec.-ft.; July 4 (2 p.m.) 3,000 sec.-ft.

a No gage-height record; discharge computed on basis of recorded range in stage.

Note.- Stage-discharge relation affected by ice Dec. 25 to Mar. 3.

Little Arkansas River at Valley Center, Kans.

Location.- Water-stage recorder, lat. 37°50', long. 97°23', in SW¼ sec. 36, T. 25 S., R. 1 W., at county highway bridge, half a mile west of Valley Center and 16 miles upstream from mouth. Datum of gage is 1,327.82 feet above mean sea level (preliminary determination).

Drainage area.- 1,316 square miles.

Records available.- February 1935 to September 1940. June 1922 to February 1935, at site 2 miles downstream.

Average discharge.- 18 years, 141 second-feet.

Extremes.- Maximum discharge during year, 2,520 second-feet Sept. 5 (gage height, 12.15 feet); minimum, 18 second-feet July 28 (gage height, 1.93 feet).
1922-40: Maximum discharge observed, 10,500 second-feet June 11, 1923 (gage height, 18.02 feet, site and datum then in use); minimum discharge, 1 second-foot Dec. 27, 1933.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	23	29	29	b26	170	34	148	58	28	20	22
2	24	24	28	31	b27	160	34	148	56	29	20	24
3	23	a25	27	29	b28	154	33	120	53	30	20	24
4	23	a28	28	28	b29	165	32	109	50	64	22	361
5	23	27	27	b28	31	125	32	86	48	38	22	2,240
6	24	27	28	b28	30	98	33	72	48	78	20	1,060
7	23	27	28	b28	31	78	39	62	51	56	20	487
8	24	28	29	b29	33	69	42	389	53	38	24	260
9	25	28	30	b29	34	80	39	1,600	52	31	191	154
10	24	31	30	b29	37	107	38	1,380	75	28	143	103
11	25	33	30	b30	39	94	37	1,480	136	27	118	73
12	24	37	29	b30	41	75	37	984	122	26	63	55
13	24	35	27	b30	43	65	37	353	117	24	40	44
14	24	a35	29	b30	46	57	34	224	82	24	32	37
15	24	a32	29	b30	48	53	34	154	63	25	31	35
16	24	a30	29	b30	53	51	34	116	51	27	33	32
17	24	a25	30	b30	56	49	88	101	48	31	55	31
18	24	a28	30	b30	49	46	577	774	48	27	107	28
19	23	30	29	b30	48	44	514	1,310	48	28	70	27
20	24	27	30	b29	44	43	266	689	42	25	38	27
21	23	a30	28	b29	42	42	176	381	38	24	30	26
22	24	a28	31	b29	43	40	120	224	36	23	27	25
23	23	a25	32	b28	49	40	91	154	37	24	26	26
24	22	a30	32	b28	55	38	76	119	36	22	24	30
25	22	a35	32	b28	55	38	65	100	33	21	22	32
26	22	30	33	b28	62	36	67	89	32	20	22	35
27	22	28	33	b28	74	36	81	81	31	20	23	33
28	a22	26	34	b27	99	36	111	75	30	20	24	29
29	23	30	45	b27	143	35	182	70	28	19	24	27
30	23	35	43	b26	-	35	160	65	27	20	22	26
31	23	-	29	b25	-	34	-	61	-	20	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	726	25	22	23.4	1,440
November	875	37	23	29.2	1,740
December	948	45	27	30.6	1,880
Calendar year 1939	43,053	2,980	22	118	85,400
January	890	31	25	28.7	1,770
February	1,395	143	26	48.1	2,770
March	2,193	170	34	70.7	4,350
April	3,143	577	32	105	6,230
May	11,718	1,600	61	378	23,240
June	1,629	136	27	54.3	3,230
July	917	78	19	29.6	1,820
August	1,355	191	20	43.7	2,690
September	5,413	2,240	22	180	10,740
Water year 1939-40	31,202	2,240	19	85.3	61,900

Peak discharge.- Apr. 18 (10 p.m.) 815 sec.-ft.; May 9 (12 m.) 1,760 sec.-ft.; May 19 (2 a.m.) 1,560 sec.-ft.; Sept. 5 (5:15 a.m.) 2,520 sec.-ft.

a No gage-height record; discharge computed on basis of records for Arkansas River at Wichita, Kans.

b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Ninnescah River near Peck, Kans.

Location.- Water-stage recorder, lat. 37°28', long. 97°25', in NW¼ sec. 10, T. 30 S., R. 1 W., at county highway bridge, 3 miles southwest of Peck and 28 miles upstream from mouth.

Drainage area.- 2,092 square miles.

Records available.- April 1938 to September 1940.

Extremes.- Maximum discharge during year, 11,200 second-feet July 3 (gage height, 15.77 feet); minimum, 27 second-feet Oct. 1 (gage height, 1.52 feet).
1938-40: Maximum discharge observed, that of July 3, 1940; minimum discharge, 19 second-feet Sept. 24, 1939 (gage height, 1.44 feet).
Maximum stage known, about 26.4 feet June 9, 1923, from floodmark (discharge not determined).

Remarks.- Records good except those for period of ice effect, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	50	98	105	92	282	125	905	254	100	46	108
2	28	53	96	100	100	274	119	732	246	1,110	43	98
3	28	58	92	110	110	311	114	530	232	9,290	53	90
4	28	60	92	105	123	490	108	426	206	5,920	56	1,280
5	31	64	92	100	132	458	100	366	184	1,360	79	2,710
6	30	68	94	110	148	378	100	319	169	948	225	2,460
7	28	77	94	115	160	307	116	282	2,010	722	191	742
8	28	79	96	115	170	288	140	316	2,940	601	138	394
9	40	79	98	110	150	300	151	1,360	2,150	504	148	280
10	43	92	100	110	160	278	160	2,300	1,710	430	232	228
11	43	94	105	105	150	246	169	1,100	1,220	365	244	176
12	41	98	105	103	210	229	172	690	1,140	317	156	148
13	41	100	103	100	150	209	163	530	796	275	125	132
14	41	100	100	98	230	190	151	422	610	241	112	117
15	40	98	103	102	260	193	146	342	490	219	105	117
16	38	98	105	110	322	193	134	296	418	209	94	112
17	40	96	108	100	260	181	543	342	366	216	88	103
18	40	98	108	95	143	172	254	1,370	909	170	85	94
19	41	96	108	92	119	160	285	4,100	827	154	81	88
20	43	94	103	90	166	154	510	2,330	374	140	75	79
21	43	90	105	90	219	154	530	1,540	282	127	68	73
22	43	92	105	93	219	148	366	928	229	122	62	75
23	43	92	112	97	225	143	296	690	206	115	55	79
24	41	92	122	100	268	137	250	570	193	108	50	83
25	41	94	125	98	274	134	225	474	175	98	44	92
26	41	98	125	94	257	140	1,280	398	163	88	38	100
27	43	98	117	90	288	143	1,750	338	160	77	194	108
28	43	100	115	84	303	143	972	296	134	68	120	108
29	43	100	115	80	300	137	882	268	116	60	79	100
30	44	100	110	76	-	134	838	240	111	53	81	100
31	50	-	110	86	-	128	-	236	-	50	103	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,194	50	27	38.5	2,370
November	2,608	100	50	86.9	*5,170
December	3,261	125	92	105	6,470
Calendar year 1939	99,846	5,250	19	274	198,000
January	3,063	115	76	98.8	6,080
February	5,768	322	92	199	11,440
March	6,834	490	128	220	13,560
April	11,149	1,750	100	372	22,110
May	25,036	4,100	236	808	49,660
June	19,020	2,940	111	634	37,730
July	24,255	9,290	50	782	48,110
August	3,270	244	38	105	6,490
September	10,474	2,710	73	349	20,770
Water year 1939-40	115,932	9,290	27	317	230,000

Peak discharge.- Apr. 26 (11:30 p.m.) 2,550 sec.-ft.; May 10 (12 m.) 2,620 sec.-ft.; May 19 (8 p.m.) 5,000 sec.-ft.; June 8 (3 a.m.) 3,880 sec.-ft.; July 3 (8 p.m.) 11,200 sec.-ft.; Sept. 5 (11 p.m.) 7,490 sec.-ft.
Note.- Stage-discharge relation affected by ice Dec. 28 to Feb. 15.

U. S. GOVERNMENT PRINTING OFFICE 1936—O-162001

Walnut River at Winfield, Kans.

Location.- Water-stage recorder, lat. 37°14', long. 97°00', in NE¼ sec. 33, T. 32 S., R. 4 E., at bridge on U. S. Highway 77, 1 mile south of Winfield and 1 mile upstream from Black Crook Creek.

Drainage area.- 1,894 square miles.

Records available.- November 1921 to September 1940.

Average discharge.- 18 years (1922-40), 544 second-feet.

Extremes.- Maximum discharge, 9,920 second-feet Apr. 18 (gage height, 17.87 feet); minimum, 3 second-feet Sept. 21 (gage height, 2.12 feet).
1921-40: Maximum discharge observed, 94,400 second-feet Nov. 18, 1928 (gage height, 40.61 feet) on basis of study by Burns and McDonald Eng. Co.; no flow Nov. 11, 1928, July 27 to Sept. 20, 1936. Bank-full stage, 30 feet.

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	5	12	17	18	37	16	718	126	33	14	86
2	5	5	13	16	18	31	15	420	112	64	13	68
3	5	5	11	17	18	27	16	364	102	117	12	55
4	5	4	10	18	19	30	16	241	92	84	13	1,200
5	6	4	11	19	19	32	16	186	86	42	18	713
6	6	5	12	20	19	32	19	149	82	30	22	267
7	6	4	13	21	19	32	22	121	414	27	18	254
8	7	5	14	22	20	38	21	936	790	25	20	172
9	14	7	14	22	21	36	19	4,770	292	22	24	102
10	14	9	14	21	22	38	21	1,740	336	21	24	64
11	12	8	14	19	23	43	25	603	348	21	26	44
12	11	8	14	18	23	50	24	336	192	20	32	35
13	11	8	14	19	22	49	24	247	137	20	36	29
14	10	11	14	21	22	42	33	194	108	25	34	26
15	9	13	15	20	22	34	45	157	96	27	34	24
16	7	11	15	19	26	29	37	132	84	26	38	23
17	7	8	16	18	31	26	3,150	110	74	26	50	21
18	6	7	15	17	33	24	9,120	2,570	1,140	23	50	20
19	5	7	14	b17	35	21	7,050	8,720	930	40	42	34
20	5	8	15	b17	33	19	1,200	3,510	263	72	43	17
21	5	9	14	b17	31	17	490	930	159	137	44	7
22	5	9	15	b17	29	17	319	3,090	110	104	54	22
23	5	10	16	b17	30	17	251	1,050	90	292	82	24
24	5	10	17	b17	29	17	206	475	88	112	72	23
25	5	10	16	b17	27	16	170	326	72	46	57	111
26	5	10	17	b18	26	16	2,920	260	63	50	50	960
27	6	8	18	b18	26	16	2,320	212	63	42	54	368
28	6	7	18	b18	34	17	407	183	50	31	61	231
29	6	8	18	b18	42	17	1,800	162	43	24	76	126
30	5	11	18	b17	-	17	1,860	152	38	20	194	78
31	5	-	17	b17	-	17	-	140	-	17	119	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	215	14	5	6.9	426
November	234	13	4	7.8	464
December	464	18	10	14.6	900
Calendar year 1939	55,170	8,210	4	151	109,400
January	569	22	16	18.4	1,130
February	737	42	18	25.4	1,460
March	854	50	16	27.5	1,690
April	31,632	9,120	15	1,054	62,740
May	33,204	8,720	110	1,071	65,860
June	6,580	1,140	38	219	13,050
July	1,640	292	17	52.9	3,260
August	1,426	194	12	46.0	2,830
September	5,204	1,200	7	173	10,320
Water year 1939-40	82,749	9,120	4	226	164,100

Peak discharge.- Apr. 26 (9 p.m.) 6,450 sec.-ft.; May 9 (9 a.m.) 5,550 sec.-ft.; May 22 (9:30 a.m.) 3,740 sec.-ft.; June 7 (11 p.m.) 1,410 sec.-ft.; June 18 (6 p.m.) 2,640 sec.-ft.; Sept. 4 (11 a.m.) 2,580 sec.-ft.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologic Survey

Salt Fork of Arkansas River near Alva, Okla.

Location.- Water-stage recorder, lat. 36°48'45", long. 98°38'50", on line between sec. 18, T. 27 N., R. 13 W., and sec. 13, T. 27 N., R. 14 W., at bridge on State Highway 14, 1 mile northeast of Alva and 22 miles upstream from Medicine Lodge River. Datum of gage is 1,297.04 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,020 square miles.

Records available.- April 1904 to December 1905 (gage heights only) and February 1938 to September 1940.

Extremes.- Maximum discharge during year, 9,500 second-feet Sept. 24 (gage height, 6.00 feet); no flow at times.

1938-40: Maximum discharge, 25,300 second-feet Aug. 16, 1938 (gage height, 8.90 feet), from rating curve extended above 7,000 second-feet by slope-area method; no flow at times.

Maximum stage known, 9.6 feet on unknown date, from information furnished by State Highway Department.

Remarks.- Records fair.

Cooperation.- Records collected and prepared in cooperation with the Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0	0	1	5	0	232
2						9	0	0	0	469	38	328
3						0	0	0	0	128	257	426
4						0	0	0	0	34	391	114
5						0	0	0	0	17	118	44
6						0	0	0	15	6	200	62
7						0	0	0	109	1	h38	73
8						0	0	162	16	0	h14	29
9						0	0	236	1	0	523	9
10						0	0	h58	762	0	141	5
11						0	0	h18	411	0	67	3
12						0	0	h4	135	0	62	2
13						0	0	h2	69	0	31	1
14						0	0	0	42	0	h9	1
15						0	0	0	32	0	h2	0
16						0	0	0	17	0	h1	1
17						0	0	6	9	0	108	1
18						0	0	993	7	0	h10	1
19						0	0	433	4	0	h1	1
20						0	0	168	1	0	0	1
21						0	0	60	1	0	0	1
22						0	0	33	45	0	0	2
23						0	0	22	34	0	0	1
24						0	0	15	4	0	0	1,430
25						0	0	12	1	0	0	122
26						0	0	6	0	0	0	39
27						0	0	4	0	0	0	28
28						0	16	2	0	0	21	16
29						0	22	1	0	0	1	13
30						0	16	0	0	0	1,770	12
31						0	-	10	-	0	494	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	8,811	1,560	0	24.1	17,470
January	0	0	0	0	0
February	0	0	0	0	0
March	9	9	0	.3	18
April	54	22	0	1.8	107
May	2,245	993	0	72.4	4,450
June	1,716	762	0	57.2	3,400
July	660	469	0	21.3	1,310
August	4,297	1,770	0	139	8,520
September	2,998	1,430	0	99.9	5,950
Water year 1939-40	11,979	1,770	0	32.7	23,760

h No water-stage recorder graph; discharge computed on basis of once-daily readings of outside gage.

Salt Fork of Arkansas River near Jet, Okla.

Location.- Water-stage recorder, lat. 36°45'00", long. 98°08'45", in NE¼NE¼ sec. 11, T. 26 N., R. 9 W., 0.6 mile downstream from Great Salt Plains Dam, about 4 miles upstream from Wagon Creek, and 6 miles northeast of Jet. Datum of gage is 1,097.20 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 3,070 square miles.

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 2,700 second-feet May 18 (gage height, 5.09 feet); no flow at times.
1938-40: Maximum discharge, 25,900 second-feet May 19, 1938 (gage height, 8.80 feet); no flow at times.

Remarks.- Records good except those above 500 second-feet, which are fair, and those for period of ice effect, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	*68	32	10	64	46	4	0	370
2	0	0	0	0	38	54	10	51	38	140	0	203
3	0	0	0	0	87	54	12	49	202	475	0	229
4	0	0	0	0	138	46	14	32	64	337	220	382
5	3	0	0	0	37	39	12	23	59	214	337	167
6	1	0	0	0	14	32	26	17	38	121	139	64
7	0	0	0	0	7	30	143	15	356	64	136	37
8	0	0	0	0	5	22	28	59	2,240	30	108	39
9	139	0	0	0	*3	25	26	142	1,080	16	177	24
10	4	27	0	0	2	27	81	521	704	9	257	16
11	1	3	0	0	3	23	187	315	1,190	6	239	10
12	0	1	0	0	5	62	22	151	1,190	5	85	6
13	0	0	0	0	10	25	19	75	453	3	67	4
14	0	0	0	0	20	18	16	57	261	2	35	2
15	0	0	0	0	*20	18	16	39	191	1	19	1
16	0	0	0	0	32	19	14	35	139	0	15	0
17	0	0	0	0	156	19	18	30	177	0	14	0
18	0	0	0	0	132	a26	44	820	83	0	17	1
19	0	0	0	0	164	a19	565	936	68	0	27	1
20	0	0	0	0	220	a17	261	1,610	56	0	12	1
21	0	0	0	0	91	a15	161	788	43	0	9	1
22	0	0	0	0	66	a14	106	453	43	0	8	65
23	0	0	86	0	103	18	75	244	54	0	8	24
24	0	0	50	0	*88	16	49	139	75	0	8	582
25	0	0	b1	0	25	12	39	90	59	0	6	1,020
26	0	0	*b13	*b1	27	9	37	64	31	0	5	453
27	0	0	b5	b1	36	12	27	51	21	0	8	108
28	0	0	b1	b2	33	12	662	43	220	0	8	38
29	0	0	0	b2	32	13	191	37	40	0	27	25
30	0	0	0	16	-	13	83	32	6	0	802	20
31	0	-	0	39	-	12	-	206	-	0	979	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	148	139	0	4.8	294
November	31	27	0	1.0	61
December	156	86	0	5.0	309
Calendar year 1939	41,480	3,610	0	114	82,270
January	61	39	0	2.0	121
February	1,662	220	2	57.3	3,300
March	753	62	9	24.3	1,490
April	2,954	662	10	98.5	5,860
May	7,188	1,610	15	232	14,260
June	9,227	2,240	6	308	18,300
July	1,427	475	0	46.0	2,830
August	3,772	979	0	122	7,480
September	3,893	1,020	0	130	7,720
Water year 1939-40	31,272	2,240	0	85.4	62,020

*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of recorded range of stage and record for preceding and following days.
b Stage-discharge relation affected by ice.

Salt Fork of Arkansas River at Tonkawa, Okla.

Location.- Water-stage recorder, lat. 36°40', long. 97°19', in NE¼ sec. 4, T. 25 N., R. 1 W., in Tonkawa, 4 miles downstream from Thompson Creek and 8 miles upstream from Chikaskia River. Datum of gage is 930.08 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 4,480 square miles.

Records available.- September 1903 to October 1905, January 1936 to September 1940.

Extremes.- Maximum discharge during year, 1,620 second-feet June 10 (gage height, 8.21 feet); minimum daily, 1.8 second-feet Aug. 2.

1903-5, 1936-40: Maximum discharge, 40,800 second-feet May 20, 1938 (gage height, 22.82 feet, from gage reading at flood crest); minimum discharge observed, 0.5 second-foot Aug. 23, 1936.

Maximum stage known, 26.8 feet June 10, 1923, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records good except those for periods of incomplete or no gage-height record, and those for period of ice effect, which are poor. Some regulation during periods of extreme low flow.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6		12	26	27	67	a14	230	70	121	2.2	490
2	3.6		11	21	26	59	a15	116	85	94	1.8	745
3	3.4	a3.0	9.4	20	49	56	a11	87	104	918	2.2	345
4	4.6		8.8	19	87	53	7.2	73	59	1,320	2.8	422
5	3.8		8.3		70	64	6.6	62	46	693	41	639
6	3.4	a3.6	7.7		*102	67	17	57	79	384	121	573
7	3.0	a3.6	7.2		106	59	21	44	50	228	238	305
8	4.3	a5.0	7.2		68	59	25	44	40	148	162	228
9	12	5.1	7.7	(*)	47	48	40	74	410	94	114	172
10	7.2	14	7.2		36	41	78	64	1,530	66	165	100
11	5.0	14	7.7		28	38	64	66	844	63	210	73
12	30	11	7.3		25	34	91	229	493	66	209	54
13	20	11	*7.2		23	36	148	212	1,110	32	181	40
14	12	11	7.2		20	33	116	136	841	25	112	30
15	8.3	14	6.1		19	44	59	88	434	20	87	24
16	6.1	14	5.8	10	21	46	43	67	283	16	62	20
17	5.2	14	5.8		35	28	35	56	209	14	82	16
18	4.6	12	5.0		59	23	30	89	165	9.9	53	14
19	4.6	11	5.0		46	21	28	367	155	8.4	272	11
20	4.2	11	5.5		*100	22	25	1,260	119	7.8	118	9.0
21	4.0	10	5.5		168	21	168	1,230	96	7.8	50	7.8
22	3.8	9.4	5.5		175	20	203	1,040	77	7.8	36	9.0
23	3.6	8.8	9.4		175	17	155	600	59	9.9	26	9.9
24	3.0	8.3	12		98	20	119	371	50	40	18	9.0
25	3.0	7.2	14	(*)	85	21	93	275	44	46	13	17
26	3.2	7.7	42		123	21	86	192	41	20	9.9	566
27	2.4	7.7	53		92	19	65	143	41	11	8.4	628
28	2.6	7.2	34		65	a16	72	112	39	5.4	6.6	375
29	2.2	7.7	20		62	a14	84	91	35	3.6	6.0	209
30	2.5	12	25	30	-	a12	270	80	27	2.4	7.2	121
31	a2.5	-	30	34	-	a14	-	80	-	2.2	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	181.7	30	2.2	5.86	360
November	255.3	14	3.0	8.51	606
December	399.5	53	5.0	12.9	792
Calendar year 1939	74,164.5	12,700	2.2	203	147,100
January	400	34	10	12.9	793
February	2,040	178	19	70.3	4,050
March	1,093	67	12	35.3	2,170
April	2,188.8	270	6.6	73.0	4,340
May	7,635	1,260	44	246	15,140
June	7,635	1,530	27	254	15,140
July	4,484.2	1,320	2.2	145	8,890
August	2,432.1	272	1.8	78.5	4,820
September	6,261.7	745	7.8	209	12,420
Water year 1939-40	35,006.3	1,530	1.8	95.6	69,420

*Winter discharge measurement made on this day.
a No recorder record; discharge computed on basis of recorded range of stage, weather records, and records for station near Jet, Okla., or once-daily readings of wire-weight gage.
Note.- Stage-discharge relation affected by ice Dec. 29-31, Jan. 5-29.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-182000

Medicine Lodge River near Kiowa, Kans.

Location.- Water-stage recorder, lat. 37°03', long. 98°28', in SW¼ sec. 36, T. 34 S., R. 11 W., at highway bridge, 200 feet downstream from Atchison, Topeka & Santa Fe Railway 1½ miles northeast of Kiowa. Datum of gage is 1,289.99 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,000 square miles.

Records available.- February 1938 to September 1940. May 1895 to October 1896, at site 2 miles upstream.

Extremes.- Maximum discharge during year, 5,020 second-feet June 7 (gage height, 5.10 feet); no flow during several periods.
1895-96, 1938-40: Maximum discharge observed, 24,600 second-feet July 16, 1896 (gage height, 5.9 feet former site and datum); no flow at times in 1896, 1939, and 1940.

Remarks.- Records fair below 200 second-feet and poor above.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	68	36	102	46	8	0	25
2			0		b20	73	34	90	42	77	69	5
3			0		b40	64	32	73	38	99	566	2
4			0		b60	57	32	66	32	87	112	8
5			0		*b85	55	31	59	28	54	45	2
6			0		b85	54	34	51	30	34	76	1
7			0		b85	57	48	45	3,430	22	42	0
8			0		b85	54	52	120	2,120	16	21	0
9			0		85	50	51	455	406	11	16	0
10			0		b86	47	57	190	373	6	12	0
11			0		b86	45	59	120	538	4	8	0
12			0		b86	46	52	87	214	2	5	0
13			0		*87	44	51	73	148	1	2	0
14			0		74	43	48	59	120	1	17	0
15			0		67	45	45	50	101	1	3	0
16			4		66	45	45	46	88	1	2	0
17			6		85	44	54	44	75	0	1	0
18			9		67	42	1,010	73	66	0	0	0
19			8		43	38	274	1,750	57	0	0	0
20			6		b62	37	168	575	51	0	0	0
21			7		*b82	38	120	201	45	0	0	0
22			6		b81	37	101	138	38	0	0	0
23			5		81	36	87	104	34	0	0	0
24			15		81	34	77	88	30	0	0	0
25			7		82	36	73	77	25	0	0	134
26			2		80	38	71	67	20	0	0	70
27			1		78	40	64	61	16	0	0	35
28			0		*74	40	85	57	13	0	0	18
29			0		70	38	106	52	11	0	0	10
30			0		-	37	99	50	9	0	0	7
31			0		-	37	-	52	-	0	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	76	15	0	2.5	151
Calendar year 1939	13,890	703	0	38.1	27,540
January	0	0	0	0	0
February	2,063	87	0	71.1	4,090
March	1,419	73	34	45.8	2,810
April	3,096	1,010	31	103	6,140
May	5,075	1,750	44	164	10,070
June	8,244	3,430	9	275	16,350
July	424	99	0	13.7	841
August	1,008	566	0	32.5	2,000
September	317	134	0	10.6	629
Water year 1939-40	21,722	3,430	0	59.3	43,080

Peak discharge.- Apr. 18 (3:30 a.m.) 2,340 sec.-ft.; May 9 (1 a.m.) 904 sec.-ft.; May 19 (7 a.m.) 2,690 sec.-ft.; June 11 (3 a.m.) 718 sec.-ft.; Aug. 3 (12:30 a.m.) 967 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Chikaskia River near Blackwell, Okla.

Location.- Water-stage recorder above low-water dam of city of Blackwell, lat. 36°49', long. 97°17', on line between secs. 14 and 15, T. 27 N., R. 1 W., a quarter of a mile north of Blackwell and half a mile upstream from Bitter Creek.

Drainage area.- 1,690 square miles.

Records available.- January 1936 to September 1940.

Extremes.- Maximum discharge during year, 6,040 second-feet June 9 (gage height, 10.38 feet); minimum, 0.5 second-feet July 29 to Aug. 3, Aug. 25-27.
1936-40: Maximum discharge, 26,800 second-feet May 20, 1938 (gage height, 24.05 feet, from gage reading at flood crest); minimum, that of 1940.
Maximum stage known, 27.0 feet June 10, 1923, present site and datum.

Remarks.- Records good except those below 5 second-feet, which are poor. Low flow regulated by Braman Reservoir (capacity, 3,600 acre-feet), 12 miles above station. Small diversion made from reservoir for municipal supply of city of Blackwell.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	7.5	14	29	7.5	32	19	87	23	34	0.5	d66
2	2.5	7.5	14	20	7.5	34	123	71	24	40	.5	d36
3	1.5	6.5	15	19	9	50	70	61	23	843	.5	20
4	1	7.5	15	16	8	54	10	50	17	894	5	28
5	2.5	6.5	15	14	7.5	54	4.5	46	14	462	7.5	c970
6	2	3.5	17	15	7.5	54	3	40	11	243	6	1,160
7	1.5	4.5	19	21	6.5	54	5	34	10	171	5.5	607
8	1	4.5	20	20	8	54	2.5	66	2,620	126	6	201
9	7	3.5	21	19	15	54	15	106	3,180	98	6.5	123
10	3.5	8	21	19	44	54	48	98	1,090	79	6	74
11	2.5	4.5	19	10	66	54	59	87	2,010	71	6	52
12	2.5	3.5	19	6.5	64	66	48	74	711	59	6	38
13	3.5	3.5	16	6	104	98	44	59	391	48	5.5	27
14	2.5	3.5	16	4	190	95	42	48	341	40	6	20
15	2.5	4	17	3.5	95	84	42	38	243	36	8	16
16	2.5	4.5	17	3	e9	47	40	30	201	29	6.5	12
17	3	5.5	15	3.5	84	7.5	40	29	174	24	7.5	10
18	3.5	5.5	12	4.5	76	3.5	38	45	149	20	6.5	6.5
19	4.5	4.5	10	6.5	56	2	38	443	132	16	5	4
20	5	3.5	11	7.5	15	1	46	402	171	14	5	2.5
21	4.5	5.5	11	7.5	12	1	48	164	137	12	5	2
22	3	4.5	12	7.5	16		48	140	112	24	5	3.5
23	2.5		16	8	23		44	109	98	19	4	5.5
24	2.5		15	9	21		38	79	98	11	1.5	6
25	2.5	a2	15	7.5	39	d1.5	36	61	129	6.5	.5	5.5
26	4		16	7.5	114		81	44	84	4	.5	3.5
27	3.5		16	8	117		309	30	59	1.6	.5	3.5
28	2.5		20	8	112		174	26	50	1	2	3.5
29	3		32	9	141		289	24	42	.5	99	6
30	5	11	34	8	-	2.5	137	23	38	.5	158	7.5
31	6.5	-	32	7.5	-	7	-	24	-	.5	117	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	95.5	7	1	3.08	189
November	137.0	11	-	4.57	272
December	542	34	10	17.5	1,080
Calendar year 1939	41,681.5	2,880	1	114	82,680
January	334.5	29	3	10.8	663
February	1,554.5	190	6.5	53.6	3,080
March	974.5	98	-	31.4	1,930
April	1,941.0	309	2.6	64.7	3,850
May	2,638	443	23	85.1	5,230
June	12,382	3,180	10	413	24,560
July	3,427.5	894	.5	111	6,800
August	499.0	158	.5	16.1	990
September	3,519.5	1,160	2	117	6,980
Water year 1939-40	28,045.0	3,180	.5	76.6	55,620

a Pool at gage drained Nov. 23; discharge estimated on basis of increase in storage after closure of gates and leakage through gates as indicated by one discharge measurement.
c Stage-discharge relation affected by backwater from downstream tributaries; discharge computed on basis of one discharge measurement and record for preceding and following days.
d Sluice gates in dam open, or no water-stage recorder graph; discharge computed on basis of once-daily readings of auxiliary staff gage below dam.
Note.- No water-stage recorder graph Jan. 2 to Feb. 7; discharge computed on basis of once-daily readings of wire-weight gage.

Cimarron River near Boise City, Okla.

Location.- Water-stage recorder, lat. 36°55'15", long. 102°31'15", in NW¼NE¼ sec. 9, T. 5 N., R. 5 E., at bridge on State Highway 3, 2 miles downstream from Ute Creek and 13 miles north of Boise City. Datum of gage is 3,859.86 feet above mean sea level (levels by Corps of Engineers, U. S. Army; Oklahoma State Highway bench mark).

Drainage area.- 3,200 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 21,000 second-feet June 10 (gage height, 6.25 feet); no flow at times.
1938-40: Maximum discharge, 29,100 second-feet May 4, 1939 (gage height, 7.10 feet); no flow at times.

Remarks.- Records poor. Some small diversions above station.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0		0	b4	1	0	0	1	0	18	0
2		0		0	b3	3	0	0	0	0	6	0
3		0		0	b3	3	0	0	0	0	2	140
4		0		0	b4	2	0	0	0	0	149	3,120
5		0		0	b4	2	1	0	0	1,160	48	47
6		0		0	*b4	2	1	0	0	188	15	22
7		0		0	b4	2	1	0	0	77	299	12
8		0		0	b3	1	1	0	0	16	a1,870	7
9		0		0	b3	1	1	0	16	5	a65	5
10		0		0	2	1	1	0	4,210	3	54	5
11		0		0	1	1	0	0	845	2	110	4
12		0		0	1	1	0	0	86	2	a105	3
13		0		0	*2	1	0	0	44	120	a60	3
14		0		0	1	1	0	0	21	a14	a35	2
15		0		0	1	1	0	0	14	2	a17	59
16		0		*b1	1	1	4	0	5	2	12	40
17		0		b1	1	0	3	2	3	0	21	6
18		0		0	1	1	3	1,150	2	0	119	2
19		0		0	2	1	4	61	2	0	94	2
20		0		0	2	2	1	38	2	0	f44	2
21		0		0	1	2	1	2	2	0	34	2
22		0		0	1	1	0	2	345	0	28	1
23		0		0	1	2	0	2	276	0	59	1
24		0		0	1	2	0	2	26	0	f15	1
25		0		0	2	1	1	2	14	0	f6	0
26		2		0	1	1	1	2	f6	0	0	0
27		1		b1	1	1	0	26	f4	0	3	0
28		0		b2	1	1	0	23	f2	0	f2	0
29		0		b3	1	1	0	10	f1	0	f1	0
30		0		b3	-	0	0	f5	0	63	0	37
31		-		*b4	-	0	-	f2	-	44	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	3	2	0	.1	6
December	0	0	0	0	0
Calendar year 1939	21,927	7,090	0	60	43,480
January	15	4	0	.5	30
February	57	4	1	2.0	113
March	40	3	0	1.3	79
April	24	4	0	.8	48
May	1,329	1,150	0	42.9	2,640
June	5,927	4,210	0	198	11,760
July	1,698	1,160	0	54.8	3,370
August	3,291	1,870	0	106	6,530
September	3,523	3,120	0	117	6,990
Water year 1939-40	15,907	4,210	0	43.5	31,570

*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for other stations on Cimarron River.
b Stage-discharge relation affected by ice.
f Water-stage recorder graph faulty; discharge interpolated or computed on basis of records for other stations on Cimarron River.

Cimarron River near Waynoka, Okla.

Location.- Water-stage recorder, lat. 36°30'55", long. 98°52'45", near center of sec. 35 T. 24 N., R. 16 W., at bridge on State Highway 14, three-quarters of a mile downstream from Ewers (Main) Creek and 5 miles south of Waynoka. Datum of gage is 1,367.50 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 12,200 square miles.

Records available.- February 1938 to September 1940. November 1903 to December 1905 (gage heights only) at Atchison, Topeka & Santa Fe Railway bridge 5 miles upstream.

Extremes.- Maximum discharge during year, 19,500 second-feet May 19 (gage height, 7.50 feet); no flow at times.

1938-40: Maximum gage height, 10.70 feet May 23, 1938 (discharge not determined); no flow at times.

Remarks.- Records good except those above 1,000 second-feet, which are fair, and those for periods of ice effect, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Revisions.- Revised figures of discharge, in second-feet, for water year 1939, superseding those published in Water Supply Paper 877, are given herein.

June 23	421	June 29	483	July 5	627
24	812	30	405	6	372
25	329	July 1	747	7	280
26	2,180	2	1,150	8	243
27	2,210	3	2,940	9	171
28	1,390	4	1,930	10	120

Month	Maximum	Minimum	Mean	Run-off in acre-feet
June	5,100	8	592	35,220
July	2,940	1	289	17,750
Water year 1938-39	6,640	0	174	125,600

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2	b2	10	54	4	24	337	850	1	331
2		0	2	b2	9	52	3	20	451	5,260	1	297
3		0	2	b2	11	42	3	h14	448	h1,840	1	254
4		0	2	b2	14	35	3	h8	462	h510	1	59
5		0	2	*b2	17	27	2	h8	295	h250	8	33
6		0	2	b2	12	27	6	h188	186	93	5	23
7		0	2	b2	8	27	8	271	125	54	10	19
8		0	2	b2	8	28	6	200	80	35	973	21
9		0	2	b2	*216	27	6	250	239	24	8,180	14
10		0	3	b6	131	24	135	739	2,970	19	1,870	14
11		0	3	*b6	66	28	35	h412	1,570	15	1,040	19
12		0	2	b6	73	40	17	h237	760	11	1,500	13
13		0	2	b5	171	33	17	h171	409	8	605	7
14		0	3	b4	262	29	18	h148	635	6	474	6
15		0	3	b3	124	22	17	124	670	4	314	4
16		0	3	b3	128	21	35	112	343	4	432	3
17		1	3	b2	71	21	35	105	226	2	649	2
18		1	2	b2	329	23	34	588	157	1	474	2
19		1	2	b1	219	27	33	8,790	107	1	278	1
20		1	*2	b1	109	23	104	1,700	72	7	200	1
21		1	2	b0	75	19	128	1,220	61	25	165	1
22		1	2	b0	200	14	84	970	44	3	131	7
23		1	3	b0	212	13	61	810	32	8	112	42
24		1	3	b0	159	10	34	715	28	2	66	34
25		1	2	b0	116	10	22	630	18	1	37	42
26		1	b2	b0	87	8	17	553	4	1	21	37
27		2	b2	b0	84	7	13	515	3	1	14	18
28		2	*b2	b0	75	7	106	421	5	0	11	12
29		2	b2	b4	66	7	75	343	10	0	8	12
30		2	b2	b8	-	6	42	310	4	1	26	17
31		-	b2	*b13	-	6	-	320	-	1	120	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	18	2	0	.6	36
December	70	3	2	2.3	139
Calendar year 1939	58,681	6,640	0	161	116,400
January	82	13	0	2.6	163
February	3,062	329	8	106	6,070
March	717	54	6	23.1	1,420
April	1,103	135	2	36.8	2,190
May	20,916	8,790	8	675	41,490
June	10,751	2,970	3	358	21,320
July	9,037	5,260	0	292	17,920
August	17,727	8,180	1	572	35,160
September	1,345	331	1	44.8	2,670
Water year 1939-40	64,828	8,790	0	177	128,600

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h Incomplete or no gage-height record; discharge computed from gage-height graph based on at least once-daily readings of staff gage.

Cimarron River near Guthrie, Okla.

Location.- Water-stage recorder, lat. 35°55'10", long. 97°25'35", in NE¼SE¼ sec. 29, T. 17 N., R. 2 W., 1 mile downstream from Cottonwood Creek, 2½ miles north of Guthrie, and 5 miles upstream from Ephraim Creek. Datum of gage is 900.50 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 16,000 square miles.

Records available.- January 1938 to September 1940.

Extremes.- Maximum discharge during year, 10,600 second-feet July 3 (gage height, 7.15 feet); minimum, 0.1 second-foot Nov. 2.
1938-40: Maximum gage height, 10.7 feet May 20, 1938, from floodmark (discharge not determined); minimum discharge, that of Nov. 2, 1939.

Remarks.- Records good except those above 4,000 second-feet and those for period of ice effect, which are poor. Extreme low flow sustained by sewage from Guthrie.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	0.4	3.8	8.1	5.3	136	15	318	234	38	17	100
2	6.1	.3	3.5	6.6	6.6	122	13	329	221	628	13	190
3	5.7	.8	2.6	*7.6	24	114	13	178	200	7,870	9.3	281
4	6.1	.7	2.6	7.1	28	97	13	114	200	4,090	8.7	362
5	5.7	.7	2.6	7.1	32	84	12	84	221	2,300	417	2,480
6	6.1	1.0	2.6	6.6	*33	76	26	65	286	1,460	311	2,120
7	5.7	.8	2.6	4.9	38	71	40	52	297	754	148	464
8	6.1	.7	2.3	3.8	46	63	37	59	324	516	109	230
9	16	1.5	2.6	*3.2	42	58	34	142	243	329	291	157
10	13	5.3	2.9	4.5	33	53	86	151	567	217	2,100	109
11	6.6	4.5	*2.6	9.3	35	50	1,440	171	2,340	160	2,390	80
12	4.9	3.2	2.3	8.7	34	49	2,660	139	2,440	185	1,460	61
13	3.2	2.6	1.7	12	*32	47	754	125	1,630	276	1,030	50
14	2.0	2.0	1.5	7.6	77	42	318	324	1,230	221	683	39
15	1.5	2.0	1.5	7.6	86	40	192	248	876	102	683	34
16	1.2	2.0	2.0	9.6	94	33	136	162	608	72	569	31
17	1.0	2.0	1.3	*13	*157	31	145	139	426	60	466	26
18	.7	2.3	1.3	b10	221	31	109	122	814	50	1,410	23
19	.4	2.3	1.2	b7	*196	30	109	117	473	42	2,310	20
20	.3	1.7	1.0	b5.5	178	26	86	3,020	318	40	1,960	18
21	.3	1.7	*.8	b5.5	139	25	69	1,960	238	58	692	17
22	.3	1.5	1.2	b5.5	154	24	60	1,550	182	156	407	22
23	.4	1.6	4.1	*b5.5	196	23	58	1,420	145	138	276	26
24	.5	1.3	4.5	b5.5	185	23	53	1,220	142	67	204	38
25	.5	1.0	4.9	b5	164	23	50	857	102	107	164	86
26	1.3	1.2	8.1	b4	*178	23	71	600	80	150	136	142
27	.8	1.3	*10	b3	230	23	69	420	74	72	112	139
28	.8	1.5	8.1	b3	200	22	96	364	76	47	102	120
29	.5	1.5	6.6	1.9	164	20	164	313	67	32	93	109
30	.5	3.8	6.6	*3.8	-	19	343	276	47	25	84	72
31	.5	-	8.7	5.3	-	18	-	257	-	21	86	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	105.3	16	0.3	3.40	209
November	53.1	5.3	.3	1.77	105
December	108.1	10	.8	3.49	214
Calendar year 1939	108,036.9	12,700	.3	296	214,300
January	197.8	13	1.9	6.38	392
February	3,007.9	230	5.3	104	5,970
March	1,496	136	18	48.3	2,970
April	7,271	2,660	12	242	14,420
May	15,316	3,020	52	494	30,380
June	15,101	2,440	47	503	29,950
July	20,283	7,870	21	654	40,230
August	18,741	2,390	8.7	605	37,170
September	7,646	2,480	17	255	15,170
Water year 1939-40	89,326.2	7,870	.3	244	177,200

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Cimarron River at Perkins, Okla.

Location.- Water-stage recorder, lat. 35°58', long. 97°02', in SW¼SW¼ sec. 7, T. 17 N., R. 3 E., at county highway bridge, 1 mile south of Perkins, 1½ miles upstream from Dugout Creek, and 4 miles downstream from Wildhorse Creek. Datum of gage is 819.88 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Prior to June 26, 1940, wire-weight gage at same site and datum.

Drainage area.- 17,050 square miles.

Records available.- June 1939 to September 1940. Gage-height records collected at same site since 1927 are contained in reports of U. S. Weather Bureau.

Extremes.- 1939: Maximum discharge during period June to September, 6,350 second-feet June 28 (gage height, 10.0 feet, from graph based on gage readings); minimum observed, 4 second-feet Sept. 30.

1939-40: Maximum discharge during water year, 11,300 second-feet July 4 (gage height, 10.69 feet), from rating curve extended above 7,000 second-feet by logarithmic plotting; minimum, 1 second-foot at times in October and November.

Flood of Oct. 4, 5, 1926, reached a stage of 17.0 feet, from floodmarks, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records for water year 1939-40 fair except those for period of ice effect, which are poor. Gage read once daily June 6, 1939, to Apr. 1, 1940, and twice-daily Apr. 2 to June 26, 1940.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from June to September 1939 were collected and computed by Corps of Engineers and prepared for publication by Geological Survey.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	3,480	80	39
2									-	1,880	67	34
3									-	998	59	34
4									-	777	90	27
5									-	1,110	65	27
6									470	1,600	49	22
7									372	1,380	234	19
8									247	741	581	17
9									214	552	268	16
10									177	419	139	15
11									161	372	297	13
12									159	306	501	12
13									292	247	460	10
14									2,060	193	247	9
15									2,060	161	171	10
16									1,320	177	158	9
17									780	167	128	12
18									442	161	272	14
19									349	140	552	13
20									306	128	470	12
21									286	115	372	11
22									247	94	306	10
23									266	192	578	9
24									395	469	309	8
25									395	593	221	7
26									599	306	164	6
27									413	179	107	6
28									3,660	134	78	5
29									4,560	115	57	5
30									3,210	90	50	4
31									-	85	44	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Discharge, in second-feet, of Cimarron River at Perkins, Okla., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	d4	2	6	9	8	161	23	290	312	72	37	108
2	d3	2	5	9	10	155	18	312	290	163	33	169
3	d2	1	4	11	16	128	16	334	270	5,590	29	264
4	2	1	4	11	17	118	13	231	250	7,270	23	1,700
5	2	1	4	9	27	107	13	166	242	3,260	23	2,310
6	1	1	4	7	28	102	23	93	270	2,000	1,240	3,700
7	1	1	4	6	32	94	70	82	334	1,240	745	1,530
8	1	2	4	5	34	90	67	84	357	745	312	534
9	24	2	4	4	39	82	45	89	357	562	380	334
10	15	6	4	4	41	76	283	113	726	h454	334	209
11	12	10	4	5	36	70	4,190	172	927	h357	1,770	156
12	9	10	3	7	35	63	4,030	178	2,320	h562	1,640	123
13	8	9	3	9	34	57	3,340	169	2,720	h334	1,140	99
14	6	4	3	10	32	56	1,100	134	1,290	h507	890	84
15	6	4	3	*11	31	52	454	290	1,100	h357	710	72
16	5	5	2	9	126	50	290	270	745	h209	1,460	62
17	4	5	2	11	158	50	270	212	562	144	1,010	51
18	3	6	2	14	183	49	250	212	454	104	590	49
19	2	6	2	12	210	49	202	185	710	88	2,200	45
20	2	6	2	10	196	45	181	169	507	75	2,330	44
21	2	5	2	9	155	42	147	2,360	380	65	1,400	42
22	2	4	2	*8	152	38	120	1,400	290	93	619	42
23	1	3	2	7	174	32	102	1,290	220	156	454	42
24	1	2	6	7	214	28	91	1,460	250	610	357	49
25	4	2	10	8	174	31	78	1,010	159	270	290	40
26	30	2	10	7	158	31	78	679	123	128	216	111
27	d9	3	10	6	177	28	78	534	93	231	255	150
28	d7	3	10	5	190	29	134	454	224	120	270	123
29	6	3	10	4	174	35	250	404	257	82	147	111
30	3	7	10	5	-	31	198	357	106	62	136	104
31	2	-	10	6	-	28	-	334	-	46	139	-

*Winter discharge measurement made on this day.
d Doubtful gage-height record; discharge interpolated.
h No water-stage recorder graph, discharge computed from gage height graph based on once-daily readings of wire-weight gage.
Note.- Stage-discharge relation affected by ice Jan. 1-31.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
June 6-30, 1939	23,460	4,560	159	938	46,530
July	17,361	3,480	85	560	34,440
August	7,174	581	44	231	14,230
September	435	39	4	14.5	863
The period	-	-	-	-	96,060
October 1939	179	30	1	5.8	355
November	118	10	1	3.9	234
December	151	10	2	4.9	300
Calendar year	-	-	-	-	-
January 1940	245	14	4	7.9	486
February	2,861	214	8	98.7	5,670
March	2,007	161	28	64.7	3,980
April	16,154	4,190	13	538	32,040
May	14,067	2,360	82	454	27,900
June	16,845	2,720	93	562	33,410
July	25,956	7,270	46	837	51,480
August	21,179	2,330	23	683	42,010
September	12,457	3,700	40	415	24,710
Water year 1939-40	112,219	7,270	1	307	222,600

Cimarron River at Oilton, Okla.

Location.- Water-stage recorder and wire-weight gage, lat. 36°06', long. 96°35', in SW¼ sec. 28, T. 19 N., R. 7 E., at bridge on State Highway 51, half a mile north of Oilton and 4¼ miles upstream from Buckeye Creek. Datum of gage is 718.12 feet above mean sea level (general adjustment of 1929).

Drainage area.- 17,700 square miles.

Records available.- July 1934 to September 1940.

Extremes.- Maximum discharge during year, 29,200 second-feet Sept. 4 (gage height, 12.11 feet); minimum, 8 second-feet Oct. 24, 25, Jan. 7, 8.

1934-40: Maximum discharge observed, 72,300 second-feet June 21, 1935 (gage height, 16.8 feet), from rating curve extended above 34,000 second-feet; no flow Sept. 8, 13-16, 1936.

Maximum stage known, about 21.3 feet in October 1908, from information furnished by State Highway Department.

Remarks.- Records fair except those above 4,000 second-feet, which are poor. Gage read once daily to Apr. 30 and twice daily thereafter.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	15	14	20	19	198	29	301	342	294	75	166
2	12	11	14	18	21	186	26	228	297	282	65	126
3	11	11	19	16	33	169	24	313	270	913	59	126
4	11	11	19	14	33	148	24	301	248	6,410	55	9,290
5	11	11	18	14	33	130	20	278	248	4,970	48	2,740
6	12	11	15	11	33	119	59	189	228	3,220	46	2,430
7	12	10	15	8	33	108	100	145	202	2,250	471	3,630
8	11	10	14	8	34	97	97	213	328	1,480	897	2,220
9	29	9	14	12	38	97	83	514	1,320	868	439	827
10	22	13	14	22	34	91	149	142	1,970	623	505	463
11	29	16	14	25	34	87	2,800	106	1,740	489	438	325
12	30	14	14	22	41	79	3,400	117	800	793	1,440	252
13	24	14	14	27	41	67	3,030	145	1,930	386	1,940	202
14	20	14	13	21	41	62	1,730	150	2,340	334	1,270	166
15	16	14	12	17	41	62	863	132	1,560	374	1,160	148
16	14	16	12	25	72	57	463	123	1,100	419	1,220	128
17	13	16	12	29	172	55	317	212	845	278	1,380	106
18	12	16	12	27	266	47	259	224	714	198	2,050	95
19	12	16	10	20	297	47	241	214	520	155	751	86
20	11	16	10	15	211	48	211	208	614	128	1,520	78
21	10	15	10	12	205	47	183	573	548	121	2,150	72
22	9	15	10	12	205	42	150	1,800	391	102	1,680	72
23	9	15	39	12	202	42	128	1,370	321	563	773	70
24	8	14	38	12	202	48	117	1,280	377	150	515	67
25	8	14	27	12	172	48	108	1,280	321	248	338	62
26	124	12	26	12	198	45	254	1,080	248	391	248	58
27	59	12	23	10	205	39	297	766	189	183	192	58
28	40	12	20	10	172	38	435	588	538	128	169	79
29	26	12	16	11	172	38	641	479	358	140	395	158
30	18	14	20	14	-	34	479	419	308	110	328	145
31	18	-	22	17	-	34	-	373	-	87	338	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	653	124	8	21.1	1,300
November	399	16	9	13.3	791
December	530	39	10	17.1	1,050
Calendar year 1939	132,125	6,580	8	362	262,100
January	505	29	8	16.3	1,000
February	3,260	297	19	112	6,470
March	2,409	198	34	77.7	4,780
April	16,717	3,400	20	557	33,160
May	14,263	1,800	106	460	28,290
June	21,215	2,340	189	707	42,080
July	27,087	6,410	87	874	53,730
August	22,955	2,150	46	740	45,530
September	24,445	9,290	58	815	48,490
Water year 1939-40	134,438	9,290	8	367	266,700

Note.- Discharges below 1,400 second-feet computed on basis of observer's gage readings.

Cimarron River at Mannford, Okla.

Location.- Wire-weight gage, lat. 36°09', long. 96°24', in SE¼NE¼ sec. 1, T. 19 N., R. 8 E., at St. Louis-San Francisco Railway bridge, a fifth of a mile downstream from House Creek, 1 mile west of Mannford, and 19 miles upstream from mouth. Datum of gage is 687.92 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Prior to Oct. 31, 1939, chain gage at same site and datum.

Drainage area.- 17,940 square miles.

Records available.- January 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period January to September, 7,300 second-feet July 2 (gage height, 8.10 feet, from graph based on gage readings); minimum observed, 8 second-feet Sept. 30.

1939-40: Maximum discharge during water year, 103,000 second-feet Sept. 4 (gage height, 25.2 feet, from graph based on gage readings near crest); minimum observed, 5 second-feet Oct. 25.

Flood in 1908 reached a stage about 0.5 foot higher than that of Sept. 4, 1940, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records for water year 1939-40 fair except those for periods of ice effect, which are poor. Gage read twice daily.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from January to September 1939 were collected and computed by Corps of Engineers, and prepared for publication by Geological Survey.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				d99	402	202	425	155	277	4,210	124	61
2				d97	380	186	530	144	530	6,570	102	71
3				d99	639	167	475	133	364	4,090	79	62
4				d100	650	158	450	127	160	2,190	86	54
5				d100	530	144	533	117	272	1,210	75	51
6				d99	402	144	2,020	107	1,120	985	71	46
7				d98	314	144	5,680	107	752	1,490	60	42
8				d98	292	141	3,820	277	530	1,670	360	40
9				112	314	133	2,580	254	402	1,520	1,010	33
10				135	254	122	2,080	219	314	985	880	33
11				133	236	117	1,740	212	236	710	358	33
12				219	209	124	1,310	743	273	560	193	28
13				389	193	149	940	3,540	236	450	163	28
14				380	158	193	745	2,870	180	380	512	22
15				380	149	193	585	1,630	492	335	335	22
16				380	152	186	475	780	2,100	292	254	22
17				358	149	174	425	560	1,760	236	254	22
18				380	141	167	402	451	1,150	216	380	19
19				358	149	127	386	919	710	193	199	17
20				292	112	127	660	1,630	475	177	152	17
21				292	d135	127	805	2,970	450	158	437	17
22				273	d132	117	475	2,120	425	144	530	17
23				254	d132	117	475	940	358	158	475	17
24				292	d136	124	425	590	292	138	380	17
25				273	141	138	380	475	335	120	805	17
26				273	155	133	335	650	475	236	544	12
27				236	155	122	292	402	590	580	335	12
28				199	180	122	236	450	1,030	430	236	12
29				254	-	174	219	335	3,410	236	167	11
30				772	-	219	186	335	6,000	174	138	8
31				680	-	273	-	292	-	122	102	-

d Gage-height record doubtful; discharge computed on basis of records for station near Oilton.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Discharge, in second-feet, of Cimarron River at Mannford, Okla., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	28	31	b22	b20	193	31	425	425	335	90	292
2	8	21	22		23	193	30	273	402	202	86	236
3	8	17	20		32	183	26	292	357	1,680	57	212
4	8	16	18		35	167	24	358	314	5,510	57	54,400
5	8	16	16		36	155	22	314	314	5,510	60	6,200
6	8	15	16	b20	36	144	38	254	292	3,330	57	2,590
7	8	14	16		35	133	147	196	254	2,240	50	3,170
8	6	13	16		31	117	141	127	335	1,580	1,110	2,590
9	21	21	15	(*)	36	110	120	770	1,560	1,110	745	1,100
10	32	19	15		38	100	120	269	1,450	780	475	635
11	26	19	14	b22	36	97	1,950	149	2,030	718	450	488
12	35	19	13	b24	*38	93	2,610	107	998	1,270	600	380
13	35	16	13	b26	44	88	2,870	149	1,490	560	2,460	288
14	26	14	12	b28	46	75	2,120	158	2,020	475	1,680	245
15	19	14	11	*b28	45	73	1,200	180	1,800	380	1,480	208
16	16	16	11	b28	56	70	650	147	1,180	590	2,630	184
17	11	19	11	b26	186	66	475	174	980	402	1,270	148
18	8	18	11	b24	273	62	314	292	820	292	2,290	125
19	8	17	11		358	57	254	254	590	206	1,190	116
20	8	17	11		254	60	236	254	425	174	1,090	111
21	8	16	11		206	52	193	236	650	358	2,240	108
22	8	16	*10	(*)	219	51	155	2,000	425	124	2,000	101
23	8	15	9		209	51	133	1,580	380	824	1,130	98
24	8	14	31	b13	196	52	112	1,580	475	369	680	94
25	5	12	41		174	56	97	1,480	358	135	502	94
26	10	13	31		193	51	149	1,480	273	476	402	87
27	38	12	29		183	50	335	1,110	177	292	335	82
28	62	11	26		186	46	1,050	820	440	170	273	80
29	56	11	24		174	44	1,300	650	739	147	273	119
30	41	33	24	b15	-	41	650	530	335	147	588	160
31	32	-	22	b18	-	36	-	475	-	110	450	-

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
January 1939	8,104	772	97	261	16,070
February	6,991	650	112	250	13,870
March	4,754	273	117	154	9,450
April	30,089	5,680	186	1,003	59,680
May	24,534	3,540	107	791	48,660
June	25,718	6,000	180	857	51,010
July	30,965	6,570	120	999	61,420
August	9,796	1,010	60	316	19,430
September	883	81	8	294	1,750
The period	-	-	-	-	281,300
October 1939	583	62	5	18.8	1,160
November	502	33	11	16.7	996
December	561	41	9	18.1	1,110
Calendar year 1939	143,490	6,570	5	393	284,600
January 1940	584	-	-	18.8	1,160
February	3,398	358	20	117	6,740
March	2,766	193	36	89.2	5,490
April	17,552	2,870	22	585	34,810
May	17,083	2,000	107	551	33,880
June	22,288	2,030	177	743	44,210
July	30,496	5,510	110	984	60,490
August	26,800	2,630	50	865	53,160
September	74,741	54,400	80	2,491	148,200
Water year 1939-40	197,354	54,400	5	539	391,400

Council Creek near Stillwater, Okla.

Location.- Water-stage recorder and concrete control, lat. 36°07', long. 96°52', in SE¼ SW¼ sec. 15, T. 19 N., R. 4 E., 10 miles east of Stillwater. Datum of gage is 838.28 feet above mean sea level (general adjustment of 1912).

Drainage area.- 30.2 square miles.

Records available.- March 1934 to September 1940.

Extremes.- Maximum discharge during year, 822 second-feet Apr. 11 (gage height, 6.02 feet); no flow at times.
1934-40: Maximum discharge, 3,740 second-feet Mar. 28, 1938 (gage height, 13.34 feet); no flow at times in each year.

Remarks.- Records good except those for period of estimated gage heights, which are poor.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

1.04	0	1.2	3.1	1.8	56
1.07	.04	1.3	7.6	2.0	85
1.1	.22	1.4	14	2.5	184
1.15	1.3	1.6	33		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0		0	0.04	0	0	0	0
2					0		0	0	0	0	0	0
3					0		0	0	0	65	0	0
4					0		0	0	0	.38	0	91
5					0		0	0	0	0	0	2.8
6					0		0	0	0	0	0	.02
7					0		.92	0	0	0	0	0
8					0		.22	0	0	0	4.4	0
9					0		.01	0	0	0	1.5	0
10					0		1.4	0	a20	0	0	0
11					0		173	0	a.1	2.2	0	0
12					0		1.6	0	0	.03	0	0
13					0		.58	0	0	0	0	0
14					0		.13	0	0	0	4.9	0
15					0		.07	0	0	0	27	0
16					0		.04	0	0	0	14	0
17					2.0		.07	0	0	0	.38	0
18					1.6		.07	0	0	0	.01	0
19					.13		.02	0	0	0	0	0
20					.01		.01	0	0	0	0	0
21					0		0	0	0	0	0	0
22					0		0	0	0	0	0	0
23					0		0	0	8.6	0	0	0
24					0		0	0	1.5	0	0	0
25					0		0	0	0	0	0	0
26					0		56	0	0	0	0	0
27					0		.78	0	0	0	0	0
28					0		29	0	2.1	0	0	0
29					0		9.7	0	0	0	0	0
30					-		.22	0	0	0	68	0
31					-		-	0	-	0	.54	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0
Calendar year 1939	545.93	106	0	1.50	.0497	.66	1,080
January	0	0	0	0	0	0	0
February	3.74	2.0	0	.129	.0043	.005	7.4
March	0	0	0	0	0	0	0
April	273.84	173	0	9.13	.302	.34	543
May	.04	.04	0	.001	.000033	.00004	.08
June	32.3	20	0	1.08	.036	.04	64
July	67.61	65	0	2.18	.072	.08	134
August	120.73	68	0	3.89	.129	.15	239
September	93.82	91	0	3.13	.104	.12	186
Water year 1939-40	592.08	173	0	1.62	.0536	.74	1,170

Peak discharge.- Apr. 11 (3:45 a.m.) 822 sec.-ft.; Sept. 4 (2:45 p.m.) 461 sec.-ft.
a No gage-height record; discharge computed from plotted gage-height graph based on recorded range of stage and study of records for similar storms.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
9-233 April 1936
101604-O U.S. GOVERNMENT PRINTING OFFICE, 1936

Verdigris River near Coyville, Kans.

Location.- Wire-weight gage, lat. 37°42'20", long. 95°54'20", in SW¼ sec. 8, T. 27 S., R. 14 E., at bridge on county highway, 1¼ miles upstream from Meadow Creek, 1½ miles northwest of Coyville, and 2½ miles downstream from Pig Creek. Datum of gage is 845.28 feet above mean sea level (levels by Corps of Engineers, U. S. Army). Prior to Oct. 17, 1939, staff gage at same site and datum.

Drainage area.- 770 square miles.

Records available.- August 1939 to September 1940.

Extremes.- 1939-40: Maximum discharge observed, 7,580 second-feet (discharge measurement) Apr. 17 (gage height, 26.84 feet), maximum gage height, 27.17 feet Apr. 17; no flow during several periods.

Remarks.- Records fair. Gage read twice daily and bihourly when river was rising.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from August 1939 to September 1939 were collected and computed by Corps of Engineers and prepared for publication by the Geological Survey.

Rating table, Aug. 23, 1939, to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 11-17, 1940)

0.7	0	1.8	57	5.0	456	10.0	1,370
1.0	3	2.2	100	6.0	596	13.0	2,120
1.2	11	2.6	148	6.5	668	16.0	3,020
1.4	23	3.0	196	7.0	763	21.0	4,770
1.6	38	4.0	316	8.0	963	24.0	5,960

Discharge, in second-feet, August 1939 to September 1940

Day	1939		1940								
	Aug.			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-			0	2	4	700	22	3	0	2
2	-			0	2	3	481	21	3	0	2
3	-			0	3	3	244	17	2	0	27
4	-			0	3	2	178	16	2	0	21
5	-			0	2	1	129	14	1	2	14
6	-			0	2	2	107	13	1	14	149
7	-			0	2	3	84	13	1	3	32
8	-			0	2	2	1,440	12	1	3	13
9	-			0	2	2	3,220	47	1	1	10
10	-			0	2	2	565	45	1	1	18
11	-			0	2	4	316	93	1	1	12
12	-			0	28	3	220	87	1	0	8
13	-			0	25	3	172	47	1	0	5
14	-			0	30	5	134	36	0	0	4
15	-			1	16	9	100	31	0	200	4
16	-			1	16	108	81	29	0	110	3
17	-			1	14	5,990	69	26	0	53	3
18	-			1	12	5,510	1,580	42	0	109	2
19	-			1	9	1,010	656	56	0	59	1
20	-			1	7	320	256	55	0	24	1
21	-			1	5	208	509	37	0	14	1
22	-			1	3	142	454	27	0	8	1
23	2			1	5	116	208	94	0	6	1
24	1			1	5	108	136	40	0	4	10
25	1			1	4	98	105	17	0	3	34
26	1			1	4	79	67	12	0	2	12
27	1			1	4	78	51	10	0	62	6
28	0			2	4	99	38	6	0	27	4
29	0			2	4	1,450	37	5	0	10	2
30	0			-	4	801	32	4	0	5	1
31	0			-	4	-	27	-	0	3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
August 23-31	6	2	0	0.7	12
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January	0	0	0	0	0
February	17	2	0	.6	34
March	227	30	2	7.3	450
April	16,165	5,990	1	539	32,060
May	12,396	3,220	27	400	24,590
June	974	94	4	32.5	1,930
July	19	3	0	.6	38
August	724	200	0	23.4	1,440
September	403	149	1	13.4	799
Water year 1939-40	30,925	5,990	0	84.5	61,340

Verdigris River near Altoona, Kans.

Location.- Wire-weight gage, lat. 37°29', long. 95°41', in SW¼ sec. 29, T. 29 S., R. 16 E., on county highway bridge, 2½ miles southwest of Altoona, 2½ miles downstream from Big Cedar Creek, and 6 miles upstream from Chetopa Creek. Datum of gage, 780.18 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,150 square miles.

Records available.- November 1938 to September 1940.

Extremes.- 1938-40: Maximum discharge observed, 10,300 second-feet (discharge measurement) Apr. 18; maximum gage height, 21.36 feet Apr. 18; no flow during several periods.

Remarks.- Records for water year 1939-40 poor below 200 second-feet and fair above. Some diurnal fluctuation caused by power plant above station. Gage read twice daily and oftener during periods of rapidly changing stage.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from November 1938 to September 1939 were collected and computed by Corps of Engineers and prepared for publication by the Geological Survey.

Rating table, Nov. 22, 1938, to Sept. 30, 1940 (gage-height, in feet, and discharge, in second-feet)
(Shifting-control method used July 25 to Aug. 5, 1940)

1.7	0	2.4	34	4.0	505
1.9	2	2.6	69	6.0	1,430
2.0	4	2.8	115	8.0	2,430
2.1	7	3.0	166	11.0	3,930
2.2	14	3.4	280	16.0	6,680

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	2	7	9	12	190	35	35	173	0	5
2		-	11	8	19	20	156	32	26	57	0	2
3		-	10	11	7	21	112	30	68	61	0	1
4		-	7	11	14	11	79	28	36	39	0	1
5		-	14	12	8	6	626	22	39	43	0	0
6		-	8	9	15	19	868	25	35	43	0	0
7		-	4	9	7	23	912	28	29	39	0	0
8		-	3	6	4	19	463	30	23	17	1	0
9		-	10	13	9	20	265	30	145	10	1	0
10		-	16	8	7	22	227	25	729	3	1	0
11		-	8	11	10	57	153	39	368	6	2	0
12		-	13	12	7	38	129	32	208	8	57	0
13		-	17	4	14	48	109	25	90	12	16	0
14		-	12	10	7	30	102	25	102	6	57	0
15		-	6	8	3	25	81	44	72	2	43	0
16		-	7	4	13	22	129	26	46	2	20	0
17		-	4	13	7	26	224	26	28	1	16	0
18		-	3	7	6	22	162	35	20	1	20	0
19		-	11	12	6	8	162	20	17	1	90	0
20		-	18	8	4	7	109	20	25	1	39	0
21		-	7	13	4	23	95	95	19	1	33	0
22		13	6	8	9	21	74	684	4	0	14	0
23		5	4	4	10	22	72	1,200	12	0	17	0
24		3	3	11	4	9	64	422	10	1	9	0
25		3	21	8	12	18	61	202	4	0	606	0
26		17	30	4	6	10	61	298	10	0	119	0
27		8	13	3	6	17	46	398	9	0	30	0
28		4	10	30	8	36	48	182	30	0	30	0
29		7	21	9	-	30	39	81	497	0	17	0
30		4	7	16	-	59	17	59	665	0	5	0
31		-	10	8	-	127	-	43	-	0	4	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Discharge, in second-feet, of Verdigris River near Altoona, Kans., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1		0	1	2	708	57	14	1	16
2		0	1		0	1	1	932	34	9	1	34
3		0	1		0	1	1	505	46	4	1	166
4		0	1		0	1	1	274	25	3	0	53
5		0	1		0	1	1	221	26	2	2	3,000
6		0	2		0	1	1	166	25	2	18	7,290
7		0	2		0	2	2	150	19	2	69	792
8		0	2		0	2	2	135	26	2	40	169
9		0	2		0	2	16	2,790	12	2	450	101
10		0	1		0	2	27	2,280	37	2	140	49
11		0	2		1	1	9	541	113	2	49	25
12		0	2		1	1	17	293	91	2	27	38
13		0	1		1	1	40	210	143	2	13	40
14		0	1		1	1	26	169	87	2	6	27
15		3	1		1	1	32	140	61	2	10	24
16		2	1		1	1	68	110	46	2	936	20
17		2	1		2	15	4,770	93	43	2	736	19
18		2	1		2	32	9,720	1,360	228	2	670	19
19		1	1		2	25	6,040	2,860	139	2	180	20
20		1	1		1	23	923	640	78	2	135	21
21		1	1		1	5	378	528	71	2	73	19
22		1	1		1	14	280	1,180	73	2	46	3
23		1	1		1	6	218	572	367	1,760	32	4
24		1	1		1	2	210	332	1,090	80	21	14
25		1	1		1	2	177	210	200	32	10	18
26		1	1		1	14	166	177	80	18	14	21
27		1	0		1	5	138	108	46	13	34	37
28		1	0		1	11	161	101	23	3	296	25
29		1	0		1	5	1,070	78	22	2	108	8
30		1	0		-	2	1,600	61	18	1	53	11
31		-	0		-	2	-	61	-	1	32	-

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	-	-	-	-	-
November 22-30, 1938	64	17	3	7.1	127
December	316	30	2	10.2	627
Calendar year	-	-	-	-	-
January 1939	297	30	3	9.6	589
February	235	19	3	8.4	466
March	828	127	6	26.7	1,640
April	5,835	912	17	194	11,570
May	4,241	1,200	20	137	8,410
June	3,401	729	4	113	6,750
July	527	173	0	17.0	1,050
August	1,247	606	0	40.2	2,470
September	9	5	0	.3	18
The period	-	-	-	-	33,720
October 1939	0	0	0	0	0
November	21	3	0	.7	42
December	32	2	0	1.0	63
Calendar year 1939	16,673	1,200	0	45.7	33,070
January 1940	0	0	0	0	0
February	22	2	0	.8	44
March	183	32	1	5.9	363
April	26,097	9,720	1	870	51,760
May	17,985	2,860	61	580	35,670
June	3,326	1,090	12	111	6,600
July	1,976	1,760	1	63.7	3,920
August	4,203	936	0	136	8,340
September	12,083	7,290	3	403	23,970
Water year 1939-40	65,928	9,720	0	180	130,800

Verdigris River at Independence, Kans.

Location.- Water-stage recorder, lat. 37°13', long. 95°41', in NE¼ sec. 32, T. 32 S., R. 16 E., at bridge on U. S. Highway 160, 2 miles east of Independence and 3½ miles below Elk River.

Drainage area.- 2,952 square miles.

Records available.- October 1930 to September 1940. April to September 1904 (occasional gage readings) and November 1921 to September 1930, at site three-quarters of a mile upstream.

Average discharge.- 19 years (1921-40), 1,355 second-feet.

Extremes.- Maximum discharge during year, 14,700 second-feet Apr. 19 (gage height, 24.48 feet); no flow many times during year.
1904, 1921-40: Maximum discharge, 124,000 second-feet (estimated) Oct. 3, 1927 (gage height, 46.04 feet, former site); no flow during periods in 1932, 1934, 1936, 1939, and 1940.

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	18	2,290	109	43	1	35
2						0	16	1,240	92	27	1	27
3						0	13	1,150	77	21	1	278
4						0	12	664	69	16	0	228
5						0	9	474	61	12	6	1,690
6						0	11	376	53	7	4	8,450
7						10	25	301	54	3	7	4,050
8						7	18	273	51	2	49	376
9						7	22	1,930	52	1	169	175
10						6	26	5,020	614	1	566	109
11						4	34	1,550	1,310	1	212	72
12						5	43	681	362	5	97	45
13						5	45	474	208	12	58	38
14						4	33	357	184	6	37	33
15						3	42	291	134	3	60	26
16						3	36	253	100	2	908	22
17						3	982	201	82	1	2,240	14
18						3	10,700	2,090	94	0	1,500	16
19						3	13,600	4,760	376	0	582	12
20						18	4,150	2,050	489	0	266	13
21						26	971	1,010	240	17	167	13
22						27	598	2,190	163	7	105	16
23						23	445	1,460	128	2,490	69	16
24						19	389	769	1,310	1,670	49	796
25						18	332	474	1,480	89	37	1,460
26						16	322	534	389	25	30	582
27						13	280	389	201	16	22	212
28						12	348	253	132	10	31	120
29						16	2,090	186	79	5	186	72
30						18	4,620	147	54	3	103	50
31						18	-	120	-	2	57	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	75,633	7,780	0	207	150,000
January	0	0	0	0	0
February	0	0	0	0	0
March	287	27	0	9.3	569
April	40,230	13,600	9	1,341	79,800
May	33,957	5,020	120	1,095	67,350
June	8,747	1,480	51	292	17,350
July	4,497	2,490	0	145	8,920
August	7,620	2,240	0	246	15,110
September	19,046	8,450	12	635	37,780
Water year 1939-40	114,384	13,600	0	313	226,900

Peak discharge.- Apr. 30 (6 a.m.) 5,280 sec.-ft.; May 10 (5 a.m.) 5,880 sec.-ft.; May 22 (7 p.m.) 2,460 sec.-ft.; June 24 (10 p.m.) 3,520 sec.-ft.; July 23 (10 p.m.) 5,740 sec.-ft.; Sept. 24 (8 p.m.) 3,520 sec.-ft.

U. S. GOVERNMENT PRINTING OFFICE : 1939—O : 163062

Verdigris River near Lenapah, Okla.

Location.- Water-stage recorder, lat. 36°51', long. 95°35', at center of sec. 3, T. 27 N., R. 16 E., 2¾ miles east of Lenapah and 4¼ miles upstream from Cedar Creek. Datum of gage is 645.00 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 3,620 square miles.

Records available.- April 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period April to September, 17,600 second-feet May 21 (gage height, 19.88 feet); no flow at times.
1939-40: Maximum discharge during water year, 15,000 second-feet (gage height, 18.25 feet); no flow at times.

Remarks.- Records fair except those for period of ice effect or faulty gage-height record, which are poor. Some regulation by storage above low dams downstream from Independence and Coffeyville, Kansas.

Cooperation.- Records collected and computed by Corps of Engineers, U. S. Army, and prepared for publication by Geological Survey.

Rating tables, Apr. 25, 1939, to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)

Apr. 25, 1939, to Apr. 18, 1940				Apr. 19 to Sept. 30, 1940			
2.4	0	4.5	438	2.6	11	6.0	1,340
2.5	3	5.0	653	2.8	24	7.0	2,170
2.6	7	6.0	1,180	3.0	46	8.0	3,100
2.8	19	8.0	2,800	3.5	127	10	5,130
3.0	39	10.0	4,900	4.0	250	12	7,350
3.5	120	13.0	8,400	4.5	450	14	9,670
4.0	252	17.0	13,500	5.0	690	17	13,400

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	84	406	940	3	28
2							-	74	1,020	608	3	20
3							-	62	676	542	3	14
4							-	56	304	406	3	10
5							-	56	f190	239	3	8
6							-	53	f163	147	3	6
7							-	48	f163	100	3	4
8							-	1,120	f163	77	10	3
9							-	1,090	2,110	62	8	2
10							-	542	6,190	46	11	2
11							-	567	3,940	37	10	1
12							-	1,950	1,750	31	8	1
13							-	5,600	1,120	24	5	0
14							-	1,120	942	21	4	0
15							-	520	2,110	16	3	0
16							-	310	2,010	13	3	0
17							-	205	892	10	3	0
18							-	171	516	8	10	0
19							-	1,170	344	6	32	0
20							-	676	239	8	24	0
21							-	7,920	174	25	16	0
22							-	13,600	575	24	10	0
23							-	f8,810	373	17	18	0
24							-	f2,600	163	13	26	0
25							152	f5,800	110	9	24	0
26							147	f5,290	89	8	18	0
27							130	7,610	96	7	370	0
28							118	5,230	h454	6	174	1
29							98	1,450	h1,380	5	108	1
30							e7	850	h939	4	65	0
31							-	585	-	3	43	-

f Water-stage recorder graph incomplete; discharge computed on basis of partly estimated gage-height record.
h No water-stage recorder graph; discharge computed from twice-daily readings of wire-weight gage.

Discharge, in second-feet, of Verdigris River near Lenapah, Okla., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0				b1	3	1	3,940	165	94	45	114
2	0				b1	4	1	1,860	129	74	40	77
3	0				b1	5	2	1,560	112	149	33	2,830
4	0				b1	3	2	1,100	92	79	30	2,400
5	0				b1	3	1	780	77	44	24	1,970
6	0				b1	3	3	630	61	29	24	9,460
7	0				b1	4	8	482	54	21	68	9,130
8	0				b1	3	8	402	46	18	74	2,310
9	1				b2	3	10	370	41	16	60	645
10	1				b2	3	16	4,170	524	13	522	366
11	2				b2	3	24	3,770	3,650	10	1,040	200
12	3				b2	3	25	1,360	1,420	193	892	137
13	4				*b2	3	21	840	630	133	354	104
14	4				b3	3	18	605	402	59	468	74
15	3				b5	2	14	450	314	39	292	61
16	3				b6	2	13	374	235	33	1,240	57
17	2				b8	2	13	342	170	25	7,100	50
18	2				b9	1	4,010	1,120	131	16	4,910	42
19	2				b9	0	13,300	4,750	110	12	1,800	34
20	1				b9	0	11,500	4,230	448	9	840	26
21	1				*b9	0	2,060	1,660	620	24	450	23
22	0				11	0	990	1,750	342	1,300	282	22
23	0				8	1	720	2,440	226	3,890	188	19
24	0				7	2	540	1,470	318	5,010	139	150
25	0				6	2	458	960	2,240	1,070	104	6,970
26	0				6	2	1,500	655	1,280	330	77	1,830
27	0				5	2	616	696	555	182	63	515
28	0				5	2	718	555	314	125	53	346
29	0				4	3	1,780	390	202	92	42	244
30	0				-	2	4,330	274	139	70	64	163
31	0				-	1	-	205	-	56	154	-

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
April 25-30, 1939	732	152	87	122	1,450
May	75,219	13,600	48	2,426	149,200
June	29,601	6,190	89	987	58,710
July	3,462	940	3	112	6,870
August	1,024	370	3	33.0	2,030
September	101	28	0	3.4	200
The period	-	-	-	-	218,500
October 1939	29	4	0	.9	58
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January 1940	0	0	0	0	0
February	128	11	1	4.4	254
March	70	5	0	2.3	139
April	42,702	13,300	1	1,423	84,700
May	44,190	4,750	205	1,425	87,650
June	15,047	3,650	41	502	29,850
July	13,215	5,010	9	426	26,210
August	21,472	7,100	24	693	42,590
September	40,369	9,460	19	1,346	80,070
Water year 1939-40	177,222	13,300	0	484	351,500

Verdigris River near Claremore, Okla.

Location.- Water-stage recorder, lat. 36°18'30", long. 95°41'40", on line between secs. 10 and 15, T. 21 N., R. 15 E., at bridge on State Highway 20, 2¼ miles downstream from Caney River, 4½ miles west of Claremore, and 12 miles upstream from Bird Creek. Datum of gage is 538.62 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 6,520 square miles.

Records available.- December 1935 to September 1940.

Extremes.- Maximum discharge during year, 12,200 second-feet Apr. 21 (gage height, 18.20 feet); no flow at times.

1935-40: Maximum discharge, 39,900 second-feet May 29, 1938 (gage height, 42.14 feet, reading at flood crest); no flow at times.

Maximum stage known, 46.2 feet from floodmarks, sometime in June 1935, from information furnished by local residents.

Remarks.- Records good except those for periods of rapidly changing stage and those for period of backwater, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	2.2	20	2.2	5,660	f248	f248	63	73
2				0	2.2	21	2.2	4,110	f208	f181	47	127
3				0	3.1	18	2.2	2,060	178	170	38	124
4				0	3.6	16	1.7	1,560	146	1,620	28	c3,040
5				0	3.1	14	.7	1,230	137	1,460	24	c3,980
6				0	3.1	12	2.2	825	130	504	18	c3,480
7				0	2.6	10	5.5	636	134	f266	14	8,960
8				0	3.1	8.3	5.0	510	192	f160	9.2	8,000
9				.6	3.1	7.5	5.5	418	140	115	8.0	f2,110
10				3.1	2.6	6.8	12	355	134	85	8.0	f738
11				3.1	2.6	6.0	87	3,640	3,710	61	8.0	f424
12				2.6	2.6	5.5	119	3,060	9,200	650	522	f288
13				2.6	2.2	5.0	158	1,280	8,560	1,160	870	f219
14				2.6	2.2	4.6	181	803	3,710	1,030	616	f170
15				2.6	2.2	4.1	129	597	900	475	443	f130
16				2.2	4.1	4.1	90	463	623	219	536	f104
17				2.2	12	4.1	86	376	817	137	8,500	f85
18				2.6	19	5.0	86	732	2,020	93	10,200	f68
19				2.2	17	3.6	3,440	5,160	1,050	65	8,330	f61
20				1.7	14	4.1	11,000	8,000	452	51	2,760	f55
21				1.7	13	3.1	9,700	6,060	452	41	1,250	47
22				1.7	11	2.6	f2,010	2,760	703	36	690	41
23				h1.7	21	3.1	f939	2,210	522	3,380	458	39
24				h1.7	25	3.1	669	2,510	604	6,980	326	31
25				h2.2	22	3.1	528	1,610	630	5,970	232	1,190
26				h2.2	23	2.6	463	1,060	2,490	1,370	178	5,960
27				h2.2	24	2.6	1,750	717	1,560	553	140	2,360
28				2.2	22	3.1	3,460	642	2,060	297	156	1,080
29				2.2	21	3.1	6,440	565	995	185	260	578
30				2.2	-	3.1	4,460	413	386	127	132	376
31				2.2	-	2.6	-	311	-	87	90	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	-	0	-	0
November	0	-	0	-	0
December	0	-	0	-	0
Calendar year 1939	234,974	18,800	0	644	466,000
January	50.3	3.1	0	1.62	100
February	288.6	25	2.2	9.95	572
March	211.8	21	2.6	6.83	420
April	45,834.2	11,000	.7	1,528	90,910
May	60,333	8,000	311	1,946	119,700
June	43,091	9,200	130	1,436	85,470
July	27,976	6,980	36	902	55,490
August	34,954.2	10,200	8.0	1,128	69,330
September	43,938	8,960	31	1,465	87,150
Water year 1939-40	256,677.1	11,000	0	701	509,100

c Backwater from Bird Creek; discharge determined from hydrograph based on gage heights, two discharge measurements, and records for preceding and following days.

f Water-stage recorder graph faulty; discharge computed on basis of partly estimated gage-height record.

h No water-stage recorder graph; discharge computed on basis of twice-daily readings of wire-weight gage.

Caney River near Hulah, Okla.

Location.- Water-stage recorder and wire-weight gage, lat. 36°56', long. 96°05', in SE¼ sec. 2, T. 28 N., R. 11 E., half a mile downstream from Hickory Creek and 3 miles west of Hulah. Datum of gage is 684.96 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 750 square miles.

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 10,200 second-feet June 10 (gage height, 32.35 feet); no flow at times.

1937-40: Maximum discharge, 15,100 second-feet May 20, 1938 (gage height, 35.90 feet, from graph based on gage readings); no flow at times.

Maximum stage known, 40.2 feet, from floodmark, on unknown date, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records fair. Records for discharges below 300 second-feet computed on basis of twice-daily readings of wire-weight gage. Discharge for periods of changing stage computed by using rate of change of stage as a factor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	1	0	102	11	6	1	2
2					0	1	1	68	9	5	1	2
3					0	1	0	52	8	2,140	1	102
4					0	1	0	39	8	385	1	186
5					0	1	0	31	6	82	0	h712
6					0	1	1	25	5	46	0	151
7					0	1	1	20	13	43	0	75
8					0	1	1	23	7	22	0	46
9					0	1	1	35	8	16	1	33
10					0	1	1	42	h6,900	11	1	22
11					0	1	2	44	h2,940	9	1	14
12					0	1	2	43	280	274	1	10
13					0	1	2	32	102	16	1	8
14					0	1	2	24	74	10	21	6
15					0	1	2	19	52	7	370	5
16					0	0	2	16	39	5	133	8
17					0	1	2	14	30	5	249	3
18					1	1	2	52	152	4	488	3
19					1	0	1	176	92	3	144	2
20					1	0	1	91	39	3	57	2
21					1	0	1	59	23	70	33	2
22					1	0	1	66	16	23	19	2
23					1	1	1	91	94	266	14	2
24					1	1	1	56	609	44	8	2
25					1	1	1	39	173	16	5	2
26					1	1	1,510	31	60	8	4	1
27					1	1	574	26	32	4	4	1
28					1	1	149	22	20	3	3	1
29					1	1	536	18	13	2	2	1
30					-	1	230	16	6	2	2	1
31					-	0	-	13	-	1	2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	14,031	2,260	0	38.4	27,827
January	0	0	0	0	0
February	12	1	0	.4	24
March	25	1	0	.8	50
April	3,028	1,510	0	101	6,010
May	1,385	176	13	44.7	2,750
June	11,821	6,900	5	394	23,450
July	3,531	2,140	1	114	7,000
August	1,567	488	0	50.5	3,110
September	1,407	712	1	46.9	2,790
Water year 1939-40	22,776	6,900	0	62.2	45,180

h Water-stage recorder graph incomplete; discharge computed from twice-daily readings of wire-weight gage.

Fall River near Fall River, Kans.

Location.- Wire-weight gage, lat. 37°38', long. 96°03', in sec. 2, T. 28 S., R. 12 E., at bridge on county highway, 2 miles upstream from Salt Creek and 2¼ miles northwest of Fall River. Datum of gage is 898.44 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 573 square miles.

Records available.- May 1939 to September 1940. April 1904 to September 1905 (gage heights only) at site at Fall River below Salt Creek.

Extremes.- 1939: Maximum discharge during period May to September, 4,150 second-feet May 25 (gage height, 10.75 feet from graph based on gage readings); no flow during several periods.

1939-40: Maximum discharge during water year, 8,960 second-feet Apr. 17 (gage height, 16.07 feet from graph based on gage readings), from rating curve extended above 5,000 second-feet; no flow during several periods.

Remarks.- Records for water year 1939-40 poor. Gage read twice daily and oftener during rapidly changing stages.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from May 1939 to September 1939 were collected and computed by Corps of Engineers and prepared for publication by Geological Survey.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	13	35	0	
2								-	10	24	0	
3								-	8	17	0	
4								-	8	22	0	
5								7	2	10	0	
6								8	2	4	0	
7								10	3	3	0	
8								12	6	1	26	
9								19	1,060	2	114	
10								21	473	1	33	
11								14	116	0	8	
12								14	64	0	4	
13								13	58	0	2	
14								12	56	0	1	
15								10	44	0	0	
16								12	54	0	0	
17								10	35	0	0	
18								10	28	0	0	
19								e	13	0	0	
20								e	11	0	0	
21								8	10	0	2	
22								8	4	0	1	
23								17	2	0	2	
24								42	4	0	10	
25								622	4	0	8	
26								1,350	1	0	3	
27								173	745	0	1	
28								75	397	0	0	
29								54	108	0	0	
30								31	38	0	0	
31								17	-	0	0	

9-238 September 1937

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog. il Survey

Discharge, in second-feet, of Fall River near Fall River, Kans., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0	0	300	28	5	0	1
2					0	0	0	225	24	4	0	1
3					0	0	0	171	26	3	0	1
4					0	0	1	156	24	2	0	7
5					0	0	0	118	19	1	12	2
6					0	0	0	103	17	2	6	1
7					0	0	0	94	16	1	1	1
8					0	2	1	1,290	14	1	1	1
9					0	22	1	1,110	66	1	1	1
10					0	10	1	300	35	1	1	2
11					0	14	1	186	28	1	1	1
12					0	6	1	140	28	1	1	0
13					0	2	7	118	21	0	1	0
14					1	9	6	94	19	0	1	0
15					1	8	4	73	17	0	2	0
16					1	9	2	66	10	0	98	0
17					1	9	5,990	66	6	0	50	0
18					1	4	1,740	103	750	0	22	0
19					1	6	512	186	180	0	12	0
20					0	6	261	111	58	0	10	0
21					1	3	131	108	29	0	10	0
22					1	4	126	131	14	0	7	0
23					1	6	124	103	450	0	5	0
24					0	2	111	103	52	0	4	175
25					0	1	91	168	42	0	2	43
26					0	1	89	69	19	0	1	3
27					0	0	89	54	12	0	2	1
28					0	0	144	56	10	0	2	1
29					0	0	1,590	46	6	0	1	3
30					-	0	391	31	7	0	1	2
31					-	0	-	28	-	0	1	-

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
May 5-31, 1939	2,565	1,350	7	95.7	5,130
June	3,377	1,060	1	113	6,700
July	119	35	0	3.8	236
August	215	114	0	6.9	426
September	0	0	0	0	0
The period	-	-	-	-	12,490
October 1939	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January 1940	0	0	0	0	0
February	9	1	0	.3	18
March	124	22	0	4.0	246
April	11,414	5,990	0	380	22,640
May	5,907	1,290	28	191	11,720
June	2,027	750	6	67.6	4,020
July	23	5	0	.7	46
August	256	98	0	8.3	508
September	247	175	0	8.2	490
Water year 1939-40	20,007	5,990	0	54.7	39,690

Fall River at Fredonia, Kans.

Location.- Wire-weight gage, lat. 37°30'30", long. 95°50'00", in sec. 24, T. 29 S., R. 14 E., at bridge on highway 96, three-quarters of a mile upstream from Clear Creek, one mile south of Fredonia, and 1 mile downstream from Salt Creek. Datum of gage is 819.09 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 816 square miles.

Records available.- November 1938 to September 1940.

Extremes.- 1938-39: Maximum discharge during period November to September, 3,660 second-feet May 26 (gage height, 10.63 feet from graph based on gage readings); no flow Aug. 6, 7 and Sept. 7-30.

1939-40: Maximum discharge during water year, 6,910 second-feet Apr. 18 (gage height, 15.4 feet, from graph based on gage readings); no flow July 18 to Aug. 4 and long periods between Oct. 1 and Feb. 25.

Remarks.- Records for water year 1939-40 fair. Gage read twice daily and oftener during periods of rapidly changing stages.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from November 1938 to September 1939 were collected and computed by Corps of Engineers and prepared for publication by Geological Survey.

Rating table, Nov. 18, 1938, to Sept. 30, 1940, except for periods of ice effect (gage height, in feet, and discharge, in second-feet)

2.8	1	3.4	51	4.8	377	7.5	1,730
2.9	3	3.6	82	5.2	530	9.0	2,630
3.0	8	4.0	159	5.8	785	11.0	3,920
3.2	27	4.4	256	6.5	1,160	13.0	5,240

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	26	29	38	38	63	31	50	82	1	5
2		-	27	30	34	36	79	30	47	60	1	3
3		-	23	31	31	34	82	29	43	54	1	3
4		-	24	31	31	30	82	27	31	41	1	1
5		-	24	31	31	30	823	26	27	34	1	1
6		-	25	31	29	30	860	26	25	27	0	1
7		-	28	30	29	30	363	24	20	23	0	0
8		-	25	29	24	31	218	29	26	19	2	0
9		-	26	29	23	30	161	30	1,670	14	45	0
10		-	25	30	18	43	136	28	1,840	11	138	0
11		-	26	31	19	38	104	34	300	11	86	0
12		-	27	32	18	34	93	34	173	11	58	0
13		-	28	32	18	31	76	34	122	11	36	0
14		-	29	30	20	25	72	32	240	11	31	0
15		-	31	30	20	22	66	29	297	13	22	0
16		-	31	27	22	23	71	26	122	6	16	0
17		-	31	30	18	24	76	25	104	3	27	0
18		22	31	29	19	24	63	26	79	3	16	0
19		17	30	31	18	23	69	27	60	5	16	0
20		15	31	31	17	23	71	25	48	2	12	0
21		14	31	31	16	23	72	56	35	1	7	0
22		15	31	31	16	20	66	237	27	1	4	0
23		20	31	34	16	20	63	113	26	1	4	0
24		20	31	31	18	24	57	60	23	1	4	0
25		20	29	29	18	24	50	135	23	1	48	0
26		20	29	29	18	27	46	2,700	25	1	54	0
27		20	30	29	19	31	41	738	25	1	32	0
28		22	30	29	36	58	38	414	363	1	25	0
29		23	29	31	-	148	35	138	238	1	18	0
30		24	28	36	-	63	32	89	118	1	13	0
31		-	27	37	-	54	-	64	-	1	9	-

Discharge, in second-feet, of Fall River at Fredonia, Kans., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	0		0	1	2	436	41	10	0	2
2		-	1		0	1	1	328	38	8	0	2
3		-	a1		0	2	1	240	36	6	0	46
4		-	a1		0	a2	1	196	31	4	0	41
5		-	a1		0	2	1	161	27	3	100	57
6		-	a1		0	a2	1	138	29	3	80	34
7		-	1		0	2	6	118	27	2	19	11
8		-	a1		0	a2	3	324	24	2	198	10
9		-	1		0	2	2	2,290	63	1	134	5
10		-	1		0	2	1	485	98	1	22	2
11		-	a1		0	a2	2	246	63	1	10	1
12		-	a1		a2	a2	2	187	44	1	6	1
13		-	a1		a2	a3	2	146	38	1	4	1
14		-	a2		a3	3	4	126	35	1	2	1
15		-	a2		a3	11	10	118	29	1	139	1
16		-	2	a30.7	a3	27	25	128	27	1	212	1
17		-	2		3	25	3,080	143	27	1	189	1
18			a2		2	20	5,560	1,100	23	0	107	1
19			a2		a1	11	1,220	389	361	0	41	1
20			a2		0	8	367	230	146	0	26	1
21			a2		0	7	240	696	84	0	14	1
22			a2		0	6	182	436	48	0	11	1
23			2		0	6	155	233	119	0	10	1
24		a19.4	2		0	5	142	146	594	0	8	113
25			a2		0	5	130	288	148	0	8	313
26			0		a1	5	118	170	114	0	7	66
27			0		a1	5	142	104	54	0	10	25
28			0		a1	4	191	76	29	0	8	11
29			0		1	3	2,470	60	18	0	6	6
30			0		-	2	890	52	13	0	3	6
31			0		-	2	-	46	-	0	3	-

a No gage-height record; discharge interpolated or computed on basis of weather records.
Note.- No gage-height record; discharges were interpolated or there was no flow.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	-	-	-	-	-
November 18-30, 1938	252	24	14	19.4	500
December	874	31	23	28.2	1,730
Calendar year	-	-	-	-	-
January 1939	951	37	27	30.7	1,890
February	634	38	18	22.6	1,260
March	1,091	148	20	35.2	2,160
April	4,128	860	32	138	8,190
May	5,316	2,700	24	171	10,540
June	6,227	1,840	20	208	12,350
July	452	82	1	14.6	897
August	728	138	0	23.5	1,440
September	14	5	0	.5	28
The period	-	-	-	-	40,980
October 1939	0	0	0	0	0
November	0	0	0	0	0
December	36	2	0	1.2	71
Calendar year 1939	19,577	2,700	0	53.6	38,830
January 1940	0	0	0	0	0
February	23	3	0	.8	46
March	180	27	1	5.8	357
April	14,951	5,560	1	498	29,650
May	9,836	2,290	46	317	19,510
June	2,428	594	13	80.9	4,820
July	47	10	0	1.5	93
August	1,377	212	0	44.4	2,730
September	763	313	1	25.4	1,510
Water year 1939-40	29,641	5,560	0	81.0	58,790

Neosho River at Council Grove, Kans.

Location.- Water-stage recorder above spillway of city dam, lat. 38°40', long. 96°30', in NW¼ sec. 14, T. 16 S., R. 8 E., at city water plant in north part of Council Grove, a few hundred feet downstream from Mulers Creek, 1 mile upstream from Elm Creek, and 2 miles downstream from Munkers Creek. Datum of gage is 1,205.63 feet above mean sea level (levels of Corps of Engineers, U. S. Army). Prior to June 7, 1940, wire-weight gage at same site and datum.

Drainage area.- 265 square miles.

Records available.- November 1938 to September 1940.

Extremes.- 1938-39: Maximum discharge during period November to September, 4,930 second-feet May 22 (gage height, 20.10 feet); no flow during several periods.
1939-40: Maximum discharge during water year, 7,280 second-feet Sept. 5 (gage height, 21.15 feet); no flow during several periods.
On June 11, 1938, a maximum stage of 35.30 was reached. According to local resients, maximum stages in 1903 and 1932 were 2 feet and 1 foot higher, respectively.

Remarks.- Records are fair.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, Nov. 16, 1938, to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)

15.4	2	16.4	222	17.5	1,020
15.6	11	16.6	327	17.8	1,340
15.8	27	16.8	441	18.2	1,820
16.0	60	17.0	563		
16.2	128	17.2	768		

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	0	11	2	4	10		
2					-	0	10	2	28	4		
3					-	0	6	1	40	1		
4					-	0	7	1	14	0		
5					-	0	12	1	18	0		
6					-	0	20	1	5	0		
7					-	0	11	1	3	0		
8					-	0	8	2	2	0		
9					-	0	7	1	2	0		
10					-	0	6	1	98	0		
11					-	0	7	0	63	0		
12					-	3	6	0	23	0		
13					-	6	6	0	11	0		
14					-	6	6	0	10	0		
15					-	4	6	0	39	0		
16						3	5	0	10	0		
17						3	5	0	8	0		
18						2	6	0	3	0		
19						2	6	0	2	0		
20						1	8	1,040	12	0		
21						0	8	219	4	0		
22					0	0	7	2,440	2	0		
23						0	6	594	0	0		
24						1	4	42	1	0		
25						49	3	21	5	0		
26						17	3	17	4	0		
27						11	3	12	2	0		
28						7	3	17	38	0		
29						7	2	12	25	0		
30					-	6	2	7	10	0		
31					-	6	-	5	-	0		

Discharge, in second-feet, of Neosho River at Council Grove, Kans., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0			0
2									0			0
3									0			0
4									0			0
5									0			2,090
6									0			1,900
7									0			242
8									0			22
9									230			8
10									1,310			4
11								0	60			1
12									32			
13									17			
14									10			
15									7			
16									3			
17									2			
18									1			
19									0			
20									0			
21								29	0			0
22								32	0			
23								9	0			
24								1	0			
25								17	0			
26								2	0			
27								0	0			
28								0	0			
29								0	0			
30								0	0			
31								0	-			-

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	-	-	-	-	-
November 16-30, 1938	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January 1939	0	0	0	0	0
February	0	0	0	0	0
March	134	49	0	4.3	266
April	200	20	2	6.7	397
May	4,439	2,440	0	143	8,800
June	476	98	0	15.9	944
July	15	10	0	.5	30
August	0	0	0	0	0
September	0	0	0	0	0
The period	-	-	-	-	10,440
October 1939	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	5,264	2,440	0	14.4	10,440
January 1940	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	90	32	0	2.9	179
June	1,672	1,310	0	55.7	3,320
July	0	0	0	0	0
August	0	0	0	0	0
September	4,267	2,090	0	142	8,460
Water year 1939-40	6,029	2,090	0	16.5	11,960

400452 O - 41 - 12

Neosho River near Iola, Kans.

Location.- Water-stage recorder, lat. 37°53', long. 95°26', in NE¼ sec. 9, T. 25 S., R. 18 E., 1 mile downstream from Elm Creek and 3 miles southwest of Iola.

Drainage area.- 3,795 square miles.

Records available.- October 1917 to September 1940. August 1895 to November 1903, at city water works, 4 miles upstream.

Average discharge.- 23 years (1917-40), 1,099 second-feet.

Extremes.- Maximum discharge during year, 9,920 second-feet Apr. 17 (gage height, 13.60 feet); minimum, 1 second-foot Aug. 8 (gage height, 2.46 feet).
1895-1903, 1917-40: Maximum gage height, 33.2 feet Sept. 13, 1926 (discharge not determined); no flow on several days in September and October 1897, Aug. 19 to Sept. 15, Sept. 21, 22, 1936. Bank-full stage, 27 feet.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	3	9	22	36	69	55	2,110	218	86	1	12
2	19	4	4	10	12	72	44	1,860	214	57	10	36
3	8	7	3	31	24	112	44	1,130	183	60	31	19
4	7	5	2	36	26	124	63	793	142	28	8	214
5	6	4	2	33	28	167	31	656	148	41	2	121
6	10	4	2	28	31	180	36	486	164	41	5	3,870
7	10	4	2	24	31	187	66	374	158	24	2	2,770
8	6	4	7	28	38	167	72	1,560	151	19	2	2,240
9	12	4	7	28	36	170	83	2,240	194	10	228	1,820
10	15	31	8	26	24	161	95	1,420	211	9	69	793
11	38	9	8	36	36	121	124	1,300	850	7	9	370
12	19	6	10	36	19	214	190	1,200	738	8	3	232
13	6	4	7	24	28	316	161	850	1,270	8	1	151
14	6	4	26	31	60	174	101	525	765	8	1	121
15	8	12	28	46	46	124	101	387	449	7	5	86
16	10	9	28	33	55	115	77	308	312	2	379	60
17	7	5	26	12	63	98	6,950	273	246	2	635	26
18	8	5	24	28	60	80	6,470	413	225	4	463	72
19	10	5	8	7	57	112	2,030	879	204	33	187	17
20	9	9	8	10	69	77	1,230	1,060	190	36	89	22
21	7	7	7	9	63	44	2,030	1,900	164	10	44	12
22	2	4	12	31	104	33	1,200	2,410	130	2	86	2
23	2	2	10	10	101	60	710	2,960	158	2	265	5
24	2	2	10	31	69	55	505	2,070	367	22	148	28
25	2	3	10	9	101	49	383	908	589	109	92	9
26	38	3	17	31	101	57	312	710	269	118	74	33
27	57	2	17	8	57	31	280	500	148	101	109	33
28	46	1	33	17	63	52	292	396	101	31	158	1,740
29	31	1	38	8	77	28	1,130	332	60	15	98	1,090
30	15	4	8	17	-	55	1,340	296	86	12	38	409
31	6	-	9	17	-	44	-	254	-	4	8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	444	57	2	14.3	881
November	167	31	1	5.6	331
December	390	38	2	12.6	774
Calendar year 1939	74,841	3,150	1	205	148,500
January	717	46	7	23.1	1,420
February	1,515	104	12	52.2	3,000
March	3,348	316	28	108	6,640
April	26,205	6,950	31	874	51,980
May	32,550	2,960	254	1,050	64,560
June	9,104	1,270	60	303	18,060
July	916	118	2	29.5	1,820
August	3,250	635	1	105	6,450
September	16,413	3,870	2	547	32,550
Water year 1939-40	95,019	6,950	1	260	188,500

Peak discharge.- Apr. 17 (12:15 p.m.) 9,920 sec.-ft.; May 8 (7 p.m.) 2,590 sec.-ft.; May 9 (3 p.m.) 2,680 sec.-ft.; Sept. 6 (8 p.m.) 5,370 sec.-ft.; Sept. 28 (2:30 p.m.) 2,070 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-162001

Neosho River near Parsons, Kans.

Location.- Water-stage recorder, lat. 37°20', long. 95°06', in NE¼ sec. 21, T. 31 S., R. 21 E., at bridge on U. S. Highway 160, half a mile upstream from Hickory Creek, three-quarters of a mile upstream from St. Louis-San Francisco Railway bridge, and 8⅜ miles east of Parsons. Datum of gage is 810.25 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 4,828 square miles, including that of Hickory Creek.

Records available.- June 1929 to September 1940. October 1921 to June 1929, at site half a mile downstream. Records include flow of Hickory Creek.

Average discharge.- 19 years, 1,879 second-feet.

Extremes.- Maximum discharge during year, 14,500 second-feet Apr. 18 (gage height, 17.23 feet); no flow at times during October and November.
1921-40: Maximum discharge observed, 48,100 second-feet Nov. 24, 1928 (gage height, 27.50 feet, former site); no flow at times in 1934, 1936, and 1940. Bank-full stage, 24 feet.

Remarks.- Records good.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Dec. 15 to Jan. 15)

Oct. 1 to Jan. 15				Jan. 16 to Sept. 30					
0.7	0	1.1	9	1.0	10	3.0	495	9.0	4,790
.8	1	1.2	15	1.2	22	4.0	975	12.0	7,900
.9	2	1.3	23	1.5	53	5.0	1,610	15.0	11,600
1.0	4	1.4	32	2.0	148	6.0	2,310		
				2.5	297	7.0	3,080		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	0	4	20	20	69	39	4,180	312	90	35	102
2	1	0	4	23	20	60	37	2,850	262	67	24	g74
3	1	0	4	23	19	61	34	2,460	221	57	20	g57
4	1	0	3	20	22	66	33	1,640	203	63	16	38
5	1	0	3	16	45	64	32	1,150	178	52	g14	69
6	1	0	3	17	47	84	38	892	146	39	g16	904
7	1	0	3	22	39	745	61	692	141	30	g14	g6,160
8	1	0	3	28	51	1,410	77	534	139	25	12	g5,310
9	1	0	3	30	57	487	98	1,320	148	21	47	2,770
10	1	1	3	31	49	262	113	3,400	825	20	286	2,240
11	1	1	2	31	46	197	126	2,090	3,520	22	669	1,310
12	1	1	2	31	43	180	172	1,610	2,020	102	1,880	625
13	1	1	2	30	38	162	495	1,510	1,090	180	516	361
14	1	1	2	32	34	262	350	1,150	1,480	70	178	233
15	1	1	2	35	34	346	259	739	1,120	40	104	170
16	0	1	2	36	42	233	180	516	692	26	581	144
17	0	1	2	33	48	178	2,830	401	521	18	1,550	117
18	0	1	2	28	61	128	13,500	953	2,180	14	3,400	90
19	0	1	2	37	64	113	5,930	4,080	1,300	12	1,740	70
20	0	1	3	35	63	92	5,740	2,020	454	12	669	52
21	0	1	13	29	59	77	1,740	1,510	365	g10	308	51
22	0	3	17	26	54	88	2,390	3,240	276	g9	178	52
23	0	3	23	26	57	77	1,810	3,900	240	g3,480	117	40
24	0	3	25	23	61	66	1,220	3,320	2,660	g7,000	84	39
25	0	3	17	22	77	52	865	2,770	1,550	946	189	43
26	0	3	17	23	90	52	625	1,480	865	269	175	38
27	0	3	17	26	74	59	499	975	560	126	124	31
28	0	3	17	26	77	56	438	715	304	106	113	28
29	0	3	17	25	86	52	898	538	180	94	312	442
30	0	3	17	22	-	45	2,780	434	130	74	297	1,540
31	0	-	18	20	-	40	-	365	-	49	172	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	16	2	0	0.5	32
November	39	3	0	1.3	77
December	252	25	2	8.1	500
Calendar year 1939	108,276	4,520	0	297	214,700
January	826	37	16	26.6	1,640
February	1,477	90	19	50.9	2,930
March	5,863	1,410	40	189	11,630
April	43,409	13,500	32	1,447	86,100
May	53,434	4,180	365	1,724	106,000
June	24,082	3,520	130	803	47,770
July	13,123	7,000	9	423	26,030
August	13,840	3,400	12	446	27,450
September	22,200	5,310	28	740	44,030
Water year 1939-40	178,561	13,500	0	488	354,200

Peak discharge.- May 1 (2:30 a.m.) 4,880 sec.-ft.; May 19 (9 a.m.) 4,790 sec.-ft.; June 11 (1:30 p.m.) 4,170 sec.-ft.; June 24 (5 p.m.) 4,080 sec.-ft.; July 23 (11:30 p.m.) 12,500 sec.-ft.; Sept. 7 (11:30 p.m.) 6,670 sec.-ft.
g Computed from graph based on gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
U. S. GOVERNMENT PRINTING OFFICE : 1936—O - 102002

Neosho River near Commerce, Okla.

Location.- Water-stage recorder, lat. 36°56', long. 94°57', in SW¼SE¼ sec. 5, T. 28 N., R. 22 E., at county highway bridge, 1¼ miles upstream from Mud Creek, 1¾ miles downstream from Four Mile Creek, and 4½ miles west of Commerce.

Drainage area.- 5,880 square miles.

Records available.- June 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period June to September, 7,050 second-feet June 28 (gage height, 7.07 feet); minimum, 2.5 second-feet Sept. 26 (gage height, 1.76 feet).

1939-40: Maximum discharge during water year, 14,900 second-feet Apr. 19 (gage height, 12.28 feet); minimum, 0.5 second-feet Oct. 24, 25, Nov. 8 (gage height, 1.65 feet).

Flood in May 1935 reached a stage of 20.8 feet, from highwater mark pointed out by local residents.

Remarks.- Records good except those below 5 second-feet, which are fair, and those for period of ice effect, which are poor.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	796	37	126
2									-	3,160	27	96
3									-	3,030	23	74
4									-	1,730	23	66
5									-	856	23	61
6									-	529	41	42
7									-	383	90	34
8									-	289	99	32
9									-	235	133	36
10									-	186	317	29
11									-	159	272	22
12									-	126	215	15
13									-	103	870	15
14									-	90	1,190	17
15									-	84	687	16
16									-	68	440	17
17									-	56	267	17
18									-	49	1,090	15
19									-	42	1,430	13
20									-	54	2,420	11
21									-	77	2,500	8.4
22									-	54	1,520	6.8
23									-	54	908	5.8
24									-	58	650	4.8
25									-	51	924	3.6
26									-	39	460	2.8
27									352	36	620	3.2
28									5,350	36	487	3.6
29									5,550	142	283	4.0
30									2,270	133	201	3.6
31									-	63	159	-

Discharge, in second-feet, of Neosho River near Commerce, Okla., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	0.9	2.8	24	h23	77	39	4,450	364	181	80	256
2	2.8	.7	2.8	h24	h23	90	39	4,450	317	137	63	172
3	2.5	.7	2.5	h24	h23	80	36	3,030	267	107	42	159
4	1.9	.7	2.2	h25	a25	68	32	2,240	220	80	32	766
5	1.9	.7	2.5	h25	27	68	30	1,480	206	63	30	230
6	1.9	.6	2.5	20	29	68	34	1,050	191	63	34	118
7	1.6	.6	2.2	19	29	74	51	836	168	58	42	1,710
8	1.0	.5	2.2	16	46	774	84	654	155	44	46	6,260
9	3.6	.6	2.2	16	51	1,080	99	515	137	36	118	4,150
10	4.4	2.2	1.9	19	54	501	133	1,990	204	29	96	2,520
11	2.8	2.2	1.9	26	54	329	329	3,080	4,060	24	172	1,970
12	2.8	1.9	1.9	*32	51	246	300	1,800	4,620	22	1,150	1,120
13	2.8	1.6	1.9	32	46	206	201	1,510	2,040	17	1,730	597
14	2.2	1.4	*1.6	39	41	177	384	1,350	1,280	98	570	383
15	2.2	1.4	1.4	*36	41	201	352	1,010	1,550	141	294	272
16	1.6	1.4	1.4	36	66	317	267	678	1,040	85	300	215
17	1.2	2.2	1.6	36	186	246	225	501	678	58	1,570	172
18	1.2	3.2	2.5	31	186	191	7,240	473	750	37	3,720	141
19	.9	3.2	2.5	27	122	129	14,400	2,400	2,420	29	3,620	118
20	.8	2.8	2.5	23	*107	107	11,800	3,860	1,020	39	1,620	99
21	.7	2.2	2.2	21	96	103	3,850	1,940	487	87	714	80
22	.6	2.2	2.2	19	90	84	1,860	1,880	383	71	383	63
23	.6	2.2	4.8	18	80	74	2,330	3,770	317	266	256	58
24	.5	1.9	5.3	17	84	84	1,550	3,580	641	9,400	181	66
25	.5	1.6	5.3	*17	74	77	1,090	3,390	3,390	4,330	129	319
26	1.0	1.6	7.3	16	71	63	836	2,330	1,360	878	129	216
27	1.9	1.4	22	18	87	56	682	1,290	897	359	220	84
28	1.6	1.4	27	19	93	49	582	919	588	201	181	54
29	1.6	1.4	27	21	80	51	1,460	678	370	137	246	42
30	1.4	2.5	25	h22	-	54	1,670	515	251	114	359	68
31	1.0	-	25	h23	-	44	-	414	-	96	359	-

Peak discharge.- Apr. 19 (2 p.m.) 14,900 sec.-ft.; May 2 (1 a.m.) 5,350 sec.-ft.; May 20 (1 a.m.) 5,150 sec.-ft.; June 12 (2 a.m.) 5,750 sec.-ft.; July 24 (5 p.m.) 11,300 sec.-ft.; Sept. 8 (3:30 p.m.) 6,770 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge interpolated.

h Discharge computed on basis of once- or twice-daily readings of wire-weight gage.

Note.- Stage-discharge relation affected by ice Jan. 6-29.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
June 27-30, 1939	13,522	5,550	352	3,380	26,820
July	12,768	3,160	36	412	25,320
August	18,406	2,500	23	594	36,510
September	800.6	126	2.8	26.7	1,590
The period	-	-	-	-	90,240
October 1939	54.7	4.4	.5	1.76	108
November	47.9	3.2	.5	1.60	95
December	196.1	27	1.4	6.33	389
Calendar year	-	-	-	-	-
January 1940	741	39	16	23.9	1,470
February	1,985	186	23	68.4	3,940
March	5,768	1,080	44	186	11,440
April	51,965	14,400	30	1,732	103,100
May	58,063	4,450	414	1,873	115,200
June	30,371	4,620	137	1,012	60,240
July	17,287	9,400	17	558	34,290
August	18,486	3,720	30	596	36,670
September	22,478	6,260	42	749	44,580
Water year 1939-40	207,442.7	14,400	.5	567	411,500

Grand Lake at Langley, Okla.

Location.- Wire-weight gage, lat. 36°28', long. 95°02', at Pensacola Dam, on Neosho (Grand) River, in SW¼ sec. 14, T. 23 N., R. 21 E., at Langley, 6 miles east of Pensacola and 10 miles upstream from Cabin Creek. Datum of gage is at mean sea level Corps of Engineers, U. S. Army, bench mark). Prior to Sept. 24, 1940, staff gage at same site and datum.

Drainage area.- 10,370 square miles.

Records available.- March to September 1940.

Extremes.- Maximum contents during period, 825,800 acre-feet Sept. 30 (elevation, 721.1 feet); no storage prior to Mar. 21.

Remarks.- Reservoir is formed by multiple-arch concrete dam; storage began Mar. 21, 1940. Capacity, 1,492,000 acre-feet between elevations 682.0 feet (sill of powerhouse penstock) and 745.0 feet (maximum power pool). Capacity between elevations 745.0 and 755.0 is 525,000 acre-feet and is reserved for flood control only. Overflow controlled by Taintor gates on three spillways, one of which has a crest elevation of 730.0 feet and two have crest elevations of 740.0 feet. Dead storage (below elevation 682.0 feet), 180,200 acre-feet. Water is used for power development and flood control. Gage read once daily at 8 a.m.; twice daily, prior to Sept. 24.

Cooperation.- Elevations and capacity table furnished by Grand River Dam Authority.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Prepared from surveys and maps of Corps of Engineers, U. S. Army)

621	25	628	1,365	645	14,400	675	126,100	710	572,500
622	75	630	2,125	650	23,000	680	163,200	720	797,500
623	175	632	3,045	655	34,750	685	208,600	730	1,086,000
624	325	635	4,785	660	50,150	690	262,100	740	1,452,000
625	525	639	7,815	665	69,700	695	324,900	750	1,917,000
626	765	642	10,600	670	94,700	700	397,100	755	2,197,000

Contents, in acre-feet, for period March to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	5,475	224,900	432,200	549,300	631,900	738,400
2						-	5,268	240,900	435,500	551,200	631,900	745,600
3						-	5,337	257,600	437,200	553,100	631,900	750,400
4						-	5,268	273,800	437,200	557,000	634,000	760,200
5						-	5,130	283,600	437,200	557,000	634,000	765,200
6						-	5,623	291,000	438,800	557,000	636,200	772,500
7						-	6,371	298,600	440,400	558,900	638,300	775,000
8						-	7,815	303,800	442,100	558,900	638,300	782,500
9						-	9,415	309,000	445,400	558,900	638,300	792,500
10						-	10,400	314,300	447,100	558,900	638,300	797,500
11						-	11,750	316,900	452,200	558,900	640,500	805,200
12						-	17,500	324,900	464,000	558,900	640,500	810,400
13						-	35,870	333,100	477,900	558,900	642,600	810,400
14						-	48,790	335,900	483,100	558,900	647,000	812,900
15						-	57,400	340,000	488,400	558,900	649,100	815,100
16						-	62,940	345,600	492,000	558,900	651,300	818,100
17						-	67,120	347,000	499,100	560,900	662,300	818,100
18						-	72,460	348,400	500,900	560,900	677,800	818,100
19						-	81,100	355,500	502,800	560,900	689,200	818,100
20						-	105,200	361,200	508,200	562,800	698,300	815,500
21						35	141,800	372,900	511,900	562,800	705,300	815,500
22						115	160,000	380,300	511,900	564,700	707,600	815,500
23						669	166,500	387,900	511,900	566,700	710,000	818,100
24						1,365	173,200	392,500	519,200	576,500	712,300	820,600
25						2,213	178,500	401,800	522,900	606,800	712,300	823,200
26						2,949	182,000	409,700	532,200	621,300	714,600	823,200
27						3,691	189,300	414,400	536,000	627,700	717,000	823,200
28						4,533	195,000	422,500	541,700	627,700	719,300	823,200
29						5,475	200,800	425,700	545,500	627,700	724,000	823,200
30						5,771	210,600	428,900	547,400	629,800	731,200	825,800
31						5,623	-	430,600	-	629,800	733,600	-

Monthly elevation and contents, March to September 1940

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Mar. 31	636.2	5,623	+5,623
Apr. 30	685.2	210,600	+205,000
May 31	702.1	430,600	+220,000
June 30	708.7	547,400	+116,800
July 31	712.8	629,800	+82,400
Aug. 31	717.4	733,600	+103,800
Sept.30	721.1	825,800	+92,200

Neosho River near Langley, Okla.

Location.- Water-stage recorder, lat. 36°26', long. 95°03', 2 miles south of Langley, Okla., 3½ miles downstream from Summerfield Creek and 6½ miles upstream from Cabin Creek. Datum of gage is 606.21 feet above mean sea level (levels by Grand River Dam Authority, Corps of Engineers, U. S. Army, bench mark). Prior to Feb. 16, 1940, staff gage at same site and datum.

Drainage area.- 10,400 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 1,280 second-feet Mar. 10 (gage height, 5.20 feet); minimum, 8 second-feet (regulated) Mar. 25 (gage height, 2.98 feet).
Flood in April 1927 reached a stage of 30.1 feet, from floodmark pointed out by local residents. Flood in December 1895 reached a stage somewhat higher than that of April 1927.

Remarks.- Records good except those prior to Feb. 16, when gage was read twice daily, and those below 20 second-feet, which are fair. Prior to Mar. 22 low flows regulated by power plants on tributaries; thereafter complete regulation by Grand Reservoir, 4 miles above (see p. 176).

Rating table, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

3.0	10	3.3	74	4.0	442
3.05	16	3.4	111	4.5	753
3.1	24	3.6	205	5.0	1,100
3.2	45	3.8	319		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	185	249	*290	380	399	498	399	185	45	24	16	45
2	195	244	278	160	368	492	399	160	45	21	19	58
3	200	210	313	165	374	442	386	142	42	21	18	81
4	190	200	386	380	337	510	374	103	45	24	18	107
5	170	205	374	300	392	454	374	84	45	22	22	120
6	190	210	343	260	374	523	316	74	45	21	26	151
7	165	195	350	260	278	454	215	74	45	22	24	205
8	165	200	337	290	307	430	283	88	45	22	24	216
9	222	200	350	380	362	498	405	81	45	30	26	210
10	249	266	356	*350	313	971	350	77	42	30	19	146
11	232	278	290	355	374	1,020	386	71	34	21	30	155
12	272	343	266	356	343	779	343	68	28	21	36	151
13	356	362	272	417	278	690	238	58	30	22	32	155
14	249	356	272	417	266	609	244	53	28	28	32	180
15	200	278	*313	307	301	622	244	47	28	28	30	195
16	190	254	266	380	337	535	244	45	28	26	26	123
17	205	284	238	405	343	492	249	45	30	24	32	162
18	200	266	227	300	430	616	244	78	28	22	24	139
19	175	249	232	280	374	597	244	81	28	28	30	284
20	160	232	232	300	485	554	249	64	28	34	22	319
21	200	290	249	270	504	554	254	56	18	30	21	137
22	190	560	266	265	485	179	266	53	22	38	22	117
23	175	295	254	260	411	55	278	50	30	38	24	136
24	195	266	313	245	405	15	266	50	30	34	22	171
25	160	278	325	255	417	9	295	50	26	34	22	216
26	175	266	374	270	485	28	319	47	22	34	26	272
27	254	325	313	*260	*454	30	319	47	22	30	26	254
28	244	284	313	290	411	30	343	47	34	28	28	151
29	254	249	362	270	430	150	356	45	28	26	30	58
30	295	a270	254	335	-	411	288	45	28	21	32	50
31	278	-	325	320	-	399	-	45	-	18	34	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	6,590	356	160	213	13,070
November	8,164	560	195	272	16,190
December	9,333	386	227	301	18,510
Calendar year	-	-	-	-	-
January	9,502	417	160	307	18,850
February	11,037	504	266	381	21,890
March	13,646	1,020	9	440	27,070
April	9,170	405	215	306	18,190
May	2,213	185	45	71.4	4,390
June	994	45	18	33.1	1,970
July	822	38	18	26.5	1,630
August	793	36	16	25.6	1,570
September	4,764	319	45	159	9,450
Water year 1939-40	77,028	1,020	9	210	152,800

*Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Jan. 5-11, 18-31.

Neosho River near Choteau, Okla.

Location.- Wire-weight gage, lat. 36°11', long. 96°16', on line between secs. 27 and 34, T. 20 N., R. 19 E., at bridge on State Highway 33, seven-eighths of a mile downstream from Pryor Creek and 3 miles east of Choteau. Datum of gage is 534.32 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 11,950 square miles.

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 6,100 second-feet Apr. 29 (gage height, 8.6 feet, from highwater mark); minimum, 23 second-feet (regulated) Mar. 30.

1937-40: Maximum discharge, 83,600 second-feet May 31, 1938 (gage height, 26.2 feet, from graph based on gage readings); minimum, that of Mar. 30, 1940.

Flood of April 1927 reached a stage of 44.5 feet, from floodmark, from information by Corps of Engineers, U. S. Army.

Remarks.- Records fair except those for period of ice effect, which are poor. Gage read twice daily. Some diurnal fluctuation prior to Mar. 23 at low water caused by power plants on tributaries above station near Langley; thereafter flow regulated by storage in Grand Reservoir, 26 miles upstream (see p. 176).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	182	307	352	b350	445	480	422	2,200	128	281	47	71
2	182	307	*341	b380	527	575	445	1,770	117	194	37	107
3	182	284	307	b320	539	586	445	1,380	109	174	30	122
4	182	241	364	b250	551	516	434	1,140	97	177	37	2,120
5	182	241	364	b300	469	598	434	979	92	236	30	c3,810
6	202	261	434	b320	434	551	410	777	87	154	35	c1,360
7	182	261	364	b270	422	668	422	684	87	89	41	729
8	192	231	387	b310	398	492	387	598	92	85	37	556
9	202	251	398	*b340	445	492	155	729	306	68	37	450
10	284	272	387	*b400	422	539	492	598	209	41	45	388
11	241	272	410	b440	398	1,250	2,230	450	209	47	62	296
12	241	295	341	364	422	1,200	1,850	388	684	154	71	224
13	241	251	318	445	445	950	2,510	350	450	104	51	232
14	295	387	318	b410	364	782	1,760	288	278	62	45	217
15	261	318	318	b380	329	714	1,700	261	191	57	217	209
16	202	352	*318	*b410	398	725	1,440	224	202	43	142	217
17	221	329	352	b430	457	610	1,260	209	191	37	1,020	191
18	231	352	307	b320	575	539	979	466	777	30	1,360	151
19	231	375	284	b260	586	702	979	1,770	684	33	338	167
20	212	398	295	b300	516	702	876	1,280	919	120	184	194
21	202	398	272		586	575	777	556	279	131	125	310
22	202	516	318		575	622	684	417	151	75	85	232
23	192	469	341		610	284	639	315	117	365	71	142
24	192	364	364		551	221	598	265	184	2,620	60	137
25	212	318	a381	b290	480	126	556	236	112	508	47	530
26	241	307	398		516	70	598	240	97	217	45	1,570
27	221	329	434		*586	a56	972	206	140	137	37	482
28	202	329	445	(*)	575	a42	1,570	202	846	97	37	350
29	261	422	*364		492	28	3,650	184	2,010	80	45	232
30	251	398	445	b340	-	41	4,280	164	768	57	53	174
31	295	-	b390	469	-	162	-	142	-	45	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	6,819	295	182	220	13,530
November	9,835	516	231	328	19,510
December	11,111	445	272	358	22,040
Calendar year 1939	976,932	51,600	182	2,677	1,938,000
January	10,418	469	250	336	20,660
February	14,113	610	329	487	27,990
March	15,898	1,250	28	513	31,530
April	33,954	4,280	155	1,132	67,350
May	19,468	2,200	142	628	38,610
June	10,613	2,010	87	354	21,050
July	6,518	2,620	30	210	12,930
August	4,512	1,360	30	146	8,950
September	15,970	3,810	71	532	31,680
Water year 1939-40	152,229	4,280	28	435	315,800

*Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.
c Backwater from tributary downstream; discharge obtained from hydrograph based on gage heights and discharge measurement.

Neosho River near Wagoner, Okla.

Location.- Water-stage recorder, lat. 35°56', long. 95°16', on line between secs. 22 and 27, T. 17 N., R. 19 E., at bridge on U. S. Highway 51, 2¼ miles downstream from Nigger Creek, 5 miles southeast of Wagoner, and 6 miles upstream from Fourteen Mile Creek (formerly published as Double Springs Creek). Datum of gage is 493.58 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark). Prior to Jan. 31, 1940, wire-weight gage at same site and datum. Prior to Oct. 1, 1939, wire-weight gage at site 1¼ miles downstream. Datum of gage was 489.56 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 12,400 square miles.

Records available.- March 1924 to December 1925, October 1937 to September 1940.

Extremes.- Maximum discharge during year, 10,500 second-feet June 28 (gage height, 10.49 feet); minimum, 51 second-feet (regulated) Apr. 1 (gage height, 3.43 feet).

1924-25, 1937-40: Maximum discharge, 79,400 second-feet May 31, 1938 (gage height, 26.4 feet site and datum then in use, from graph based on gage readings); minimum, that of Apr. 1, 1940.

Maximum stage known, 41.0 feet site and datum in use prior to October 1939, from floodmark, December 1895. A stage of 39.0 feet, site and datum in use prior to October 1939, was reached in April 1927. Information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records good except those prior to Jan. 31, which are fair. Prior to Jan. 31, gage read twice daily. Prior to Mar. 23, some diurnal fluctuation at low water caused by power plants on tributaries above station near Langley. Since Mar. 23 flow regulated by Grand Reservoir, 64 miles above station (see p. 176).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	218	299	372	382	401	528	h229	2,960	192	1,020	93	77
2	192	299	*357	339	438	559	417	2,430	171	641	55	70
3	189	259	344	372	528	648	454	1,940	155	470	79	206
4	201	304	330	372	510	603	454	1,500	140	391	72	405
5	222	255	382	236	499	577	411	1,250	129	432	66	6,060
6	225	236	422	262	459	609	482	1,040	122	377	64	2,510
7	212	255	454	326	454	583	675	873	116	291	58	1,180
8	192	259	391	262	427	641	565	759	267	240	60	781
9	208	240	411	316	396	553	443	731	670	198	61	615
10	299	247	391	*344	417	540	422	811	528	171	64	493
11	321	259	362	396	443	774	3,680	641	422	328	72	417
12	287	291	438	443	401	1,450	3,380	528	357	1,730	87	348
13	266	308	362	386	432	1,110	3,460	465	834	508	88	274
14	270	291	312	330	436	873	2,650	422	476	259	78	259
15	344	401	326	427	372	759	2,090	382	326	183	77	240
16	291	362	*326	391	344	689	1,720	352	330	155	187	232
17	236	372	344	422	454	709	1,500	326	334	129	1,910	251
18	222	348	316	344	603	590	1,300	330	270	109	1,720	218
19	236	362	274	232	596	590	1,110	806	677	98	1,000	180
20	236	401	274	251	603	702	1,030	2,140	651	433	406	189
21	222	401	299	308	534	648	897	1,080	1,210	401	259	198
22	201	417	274		609	622	804	774	372	259	183	308
23	208	488	316		648	590	752	565	225	174	142	247
24	212	499	352		615	330	689	454	225	966	112	183
25	201	362	382		565	240	641	411	344	1,320	95	186
				b300								
26	291	316	362		528	h158	641	344	215	454	84	1,400
27	283	326	382		*540	h110	655	326	180	270	78	1,040
28	240	352	*510		661	h78	1,760	287	3,500	195	77	510
29	229	362	382		571	h71	4,090	262	4,140	152	74	386
30	243	427	382	304	-	h66	6,800	240	2,650	127	94	334
31	266	-	454	326	-	h54	-	212	-	109	82	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	7,463	344	189	241	14,800
November	9,998	499	236	333	19,830
December	11,263	510	274	363	22,340
Calendar year 1939	1,027,126	47,200	189	2,814	2,037,000
January	10,171	443	232	328	20,170
February	14,486	661	344	500	28,730
March	17,054	1,450	54	550	33,830
April	44,201	6,800	229	1,473	87,670
May	25,541	2,960	212	824	50,660
June	20,228	4,140	116	674	40,120
July	12,590	1,730	98	406	24,970
August	7,607	1,910	58	245	15,090
September	19,797	6,060	70	660	39,270
Water year 1939-40	200,399	6,800	54	548	397,500

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h No water-stage recorder graph; discharge computed on basis of twice-daily readings of wire-weight gage.

Cottonwood River at Cottonwood Falls, Kans.

Location.- Water-stage recorder, lat. 38°22', long. 96°31', in NE¼ sec. 28, T. 19 S., R. 8 E., 1 mile east of Cottonwood Falls and 3½ miles upstream from mouth of South Fork of Cottonwood River. Datum of gage is 1,147.41 feet above mean sea level (preliminary determination).

Drainage area.- 1,444 square miles.

Records available.- February 1935 to September 1940. April 1932 to February 1935 at site in Cottonwood Falls.

Extremes.- Maximum discharge during year, 3,610 second-feet Sept. 25 (gage height, 6.74 feet); minimum, 5 second-feet Aug. 2-7, 9, 10.

1932-40: Maximum discharge observed, 12,000 second-feet May 23, 1938 (gage height, 17.24 feet); minimum discharge, 1 second-foot Aug. 15 to Sept. 13, 1934, Sept. 19-23, 1936.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	6	16	20	20	84	34	470	102	17	5	7
2	7	6	16	19	20	93	26	500	93	17	5	7
3	7	6	16	18	24	72	21	305	84	16	5	6
4	5	6	16	18	22	57	26	191	79	16	5	6
5	6	6	16	a17	24	55	24	149	64	15	5	179
6	8	6	16	a17	22	47	21	130	75	15	5	458
7	8	6	16	a16	22	43	18	112	72	14	5	144
8	7	7	16	a16	24	45	16	283	70	13	6	130
9	9	8	16	17	24	51	17	1,040	79	13	5	64
10	8	13	16	16	24	61	24	1,070	338	12	5	32
11	7	13	16	18	26	81	27	416	742	11	10	20
12	8	14	16	19	26	75	29	225	275	11	22	13
13	9	22	16	20	27	59	24	171	144	11	17	10
14	10	21	16	21	32	49	24	144	110	11	16	8
15	8	19	16	20	37	43	22	124	93	10	16	9
16	7	18	16	20	39	37	21	114	86	11	17	9
17	6	16	15	20	43	34	41	110	79	14	80	8
18	6	16	15	20	47	32	1,360	770	70	55	93	8
19	6	15	15	a20	45	30	1,920	1,270	130	77	47	10
20	6	15	16	a19	39	30	539	833	110	43	59	10
21	5	12	16	19	26	29	221	915	70	29	35	10
22	6	11	16	18	22	27	158	749	51	22	22	10
23	6	13	17	17	24	27	135	617	47	16	18	10
24	6	14	18	17	20	24	124	315	49	16	14	10
25	6	16	18	17	22	24	110	202	37	13	10	1,970
26	6	16	21	18	51	24	102	165	34	10	10	2,230
27	6	16	22	18	53	24	104	144	32	10	12	356
28	6	16	22	17	45	22	298	130	30	9	9	107
29	6	16	22	16	49	22	560	122	24	8	8	68
30	6	16	22	17	-	22	610	107	19	7	7	51
31	7	-	21	18	-	27	-	100	-	6	7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	210	10	5	6.8	417
November	385	22	6	12.8	764
December	532	22	15	17.2	1,060
Calendar year 1939	42,172	3,610	5	116	83,640
January	565	21	16	18.2	1,120
February	899	53	20	31.0	1,780
March	1,350	93	22	43.5	2,680
April	6,656	1,920	16	222	13,200
May	11,993	1,270	100	387	23,790
June	3,278	742	19	109	6,500
July	548	77	6	17.7	1,090
August	580	93	5	18.7	1,150
September	5,960	2,230	6	199	11,820
Water year 1939-40	32,956	2,230	5	90.0	65,370

Peak discharge.- Apr. 18 (6 p.m.) 2,430 sec.-ft.; Apr. 29 (5 p.m.) 840 sec.-ft.; May 9 (12 m.) 1,270 sec.-ft.; May 21 (10:30 p.m.) 1,390 sec.-ft.; June 11 (9 a.m.) 878 sec.-ft.; Sept. 25 (7 p.m.) 3,610 sec.-ft.

a No gage-height record; discharge computed on basis of records of Neosho River near Iola, Kans.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Lightning Creek near McCune, Kans.

Location.- Staff gage, lat. 37°17', long. 95°02', in NE¼ sec. 7, T. 32 S., R. 22 E., at township highway bridge, 4 miles south of McCune, 5 miles southeast of Straus, and 13½ miles southeast of Parsons. Datum of gage is 818.10 feet above mean sea level (levels of Corps of Engineers, U. S. Army).

Drainage area.- 197 square miles.

Records available.- October 1938 to September 1940.

Extremes.- 1938-39: Maximum discharge during water year, 2,110 second-feet May 22 (gage height, 13.16 feet from floodmark); no flow during several periods.
1939-40: Maximum discharge observed during water year, 1,900 second-feet Apr. 18 (gage height, 12.50 feet); no flow during several periods.

Remarks.- Records for water year 1939-40 fair except for period Apr. 19-22 when gage was damaged. Gage read twice daily and more often during rapidly changing stages.

Cooperation.- Records for the water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records for water year 1938-39 were collected and computed by Corps of Engineers and prepared for publication by the Geological Survey.

Rating table, Oct. 1, 1938, to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 9-15, Apr. 23-29, Aug. 29-31, 1940)

0.8	0.3	1.6	19	3.0	142	7.0	722
1.0	1.4	1.8	31	3.5	204	9.0	1,050
1.2	4	2.0	45	4.0	270	11.0	1,490
1.4	9	2.5	87	5.0	416	13.0	2,050

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	28	3	19	22	0	1
2						0	16	2	210	16	0	1
3						0	9	2	148	11	0	1
4						0	7	2	92	6	0	0
5						0	294	1	74	4	0	0
6						0	1,760	1	69	4	0	0
7						0	328	1	96	3	0	0
8						0	65	835	132	2	1	0
9						0	41	824	168	1	1	0
10						3	31	96	239	1	0	0
11						4	22	41	63	1	0	0
12						40	16	112	69	1	0	0
13						16	11	1,080	39	1	0	0
14						9	9	197	92	1	0	0
15						7	9	57	253	1	0	0
16						5	9	34	80	1	0	0
17						4	19	22	70	1	0	0
18						2	28	13	20	1	0	0
19						2	19	11	11	3	0	0
20						2	13	108	9	3	0	0
21						1	10	1,440	7	35	0	0
22						1	8	1,630	6	55	0	0
23						1	8	1,030	4	11	0	0
24						1	11	124	4	7	0	0
25						1	13	55	25	11	0	0
26						1	8	712	6	7	0	0
27						1	7	1,240	4	3	0	0
28						1	6	490	255	16	4	0
29						28	5	92	190	4	3	0
30						186	4	49	54	1	2	0
31						59	-	28	-	0	1	-

Note.- No gage-height record Mar. 21-27, May 6, July 10-18; discharge interpolated.

U. S. GOVERNMENT PRINTING OFFICE

Discharge, in second-feet, of Lightning Creek near McCune, Kans., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0.2	0.2	731	0.6	2	0.1	2
2					0	.5	.1	138	.5	1	.1	1
3					0	.3	.1	53	.4	.9	0	7
4					0	.3	.1	33	.3	.7	0	3
5					0	.2	.1	17	.2	.5	.1	2
6					0	.2	.1	10	.2	.4	.5	1
7					0	.4	.2	7	.4	.2	.2	.6
8					16	.6	.3	5	.3	.1	.1	.3
9					11	44	.2	4	.2	0	4	.2
10					3	18	.5	3	165	0	.9	.1
11					2	7	.6	3	809	0	.6	.1
12					2	4	3	2	191	10	2	.1
13					1	2	3	1	61	16	1	0
14					.8	2	6	.7	31	3	.8	0
15					.6	2	4	.6	18	.7	.6	0
16					.8	1	3	.5	10	.5	.5	0
17					1	1	524	.4	4	.2	6	0
18					3	2	1,340	26	71	.2	63	0
19					7	2	212	278	49	.1	52	0
20					5	1	45	122	11	.2	8	0
21					2	.9	25	36	5	.1	3	0
22					1	.7	20	22	3	.2	1	0
23					.8	.7	16	18	2	22	.7	0
24					.8	.7	9	11	388	98	.4	0
25					.3	.6	7	7	157	17	.2	0
26					.2	.5	9	4	53	5	.1	0
27					.2	.5	7	2	17	2	0	0
28					.3	.4	8	2	8	2	74	0
29					.4	.4	18	1	4	.6	51	0
30					-	.4	84	.9	2	.4	15	0
31					-	.3	-	.7	-	.3	4	-

Note.- Discharge Apr. 19-22 based on constructed gage graph.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1938	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January	0	0	0	0	0
February	0	0	0	0	0
March	375	186	0	12.1	744
April	2,814	1,760	4	93.8	5,580
May	10,332	1,630	1	333	20,490
June	2,508	255	4	83.6	4,970
July	234	55	0	7.5	464
August	12	4	0	.4	24
September	4	1	0	.1	6
Water year 1938-39	16,278	1,760	0	44.6	32,280
October 1939	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	16,278	1,760	0	44.6	32,280
January 1940	0	0	0	0	0
February	59.2	16	0	2.04	117
March	94.8	44	.2	3.06	188
April	2,345.5	1,340	.1	78.2	4,650
May	1,539.8	731	.4	49.7	3,060
June	2,062.1	809	.2	68.7	4,090
July	184.3	98	0	5.95	366
August	289.9	74	0	9.35	575
September	17.4	7	0	.58	34
Water year 1939-40	6,593.0	1,340	0	18.0	13,070

Spring River near Waco, Mo.

Location.- Water-stage recorder, lat. 37°14'45", long. 94°33'55", on line between SE¼ sec. 7 and NE¼ sec. 18, T. 29 N., R. 33 W., at county highway bridge, three-quarters of a mile downstream from Blackberry Creek and 1½ miles east of Waco. Datum of gage is 833.23 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,160 square miles.

Records available.- April 1924 to September 1940.

Average discharge.- 16 years, 812 second-feet.

Extremes.- Maximum discharge during year, 7,700 second-feet July 23 (gage height, 11.46 feet); minimum, 26 second-feet Feb. 26.
1924-40: Maximum discharge, 57,400 second-feet Aug. 17, 1927 (gage height, 28.6 feet, from floodmarks); minimum, 11 second-feet July 24, 1934.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow slightly regulated by small mills above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	53	63	40	40	44	43	1,340	100	144	124	250
2	48	46	72	39	45	60	51	1,300	95	134	114	191
3	54	45	59	40	50	60	64	632	65	131	111	702
4	62	36	41	40	52	35	63	395	102	158	88	517
5	43	48	70	40	43	43	70	320	78	128	80	376
6	48	41	78	40	41	72	104	281	75	121	88	241
7	57	53	74	40	52	68	104	250	1,100	88	78	169
8	52	46	54	40	54	54	67	220	995	80	86	136
9	45	57	42	45	42	50	87	203	618	102	80	f121
10	52	59	58	50	37	39	100	395	652	84	82	f114
11	62	51	46	52	35	43	112	313	876	67	80	97
12	60	57	59	52	42	60	116	220	666	65	86	f114
13	59	42	68	52	48	60	273	206	369	62	116	f95
14	48	66	64	58	58	59	256	191	244	67	97	69
15	51	60	55	40	43	55	230	156	191	51	183	f75
16	47	54	44	40	40	41	203	150	163	63	635	f71
17	58	41	52	40	31	50	396	147	150	63	402	f86
18	52	63	47	35	31	48	527	163	160	51	611	75
19	34	64	68	35	33	52	473	266	134	58	663	65
20	42	45	72	35	34	52	249	391	126	90	347	35
21	50	72	59	35	42	58	175	365	232	86	232	49
22	47	66	45	35	43	66	169	238	194	80	180	53
23	45	74	57	35	60	45	169	183	166	4,450	139	67
24	48	48	63	35	50	48	156	166	1,030	4,860	134	f69
25	52	54	45	35	33	50	146	152	462	1,210	109	f63
26	45	58	43	35	29	54	141	158	278	454	104	f58
27	46	43	86	35	31	60	120	152	191	297	192	f75
28	46	53	76	35	52	58	166	150	150	235	1,790	78
29	58	62	63	40	44	59	122	124	152	194	1,870	53
30	45	62	58	40	-	51	336	116	200	163	768	67
31	59	-	50	40	-	40	-	102	-	136	369	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	1,572	62	34	50.7	0.044	0.05	3,120
November	1,619	74	36	54.0	.047	.05	3,210
December	1,831	86	41	59.1	.051	.06	3,630
Calendar year 1939	145,465	10,700	29	399	.344	4.66	288,500
January	1,253	58	35	40.4	.035	.04	2,490
February	1,235	60	29	42.6	.037	.04	2,450
March	1,634	72	35	52.7	.045	.05	3,240
April	5,288	527	43	176	.152	.17	10,490
May	9,447	1,340	102	305	.263	.30	18,740
June	10,014	1,100	65	334	.288	.32	19,860
July	13,972	4,860	51	451	.389	.45	27,710
August	10,038	1,870	78	324	.279	.32	19,910
September	4,231	702	35	141	.122	.14	8,390
Water year 1939-40	62,134	4,860	29	170	.147	1.99	123,200

Peak discharge.- July 23 (6 p.m.) 7,700 sec.-ft.; July 24 (12:30 p.m.) 5,580 sec.-ft.
f Discharge computed on basis of partly estimated gage heights and weather records.
Note.- Stage-discharge relation affected by ice Jan. 3-10, Jan. 15 to Feb. 3.

Spring River near Quapaw, Okla.

Location.- Water-stage recorder, lat. 36°56', long. 94°45', in center of SW¼ sec. 5, T. 28 N., R. 24 E., at county highway bridge, an eighth of a mile upstream from Rock Creek and 3 miles southeast of Quapaw.

Drainage area.- 2,580 square miles, including that of Rock Creek.

Records available.- July 1939 to September 1940 (including flow of Rock Creek).

Extremes.- 1939: Maximum discharge during period July to September, 4,120 second-feet Aug. 25 (gage height, 8.72 feet); minimum daily, 127 second-feet Aug. 8.
1939-40: Maximum discharge during water year, 8,480 second-feet July 24 (gage height, 11.60 feet), from rating curve extended above 4,500 second-feet on basis of velocity-area studies; minimum daily, 100 second-feet Oct. 23.
Flood of Mar. 13, 1935, reached a stage of about 30 feet, from information furnished by local residents.

Remarks.- Records good except those above 5,000 second-feet, and those for periods of faulty or no gage-height record, which are fair. Flow regulated by Riverton hydroelectric plant 15 miles above station.

Discharge, in second-feet, 1939-40

1939

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	353	284	11	-	562	136	21	323	259	159
2	-	367	204	12	530	438	142	22	379	246	180
3	-	295	229	13	371	484	145	23	630	231	140
4	-	262	133	14	463	293	142	24	1,190	505	154
5	-	249	159	15	311	386	154	25	687	1,420	147
6	-	238	145	16	349	369	167	26	358	452	129
7	-	193	207	17	518	341	138	27	388	228	127
8	-	294	173	18	352	1,270	167	28	446	347	140
9	-	304	140	19	380	645	168	29	386	306	159
10	-	192	177	20	344	478	223	30	350	332	158
								31	265	225	-

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	145	118	206	f152	208	220	152	1,460	180	757	212	544
2	122	154	254	f208	167	238	123	2,750	188	238	237	366
3	159	154	136	f153	190	176	191	1,990	175	420	146	1,170
4	122	138	192	a120	135	234	197	1,330	239	267	154	2,060
5	122	142	215	a120	185	189	200	392	157	284	356	1,050
6	150	120	157	a140	195	192	456	825	298	213	338	807
7	122	140	228	f218	168	275	508	568	525	240	167	374
8	125	156	152	a140	182	245	293	752	1,640	367	140	316
9	163	110	133	a120	251	172	286	486	918	182	252	432
10	207	350	176	f247	135	211	390	616	697	263	241	269
11	174	116	143	f138	123	218	970	767	1,500	158	305	256
12	123	256	206	f199	129	206	695	544	1,320	131	396	359
13	142	102	127	f260	207	295	985	482	739	121	224	243
14	153	140	110	f138	133	153	784	288	436	131	275	195
15	163	161	110	f138	231	175	546	445	432	153	312	217
16	110	189	156	253	139	161	704	271	262	129	1,470	153
17	119	190	114	148	153	195	763	333	313	163	1,860	269
18	151	219	155	f167	133	184	1,780	523	524	188	2,480	211
19	120	309	143	f129	199	264	1,800	672	447	163	1,940	208
20	139	272	125	f127	165	130	858	833	243	129	1,190	166
21	144	114	125	f125	148	110	362	850	586	164	640	164
22	139	129	162	a215	152	208	551	492	541	559	543	151
23	100	184	196	f150	166	172	604	586	367	3,620	545	173
24	147	173	293	f155	343	247	177	246	1,490	7,460	354	269
25	127	302	120	f125	147	130	662	225	1,570	3,690	420	398
26	150	133	217	f118	121	252	544	333	714	825	400	333
27	183	131	159	f174	213	152	222	273	434	366	343	179
28	205	118	183	f137	260	152	312	360	536	426	1,230	176
29	153	116	f222	f200	146	201	1,190	282	413	418	2,570	200
30	204	142	f129	f146	-	119	964	192	410	188	1,860	130
31	116	-	112	172	-	291	-	321	-	281	639	-

a No gage-height record; discharge computed on basis of power-plant records.
f Discharge computed on basis of partial recorder record, readings of outside gage and power-plant records, furnished by the Empire District Electric Co.

Monthly discharge, in second-feet, of Spring River near Quapaw, Okla., 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
July 12-31, 1939	9,020	1,190	265	451	17,890
August	12,664	1,420	192	409	25,120
September	4,926	284	127	164	9,770
The period	-	-	-	-	52,780
October 1939	4,499	207	100	145	8,920
November	5,078	350	102	169	10,070
December	5,156	293	110	166	10,230
Calendar year	-	-	-	-	-
January 1940	5,032	260	118	162	9,980
February	5,144	343	121	177	10,200
March	6,167	295	110	199	12,230
April	18,269	1,800	123	609	36,240
May	20,487	2,750	192	661	40,640
June	18,294	1,640	157	610	36,290
July	22,694	7,460	121	732	45,010
August	22,289	2,570	140	719	44,210
September	11,838	2,060	130	395	23,480
Water year 1939-40	144,947	7,460	100	396	287,500

Turkey Creek at Joplin, Mo.

Location.- Water-stage recorder, lat. 37°06'50", long. 94°31'35", in NW¼NW¼ sec. 34, T. 28 N., R. 33 W., 80 feet downstream from bridge on Lone Elm Road, a quarter of a mile downstream from Joplin Creek, and about 1 mile northwest of Joplin. Datum of gage is 903.98 feet above mean sea level (general adjustment of 1929).

Drainage area.- 33 square miles.

Records available.- July 1932 to January 1940 (discontinued).

Extremes.- Maximum discharge during period, 220 second-feet Oct. 9 (gage height, 3.21 feet); no flow Oct. 25.
1932-40: Maximum discharge, 1,980 second-feet Oct. 6, 1936 (gage height, 9.86 feet), from rating curve extended above 700 second-feet; no flow on many days.

Remarks.- Records poor. Joplin storm sewers divert considerable flow around gage.

Discharge, in second-feet, 1939-40

Day	Oct.	Nov.	Dec.	Jan.	Day	Oct.	Nov.	Dec.	Jan.
1	0.6	0.8	5	0.9	16	0.4	1.7	0.6	-
2	.4	1.1	2.6	.7	17	.1	15	.8	-
3	.6	1.0	1.7	.8	18	.3	17	.5	-
4	1.2	.8	1.6	.8	19	.4	8	.6	-
5	3.0	.6	1.3	1.2	20	.2	2.9	.4	-
6	.8	.9	1.2	-	21	.4	1.7	.5	-
7	1.1	.9	1.1	-	22	.2	1.5	.4	-
8	1.3	.6	1.0	-	23	.4	1.4	24	-
9	14	.6	1.0	-	24	.2	1.2	3.9	-
10	1.2	27	.7	-	25	.1	1.3	2.6	-
11	.5	2.0	1.2	-	26	7	1.1	4.8	-
12	.4	.6	.9	-	27	7	1.2	3.6	-
13	.2	.7	.7	-	28	.4	1.0	1.5	-
14	.2	.7	.7	-	29	.3	1.2	1.0	-
15	.3	.6	.8	.-	30	.6	26	1.0	-
					31	.6	-	.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	44.4	14	0.1	1.43	0.043	0.05	88
November	121.1	27	.8	4.04	.122	.14	240
December	68.6	24	.4	2.21	.067	.08	136
Calendar year 1939	3,894.8	203	.1	10.7	.324	4.41	7,730
January 1-5	4.4	1.2	.7	.88	.027	.005	8.7
The period	-	-	-	-	-	-	473

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Shoal Creek near Joplin, Mo.

Location.- Water-stage recorder, lat. 37°02'05", long. 94°32'30", in NE¼SW¼ sec. 28, T. 27 N., R. 33 W., at Grand Falls hydroelectric plant of Empire District Electric Co., 4 miles south of Joplin and 11 miles downstream from Baynham Branch. Datum of gage is 857.16 feet above mean sea level (general adjustment of 1929).

Drainage area.- 458 square miles.

Records available.- April 1924 to September 1940.

Average discharge.- 16 years, 388 second-feet.

Extremes.- Maximum discharge during year, 1,630 second-feet Aug. 18 (gage height, 4.78 feet); minimum, 9 second-feet Oct. 10 (gage height, 0.82 foot); minimum daily discharge, 39 second-feet Feb. 16.

1924-40: Maximum discharge, 26,900 second-feet Mar. 12, 1935 (gage height, 18.25 feet), from rating curve extended above 9,000 second-feet; minimum, 1.5 second-feet Aug. 17, 1938; minimum gage height, 0.60 foot Aug. 4, 1936; minimum daily discharge, 16 second-feet Aug. 6, 1934.

Remarks.- Records good. Flow regulated by Grand Falls hydroelectric plant.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	67	91	65	62	82	58	513	100	124	47	147
2	66	68	82	45	61	86	71	495	82	115	90	132
3	62	68	70	66	71	61	48	353	82	107	50	393
4	65	65	80	67	50	76	95	310	81	89	45	425
5	65	52	73	59	61	66	89	254	79	80	174	257
6	62	75	58	56	66	71	91	259	139	82	76	218
7	61	64	66	56	52	75	86	226	151	72	91	177
8	60	60	54	59	64	68	85	219	108	71	74	166
9	70	69	74	58	50	69	82	196	87	68	63	152
10	93	75	63	75	42	56	99	273	121	68	87	140
11	78	85	62	69	53	81	131	187	140	56	82	125
12	71	70	59	76	51	77	429	178	162	63	322	112
13	76	73	61	75	50	88	428	94	124	62	148	115
14	64	75	71	61	62	78	303	218	100	54	119	118
15	54	64	47	82	57	74	280	138	116	58	127	88
16	57	70	65	78	39	78	249	130	84	63	596	105
17	69	70	57	71	71	76	200	149	98	82	500	102
18	58	67	55	48	53	73	222	153	110	44	986	92
19	49	121	68	53	78	60	204	160	92	71	538	68
20	61	85	55	57	64	75	188	217	126	66	394	87
21	76	69	58	63	54	66	174	146	103	70	296	89
22	45	71	65	54	54	64	164	135	152	211	258	57
23	56	75	81	64	77	85	159	124	120	138	236	94
24	62	65	75	58	61	51	215	118	166	448	210	98
25	55	40	87	52	61	64	133	137	115	177	178	144
26	60	90	78	48	80	68	148	98	110	132	158	201
27	84	64	68	49	70	52	153	105	98	112	171	93
28	62	66	76	58	65	67	148	110	109	82	251	99
29	81	56	46	60	101	56	232	85	167	85	199	84
30	62	82	79	63	-	88	380	97	171	92	160	84
31	60	-	71	65	-	46	-	92	-	70	164	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	2,015	93	45	65.0	0.142	0.16	4,000
November	2,121	121	40	70.7	.154	.17	4,210
December	2,095	91	46	67.6	.148	.17	4,160
Calendar year 1939	75,072	2,160	21	206	.450	6.10	148,900
January	1,910	82	45	61.6	.134	.15	3,790
February	1,780	101	39	61.4	.134	.14	3,530
March	2,177	88	46	70.2	.153	.18	4,320
April	5,344	429	48	178	.389	.43	10,600
May	5,969	513	85	193	.421	.49	11,840
June	3,493	171	79	116	.253	.28	6,930
July	3,112	448	44	100	.218	.25	6,170
August	6,890	986	45	222	.485	.56	13,670
September	4,262	425	57	142	.310	.35	8,450
Water year 1939-40	41,168	986	39	112	.245	3.33	81,670

Peak discharge.- Aug. 18 (6:30 a.m.) 1,630 sec.-ft.

701604-G U.S. GOVERNMENT PRINTING OFFICE: 1936

Elk River near Tiff City, Mo.

Location.- Water-stage recorder, lat. 36°38', long. 94°35', on line between secs. 21 and 22, T. 22 N., R. 34 W., at bridge on State Highway 43, 1½ miles downstream from Blackfoot Branch, 2 miles upstream from Buffalo Creek, and 3 miles southeast of Tiff City. Datum of gage is 753.6 feet above mean sea level (unadjusted). Prior to Nov. 4, 1939, wire-weight gage at same site and datum.

Drainage area.- 848 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 11,800 second-feet Apr. 12 (gage height, 11.62 feet), from rating curve extended above 5,000 second-feet on basis of velocity-area studies; minimum daily, 24 second-feet Oct. 8.

Maximum stage known, 22.7 feet, from information furnished by local residents, date unknown.

Remarks.- Records good except those prior to Nov. 4 and those for period of no gage-height record, which are fair. Low flow regulated by power plant at Noel, 5 miles above station. Gage read twice daily prior to Nov. 4.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 10				Apr. 11 to Sept. 30					
2.2	26	3.2	188	2.4	48	4.5	645	8.0	3,950
2.3	35	3.6	296	2.7	92	5.0	916	9.0	5,610
2.5	58	4.0	434	3.0	148	5.5	1,250	10.0	7,670
2.8	106			3.5	272	6.0	1,640		
				4.0	434	7.0	2,630		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	85	110	102	79	158	130	1,820	148	361	65	138
2	48	65	121	96	78	155	115	1,440	124	272	63	157
3	48	90	104	82	78	134	193	1,180	138	218	51	344
4	43	65	137	88	60	166	434	978	124	188	56	863
5	48	51	119	a85	94	144	372	828	118	170	193	638
6	48	80	113	a85	83	136	331	720	118	144	127	468
7	43	78	105	a65	80	133	394	622	162	109	98	371
8	24	77	105	a90	78	133	464	554	199	130	66	295
9	82	72	100	a80	75	130	464	550	136	107	66	269
10	75	82	74	83	73	100	461	492	146	102	76	223
11	110	96	110	83	57	147	5,160	420	237	86	98	200
12	43	68	90	86	83	128	7,770	364	252	90	179	182
13	61	107	95	95	82	126	2,760	342	228	77	150	167
14	43	90	88	74	71	129	1,860	301	188	62	144	153
15	61	79	85	121	72	134	1,440	281	166	89	120	120
16	75	84	80	114	69	140	1,140	261	142	73	425	152
17	58	94	60	107	78	114	978	247	159	67	600	123
18	54	121	90	h109	64	158	828	266	152	62	1,290	112
19	46	82	86	h105	120	134	694	266	148	64	834	108
20	56	151	79	h98	119	127	598	313	136	58	541	110
21	48	122	71	h73	117	125	500	258	126	48	412	111
22	47	114	74	h108	118	120	445	236	113	98	326	83
23	66	106	89	h102	122	116	405	241	115	142	278	123
24	52	99	66	h100	116	90	354	226	142	155	241	114
25	53	98	106	99	107	139	316	206	138	152	198	128
26	61	67	105	94	164	124	483	179	126	151	200	184
27	119	104	96	96	155	116	694	200	111	106	177	145
28	112	93	98	91	158	114	670	166	114	72	168	123
29	52	83	94	101	160	110	2,030	161	617	100	206	98
30	119	98	98	91	-	110	2,400	159	484	81	200	124
31	74	-	65	79	-	78	-	161	-	70	177	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,920	110	24	61.9	3,810
November	2,701	151	51	90.0	5,360
December	2,913	137	60	94.0	5,780
Calendar year	-	-	-	-	-
January	2,882	121	65	93.0	5,720
February	2,810	164	57	96.9	5,570
March	3,968	166	78	128	7,870
April	34,883	7,770	115	1,163	69,190
May	14,438	1,820	159	466	28,640
June	5,307	617	111	177	10,530
July	3,704	361	48	119	7,350
August	7,825	1,290	51	252	15,520
September	6,426	863	83	214	12,750
Water year 1939-40	89,777	7,770	24	245	178,100

Peak discharge.- Apr. 12 (4 a.m.) 11,800 sec.-ft.; Apr. 29 (11 p.m.) 2,930 sec.-ft.; Aug. 18 (10 a.m.) 1,910 sec.-ft.

a No gage-height record; discharge computed on basis of records for power plant at Noel and weather records.

h Computed from gage-height graph based on twice-daily staff-gage readings and power-plant records, furnished by the Empire District Electric Co.

Illinois River near Tahlequah, Okla.

Location.- Water-stage recorder, lat. 35°55', long. 94°55', in SE¼ sec. 26, T. 17 N., R. 22 E., at bridge on U. S. Highway 62, 2¼ miles northeast of Tahlequah and 5 miles upstream from Barren Fork. Datum of gage is 664.14 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 933 square miles.

Records available.- December 1935 to September 1940.

Extremes.- Maximum discharge during year, 5,600 second-feet Apr. 12 (gage height, 10.39 feet); minimum, 38 second-feet Oct. 1, 3, 4, (gage height, 6.04 feet).

1935-40: Maximum discharge observed, 39,400 second-feet Feb. 18, 1938 (gage height, 19.67 feet), from rating curve extended above 25,000 second-feet; minimum discharge, 5 second-feet Aug. 31, 1936 (gage height, 5.67 feet).

Maximum stage known, about 26 feet sometime in January 1916. A stage of 22.3 feet was reached in April 1927, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	207	125	128	107	182	170	2,720	138	1,040	74	193
2	40	178	134	125	104	178	178	2,350	131	664	70	163
3	38	156	145	119	110	174	288	1,690	128	496	67	400
4	38	142	152	122	107	162	474	1,290	122	379	72	898
5	42	131	152	116	107	152	369	1,040	119	320	65	1,690
6	44	122	145	119	107	148	345	827	119	265	59	1,050
7	45	116	138	119	107	152	437	686	113	225	54	747
8	47	110	134	116	107	152	512	578	107	193	50	588
9	56	104	128	119	107	134	554	497	107	171	49	476
10	78	104	125	110	107	128	587	437	293	156	50	392
11	73	113	125	113	104	162	1,140	383	336	144	54	326
12	62	104	116	116	101	142	4,450	345	308	133	56	282
13	55	93	122	119	104	152	3,860	314	292	123	56	240
14	60	93	113	122	98	159	2,280	286	254	114	61	215
15	64	96	104	128	93	162	1,640	265	221	111	70	193
16	66	98	107	134	96	166	1,290	240	199	104	79	171
17	66	104	110	138	118	159	1,040	230	182	101	314	160
18	64	101	104	131	142	156	848	249	174	90	516	144
19	60	134	101	h107	152	156	755	265	170	88	595	133
20	60	148	107	h104	162	138	677	249	197	130	442	123
21	60	148	98	h107	191	131	587	249	276	245	314	117
22	60	142	96	h107	212	131	520	230	389	292	240	114
23	57	134	113	h107	221	128	460	216	396	250	197	111
24	55	128	122	h104	230	131	410	212	308	215	163	114
25	55	122	131	h104	216	128	376	203	249	175	141	250
26	96	116	145	h107	203	125	363	191	212	152	127	483
27	181	110	148	h107	212	131	345	182	182	130	120	588
28	736	107	145	h113	216	145	357	174	195	114	114	410
29	554	110	142	113	182	131	745	162	1,270	101	152	320
30	357	119	138	116	-	138	2,290	152	2,860	90	265	260
31	259	-	134	110	-	138	-	145	-	82	220	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,566	736	38	115	7,070
November	3,690	207	93	123	7,320
December	3,899	152	96	126	7,730
Calendar year 1939	157,252	4,240	38	431	311,900
January	3,600	138	104	116	7,140
February	4,123	230	93	142	8,180
March	4,571	182	125	147	9,070
April	28,347	4,450	170	945	56,230
May	17,057	2,720	145	550	33,830
June	10,047	2,860	107	335	19,930
July	6,893	1,040	82	222	13,670
August	4,906	595	49	158	9,730
September	11,351	1,690	111	378	22,510
Water year 1939-40	102,050	4,450	38	279	202,400

h Computed on basis of twice-daily wire-weight gage reading.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Illinois River near Gore, Okla.

Location.- Water-stage recorder, lat. 35°36', long. 95°03', in NE¼NE¼ sec. 22, T. 13 N., R. 21 E., 4 miles upstream from site of former gaging station, 5½ miles northeast of Gore, and 9 miles upstream from mouth. Datum of gage is 482.60 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 1,583 square miles.

Records available.- March 1924 to April 1926, April 1939 to September 1940.

Extremes.- Maximum discharge during year, 17,600 second-feet Aug. 17 (gage height, 10.20 feet); minimum, 47 second-feet Oct. 2, 3 (gage height, 1.20 feet).
1924-26, 1939-40: Maximum discharge recorded, that of Aug. 17, 1940; minimum discharge, 20 second-feet (estimated) Sept. 9-10, 1925.

Remarks.- Records good.

Cooperation.- Result of one discharge measurement furnished by Corps of Engineers, U. S. Army.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Aug. 17

1.2	47	2.2	370	4.5	2,800
1.3	62	2.5	562	5.0	3,600
1.4	80	2.8	790	5.5	4,500
1.6	123	3.2	1,160	6.0	5,500
1.8	184	3.6	1,600	7.0	7,780
2.0	267	4.0	2,100		

Aug. 18 to Sept. 30

1.5	100	2.8	733
1.7	148	3.1	1,000
1.9	205	3.4	1,320
2.1	280	3.8	1,780
2.3	377	4.2	2,320
2.5	505	4.5	2,800

Note.- Same as preceding table above 4.5 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	449	211	215	164	338	207	4,880	263	2,360	151	320
2	48	365	219	211	161	327	223	4,320	245	1,360	140	284
3	48	311	223	207	164	316	249	3,360	223	956	131	260
4	48	267	227	204	168	306	292	2,660	211	734	121	2,020
5	48	241	236	200	168	296	514	2,160	200	598	116	2,400
6	54	219	241	192	168	267	521	1,830	196	501	116	2,240
7	58	207	232	196	164	258	562	1,540	196	424	112	1,600
8	58	192	223	188	161	249	635	1,310	181	365	102	1,270
9	64	177	219	188	158	245	718	1,150	192	316	100	1,000
10	80	181	215	184	158	236	858	1,000	192	277	98	817
11	96	177	204	188	154	227	2,510	884	301	245	143	687
12	98	171	196	196	151	245	4,230	782	443	223	126	586
13	96	177	192	204	151	245	5,920	702	412	204	109	505
14	92	168	184	207	148	241	4,220	642	406	192	102	437
15	86	158	184	204	148	254	3,040	584	370	181	105	389
16	84	161	174	207	145	249	2,440	535	332	168	118	346
17	84	177	168	219	164	254	2,030	488	292	158	8,530	312
18	86	192	168	227	219	254	1,720	494	267	151	2,480	280
19	90	200	161	211	287	245	1,480	481	272	140	1,420	260
20	90	211	154	207	301	241	1,330	462	272	593	1,100	240
21	90	223	151	207	311	232	1,170	488	321	839	826	222
22	90	232	158	207	343	219	1,030	542	412	436	618	216
23	90	227	168	207	376	207	920	598	548	436	478	208
24	90	223	177	192	406	219	815	542	591	400	377	208
25	88	215	188	188	412	219	726	501	501	348	316	219
26	126	204	200	174	406	211	695	430	418	292	272	498
27	249	196	215	177	382	207	673	388	359	254	244	725
28	321	184	223	184	370	204	726	365	348	223	272	792
29	718	177	223	171	370	211	2,440	338	535	200	233	625
30	726	196	223	168	-	215	3,200	311	1,840	177	236	505
31	577	-	223	164	-	215	-	282	-	164	320	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	4,623	726	48	149	0.094	0.11	9,170
November	6,478	449	158	216	.136	.15	12,850
December	6,180	241	151	199	.126	.15	12,260
Calendar year	-	-	-	-	-	-	-
January	6,094	227	164	197	.124	.14	12,090
February	6,878	412	145	237	.150	.16	13,640
March	7,652	338	204	247	.156	.18	15,180
April	46,094	5,920	207	1,536	.970	1.08	91,430
May	35,049	4,880	282	1,131	.714	.82	69,520
June	11,339	1,840	181	378	.239	.27	22,490
July	13,915	2,360	140	449	.284	.33	27,600
August	19,612	8,530	98	633	.400	.46	38,900
September	20,471	2,400	208	682	.431	.48	40,600
Water year 1939-40	184,385	8,530	48	504	.318	4.33	365,700

Canadian River near Taylor Springs, N. Mex.

Location.- Water-stage recorder, lat. 36°17', long. 104°30', in SE¼ sec. 28, T. 24 N., R. 23 E., 2 miles upstream from Chico Creek, 2½ miles downstream from Cimarron River, and 2½ miles south of Taylor Springs.

Records available.- January to October 1940 in reports of Geological Survey. September 1925 to July 1927 in reports of State engineer.

Extremes.- Maximum discharge during period, 7,830 second-feet Aug. 7 (gage height, 10.20 feet), from rating curve extended above 2,000 second-feet on basis of velocity-area studies; minimum daily, 1 second-foot June 27-30, July 1, 2, 24-27.

Remarks.- Records poor.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				5	8	8	4	3	19	1	15	6
2				5	S	S	4	3	13	1	7	5
3				5	9	S	3	3	10	23	10	8
4				5	6	14	3	3	S	13	8	6
5				6	18	23	4	3	6	34	11	4
6					29	22	9	3	6	43	32	3
7				4	20	20	1S	3	4	20	1,830	3
8					19	23	15	67	4	14	309	2
9					b18	23	11	23	17	10	82	2
10				7	b15	22	S	15	3	S	30	356
11				9	14	18	6	10	15	33	25	120
12				6	S	12	6	8	6	141	19	39
13				4	b11	9	6	7	3	50	16	24
14				2	*b19	S	6	S	3	29	12	19
15				3	14	9	5	6	3	21	9	16
16					9	9	5	7	3	12	8	14
17				6	b15	10	7	8	3	9	35	12
18					b16	11	10	11	2	8	495	10
19					b16	11	9	22	2	6	166	8
20					b15	10	S	20	2	3	72	53
21				5	b15	10	5	15	61	2	219	342
22					10	9	4	75	15	2	221	51
23					15	8	4	52	4	2	251	26
24					20	7	4	36	3	1	163	17
25				5	18	7	4	57	2	1	60	12
26				5	15	6	3	78	2	1	22	11
27				6	14	6	3	73	1	1	10	9
28				6	11	5	3	38	1	2	7	8
29				7	10	5	3	577	1	6	5	35
30				S	-	5	3	96	1	11	5	16
31				8	-	4	-	36	-	26	5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October					
November					
December					
Calendar year					
January	166	9	2	5.4	329
February	415	29	6	14.3	823
March	350	23	4	11.3	694
April	183	18	3	6.1	363
May	1,366	577	3	44.1	2,710
June	223	61	1	7.4	442
July	534	141	1	17.2	1,060
August	4,159	1,830	5	134	8,250
September	1,237	356	2	41.2	2,450
The period	-	-	-	-	17,120

Peak discharge.- May 29 (4 a.m.) 2,810 sec.-ft.; Aug. 7 (12:45 a.m.) 2,230 sec.-ft.; Aug. 7 (6:15 a.m.) 7,830 sec.-ft.; Aug. 18 (2:30 p.m.) 2,050 sec.-ft.

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- Discharge for period of missing and fragmentary gage-heights, Jan. 1-24, 27-29, Feb. 2, June 9, 10, 22-26, Aug. 14 computed on basis of available gage-heights, weather records, and records for stations near Roy and Garms.

Canadian River near Roy, N. Mex.

Location.- Water-stage recorder, lat. 35°55', long. 104°21', in E½ sec. 35, T. 20 N., R. 24 E., at bridge on State Highway 120, 8½ miles west of Roy.

Records available.- January to September 1940 in reports of Geological Survey. April 1936 to December 1939 (October to December 1939 gage heights only) in files of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge during period, 4,570 second-feet Aug. 7 (gage height, 4.22 feet); minimum daily discharge 1 second-foot many times.

On June 3, 1937, a discharge of 43,800 second-feet was measured by means of surface floats (gage height, 11.55 feet).

Remarks.- Records fair except those for periods of fragmentary and uncertain or no gage heights, and those for periods of uncertain stage-discharge relation, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				b8	b10	20	a1	a1	76	a1	1	4
2				9	b15	15	a1	a1	45	a1	18	2
3				8	b15	12	a1	a1	25	a1	15	2
4				8	b15	17	a1	a1	15	8	7	2
5				10	b15	16	a1	a1	13	5	4	2
6				8	b15	15	2	a1	8	2	37	2
7				7	b15	19	6	a1	6	2	1,190	2
8				7	b15	20	6	a1	4	8	a600	1
9				8	b15	19	7	17	3	8	a400	1
10				12	16	20	13	37	3	4	a250	1
11				13	16	22	9	22	3	2	a100	228
12				10	15	20	8	16	5	54	a70	135
13				9	b15	20	8	9	4	47	42	45
14				5	*b15	17	6	8	6	53	30	13
15				6	b16	12	4	6	5	22	20	6
16				9	b13	8	4	3	2	a20	19	4
17				b8	10	7	4	2	1	a10	20	4
18				b7	15	6	4	4	1	a9	23	4
19				b6	20	6	3	6	a1	a7	514	4
20				b6	22	7	2	8	a1	a6	206	4
21				b6	19	6	3	23	a1	a3	200	120
22				b6	20	5	4	22	a1	6	262	a170
23				b6	22	4	5	53	a11	2	520	a100
24				b6	23	4	4	60	20	1	a280	37
25				b6	25	6	2	35	9	1	182	30
26				*7	35	4	1	22	3	a1	120	22
27				b7	28	3	1	53	1	a1	60	16
28				b8	22	3	1	63	a1	a1	22	12
29				b8	20	2	a1	71	a1	a1	12	12
30				b9	-	1	a1	206	a1	a1	8	10
31				b9	-	a1	-	130	-	a1	6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October					
November					
December					
Calendar year					
January	242	13	5	7.8	480
February	517	35	10	17.8	1,030
March	337	22	1	10.9	668
April	114	13	1	3.8	226
May	884	206	1	28.5	1,750
June	276	76	1	9.2	547
July	289	54	1	9.3	573
August	5,238	1,190	1	169	10,390
September	995	228	1	33.2	1,970
The period	-	-	-	-	17,630

Peak discharge.- Aug. 7 (2:25 p.m.) 4,570 sec.-ft.; Aug. 19 (5 a.m.) 1,140 sec.-ft.; Aug. 20 (11 p.m.) 570 sec.-ft.; Aug. 23 (5 p.m.) 2,670 sec.-ft.; Sept. 11 (10 a.m.) 510 sec.-ft.; Sept. 21 (8 p.m.) 522 sec.-ft.

*Winter discharge measurement made on this day.

a Gage height missing, incomplete, or uncertain, or relation to discharge curve uncertain; discharge computed on basis of available gage heights, weather records, local inquiry, and records for station near Sanchez.

b Stage-discharge relation affected by ice.

Canadian River near Sanchez, N. Mex.

Location.- Water-stage recorder, lat. 35°38', long. 104°23', about sec. 3, T. 16 N., R. 24 E., at bridge on State Highway 65 known locally as Garms Bridge, a few hundred feet downstream from Logartega Creek, 3 miles east of Sanchez, and 8 miles downstream from Mora River.

Drainage area.- 6,000 square miles.

Records available.- May 1912 to December 1914(at site 2 miles north of Sanchez post office) and April 1939 to September 1940 in reports of Geological Survey. March 1936 to September 1938 in files of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge during year, 3,990 second-feet Aug. 7 (gage height, 3.80 feet); minimum daily, 0.1 second-foot Aug. 2.

1939-40: Maximum discharge, 8,160 second-feet Aug. 1, 1939 (gage height, 5.15 feet); minimum daily, that of Aug. 2, 1940.

Great floods known: 82,700 second-feet June 12, 1913, at former site (gage height, 25.0 feet, probably from floodmarks), from slope-area studies; 48,000 second-feet June 3, 1937 (gage height, 13.35 feet), from unpublished records of Corps of Engineers, U. S. Army.

Remarks.- Records fair except those estimated, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	5.8	18	15	40	30	11	3.0	193	1.3	0.2	31
2	26	5.8	18	15	45	22	9.8	2.0	130	1.1	.1	26
3	22	5.8	20	14	46	22	7.4	1.5	88	26	.6	22
4	20	a6	22	14	45	41	6.6	1.5	57	12	3.7	20
5	20	a6.5	22	14	40	40	7.4	1.8	41	7.4	19	18
6	18	a7	22	13	40	34	13	1.3	26	5.3	80	18
7	18	a7.5	22	13	40	38	18	1.2	16	3.7	617	16
8	22	a8	20	14	40	46	18	1.2	12	1.5	1,720	13
9	37	a8	20	15	40	52	18	a1.2	6.6	.9	795	12
10	48	a8.5	18	16	40	55	16	a1.3	5.3	.3	473	11
11	37	9.1	20	17	40	57	12	1.3	3.5	8.7	221	11
12	30	10	20	17	35	57	16	13	2.7	68	123	200
13	26	10	18	17	35	64	16	10	2.3	52	140	130
14	24	11	18	18	37	62	14	9.1	2.3	52	66	70
15	24	11	18	20	55	55	11	7.0	2.7	59	46	48
16	24	11	18	20	48	48	9.1	4.9	2.0	30	38	33
17	22	12	18	20	46	45	16	3.5	1.5	18	30	22
18	22	12	18	18	37	35	16	3.0	1.0	16	50	16
19	22	11	18	15	35	33	12	2.7	.3	10	205	12
20	18	9.8	18	15	43	33	10	2.7	.2	7.0	436	12
21	14	10	18	15	45	30	9.1	2.7	.4	7.0	379	18
22	12	11	16	15	43	29	7.0	45	234	3.2	235	136
23	12	11	16	15	45	29	6.2	73	240	3.0	386	306
24	7.0	11	15	15	41	27	6.2	57	80	1.2	855	171
25	6.6	11	14	15	43	22	6.2	88	53	.6	324	107
26	6.6	12	13	18	45	20	5.8	73	29	1.8	202	77
27	5.8	14	13	*20	45	18	5.3	75	16	.7	130	59
28	5.8	14	13	20	38	14	4.1	80	8.5	.2	93	48
29	5.3	16	13	20	34	12	4.1	159	4.5	.5	64	38
30	5.8	20	15	22	-	11	3.2	380	2.7	.9	50	40
31	6.2	-	15	25	-	11	-	344	-	.7	40	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	597.1	48	5.3	19.3	1,180
November	305.8	20	5.8	10.2	607
December	547	22	13	17.6	1,080
Calendar year	-	-	-	-	-
January	520	25	13	16.8	1,030
February	1,206	55	34	41.6	2,390
March	1,092	64	11	35.2	2,170
April	314.5	18	3.2	10.5	624
May	1,449.9	380	1.2	46.8	2,880
June	1,261.5	240	.2	42.0	2,500
July	400.0	68	.2	12.9	793
August	7,821.6	1,720	.1	252	15,510
September	1,741	306	11	58.0	3,450
Water year 1939-40	17,256.4	1,720	.1	47.1	34,210

Peak discharge.- Aug. 7 (10 p.m.) 3,990 sec.-ft.; Aug. 10 (8 p.m.) 1,120 sec.-ft.; Aug. 24 (1 a.m.) 1,770 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge based on weather records and records for station near Roy.

Note.- Stage-discharge relation affected by ice Dec. 22-27, Dec. 29 to Jan. 31, Feb. 2-13.

U. S. GOVERNMENT PRINTING OFFICE 1939—O-708017

Canadian River at Logan, N. Mex.

Location.- Water-stage recorder, lat. 35°21', long. 103°26', in sec. 15, T. 13 N., R. 33 E., half a mile south of Logan, three-quarters of a mile upstream from Chicago, Rock Island & Pacific Railroad bridge, 5 miles downstream from Ute Creek, and 5 miles upstream from Tucumcari Creek.

Drainage area.- 11,200 square miles.

Records available.- June 1904 to February 1905, December 1908 to May 1914, and October 1930 to September 1940 in reports of Geological Survey. June 1904 to February 1905, December 1908 to May 1914, and October 1922 to December 1931 in reports of State engineer.

Average discharge.- 14 years (1912-13, 1924-32, 1933-38), prior to construction of Conchas dam, 370 second-feet.

Extremes.- Maximum discharge during year, 10,600 second-feet June 21 (gage height, 7.00 feet); no flow at times.

1930-40: Maximum discharge, about 110,000 second-feet June 3, 1937 (gage height, 18.91 feet), from rating curve extended above 74,000 second-feet by logarithmic plotting; no flow at times.

Maximum stage known, approximately 36.55 feet Sept. 30, 1904, at site three-quarters of a mile downstream (datum of that gage was 3,651.0 feet above mean sea level).

Remarks.- Records poor. Flow regulated by Conchas Dam (capacity, 600,000 acre-feet) 45 miles upstream. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0		1	0		0	24	1	0	4
2	0		0	a1	1	0		0	27	2	0	3
3	0		0		2	0		0	20	2	0	3
4	0		0		6	5		0	12	25	0	2
5	0		0	a4	8	9		0	6	200	0	2
6	0		0		6	50		0	3	42	1,190	a1
7	0		0		14	38		36	1	6	185	a0
8	2		0	a2	14	20		9	0	1	160	0
9	1		0		12	13		16	2	0	180	0
10	0		0		9	9		4	6	0	102	0
11	0		0	4	5	6		1	2	0	82	0
12	0		0	3	4	3		0	1	0	355	0
13	0		0	4	5	2		0	1	34	501	0
14	0		0	3	5	1		0	1	8	277	0
15	0		0	2	3	1		0	0	7	132	0
16	0		0	2	1	1		0	0	1	67	0
17	0		0	2	0	1		0	0	0	52	0
18	0		0	1	1	0		0	0	0	108	0
19	0		0	1	1	0		0	0	0	148	0
20	0		0	1	1	0		0	0	0	80	0
21	0		0	1	1	0		0	1,250	0	139	0
22	0		0	1	0	0		0	427	0	175	0
23	0		0	1	1	0		0	68	0	117	0
24	0		0	1	1	0		28	33	0	136	0
25	0		1	1	2	0		31	17	0	86	0
26	0		1	1	1	0		25	8	0	76	0
27	0		2	2	0	0		25	6	0	a40	0
28	0		5	1	0	0		72	4	0	a30	0
29	0			2	0	0		705	3	0	a20	0
30	0		a3	3	-	0		414	2	0	a15	0
31	0			2	-	0		66	-	0	a10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	3	2	0	0.1	6.0
November	0	0	0	0	0
December	18	5	0	.6	36
Calendar year 1939	44,493	7,830	0	122	88,260
January	62	-	1	2.0	123
February	105	14	0	3.6	208
March	159	50	0	5.1	315
April	0	0	0	0	0
May	1,432	705	0	46.2	2,840
June	1,924	1,250	0	64.1	3,820
July	329	200	0	10.6	653
August	4,463	1,190	0	144	8,850
September	15	4	0	.5	30
Water year 1939-40	8,510	1,250	0	23.3	16,860

a No gage-height record; discharge computed on basis of weather records, recorded range in stage, or interpolated.

Canadian River near Amarillo, Tex.

Location.- Water-stage recorder and wire-weight gage, lat. 35°28'10", long. 101°52'45", at bridge on U. S. Highways 87 and 287 (revised), 2,000 feet downstream from Pitcher Creek, 2.0 miles downstream from Panhandle & Santa Fe Railway bridge, and 19 miles north of Amarillo, Potter County. Datum of gage is 2,989.12 feet above mean sea level (general adjustment of 1929).

Drainage area.- 19,830 square miles.

Records available.- January 1924 to December 1925 and April 1938 to September 1940.

Extremes.- Maximum discharge during year, 26,600 second-feet, Aug. 8 (gage height, 8.36 feet); no flow Aug. 7, 8.

1924-25, 1938-40: Maximum discharge, 48,000 second-feet June 15, 1938 (gage height, 10.50 feet, from floodmark), from rating curve extended above 26,000 second-feet; no flow at times.

Maximum stage known, about 24.0 feet sometime in May 1914, but a higher stage probably occurred during flood of October 1904.

Remarks.- Records poor. Daily discharge published only to show distribution of flow during year. Flow partly regulated by Conchas Reservoir, in New Mexico (capacity at crest of spillway, 400,000 acre-feet, storage began sometime in November 1938).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	2.0	3.6	10	77	2.2	0.6	0.7	498	5.8	0.1	1.6
2	1.5	2.2	3.6	11	50	2.2	.7	1.0	305	.7	.1	.7
3	1.6	2.5	3.6	17	34	2.2	.7	1.1	185	1.1	.2	106
4	.6	2.5	3.2	12	32	3.9	.7	.8	84	3.2	8.1	338
5	.7	2.5	3.2	13	58	5.0	2.0	.8	58	2.8	.7	2,560
6	.7	2.5	2.2	b14	77	4.2	6.0	146	158	3.2	.1	2,480
7	1.3	2.3	2.0	b14	74	3.9	5.0	6,500	94	700	0	36
8	12	2.3	2.3	b15	84	2.8	4.2	147	34	586	3,930	10
9	5.3	2.3	2.5	15	63	4.6	2.5	74	9.2	172	1,690	4.6
10	5.0	2.2	2.8	10	53	3.2	2.5	165	1,000	60	709	3.2
11	4.2	2.5	3.9	16	40	3.2	3.6	165	373	22	1,770	2.3
12	.8	2.5	4.6	36	27	2.3	2.8	80	114	10	1,160	2.0
13	.8	2.3	2.5	43	17	2.3	3.2	58	62	3.9	196	1.8
14	.7	2.2	1.8	43	26	2.0	3.6	45	23	3.6	84	1.6
15	1.0	2.3	2.0	24	27	1.5	2.2	32	13	3.6	234	7.7
16	2.2	2.2	2.5	32	24	1.1	2.2	15	3.9	3.9	244	4.6
17	2.5	2.2	3.2	10	19	.7	1.6	8.4	2.5	1.3	598	2.5
18	2.0	2.2	2.5	b.8	19	.6	1.0	14	.7	.7	279	1.5
19	1.1	2.5	1.8	b.8	15	.6	1.0	6.0	1.0	.4	395	.8
20	1.3	2.8	b1.8	b.8	13	.7	1.0	2.5	1.1	.3	288	.6
21	1.3	3.2	b1.8	b.8	15	.7	.7	5.3	1.1	.2	178	.6
22	1.1	3.9	b1.8	b.8	14	.7	.7	5.0	.4	70	94	1.0
23	.8	4.6	b1.8	b.8	11	1.0	.8	14	110	3.6	70	1.6
24	.7	4.2	b1.8	b.8	10	.8	.6	14	526	1.1	58	1.6
25	.7	3.9	b1.8	b.8	8.4	.8	.4	12	279	.6	32	1.6
26	.6	4.2	b1.8	b.8	7.6	1.1	.4	8.4	72	.3	15	1.8
27	.6	4.6	b1.8	.8	5.0	.7	.5	783	27	.2	14	1.5
28	.6	4.2	b1.8	2.3	3.9	.8	.7	5,220	24	9.8	7.6	1.8
29	.7	3.9	b1.8	3.9	3.6	.7	1.8	675	12	1.0	5.3	2.0
30	1.0	3.6	b1.8	34	-	.7	1.3	340	11	.1	4.6	1.8
31	1.3	-	10	98	-	.6	-	2,510	-	.1	3.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	55.5	12	0.6	1.79	110
November	87.3	4.6	2.0	2.91	173
December	83.6	10	1.8	2.70	166
Calendar year 1939	122,619.2	14,800	.2	336	243,600
January	481.2	98	.8	15.5	954
February	907.5	84	3.6	31.3	1,800
March	57.8	5.0	.6	1.86	115
April	55.0	6.0	.4	1.83	109
May	17,049.0	6,500	.7	550	33,820
June	4,081.9	1,000	.4	136	8,100
July	1,671.5	700	.1	53.9	3,320
August	12,068.4	3,930	0	389	23,940
September	5,580.8	2,560	.6	186	11,070
Water year 1939-40	42,179.5	6,500	0	115	83,680

Peak discharge.- May 6 (12 p.m.) 23,600 sec.-ft.; May 7 (2 a.m.) 24,600 sec.-ft.; Aug. 8 (12 m.) 26,600 sec.-ft.

b Stage-discharge relation affected by ice.

Canadian River near Canadian, Tex.

Location.- Water-stage recorder and wire-weight gage, lat. 35°55', long. 100°22', at bridge on U. S. Highway 60, 220 feet below Panhandle & Santa Fe Railway bridge, 1.2 miles downstream from Red Deer Creek, and 1.6 miles northeast of Canadian, Hemphill County. Datum of gage is 2,301.50 feet above mean sea level (general adjustment of 1929).

Drainage area.- 23,280 square miles.

Records available.- July 1924 to August 1925 (gage heights only), April 1938 to September 1940.

Extremes.- Maximum discharge during year, 8,790 second-feet Sept. 24 (gage height, 6.42 feet, from graph based on gage readings); maximum gage height, 6.50 feet Sept. 2; minimum daily discharge, 0.2 second-foot July 29 to Aug. 2 (based on discharge measurement July 29).

1924-25, 1938-40: Maximum discharge, 71,000 second-feet June 22, 1939 (gage height, 8.00 feet), from rating curves for two channels extended above 4,000 and 11,000 second-feet respectively; no flow at times.

Maximum stage known, about 20 feet, Oct. 2, 1904.

Remarks.- Records poor. Daily discharge published only to show distribution of flow during year. Flow partly regulated by Conchas Reservoir in New Mexico (capacity at spillway crest, 400,000 acre-feet, storage began sometime in November 1938). No large diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.S	1.6	0.S	b1.6	222	30	0.S	5.4	268	1.6	0.2	0.8
2	.S	.8	.S	b1.6	251	24	.S	2.4	756	.S	.2	588
3	.8	2.4	.8	b1.6	295	22	.S	1.6	350	.8	3.2	643
4	.8	3.2	1.6	b1.6	389	19	.8	.8	195	1.6	5.6	35
5	.S	4.0	2.4	b1.6	552	23	.8	.S	122	4.0	6.4	26
6	.8	4.0	3.2	b1.6	552	22	2.4	.S	115	.S	S	46
7	.8	2.4	1.6	b.8	498	20	2.4	15	570	.8	7.2	260
8	3.2	2.4	1.6	b.8	231	12	1.6	909	231	.S	76	290
9	1.6	4.0	1.6	b.8	108	7.2	1.6	993	87	.8	20	48
10	1.6	2.4	1.6	3.2	150	4.0	5.6	66	603	.8	1,040	22
11	.8	2.4	.8	5.6	168	4.8	20	23	348	.8	787	12
12	1.6	2.4	.8	6.4	129	4.8	5.6	9.2	828	.8	606	1.6
13	2.4	2.4	.8	6.4	168	4.8	4.0	1.6	363	.8	1,240	.8
14	3.2	1.6	.8	6.4	159	4.0	1.6	1.6	240	.8	624	.8
15	2.4	1.6	1.6	9.2	122	2.4	.8	2.4	150	1.6	389	.8
16	1.6	.8	1.6	15	94	2.4	1.6	22	53	.8	582	.8
17	1.6	.8	1.6	b1.0	76	2.4	1.6	70	14	.8	301	.8
18	.8	.8	.8	b1.0	53	2.4	2.4	258	4.0	1.6	1,120	.8
19	.8	.8	1.6	b1.0	76	2.4	2.4	66	2.4	3.2	166	.8
20	.8	.8	2.4	b1.0	264	1.6	2.4	23	1.6	3.2	142	.8
21	2.4	.8	1.6	b1.0	396	.8	2.4	8.0	5.7	5.6	62	1.6
22	2.4	.8	1.6	b1.0	222	1.2	.8	.8	485	4.0	28	4.8
23	2.4	.8	1.6	b1.0	213	1.6	.8	20	11	452	18	6.4
24	1.6	.8	b1.6	b1.0	186	.8	1.6	29	2.4	18	14	1,980
25	.8	.8	b1.6	b1.0	94	1.6	1.6	10	3.2	8.0	1.6	259
26	.8	.8	b1.6	b1.0	71	3.2	.8	.8	1.6	7.2	106	76
27	.8	1.6	b1.6	b1.0	58	3.2	.S	2.4	.4	5.6	.8	22
28	.8	2.4	b1.6	16	62	.8	9.2	143	.4	2.4	1.6	16
29	1.6	2.4	b1.6	16	35	1.6	6.4	1,110	.4	.2	1.6	12
30	1.6	2.4	b1.6	53	-	.8	5.6	1,590	.4	.2	2.4	1.6
31	1.6	-	b1.6	143	-	.8	-	559	-	.2	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	44.8	3.2	0.8	1.45	89
November	55.2	4.0	.8	1.84	109
December	46.4	3.2	.8	1.50	92
Calendar year 1939	205,607.5	23,100	.3	563	407,800
January	303.2	143	.8	9.78	601
February	5,894	552	35	203	11,690
March	231.6	30	.8	7.47	459
April	90.0	20	.8	3.00	179
May	5,944.6	1,590	.8	192	11,790
June	5,811.5	828	.4	194	11,530
July	530.6	452	.2	17.1	1,050
August	7,370.6	1,240	.2	238	14,620
September	4,358.2	1,980	.8	145	8,640
Water year 1939-40	30,680.7	1,980	.2	83.8	60,850

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Canadian River near Newcastle, Okla.

Location.- Water-stage recorder and wire-weight gage, lat. 35°18', long. 97°36', in NW¼ NW¼ sec. 35, T. 10 N., R. 4 W., at bridge on U. S. Highway 62, 4 miles north of Newcastle and 9 miles downstream from Worley Creek. Datum of gage is 1,146.75 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Prior to Jan. 31, 1939, wire-weight gage only at same site and datum.

Drainage area.- 26,600 square miles.

Records available.- October 1938 to September 1940.

Extremes.- 1938-39: Maximum gage height, 6.65 feet June 24 (discharge not determined); no flow at times.
1939-40: Maximum discharge during year, 5,300 second-feet July 3 (gage height, 4.57 feet); no flow at times.
Maximum stage known, 18.5 feet Oct. 3, 1904, from information furnished by State Highway Department.

Remarks.- Monthly records for 1939 poor; daily records not sufficiently accurate for publication. Records for 1940 fair except those for periods of partly estimated gage-height record, which are poor. Water-stage recorder record fragmentary owing to shifts in the low-water channel. Discharge for periods of no recorder record computed on basis of at least once-daily readings of wire-weight gage.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0				0	89	0	56	3	184	0	0
2	0				0	68	0	42	0	1,460	0	0
3	0				0	54	0	20	0	2,760	0	0
4	0				f20	45	0	11	0	1,520	0	f12
5	0				43	37	0	4	0	373	0	959
6	0				35	30	0	0	f92	156	0	160
7	0				40	18	f1	0	93	a100	0	66
8	0				40	10	0	f5	231	44	0	26
9	f45				18	6	0	7	134	25	1	12
10	3				19	4	0	8	262	10	0	8
11	0				136	3	224	13	356	2	0	18
12	0				378	2	1,520	9	110	838	0	8
13	0				300	1	451	d4	78	137	0	2
14	0				176	0	140	0	61	78	0	1
15	0				113	0	59	0	43	30	f22	1
16	0				133	0	33	f2	95	4	2	0
17	0				252	0	49	2	167	2	1	0
18	0				216	0	23	42	175	0	1	0
19	0				180	0	10	67	87	0	0	0
20	0				196	0	d8	836	59	f139	f14	0
21	0				160	0	d6	267	33	125	26	0
22	0				119	0	d4	239	17	1	13	0
23	0				122	0	d2	122	16	0	3	0
24	0				134	0	0	152	74	0	18	1
25	0				245	0	0	154	28	0	30	0
26	0				309	0	0	85	6	0	15	0
27	0				335	0	0	63	0	0	2	0
28	0				216	0	f17	45	f8	0	0	0
29	0				156	0	102	26	16	0	0	0
30	0				-	0	129	f29	8	0	0	-
31	0				-	0	-	22	-	0	0	-

a No gage-height record; discharge interpolated.
d Gage readings doubtful; discharge interpolated.
f Fluctuations in stage not fully defined by gage readings; discharge computed from partly estimated gage-height graph.

Monthly discharge, in second-feet, of Canadian River near Newcastle, Okla., 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1938	-	-	-	1,152	70,860
November	-	-	-	212	12,590
December	-	-	-	10.4	641
Calendar year	-	-	-	-	-
January 1939	-	-	-	563	34,590
February	-	-	-	172	9,560
March	-	-	-	50.0	3,070
April	-	-	-	1,232	76,290
May	-	-	-	308	18,930
June	-	-	-	2,899	172,500
July	-	-	-	1,822	112,000
August	-	-	-	1,233	75,820
September	-	-	-	.3	16
Water year 1938-39	-	-	-	811	586,900
October 1939	48	45	0	1.5	95
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	-	-	-	695	502,900
January 1940	0	0	0	0	0
February	4,091	378	0	141	8,110
March	367	89	0	11.8	728
April	2,778	1,520	0	92.6	5,510
May	2,332	836	0	75.2	4,630
June	2,252	356	0	75.1	4,470
July	7,988	2,760	0	258	15,840
August	148	30	0	4.8	294
September	1,274	959	0	42.5	2,530
Water year 1939-40	21,278	2,760	0	58.1	42,210

Canadian River at Calvin, Okla.

Location.- Wire-weight gage, lat. 34°58', long. 96°14', in NE¼SW¼ sec. 22, T. 6 N., R. 10 E., at bridge on U. S. Highway 75, half a mile northeast of Calvin and 2½ miles upstream from Shawnee Creek. Datum of gage is 685.73 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Former gage at railroad bridge three-quarters of a mile upstream and at 2.00 feet higher datum.

Drainage area.- 28,700 square miles.

Records available.- January 1905 to December 1908 at site three-quarters of a mile upstream (gage heights only except for period July 1905 to December 1906), October 1938 to September 1940. Gage-height records at former site from 1904 to 1934 and subsequently at present site are contained in reports of U. S. Weather Bureau.

Extremes.- 1938-39: Maximum discharge during year, 41,900 second-feet July 3 (gage height, 8.8 feet, from graph based on gage readings), from rating curve extended above 10,000 second-feet on basis of previous rating curve; no flow at times in September.

1939-40: Maximum discharge during year, 28,400 second-feet July 2 (gage height, 8.82 feet, from reading at flood crest); no flow Oct. 1-8.

Flood of Aug. 7, 1906, reached a stage of 21.0 feet, site and datum then in use, from floodmarks.

Remarks.- Monthly records for 1939 poor; daily records not sufficiently accurate for publication. Records for 1940 fair except those for periods of partly estimated gage heights, which are poor. Gage read twice daily.

Cooperation.- Results of eight discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, 1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	15	51	15	19	302	9	380	137	268	74	74
2	0	9	39	14	17	295	10	251	102	5,930	63	56
3	0	8	42	14	36	204	12	134	78	17,900	52	316
4	0	6	31	16	36	161	129	97	60	15,900	47	305
5	0	5	20	12	34	132	161	84	50	7,600	39	1,990
6	0	4	15	13	42	109	187	70	46	7,940	38	1,010
7	0	5	14	14	39	84	850	51	36	3,580	33	716
8	0	5	12	18	35	76	745	51	29	820	27	550
9	0	32	12	17	29	53	355	76	34	550	26	356
10	8	30	12	22	26	44	197	82	63	404	27	214
11	12	28	13	32	23	42	832	78	856	310	25	150
12	15	18	14	38	21	32	1,420	76	695	2,190	21	111
13	19	14	12	36	19	25	762	56	582	2,770	20	83
14	24	16	12	31	15	25	693	29	520	1,340	19	68
15	16	14	10	25	14	23	815	23	545	683	19	56
16	10	22	9	20	48	20	451	31	625	476	f1,750	48
17	7	31	9	*20	256	14	1,640	53	3,630	310	7,060	42
18	3	32	8	*18	348	15	302	124	1,420	248	f1,700	37
19	2	26	8	b15	482	16	197	950	1,420	184	f1,940	35
20	2	22	7	12	482	14	158	420	850	f3,440	640	33
21	2	19	8	11	318	14	127	262	508	10,400	338	36
22	2	16	9	10	200	19	95	f4,160	310	3,800	199	39
23	2	13	28	*11	187	14	76	3,060	240	1,320	131	36
24	1	12	35	9	190	11	56	1,240	f1,590	1,490	89	36
25	1	10	40	9	184	12	51	f2,000	f2,150	3,020	83	30
26	51	8	61	9	174	11	d40	610	610	1,280	65	28
27	106	8	40	8	158	10	d35	520	355	523	55	24
28	88	8	25	8	152	8	f1,950	798	224	261	60	23
29	68	14	19	8	146	8	2,250	570	174	177	51	19
30	56	50	13	10	-	9	1,010	262	180	104	56	19
31	29	-	15	12	-	10	-	180	-	85	80	-

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Gage readings doubtful; discharge estimated.
f Fluctuation in stage not fully defined by gage readings; discharge computed from partly estimated gage-height graph.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog al Survey

Monthly discharge, in second-feet, of Canadian River at Calvin, Okla., 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1938	-	-	-	934	57,400
November	-	-	-	180	10,720
December	-	-	-	27.0	1,660
Calendar year	-	-	-	-	-
January	-	-	-	801	49,240
February	-	-	-	290	16,130
March	-	-	-	69.8	4,290
April	-	-	-	1,256	74,740
May	-	-	-	470	28,900
June	-	-	-	3,272	194,700
July	-	-	-	2,679	164,700
August	-	-	-	1,370	84,230
September	-	-	-	13.5	805
Water year 1938-39	-	-	-	950	687,500
October 1939	524	106	0	16.9	1,040
November	500	50	4	16.7	992
December	643	61	7	20.7	1,280
Calendar year 1939	-	-	-	858	621,000
January 1940	507	38	8	16.4	1,010
February	3,730	482	14	129	7,400
March	1,812	302	8	58.5	3,590
April	15,615	2,250	9	520	30,970
May	16,828	4,160	23	543	33,380
June	18,119	3,630	29	604	35,940
July	95,305	17,900	85	3,074	189,000
August	14,827	7,060	19	478	29,410
September	6,540	1,990	19	218	12,970
Water year 1939-40	174,950	17,900	0	478	347,000

Canadian River near Whitefield, Okla.

Location.- Water-stage recorder and wire-weight gage, lat. 35°17', long. 95°13', near center of sec. 5, T. 9 N., R. 20 E., at Midland Valley Railroad bridge, 2½ miles northeast of Whitefield, 3½ miles upstream from Snake Creek, and about 20 miles upstream from mouth. Datum of gage is 475.36 feet above mean sea level (general adjustment of 1929).

Drainage area.- 47,370 square miles.

Records available.- July 1938 to September 1940.

Extremes.- Maximum discharge during year, 31,400 second-feet Aug. 18 (gage height, 12.30 feet); minimum, 65 second-feet Apr. 2.
1938-40: Maximum discharge, 58,800 second-feet July 3, 1939 (gage height, 13.0 feet); minimum, that of Apr. 2, 1940.

Remarks.- Records fair except those for period of ice effect, which are poor.

Cooperation.- Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	215	148	115	123	283	67	8,570	719	2,220	664	863
2	79	186	146	108	125	269	66	4,840	557	1,460	523	1,320
3	80	154	138	106	133	302	70	3,840	432	8,900	432	1,660
4	80	134	148	b106	134	332	67	3,300	373	22,900	385	2,160
5	80	121	152	b100	148	299	75	2,720	308	16,500	350	14,900
6	79	118	148	b100	*154	266	217	1,980	266	13,200	332	13,900
7	77	117	148	b98	156	239	1,690	1,100	247	10,700	423	10,400
8	72	123	138	b98	158	203	4,310	726	244	7,000	311	7,000
9	90	121	129	*b99	152	184	5,030	593	1,300	3,990	289	5,840
10	138	140	121	154	148	171	3,000	506	2,660	2,620	272	5,420
11	108	126	115	163	141	163	6,450	451	3,420	1,760	250	5,220
12	97	115	110	158	138	148	13,200	520	4,310	1,730	237	5,220
13	95	110	106	148	138	140	12,800	847	4,150	3,040	224	5,030
14	95	109	103	143	129	133	8,310	644	2,260	5,220	215	4,840
15	103	114	99	141	125	121	4,370	605	1,630	2,660	227	3,840
16	104	115	96	145	125	112	3,990	485	1,400	1,660	220	2,280
17	102	133	92	141	152	108	3,170	419	2,400	1,080	6,980	1,100
18	95	140	91	b105	154	103	3,170	724	7,240	792	21,500	719
19	94	140	88	b84	321	100	2,720	2,560	5,220	712	12,400	523
20	99	134	*87	b80	501	94	2,130	5,360	3,300	1,240	7,760	441
21	96	126	87	b78	612	90	1,450	4,800	2,420	9,590	3,840	377
22	90	123	90	b77	664	90	989	2,240	1,760	17,500	2,720	335
23	88	118	110	b77	540	87	785	6,120	1,930	11,200	2,240	318
24	86	115	112	b78	485	100	618	5,640	1,840	5,830	1,930	302
25	83	114	112	b79	441	94	501	3,570	1,360	3,420	1,400	423
26	142	[illegible]		*b83	437	86	496	3,280	1,140	5,560	904	274
27	217		118	[illegible]	406	85	490	1,760	1,880	3,570	705	247
28	168	110	123	b93	343	85	456	1,410	1,250	2,280	644	232
29	[illegible]	118	131	b100	308	77	6,810	1,660	1,040	1,730	563	227
30	[illegible]	140	133	b107	-	75	11,800	1,720	1,590	1,270	605	212
31	[illegible]	-	125	b115	-	75	-	1,040	-	863	575	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,319	227	72	107	6,580
November	3,859	215	109	129	7,650
December	3,659	152	87	118	7,260
Calendar year 1939	602,805	40,400	72	1,652	1,196,000
January	3,367	163	77	109	6,680
February	7,591	664	123	262	15,060
March	4,714	332	75	152	9,350
April	99,297	13,200	66	3,310	197,000
May	74,030	8,570	419	2,388	146,800
June	58,646	7,240	244	1,955	116,300
July	172,097	22,800	712	5,552	341,300
August	70,120	21,500	215	2,262	139,100
September	95,623	14,900	212	3,187	189,700
Water year 1939-40	596,322	22,800	66	1,629	1,183,000

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Discharge for periods of no recorder record, Oct. 1 to Apr. 11, Apr. 15-28, May 2 to July 2, July 24 to Aug. 17, Aug. 26 to Sept. 1, Sept. 16-18, computed from graph based on twice-daily wire-weight gage readings.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-182002

Vermejo River near Dawson, N. Mex.

Location.- Water-stage recorder, lat. 36°42', long. 104°47', about T. 28 N., R. 20 E., in Maxwell grant, 2¼ miles north of Dawson.

Drainage area.- 250 square miles.

Records available.- October 1930 to September 1940 in reports of Geological Survey. October 1915 to May 1923, and February 1927 to December 1931 in reports of State engineer.

Average discharge.- 16 years (1916-17, 1919-20, 1921-22, 1927-40), 17.1 second-feet.

Extremes.- Maximum gage height during year, 11.88 feet about 8 p.m., Aug. 6, from high-water marks in gage well (discharge not determined); minimum daily discharge, 0.2 second-foot Apr. 2 and 3.
1930-40: Maximum gage height, that of Aug. 6, 1940 (discharge, not determined); no flow at times.

Remarks.- Records for October to July fair except those for periods of missing or incomplete gage heights and those for August and September, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	4.2	3.0	0.6	5.8	8.0	0.3	9.8	16	7.6	37	19
2	1.3	4.5	3.2	.8	5.1	8.0	.2	8.5	14	9.8	19	13
3	.9	3.2	2.6	2.1	5.1	7.2	.2	8.5	14	35	15	13
4	.6	3.2	2.6	3.2	3.8	8.9	.3	9.8	13	26	13	8.0
5	.6	4.2	3.1	3.5	4.2	12	.6	10	24	26	13	4.8
6	.5	4.2	2.7	3.2	3.5	7.6	2.1	11	16	32	2,000	3.2
7	1.1	3.5	2.6	1.9	3.8	5.1	2.6	14	14	13	200	2.3
8	4.2	3.5	3.0	1.5	4.8	5.4	1.8	14	13	9.8	50	2.6
9	5.8	4.2	3.5	2.0	3.2	7.2	2.1	16	12	8.9	10	8.1
10	8.0	4.5	4.5	2.9	3.5	6.7	1.3	16	12	8.0	10	150
11	5.4	4.2	3.5	3.8	4.5	6.7	1.3	14	12	6.3	10	50
12	3.8	3.6	3.6	4.2	2.0	5.8	1.1	18	11	5.1	12	20
13	3.5	3.3	1.6	3.5	3.2	5.4	1.1	19	13	5.1	11	10
14	3.5	2.7	2.0	2.3	3.8	2.6	1.3	18	13	6.7	10	
15	3.8	2.1	2.0	1.8	3.8	3.8	1.8	18	12	67	10	
16	3.8	2.2	1.8	2.0	4.2	5.1	3.5	16	12	30	14	
17	3.5	2.0	3.7	2.6	3.2	5.8	6.7	19	12	16	15	
18	4.2	2.2	3.1	2.1	2.6	5.8	6.7	29	9.4	12	263	
19	4.5	2.0	1.5	2.1	3.2	5.8	6.7	41	8.9	12	98	5
20	4.5	2.1	1.8	1.8	3.5	5.8	6.3	36	9.4	10	85	
21	4.8	2.3	1.1	1.8	3.2	5.1	6.3	30	8.0	31	55	
22	4.8	2.2	1.2	1.8	4.2	4.8	7.2	32	8.9	64	34	
23	4.8	2.5	1.7	1.8	8.0	3.8	7.6	30	8.0	15	40	
24	5.1	2.5	2.0	1.9	10	3.2	8.0	28	10	8.9	33	
25	5.1	1.5	2.0	2.0	16	2.9	8.0	26	12	5.4		
26	5.1	1.5	1.6	2.0	13	2.9	8.9	29	9.8	5.1		2.3
27	4.8	4.8	.9	2.1	9.8	2.0	10	26	9.8	8.9	30	4.5
28	4.8	4.5	.5	2.6	8.9	1.4	12	24	10	4.8		6.7
29	4.8	2.6	1.1	3.2	7.6	1.1	14	21	9.4	6.7		6.3
30	3.5	5.1	1.1	3.8	-	.6	12	22	8.9	14		7.6
31	4.5	-	.8	5.4	-	.5	-	18	-	46	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	117.0	8.0	0.5	3.77	232
November	95.3	5.1	1.5	3.18	189
December	69.4	4.5	.5	2.24	138
Calendar year 1939	3,799.4	116	.5	10.4	7,530
January	76.3	5.4	.6	2.46	151
February	157.5	16	2.0	5.43	312
March	157.0	12	.5	5.06	311
April	142.0	14	.2	4.73	282
May	631.6	41	8.5	20.4	1,250
June	355.5	24	8.0	11.8	705
July	556.1	67	4.8	17.9	1,100
August	3,265	2,000	10	105	6,480
September	391.4	150	2.3	13.0	776
Water year 1939-40	6,014.1	2,000	.2	16.4	11,930

Note.- Gage-height record missing or incomplete Nov. 13-26, 29, Dec. 1-9, 11-24, 28, Jan. 2, 7,8, 23-25, July 23, Aug. 6-16, 25-30, Sept. 11-25; discharge computed on basis of gage heights, weather records, and records for Rayado River at Sauble ranch, near Cimarron and Colmor intake canal near Ocate.

U. S. GOVERNMENT PRINTING OFFICE 1936—O-192040

Cieneguilla Creek near Eagle Nest. N. Mex.

Location.- Water-stage recorder lat. 36°30', long. 105°14', in Maxwell grant, a quarter of a mile below Schoolhouse Draw, about 3,500 feet upstream from high-water line of Eagle Nest Reservoir, and 6 miles south of Eagle Nest, Colfax County.

Records available.- October 1930 to September 1940 in reports of Geological Survey. April 1928 to December 1931 in reports of State engineer.

Extremes.- Maximum discharge during year, 174 second-feet Aug. 21 (gage height, 3.73 feet); minimum daily, 0.2 second-foot July 2.
1930-40: Maximum discharge, 310 second-feet Aug. 23, 1935 (gage height, 4.65 feet) from rating curve extended above 160 second-feet by logarithmic plotting; no flow at times.

Remarks.- Records fair except those for periods of ice effect, and those for period of no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.9				-		7.7	3.2	0.5	2.5	2.5
2	1.1	1.9				-	b 9	6.4	2.7	.2	2.4	2.5
3	.7	1.8				-		4.8	3.2	.4	3.4	3.6
4	.9	1.9				-	9.4	4.6	2.4	.6	6.0	2.7
5	.9	2.1				-	9.4	4.8	2.4	.5	2.7	2.4
6	.9	2.4				-	7.7	4.6	2.1	.9	3.6	2.2
7	.9	2.4				-	8.0	4.3	1.8	.9	4.8	2.1
8	2.1	2.2	b2.0		*2.3	-	7.4	7.4	1.7	.7	2.4	1.8
9	2.5	2.5				-	6.7	9.4	1.5	.8	1.7	1.7
10	1.9	3.4				-	6.7	7.0	1.5	.9	1.4	1.8
11	1.5	2.7				-	8.0	7.4	1.4	.9	2.4	2.5
12	1.5	2.5				-	6.4	7.4	1.4	1.1	2.5	2.1
13	1.5	2.4				-	6.1	7.0	1.4	1.2	3.2	1.8
14	1.5	2.1	(*)			-	7.4	6.1	1.2	2.1	1.9	1.8
15	1.7	2.1	-			-	7.7	4.8	1.0	1.4	1.9	1.7
16	1.7	b2.0	-			b 5.5	a7.0	3.6	.9	.7	1.9	1.5
17	1.7	b2.0	-			b 5.5	a10	4.8	.9	.5	1.7	1.7
18	1.8		-			b 6	15	8.9	.6	.5	1.9	2.1
19	1.8		-			*b 6	18	10	.6	.6	11	2.2
20	1.8		-			*b 20	19	7.4	.5	.9	8.6	1.9
21	1.8		-			b25	16	5.8	.6	1.2	32	3.2
22	1.8	b2.0	-			30	12	11	.8	1.8	7.6	3.2
23	1.8		-			23	10	8.9	1.1	2.1	4.1	2.2
24	1.8		-			21	9.8	7.0	1.1	1.4	3.9	1.9
25	1.8		-			21	10	7.0	.8	.9	3.2	2.2
26	2.1		-			16	10	7.7	.6	.6	2.4	2.2
27	2.2		-			14	9.8	6.7	.5	.6	2.4	2.1
28	1.8		-			12	9.8	4.6	.6	.6	2.1	1.7
29	1.9	b2.5	-			9.8	11	4.1	.7	.8	1.9	1.7
30	1.8		-			*11	9.4	3.9	.6	8.1	2.7	1.8
31	1.8	-	-			b 10	-	3.6	-	2.2	2.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	50.5	2.5	0.7	1.63	100
November	65.8	3.4	-	2.19	131
December 1-14	28.0	-	-	2.00	56
Calendar year	-	-	-	-	-
January	-	-	-	-	-
February	-	-	-	-	-
March 16-31	235.8	30	5.5	14.7	468
April	294.7	19	6.1	9.82	585
May	198.7	11	3.6	6.41	394
June	39.8	3.2	.5	1.33	79
July	36.6	8.1	.2	1.18	73
August	132.8	32	1.4	4.28	263
September	64.8	3.6	1.5	2.16	129
Water year	-	-	-	-	-

Peak discharge.- July 30 (3 p.m.) 73 sec.-ft.; Aug. 3 (11 p.m.) 32 sec.-ft.; Aug. 19 (6 p.m.) 90 sec.-ft.; Aug. 21 (5 p.m.) 174 sec.-ft.
*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather record and discharge measurements.
b Stage-discharge relation affected by ice.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-162002

Cimarron River at Ute Park, N. Mex.

Location.- Water-stage recorder, lat. 36°34', long. 105°04', in Maxwell grant, half a mile downstream from Ute Creek and about 1 mile east of post office at Ute Park, Colfax County.

Drainage area.- 235 square miles.

Records available.- July 1907 to December 1914 and October 1930 to September 1938 in reports of Geological Survey. July 1907 to December 1931 in reports of State engineer.

Average discharge.- 21 years (1918-25, 1926-40), since completion of Eagle Nest Dam 28.0 second-feet.

Extremes.- Maximum discharge during year, 160 second-feet June 22 (gage height, 2.91 feet); minimum daily, 3.2 second-feet Feb. 25.
1930-40: Maximum discharge, 253 second-feet July 18, 1938 (gage height, 3.27 feet); minimum daily, 1.5 second-feet Jan. 18-20, 1936.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow regulated by Eagle Nest Reservoir (capacity, 78,800 acre-feet). Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	18	6.0	5.7	4.5	4.1	8.0	38	70	129	38	16
2	18	18	5.5	5.4	4.5	4.3	13	38	66	139	38	41
3	18	18	5.0	5.0	4.6	4.5	40	37	83	77	47	41
4	18	16	5.0	5.2	4.4	4.5	43	32	107	71	48	41
5	18	12	5.0	5.2	4.3	4.5	46	34	107	122	42	41
6	25	12	5.0	5.0	3.5	6.0	48	48	111	96	35	38
7	25	9.2	5.0	5.0	4.0	6.0	46	66	108	90	26	24
8	28	8.9	5.0	*5.0	4.5	6.5	45	62	82	118	20	19
9	26	8.9	6.0	5.7	4.5	6.7	46	32	69	104	20	30
10	26	9.2	5.7	5.5	5.0	6.7	46	30	94	106	18	32
11	26	8.6	5.2	5.2	*5.0	6.4	46	29	103	106	21	17
12	26	8.6	5.2	5.0	4.0	6.0	46	30	103	104	36	16
13	26	8.6	5.2	5.0	3.5	6.0	46	29	101	74	33	14
14	22	8.6	5.0	5.0	3.5	6.5	46	44	101	64	20	14
15	16	8.6	5.0	5.0	3.5	6.5	46	44	69	68	19	14
16	23	8.6	5.0	5.0	3.5	6.7	41	56	60	66	19	13
17	23	8.6	5.0	5.0	3.5	6.7	29	72	107	65	22	13
18	23	8.6	5.0	4.5	3.5	6.7	30	60	126	83	27	13
19	22	8.6	5.0	4.5	3.5	6.4	31	49	131	107	33	12
20	22	8.6	5.0	4.5	3.5	6.4	33	58	146	90	31	7.2
21	19	8.6	5.0	4.5	3.5	6.7	36	79	153	77	19	8.6
22	11	8.6	5.0	4.5	3.5	6.9	36	68	155	80	18	7.2
23	24	8.5	5.0	4.5	3.5	7.4	35	67	153	70	27	5.5
24	21	8.4	5.0	5.0	3.5	8.0	34	71	151	67	34	5.2
25	14	8.2	4.5	*5.0	3.2	8.6	33	72	148	67	22	5.2
26	15	8.1	4.5	5.0	3.9	8.9	33	66	144	67	20	4.8
27	16	8.0	4.0	5.0	4.1	9.2	33	67	144	66	20	4.8
28	15	6.9	4.0	5.0	4.3	8.9	32	77	144	81	20	4.8
29	11	6.7	4.5	5.0	4.3	8.3	32	76	117	82	20	4.8
30	18	6.4	4.5	5.0	-	8.3	37	81	113	47	22	4.8
31	18	-	5.0	5.0	-	8.0	-	81	-	43	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	631	28	11	20.4	1,250
November	294.6	18	6.4	9.82	584
December	154.8	6.0	4.0	4.99	307
Calendar year 1939	12,556.6	148	4.0	34.4	24,910
January	154.9	5.7	4.5	5.00	307
February	114.6	5.0	3.2	3.95	227
March	207.3	9.2	4.1	6.69	411
April	1,116.0	48	8.0	37.2	2,210
May	1,693	81	29	54.6	3,360
June	3,366	155	60	112	6,680
July	2,626	139	43	84.7	5,210
August	833	48	18	26.9	1,650
September	511.9	41	4.8	17.1	1,020
Water year 1939-40	11,703.1	155	3.2	32.0	23,220

*Winter discharge measurement made on this day.
Note.- Stage discharge relation affected by ice Nov. 14-26, Dec. 1-8, Dec. 11 to Feb. 24, Mar. 2-8, 13-15.

400452 O - 41 - 14

Cimarron River at Springer, N. Mex.

Location.- Water-stage recorder, lat. 36°22', long. 104°37', in sec. 33, T. 25 N., R. 22 E., 300 feet downstream from highway bridge, an eighth of a mile west of Springer, 6 miles downstream from Rayado River, and 6 miles upstream from mouth.

Records available.- July 1907 to December 1909 and October 1930 to September 1940 in reports of Geological Survey. August 1907 to December 1909 and January 1921 to December 1931 in reports of State engineer.

Average discharge.- 19 years (1920-25, 1926-40), since completion of Eagle Nest Dam 15.3 second-feet.

Extremes.- Maximum discharge during year, 460 second-feet May 7 (gage height, 4.15 feet); minimum daily, 0.8 second-foot July 17, 18, 25-28.

1930-40: Maximum discharge, 3,690 second-feet June 3, 1937 (gage height, 9.15 feet), from rating curve extended above 1,300 second-feet by logarithmic plotting; minimum daily, 0.1 second-foot Apr. 11, 1933.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	2.1	3.3	6.7	3.6	4.1	1.4	3.6	2.8	1.0	1.2	1.6
2	2.4	2.8	3.8	7.0	3.8	4.1	1.4	3.6	2.8	1.3	1.1	1.6
3	2.4	2.6	3.3	7.0	4.1	4.1	1.4	3.1	2.4	5.4	1.0	2.6
4	2.4	2.4	3.6	7.0	5.1	7.0	1.4	3.1	2.1	3.1	1.1	2.1
5	2.4	2.6	3.1	6.7	5.4	7.8	1.4	3.3	2.1	22	1.2	1.6
6	2.4	3.3	3.6	5.1	4.4	9.4	2.4	3.3	1.4	6.4	1.9	1.4
7	2.4	3.1	3.8	4.1	4.4	9.4	3.3	57	1.3	5.4	3.1	1.3
8	2.4	3.3	3.8	4.4	5.1	11	3.1	30	5.1	4.1	9.7	1.2
9	2.4	2.6	4.4	5.1	3.8	12	2.8	15	1.6	3.1	3.1	1.4
10	2.4	3.6	4.8	5.1	4.8	12	2.4	7.4	1.4	2.8	1.9	6.0
11	2.1	3.6	3.8	5.4	4.1	9.8	2.8	5.4	1.4	2.6	1.9	3.6
12	2.1	3.8	3.8	5.1	4.4	7.4	3.1	4.8	1.3	1.6	2.1	2.6
13	2.4	3.6	4.1	5.7	3.3	6.7	2.6	4.1	1.3	1.3	2.1	2.4
14	1.9	3.8	4.1	5.7	3.6	6.4	2.6	4.1	1.6	1.2	2.1	2.1
15	2.1	3.3	4.4	5.4	3.6	5.1	2.6	4.4	1.6	1.1	2.1	2.1
16	1.9	3.1	3.8	5.4	3.6	4.1	2.4	4.1	1.4	1.0	1.6	2.1
17	2.1	2.8	5.1	5.7	3.3	4.4	3.3	3.6	1.3	.8	1.3	1.9
18	2.1	2.6	5.1	4.1	3.8	3.8	3.1	4.1	1.2	.8	3.1	1.9
19	2.1	2.8	5.1		3.8	4.1	2.8	7.4	1.1	1.0	2.8	1.6
20	1.9	2.8	5.1		4.1	4.4	1.9	6.0	1.2	1.0	2.6	1.6
21	1.9	2.6	5.1	a4	4.8	4.1	1.6	6.0	1.1	1.0	2.8	3.3
22	2.1	2.4	5.4		4.1	3.3	1.6	6.7	1.2	1.1	2.8	6.0
23	1.3	1.9	5.7		4.1	3.6	1.4	5.4	1.2	1.1	2.6	4.4
24	1.9	1.4	5.7		4.4	3.3	1.6	4.8	1.2	1.1	2.6	3.3
25	2.1	1.4	7.0		3.3	3.3	1.6	5.4	1.2	.8	2.4	3.1
26	1.9	1.4	6.7	3.8	3.1	3.1	1.6	4.8	1.3	.8	2.1	2.8
27	2.1	1.4	6.0	3.3	2.8	2.6	1.4	3.8	1.3	.8	1.6	2.6
28	2.1	1.9	6.0	3.6	3.1	1.9	3.1	5.6	1.3	.8	1.6	2.4
29	1.9	2.4	6.0	3.8	3.6	1.9	3.6	7.8	1.2	1.2	1.4	2.6
30	1.9	2.8	6.4	3.6	-	1.9	3.6	5.1	1.1	1.3	1.4	2.6
31	1.6	-	6.7	3.8	-	1.6	-	3.3	-	1.2	1.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	65.5	2.4	1.6	2.11	130
November	80.4	3.8	1.4	2.68	159
December	148.6	7.0	3.1	4.79	295
Calendar year 1939	3,093.6	102	.4	8.48	6,140
January	150.6	7.0	3.3	4.86	299
February	115.4	5.4	2.8	3.98	229
March	167.7	12	1.6	5.41	333
April	69.3	3.6	1.4	2.31	137
May	236.1	57	3.1	7.62	468
June	48.5	5.1	1.1	1.62	96
July	78.2	22	.8	2.52	155
August	69.9	9.7	1.0	2.25	139
September	75.8	6.0	1.2	2.53	150
Water year 1939-40	1,306.0	57	.8	3.57	2,590

a No gage-height record; discharge interpolated.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Six Mile Creek near Eagle Nest, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 36°32', long. 105°16', in Maxwell grant, 88 feet downstream from highway bridge, a quarter of a mile upstream from high-water line of Eagle Nest Reservoir, and 3 miles southwest of Eagle Nest, Colfax County.

Records available.- October 1930 to September 1940 in reports of Geological Survey. April 1928 to December 1931 in reports of State engineer.

Extremes.- Maximum discharge during year, 33 second-feet Sept. 3 (gage height, 1.19 feet) from rating curve extended above 7 second-feet; minimum daily discharge recorded, 0.2 second-foot June 20-22, July 19, 20.

1930-40: Maximum discharge, 230 second-feet Apr. 11, 1937, from rating curve extended above 30 second-feet by logarithmic plotting; maximum gage height recorded, 3.38 feet (former datum) Apr. 2, 1937, during ice jam; no flow at times.

Remarks.- Records fair except those for periods of ice effect, and those for no gage-height record, which are poor. No records during winter season. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.9				-	3.9	3.9	2.2	0.4	0.5	1.2
2	1.2	1.9				-	4.1	3.5	2.3	.4	.6	.9
3	1.2	2.3				-	3.9	3.1	2.3	.3	.6	2.6
4	1.1	2.3				-	3.3	3.1	2.3	1.2	.5	1.2
5	1.1	a2.2				-	2.7	3.3	1.9	1.7	.6	1.2
6	1.4	a2.2				-	2.3	3.3	1.2	.9	.6	1.2
7	1.5	a2.2				-	2.2	3.3	1.1	.4	.5	1.4
8	2.2	a2.2			*1.8	-	2.2	3.3	1.1	.4	.5	.9
9	2.0	a2.2				-	2.0	3.1	.9	.3	.4	.8
10	1.9	2.0				-	2.0	3.1	.8	.3	.4	.8
11	1.9	2.3				-	2.0	2.7	.8	.4	.4	1.1
12	1.5	2.5				-	2.5	2.5	.8	.8	.4	.8
13	1.5	a2.0				-	2.3	2.3	.8	1.7	.4	.8
14	1.7	a1.7	*1.8			-	2.5	2.0	.6	.8	.5	.8
15	1.9	a1.5				-	3.3	2.0	.6	.6	.5	.8
16	1.9	a1.5				b3.3	3.1	2.2	.5	.4	.5	.8
17	1.9	b1.5				3.1	4.7	2.0	.5	.3	.5	.8
18	1.9	b1.5				3.3	3.5	2.0	.3	.3	.6	.9
19	1.9	a1.5				3.3	3.5	2.7	.3	.2	1.6	1.7
20	1.9	a1.5				2.9	3.7	2.3	.2	.2	1.2	1.1
21	2.0	a1.5				3.3	3.7	2.3	.2	.4	.9	1.5
22	2.0	a1.5				3.9	3.7	3.5	.2	.4	.8	1.2
23	2.0	a1.5				4.7	3.9	2.5	.3	.4	.9	1.1
24	2.2	b1.5				5.0	4.3	2.7	.4	.3	.8	.9
25	2.2	a1.5				5.2	4.5	2.5	.5	.3	.8	1.2
26	2.2	a1.5				4.5	4.7	2.9	.4	.3	.8	1.5
27	1.9	a1.5				4.1	4.7	3.9	.3	.3	.8	1.7
28	1.9	a1.5				3.7	4.5	3.5	.3	.4	.8	1.7
29	a1.9	a1.5				3.5	4.3	3.3	.4	.4	.8	1.4
30	a1.9	a1.5				3.1	4.1	3.3	.4	.5	.9	1.5
31	a1.9	-				3.3	-	2.7	-	.5	1.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	54.9	2.2	1.1	1.77	109
November	53.9	2.5	1.5	1.80	107
December	-	-	-	-	-
Calendar year	-	-	-	-	-
January	-	-	-	-	-
February	-	-	-	-	-
March 16-31	60.2	5.2	2.9	3.76	119
April	102.1	4.7	2.0	3.40	203
May	88.8	3.9	2.0	2.86	176
June	24.9	2.3	.2	.83	49
July	16.2	1.7	.2	.52	32
August	21.2	1.6	.4	.68	42
September	35.5	2.6	.8	1.18	70
Water year	-	-	-	-	-

Peak discharge.- Apr. 17 (11 a.m.) 29 sec.-ft.; July 13 (6 p.m.) 9.7 sec.-ft.; Aug. 19 (5 p.m.) 9.1 sec.-ft.; Sept. 3 (11 a.m.) 33 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of one discharge measurement and records for stations on Olenegulla Creek near Eagle Nest and Moreno Creek at Eagle Nest.

b Stage-discharge relation affected by ice.

U.S. GOVERNMENT PRINTING OFFICE : 1944 — O - 862000

Moreno Creek at Eagle Nest, N. Mex.

Location.- Water-stage recorder with concrete control, lat. 36°34', long. 105°15', in Maxwell grant, 25 feet downstream from highway bridge, 1,000 feet west of Eagle Nest, Colfax County, and half a mile upstream from high-water line of Eagle Nest Reservoir.

Records available.- October 1930 to September 1940 in reports of Geological Survey. April 1928 to December 1931 in reports of State engineer.

Extremes.- Maximum discharge during year, 164 second-feet Aug. 19 (gage height, 3.16 feet), from rating curve extended above 30 second-feet; no flow Sept. 7-9, 16, 17.
1930-40: Maximum discharge, that of Aug. 19, 1940; maximum gage height recorded, 3.54 feet (former datum) Mar. 10, 1937, during ice jam; no flow at times.

Remarks.- Records fair except those for periods of ice effect and those for periods of missing or fragmentary gage heights, which are poor. No record during winter. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.7	0.6		-	-	4.7	1.1	2.5	0.4	0.6	0.6
2	.3	.7	.3		-	-	2.1	1.0	2.0	.4	.6	.7
3	.2	.6	-		-	-	2.5	.9	1.7	1.8	.6	.6
4	.1	.7	-		-	-	1.8	1.0	1.4	1.7	.4	.4
5	.1	.8	-		-	-	2.0	.9	1.3	.9	.4	.2
6	.2	1.0	-		-	-	2.0	.9	1.3	.6	.6	.1
7	.2	.9	-		-	-	2.5	.9	1.3	.6	.8	0
8	.9	.8	-		*1.0	-	2.5	2.5	1.3	.6	.7	0
9	.9	.9	-		-	-	2.1	6.8	1.2	.6	.8	0
10	.9	1.1	-		-	-	2.0	5.5	1.2	.6	.7	.1
11	.8	1.0	-		-	-	2.0	5.5	1.3	.6	.6	.3
12	.7	1.0	-		-	-	1.8	5.7	1.3	.7	.7	.3
13	.7	1.0	-		-	-	1.3	5.7	1.3	1.2	.8	.3
14	.7	1.0	*.3		-	-	.7	4.7	1.1	1.1	.7	.3
15	.7	1.3	-		-	-	.7	4.2	1.1	.9	.6	.2
16	.7	b1.2	-		-	9.1	.8	4.4	1.0	.8	.4	0
17	.7	.8	-		-	7.1	2.3	6.5	1.0	.7	.4	0
18	.7	.7	-		-	7.4	5.2	8.2	1.0	.6	.7	.2
19	.6	.7	-		-	6.2	4.2	9.1	.9	.4	a32	.9
20	.6	.4	-		-	8.2	3.2	6.5	.6	.4	a17	.7
21	.4	.6	-		-	8.8	2.9	6.0	.4	1.5	a1	.9
22	.6	.8	-		-	9.4	2.5	12	1.7	1.0	1.3	.9
23	.6	.6	-		-	9.7	2.5	8.0	2.3	1.1	1.2	.9
24	.4	.6	-		-	11	2.5	8.0	1.2	.8	1.2	.7
25	.4	.8	-		-	11	2.1	7.1	.9	.6	1.0	.9
26	.4	a.8	-		-	11	1.6	7.7	.8	.4	.9	.9
27	.8	.7	-		*1.1	8.8	1.8	7.4	.7	.4	.7	.9
28	.6	.3	-		-	7.1	1.7	5.5	.7	.4	.6	.9
29	.6	a.4	-		-	5.7	2.0	5.2	.6	.4	.4	.9
30	.6	.4	-		-	4.7	1.7	5.2	.4	.6	.4	.9
31	.6	-	-		-	5.2	-	4.2	-	.6	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	17.1	0.9	0.1	0.55	34
November	23.3	1.3	.3	.78	46
December	-	-	-	-	-
Calendar year	-	-	-	-	-
January	-	-	-	-	-
February	-	-	-	-	-
March 16-31	130.4	11	4.7	8.15	259
April	67.7	5.2	.7	2.26	134
May	188.3	12	.9	5.11	314
June	35.5	2.5	.4	1.18	70
July	23.4	1.8	.4	.75	46
August	69.2	32	.4	2.23	137
September	14.7	.9	0	.49	29
Water year	-	-	-	-	-

Peak discharge.- Mar. 20 (2 p.m.) 19 sec.-ft.; May 22 (6 a.m.) 16 sec.-ft.; June 22 (8 p.m.) 19 sec.-ft.; July 3 (10 p.m.) 23 sec.-ft.; Aug. 19 (5 p.m.) 164 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records, and records for stations on Cieneguilla and Six Mile Creeks near Eagle Nest.

b Stage-discharge relation affected by ice.

Rayado River at Sauble ranch, near Cimarron, N. Mex.

Location.- Water-stage recorder, lat. 36°22', long. 104°58', in T. 25 N., R. 19 E., in Maxwell grant, at Sauble ranch, 10 miles southwest of Cimarron and about 16 miles upstream from mouth.

Records available.- May 1911 to December 1914 (at site 3 miles upstream) and October 1930 to September 1940 in reports of Geological Survey. January 1915 to December 1931 in reports of State engineer.

Average discharge.- 19 years (1911-12, 1913-14, 1916-17, 1920-24, 1928-40), 13.3 second-feet.

Extremes.- Maximum discharge during year, 117 second-feet July 11 (gage height, 2.47 feet); minimum daily, 1.9 second-feet Dec. 19.

1930-39: Maximum discharge, 543 second-feet Apr. 13, 1937 (gage height, 3.56 feet), from rating curve extended above 140 second-feet; minimum daily, 0.5 second-foot Dec. 8, 1932, Nov. 22, 1934.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	4.0	3.5	b3.5	2.8	3.5	13	14	12	2.7	4.5	4.5
2	3.3	3.6	3.3	b3.2	3.5	3.5	13	13	11	2.8	3.6	3.8
3	3.2	2.8	3.5	b3.5	4.0	3.2	9.4	14	10	3.8	4.2	a3.3
4	3.0	3.2	3.6	b3.3	2.7	3.5	9.8	14	9.8	9.4	3.5	a3.1
5	3.0	3.6	3.3	3.5	2.2	6.0	9.8	14	9.4	8.8	3.2	a2.9
6	3.3	3.8	3.3	b3.2	b2.5	4.9	8.4	14	8.4	8.6	5.7	a2.7
7	3.2	3.6	3.2	b3.0	b2.5	3.5	9.4	14	7.8	4.7	5.3	a2.6
8	4.7	3.2	3.6	*b2.8	2.4	b4.0	8.7	18	7.5	3.8	4.0	a2.5
9	5.6	3.6	3.5	b3.0	b2.2	4.5	8.4	18	6.9	4.0	3.5	a2.5
10	4.5	4.0	4.0	3.2	2.7	4.7	8.7	16	6.0	3.2	3.6	a3.0
11	4.0	3.2	3.2	b3.5	*3.0	4.2	9.0	15	6.3	9.4	4.0	a4.0
12	4.0	3.2	3.6	b4.0	2.4	4.0	8.1	14	6.3	4.0	4.9	3.0
13	4.0	3.2	2.7	3.6	3.5	4.0	8.7	14	6.3	3.8	4.0	2.5
14	3.8	2.4	3.0	b3.0	3.2	b4.5	9.8	14	5.6	3.6	3.5	2.5
15	4.0	2.5	3.0	b3.0	2.8	b5.0	11	13	4.9	3.5	3.0	2.5
16	3.6	b2.4	3.3	b3.2	b2.6	5.1	11	12	4.5	3.2	3.2	2.5
17	3.6	2.4	3.3	b3.3	b2.5	5.8	8.7	15	4.5	2.8	3.5	3.0
18	3.6	2.5	3.6	b3.0	b2.4	6.3	12	18	3.8	3.0	4.0	4.2
19	3.5	2.7	1.9	b2.8	b2.3	7.2	17	20	3.6	3.3	4.7	4.7
20	3.6	b2.5	3.2	b3.0	b2.4	7.2	22	16	3.6	3.5	5.1	5.5
21	3.8	b2.6	3.5	b3.0	b2.8	7.8	19	14	4.2	5.5	4.5	5.8
22	3.6	b2.7	3.0	b2.5	2.7	9.0	19	16	5.1	8.1	3.8	5.3
23	3.5	b2.8	3.6	b3.0	2.5	11	19	18	6.9	5.3	6.8	4.0
24	3.5	b2.6	3.5	b3.3	2.4	14	18	18	4.7	4.5	7.5	3.6
25	3.6	b2.5	3.6	b*3.5	2.8	14	18	18	4.2	3.8	4.2	4.0
26	3.6	2.7	b3.0	b3.2	2.8	14	18	16	3.2	3.2	3.3	4.2
27	3.5	b*3.0	b2.5	b3.0	2.8	13	17	16	3.3	3.3	3.0	4.5
28	3.5	3.3	b2.7	b3.0	3.0	11	16	14	3.2	3.0	2.8	4.2
29	3.8	3.5	b2.8	b3.0	3.3	10	16	14	3.2	3.8	2.7	4.0
30	3.5	3.5	b3.0	b3.0	-	9.8	16	14	3.2	5.1	4.0	4.0
31	3.6	-	b3.2	2.8	-	12	-	12	-	4.0	4.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	114.1	5.6	3.0	3.68	226
November	91.6	4.0	2.4	3.05	182
December	100.0	4.0	1.9	3.23	198
Calendar year 1939	4,561.1	92	1.9	12.5	9,040
January	97.9	4.0	2.5	3.16	194
February	79.7	4.0	2.2	2.75	158
March	220.2	14	3.2	7.10	437
April	391.9	22	8.1	13.1	777
May	470	20	12	15.2	932
June	179.4	12	3.2	5.98	356
July	141.5	9.4	2.7	4.56	281
August	128.1	7.5	2.7	4.13	254
September	108.9	5.8	2.5	3.63	216
Water year 1939-40	2,123.3	22	1.9	5.80	4,210

Peak discharge.- Apr. 20 (1 to 2 a.m.) 31 sec.-ft.; July 4 (7 p.m.) 90 sec.-ft.; July 5 (5 p.m.) 24 sec.-ft.; July 11 (3 p.m.) 117 sec.-ft.; Aug. 23 (8 p.m.) 30 sec.-ft.; Sept. 20 (4 p.m.) 38 sec.-ft.

*Winter discharge measurement made on this day.

a No gage height record; discharge computed on basis of range of stage, weather records and record of station near Miami.

b Stage-discharge relation affected by ice.

Rayado River near Miami, N. Mex.

Location.- Water-stage recorder and concrete Parshall flume, lat. 36°23', long. 104°53', in W½ sec. 25, T. 25 N., R. 19 E., 50 feet downstream from diversion dam for Valdez ditch, 6 miles northwest of Miami, and about 18 miles west of Springer.

Records available.- March 1939 to September 1940.

Extremes.- Maximum discharge during year, 16 second-feet May 7 (gage height, 0.89 foot); no flow at times.

1939-40: Maximum discharge, 44 second-feet Mar. 24, 1939 (gage height, 1.68 feet); no flow at times.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	0	4.9	a0	0	0.3
2							0	0	4.5	a0	0	.2
3							0	0	4.1	a1	0	.2
4							0	0	3.1	a6	0	.1
5							0	.2	2.2	a5.5	0	0
6							0	4.1	1.8	4.9	0	0
7							0	7.1	.4	1.7	.1	0
8							0	7.5		.1	0	0
9							0	5.7		0	0	0
10							0	.6	a1	0	0	0
11							0	3.1		0	0	0
12							0	3.1		.6	0	0
13							8	3.3	1.6	a.3	0	0
14							0	3.0	1.4	0	0	0
15							0	2.1	.8	a0	0	0
16							0	2.2		0	0	0
17							.6	4.5		0	0	0
18							2.1	6.2		0	0	0
19							4.7	9.1		0	0	0
20							6.9	6.4	a.4	0	0	0
21							6.0	5.8		0	0	0
22							3.8	7.5		.1	0	0
23							4.0	9.1		.1	0	0
24							3.8	8.4		0	.7	0
25							3.6	5.4		0	0	0
26							3.6	4.0	0	0	0	0
27							2.4	3.6	0	0	0	0
28							.1	4.0	0	0	0	0
29							0	3.3	0	0	0	0
30							0	3.3	0	0	0	0
31							-	4.0	-	0	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	41.6	6.9	0	1.39	83
May	128.6	9.1	0	4.15	255
June	33.8	4.9	0	1.13	67
July	20.3	6	0	.65	40
August	1.1	.7	0	.04	2.2
September	.8	.3	0	.03	1.6
Water year 1939-40	226.2	9.1	0	.62	449

a No gage-height record; discharge computed on basis of weather records and records for station at Sauble ranch, near Cimarron.

Colmor intake canal near Ocate, N. Mex.

Location.- Water-stage recorder, lat. 36°09', long. 104°53', in SW¼ sec. 12, T. 22 N., R. 10 E., 130 feet downstream from head gate, 5 miles southwest of Lake Charette, and 10 miles southeast of Ocate.

Records available.- May 1933 to September 1940.

Extremes.- Maximum discharge during year, 488 second-feet July 5 (gage height, 4.38 feet), from rating curve extended above 50 second-feet on basis of hydraulic properties of canal; no flow for long periods.

1933-40: Maximum discharge, about 695 second-feet Aug. 26, 1933, June 1, 1937 (gage heights, 5.14 and 5.17 feet, respectively), from rating curve extended above 50 second-feet on basis of hydraulic properties of canal; no flow for long periods.

Remarks.- Records poor. Canal delivers water to Lake Charette, which serves as a reservoir for Colmor irrigation district.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0.5				0	0	0.1
2					0	.3				0	0	.1
3					0	1.1				0	0	0
4					0	2.9				0	0	0
5					0	.3				128	0	0
6					0	1.1				55	0	0
7					0	1.1				6.4	26	0
8					0	1.2				1.6	7.5	0
9					0	1.3				.4	1.6	0
10					0	1.9				.1	.5	0
11					0	1.6				.1	.2	0
12					.1	.7				.1	.2	0
13					.6	.5				.1	.3	0
14					.6	.4				.1	.2	0
15					.6	.5				.1	.1	0
16					.6	.7				0	.1	0
17					.6	.6				0	.3	0
18					.6	.2				0	1.9	0
19					.6	.1				0	2.5	0
20					.6	0				0	6.3	.9
21					.6	0				0	7.6	21
22					.6	0				0	2.5	6.5
23					.6	0				0	5.3	2.5
24					.4	0				0	32	1.1
25					.2	0				0	6.0	.5
26					.4	0				0	2.2	.3
27					.4	0				0	.9	.2
28					.2	0				0	.4	.1
29					.3	0				0	.3	.1
30					-	0				0	.2	0
31					-	0				0	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	74.1	32	0	.20	146
January	0	0	0	0	0
February	8.6	.6	0	.30	17
March	17.0	2.9	0	.55	34
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	192.0	128	0	6.19	381
August	105.3	32	0	3.40	209
September	33.4	21	0	1.11	66
Water year 1939-40	356.3	128	0	.97	707

U. S. GOVERNMENT PRINTING OFFICE : 1936 — O - 162005

Mora River at La Cueva, N. Mex.

Location.- Water-stage recorder, lat. 35°56', long. 105°14', in Mora grant, at highway bridge at La Cueva, Mora County, just downstream from wasteway from La Cueva canal, a quarter of a mile downstream from Las Vegas-Mora Highway bridge, and half a mile downstream from La Cueva dam site.

Drainage area.- 210 square miles.

Records available.- August 1903 to July 1911 and April 1931 to September 1940 in reports of Geological Survey. April to December 1931 in reports of State engineer.

Extremes.- Maximum discharge during year, 1,340 second-feet Aug. 5 (gage height, 7.62 feet), from rating curve extended above 400 second-feet; minimum daily, 2.1 second-feet Jan. 12.
1931-40: Maximum discharge, that of Aug. 5, 1940; no flow at times.

Remarks.- Records fair except those for periods of fragmentary gage heights and ice effect, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	15	9.1	b9.5	3.1	4.7	14	7.6	39	7.6	9.7	22
2	13	14	9.1	b9	b3	5.4	11	6.5	35	7.6	12	15
3	13	13	9.1	9.1	b3	b6	10	6.5	15	8.4	9.1	26
4	10	13	9.7	b10	b3.5	b7	9.1	6.5	8.7	8.4	5.8	18
5	12	12	9.7	11	3.8	8.7	11	8.4	8.4	39	f135	13
6	13	14	10	10	b3.5	14	14	8.4	8.0	25	f167	12
7	12	15	9.7	b9	b3.5	13	10	7.6	10	9.1	70	9.1
8	15	14	8.7	b10	3.1	21	9.7	25	10	8.0	58	8.0
9	15	15	9.1	b9	*b3	28	10	53	9.7	8.4	32	8.0
10	21	15	8.7	11	b3	27	10	49	9.1	8.4	21	15
11	27	14	9.1	6.3	2.8	24	9.1	45	8.7	8.0	18	14
12	25	12	10	2.1	3.1	21	7.2	49	9.7	8.4	23	12
13	25	11	9.1	2.5	b3.5	18	10	46	11	7.6	29	11
14	27	11	8.0	b3	b3.5	17	14	60	11	8.4	11	8.7
15	25	12	8.0	7.2	4.0	20	22	65	9.1	8.0	9.1	8.0
16	25	10	8.0	4.9	b4	19	18	60	8.7	7.2	10	8.7
17	25	12	8.4	b4.5	b4	17	12	65	8.7	7.6	9.1	9.1
18	24	10	8.4	b4	b4	18	9.1	67	9.1	8.0	12	9.1
19	23	10	9.1	b2.5	4.2	21	11	71	8.0	7.6	13	20
20	22	10	b9.5	b2.5	b4.5	21	17	59	8.4	7.2	27	32
21	19	9.7	b9	b3	b5	21	18	60	12	7.6	62	92
22	18	10	b9	b3	4.2	21	15	73	17	7.6	68	64
23	18	8.7	b8	b3	4.5	23	15	71	18	6.9	71	50
24	19	8.4	b8	*b3	4.5	29	18	64	18	7.2	60	45
25	18	9.7	b7	b3.5	4.5	30	13	64	12	6.5	58	34
26	20	10	b6	b3.5	4.5	25	13	62	9.1	17	46	30
27	22	11	b6	b4	7.2	26	12	59	10	17	32	29
28	23	9.7	b7	b4	6.5	22	10	59	7.2	6.5	30	29
29	19	9.1	b8	b4	5.2	20	12	68	7.2	45	27	28
30	16	10	b9	4.2	-	18	8.7	65	7.6	27	25	26
31	13	-	b10	3.6	-	19	-	54	-	9.1	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	590	27	10	19.0	1,170
November	348.3	15	8.4	11.6	691
December	267.5	10	6	8.63	531
Calendar year 1939	10,891.3	136	4.2	29.8	21,610
January	175.9	11	2.1	5.67	349
February	116.2	7.2	2.8	4.01	230
March	584.8	30	4.7	18.9	1,160
April	372.9	22	7.2	12.4	740
May	1,464.5	73	6.5	47.2	2,900
June	363.4	39	7.2	12.1	721
July	365.3	45	6.5	11.8	725
August	1,187.8	167	5.8	38.3	2,360
September	705.7	92	8.0	23.5	1,400
Water year 1939-40	6,542.3	167	2.1	17.9	12,980

Peak discharge.- July 5 (3 p.m.) 168 sec.-ft.; Aug. 5 (7 p.m.) 1,340 sec.-ft.; Aug. 6 (2 a.m.) 354 sec.-ft.; Aug. 21 (8 p.m.) 155 sec.-ft.; Sept. 21 (1 a.m.) 153 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
f Fragmentary gage-height record; discharge computed on basis of partially estimated gage height.

9-239 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Mora River near Golondrinas, N. Mex.

Location.- Water-stage recorder, lat. 35°53', long. 105°07', in Mora grant, half a mile upstream from Coyote Creek and 2 miles east of Golondrinas, Mora County.

Records available.- August 1903 to September 1904 (gage heights only, at site at Weber, N. Mex.) and October 1930 to September 1940 in reports of Geological Survey. March 1915 to December 1931 in reports of State engineer.

Average discharge.- 24 years (1915-20, 1921-40), 34.4 second-feet.

Extremes.- Maximum discharge during year, 1,210 second-feet Aug. 6 (gage height, 7.83 feet), from rating curve extended above 440 second-feet; minimum daily, 0.8 second-foot July 1-3.

1930-40: Maximum discharge, 1,250 second-feet June 1, 1937 (gage height, 8.10 feet), from rating curve extended above 440 second-feet; no flow at times.

Remarks.- Records fair except those for periods of ice effect, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	12	11	14	6	13	16	3.6	30	0.8	4.7	20
2	14	13	11	14	6	13	12	4.4	22	.8	8.0	14
3	13	12	11	14	6	15	13	1.8	20	.8	10	17
4	13	13	11	13	6	18	11	1.1	6.2	.9	4.7	14
5	11	12	11	13	6	17	9.4	2.0	3.6	7.2	131	9.4
6	12	12	11	*12	6	19	11	1.1	2.6	30	470	7.6
7	12	12	11	12	6	22	10	1.0	2.0	8.6	104	6.6
8	14	11	11	12	6	20	8.3	5.8	1.8	4.4	51	5.0
9	19	12	10	13	6.2	34	5.2	40	1.5	3.9	37	5.2
10	17	12	10	13	7	36	3.6	42	1.5	5.5	24	32
11	27	13	9.2	12	7	33	5.8	32	1.7	3.6	20	16
12	26	11	9.6	8.1	7	27	4.7	43	1.4	2.3	43	13
13	26	11	8.8	7	8	25	2.0	36	1.4	5.2	26	12
14	26	11	7.8	6	8	24	4.4	46	1.2	3.6	17	11
15	25	11	7.8	8	8	24	6.6	54	1.0	3.6	15	10
16	22	11	7.0	8	8	24	11	58	.9	1.7	29	9.4
17	24	14	6.7	6	8	20	6.9	47	1.1	1.5	14	9.0
18	22	12	6.0	5	8	21	5.5	61	1.0	1.4	18	10
19	22	11	7.0	5	9	22	1.8	71	1.0	1.5	16	15
20	20	11	8.5	6	9	24	2.8	60	1.0	1.5	22	26
21	18	12	9.2	6	10	23	7.6	55	1.4	3.1	36	121
22	16	14	10	6	11	22	9.8	67	1.5	3.3	77	76
23	16	12	10	7	14	24	5.2	76	3.1	11	68	52
24	16	12	9	*7	14	26	4.7	68	7.2	2.6	52	45
25	16	12	8	7	13	29	4.2	66	5.5	1.7	46	39
26	12	11	7	7	13	24	4.7	65	2.8	1.5	38	33
27	15	12	7	8	15	23	6.6	60	2.2	14	26	31
28	19	11	8	8	16	24	6.6	55	1.7	5.0	25	29
29	17	8.5	9	8	15	20	6.2	68	1.4	4.4	22	32
30	16	11	11	8	-	18	4.7	72	1.2	62	22	26
31	13	-	13	8	-	18	-	57	-	11	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	554	27	11	17.9	1,100
November	352.5	14	8.5	11.8	699
December	287.6	13	6.0	9.28	570
Calendar year 1939	11,918.6	199	.3	32.7	23,640
January	281.1	14	5	9.07	568
February	262.2	16	6	9.04	520
March	702	36	13	22.6	1,390
April	213.3	18	1.8	7.11	423
May	1,319.8	76	1.0	42.6	2,620
June	130.9	30	.9	4.36	260
July	208.4	62	.8	6.72	413
August	1,495.4	470	4.7	48.2	2,970
September	746.2	121	5.0	24.9	1,480
Water year 1939-40	6,553.4	470	.8	17.9	13,000

Peak discharge.- Aug. 6 (2 p.m.) 1,210 sec.-ft.; Aug. 12 (5 p.m.) 267 sec.-ft.; Aug. 22 (1:30 a.m.) 157 sec.-ft.; Aug. 22 (10:30 p.m.) 124 sec.-ft.; Sept. 10 (7 a.m.) 137 sec.-ft.; Sept. 21 (5:30 a.m.) 184 sec.-ft.

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 22 to Jan. 11, Jan. 14 to Feb. 8, Feb. 10-22.

Mora River near Shoemaker, N. Mex.

Location.- Water-stage recorder, lat. 35°48', long. 104°48', in sec. 10, T. 18 N., R. 20 E., 5½ miles east of Shoemaker and about 23 miles upstream from mouth.

Drainage area.- 1,160 square miles.

Records available.- October to December 1914 and October 1930 to September 1940 in reports of Geological Survey. October 1914 to December 1931 in reports of State engineer.

Average discharge.- 22 years (1915-17, 1919-25, 1926-40), 52.1 second-feet.

Extremes.- Maximum discharge during year, 4,600 second-feet June 21 (gage height, 7.20 feet), from rating curve extended by logarithmic plotting above 3,000 second-feet; minimum daily, 1.8 second-feet July 24-31.

1930-40: Maximum gage height, 10.41 feet June 3, 1937 (discharge not determined); no flow at times.

Remarks.- Records fair except those for periods of ice effect, and those for periods of no gage heights or doubtful gage heights, all of which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21		4.4	b16	b11	4.6	6.0	4.1	54	4.1	d5.0	8.8
2	20		4.1	b15	b10	4.9	5.8	4.4	33	4.4	d2.3	8.4
3	17		4.9	b15	b12	7.0	6.0	4.1	21	4.6	2.3	19
4	15		4.1	b14	b12	28	6.0	3.8	17	4.6	2.3	9.2
5	14	a3	4.1	b14	b11	28	6.3	4.1	12	4.4	2.3	6.6
6	13		4.4	b15	b11	26	7.0	4.1	7.0	4.4	d550	7.0
7	12		4.9	*b15	b11	29	6.6	4.4	5.8	4.1	d210	6.6
8	18		4.4	b14	b12	33	7.9	4.1	4.9	3.4	d300	5.5
9	17	2.7	4.4	b15	b12	33	7.9	4.4	4.6	3.2	d100	5.2
10	17	2.7	4.4	b17	*b16	40	5.8	3.8	d4.0	3.2	a50	
11	16	2.8	3.8	b16	b16	40	5.2	3.8	d3.5	3.0	a30	
12	17	2.8	b4.0	b15	b12	37	5.5	3.8	d3.5	3.2	a60	a3
13	18	3.0	b4.0	b13	b14	33	5.5	3.6	d3.0	3.2	a40	
14	17	3.0	4.4	b10	b15	32	5.2	3.6	d3.0	3.2	a20	
15	16	4.1	4.4	b12	17	28	4.9	3.6	d3.0	3.2	a10	
16	16	4.4	4.4	b11	b16	22	5.2	3.6	d3.2		a7	1.9
17	5.8	4.1	4.4	b9	b17	21	5.5	4.6	d3.5		5.5	1.9
18	4.9	4.4	4.4	b7	20	20	5.5	5.5	d3.5		3.8	2.1
19	4.4	4.4	4.4	a7	20	19	5.5	9.2	d4.0		7.5	2.7
20		4.6	4.4	a8	23	21	5.5	21	4.4	a2		
21		4.6	b5.0	a8	19	18	5.2	21	268		2.8	157
22		3.8	b5.4	a8	18	10	4.6	24	d390		24	136
23		3.8	b5.6	a9	20	7.0	4.6	51	d150		234	63
24		3.8	b5.6	a9	19	7.5	4.6	56	a50	1.8	68	44
25	a.4	*4.4	b5.0	*b13	12	7.0	4.6	56	a20	1.8	46	34
26		*4.1	b4.5	b13	6.3	7.5	4.4	51	a10	1.8	37	31
27		4.1	b4.5	b13	4.4	7.0	4.4	40	a5	1.8	28	24
28		4.1	b5.0	b14	3.8	7.0	4.1	31	4.6	1.8	20	20
29		4.1	b6.0	b14	4.1	6.6	3.8	92	4.6	1.8	15	18
30		4.4	b7.0	b13	-	6.6	3.8	90	4.4	1.8	12	21
31		-	b14	b13	-	6.6	-	70	-	1.8	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	327.1	21	-	10.6	649
November	108.2	4.6	-	3.61	215
December	154.3	14	3.8	4.98	306
Calendar year 1939	11,914.4	299	.5	32.6	23,640
January	385	17	7	12.4	764
February	394.6	23	3.8	13.6	783
March	597.3	40	4.6	19.3	1,180
April	162.9	7.9	3.8	5.43	323
May	685.6	92	3.6	22.1	1,360
June	1,104.5	390	3.0	36.8	2,190
July	86.6	4.6	1.8	2.79	172
August	1,908.2	550	2.3	61.6	3,780
September	653.6	157	1.9	21.8	1,300
Water year 1939-40	6,567.9	550	1.8	17.9	13,020

Peak discharge.- June 21 (10 p.m.) 4,600 sec.-ft.; June 22 (1 a.m.) 2,300 sec.-ft.; Aug. 6 (2 p.m.) 1,510 sec.-ft.; Aug. 7 (10 p.m.) 1,560 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of one discharge measurement, weather records and records for stations near Golondrinas.

b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed on basis of weather records and records for stations at La Cueva, near Golondrinas and records for station on Coyote Creek near Golondrinas.

Coyote Creek near Golondrinas, N. Mex.

Location.- Water-stage recorder, lat. 35°55', long. 105°10', in Mora grant, a third of a mile downstream from Coyote Creek dam site, about 2 miles upstream from mouth, and 2 miles northeast of Golondrinas, Mora County.

Drainage area.- 250 square miles.

Records available.- October 1930 to September 1940 in reports of Geological Survey. April 1928 to December 1931 in reports of State engineer.

Average discharge.- 12 years (1928-40), 8.83 second-feet.

Extremes.- Maximum discharge during year, 560 second-feet September 20 (gage height, 4.35 feet), from rating curve extended above 20 second-feet; minimum daily, 0.1 second-foot July 1, 2.

1930-40: Maximum discharge, 3,020 second-feet Aug. 30, 1936 (gage height, 10.1 feet, former site and datum), from rating curve extended above 250 second-feet; minimum daily, 0.1 second-foot July 20-27, 1939, and July 1, 2, 1940.

Remarks.- Records fair except those above 20 second-feet, and those for periods of ice effect or missing or doubtful gage-height records, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2	2.2	3.6	a7	b6	0.6	0.6	0.5	0.4	0.1	0.4	d2.5
2	4.9	1.9	3.3	a7	b5.5	.8	.5	.5	.2	.1	.4	d2.5
3	4.1	2.8	2.e	a6.5	b5.5	.8	.5	.6	.3	.2	.4	d5
4	3.6	3.3	2.8	a6	b6	1.8	.5	.6	.3	14	.4	d4
5	3.6	3.3	b3	a6	b5.5	b2.0	1.0	.6	.2	4.1	47	d3
6	3.6	3.6	b3	*b5.5	b6	1.5	3.0	.7	.2	2.4	37	d3
7	3.8	3.6	3.0	b5	b6	1.5	3.0	.8	.2	.9	28	d2.5
8	6.6	3.6	3.0	b5.5	6.6	1.9	1.4	3.8	.2	.3	7.0	d2.5
9	5.2	2.4	3.0	b6	b6.5	1.5	1.0	3.3	.2	.5	5.7	d2.5
10	4.9	1.8	3.6	b6		1.4	.8	2.4	.2	.3	5.2	a7
11	4.9	1.9	3.6	b6		1.7	.7	1.7	.2	.2	5.2	a5.5
12	5.2	1.9	3.6	5.7		1.7	.8	2.2	.2	.3	8.4	a4
13	5.2	2.2	b3.3	5.2	a7	1.8	.5	1.5	.2	.2	6.6	a3
14	5.2	2.1	b3.0	4.1		2.8	.5	1.4	.2	.2	4.4	a2.5
15	4.1	2.4	b3.4	b6		2.5	.5	2.1	.2	.2	4.4	2.2
16	3.6	2.2	3.6	b6.5		2.2	.5	1.9	.2	.2	3.8	2.4
17	3.6	2.5	3.6	b6		2.1	.5	1.9	.2	.2	3.6	2.5
18	3.3	b2.7	3.6	5.2	a8	1.9	.5	1.9	.2	.2	3.6	2.5
19	3.0	b3.0	4.1	a5		1.5	.5	2.4	.2	1.0	3.6	2.8
20	3.0	b3.3	3.8	a5.5		.8	.5	2.2	.2	.5	3.6	50
21	3.0	b3.5	4.7	a5.5		.5	.6	1.8	.2	4.5	12	108
22	3.3	b3.8	4.9	a5.5		.7	.8	3.8	.2	3.8	d10	25
23	3.3	b3.5	5.2	a6	a9	.8	1.1	3.6	.3	.5	d8	11
24	3.3	b3.3	b5.0	*b6		.5	.8	2.4	.3	.3	d6.5	6.1
25	3.6	*b3.0	b4.5	b6	a4	.5	.5	1.9	.2	.3	d5	8.0
26	3.6	3.3	b4.0	b6.5	1.0	.5	.5	1.8	.2	8.e	d4	6.6
27	3.3	3.6	b4.0	b7	.8	.5	.5	.e	.3	6.5	d3.5	6.1
28	3.6	3.6	a4.5	b7	.8	.8	.6	.5	.3	1.0	d3.5	7.5
29	3.6	3.8	a5	b7.5	.6	.8	.5	.7	.2	.8	d3	8.3
30	3.8	4.4	a6	b7.5	-	.6	.5	.7	.2	.5	d3	5.7
31	3.3	-	a7	b7	-	.6	-	.6	-	.4	d2.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	124.3	6.6	3.0	4.01	247
November	88.5	4.4	1.8	2.95	176
December	121.5	7	2.8	3.92	241
Calendar year 1939	2,455.9	48	.1	6.73	4,880
January	187.2	7.5	4.1	6.04	371
February	178.e	-	.6	6.17	355
March	39.6	2.8	.5	1.28	79
April	24.2	3.0	.5	.e1	48
May	51.6	3.8	.5	1.66	102
June	6.8	.4	.2	.23	13
July	53.5	14	.1	1.73	106
August	239.7	47	.4	7.73	475
September	304.2	108	2.2	10.1	603
Water year 1939-40	1,419.9	108	.1	3.88	2,820

Peak discharge.- July 4 (6:30 p.m.) 140 sec.-ft.; Aug. 5 (7 p.m.) 178 sec.-ft.; Aug. 5 (9 p.m.) 293 sec.-ft.; Aug. 7 (2:30 a.m.) 90 sec.-ft.; Sept. 20 (9 p.m.) 560 sec.-ft.; Sept. 21 (3 to 5 a.m.) 222 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Mora River at La Cueva and near Golondrinas.

b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed on basis of records for Mora River at La Cueva and near Golondrinas.

Conchas River at Variadero, N. Mex.

Location.- Water-stage recorder, about lat. 35°23', about long. 104°27', at bridge on State Highway 104 at Variadero, San Miguel County, approximately 14 miles west of Conchas Dam.

Records available.- October 1939 to September 1940 in reports of Geological Survey. April 1936 to September 1939 in files of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge during year, 2,440 second-feet Aug. 7 (gage height, 5.81 feet); no flow most of year.

Remarks.- Records poor.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	1	0	2	0		0	1	0	0	7
2	0	0	1	0	3	0		0	1	14	0	2
3	0	0	1	0	1	0		0	1	76	0	3
4	0	0	1	0	1	3		0	0	27	0	2
5	0	0	1	1	0	7		0	0	331	33	0
6	0	0	1	0	1	8		0	0	50	472	0
7	0	0	0	0	0	9		0	0	10	390	0
8	0	0	0	0	1	7		0	0	5	310	0
9	0	0	0	0	0	3		0	0	0	80	0
10	9	0	0	0	1	3		0	0	0	20	0
11	12	0	0	0	1	2		0	0	0	2	0
12	8	0	0	0	2	1		0	0	0	1	0
13	4	0	0	1	2	0		0	0	0	1	0
14	2	0	0	0	1	0		0	0	0	0	0
15	2	0	0	0	1	0		0	0	0	0	0
16	1	0	0	0	*1	0		0	0	0	0	0
17	1	0	0	0	0	0		0	0	0	0	0
18	1	0	0	1	0	0		0	0	0	0	0
19	0	0	0	0	0	0		0	1	0	0	0
20	0	0	0	0	0	0		0	0	0	0	0
21	0	0	0	1	0	0		0	0	0	114	0
22	0	0	0	1	0	0		30	0	0	25	0
23	0	0	1	0	0	0		10	0	0	240	0
24	0	0	1	0	0	0		8	0	0	24	0
25	0	0	1	0	0	0		6	0	0	5	0
26	0	0	1	1	0	0		4	0	0	4	0
27	0	0	0	*1	0	0		2	0	0	2	0
28	0	0	0	1	0	0		2	0	0	1	0
29	0	1	0	1	0	0		2	0	0	0	0
30	0	1	0	1	-	0		2	0	0	0	0
31	0	-	0	1	-	0		2	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	40	12	0	1.3	79
November	2	1	0	.1	4.0
December	10	1	0	.3	20
Calendar year	-	-	-	-	-
January	11	1	0	.4	22
February	18	3	0	.6	36
March	43	9	0	1.4	85
April	0	0	0	0	0
May	68	30	0	2.2	135
June	4	1	0	.1	7.9
July	513	331	0	16.5	1,020
August	1,724	472	0	55.6	3,420
September	14	7	0	.5	28
Water year 1939-40	2,447	472	0	6.7	4,860

Peak discharge.- July 5 (1:50 a.m.) 1,200 sec.-ft.; Aug. 6 (3:25 a.m.) 995 sec.-ft.; Aug. 6 (5:10 a.m.) 1,100 sec.-ft.; Aug. 7 (9 p.m.) 2,440 sec.-ft.; Aug. 23 (2:30 a.m.) 1,100 sec.-ft.

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 22 to Feb. 15. Incomplete or no gage-height record May 22-31, July 6-19, Aug. 5-10; discharge computed on basis of available gage heights, weather records, and records for Canadian River near Roy and near Sanchez.

North Canadian River near Guymon, Okla.

Location.- Water-stage recorder, lat. 36°43'20", long. 101°29'30", in NW¼SW¼ sec. 18, T. 3 N., R. 15 E., at bridge on U. S. Highway 64 at Dry Sand Draw, 1¼ miles upstream from Gulf Creek and 2⅞ miles north of Guymon. Datum of gage is 2,970.93 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 2,040 square miles, including that of Dry Sand Draw.

Records available.- March 1938 to September 1940 (include flow of Dry Sand Draw).

Extremes.- Maximum discharge during year, 11,000 second-feet Aug. 7 (gage height, 8.10 feet); no flow at times.

1938-40: Maximum discharge, 17,100 second-feet June 23, 1939 (gage height, 9.45 feet); no flow at times.

Maximum stage known, 11.4 feet on June 1, 1937, from readings at flood crest by Corps of Engineers, U. S. Army.

Remarks.- Records fair except those for period of ice effect, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	2	2	12	47	8	4	2	20	0	0	0
2	1	2	3	11	38	14	3	3	11	0	0	180
3	1	2	3	*11	36	9	2	4	10	0	0	951
4	1	1	2	6	37	8	2	3	7	0	0	19
5	1	1	3	3	40	8	2	2	8	0	0	10
6	1	1	4	3	25	7	7	2	7	0	0	12
7	1	1	3	3	23	10	9	4	4	0	942	4
8	1	1	3	3	19	7	8	533	4	1	355	3
9	1	1	4	3	23	7	7	54	3	0	25	2
10	1	1	4	3	12	7	6	23	202	0	2	1
11	1	1	4	3	12	9	11	13	196	0	4	2
12	1	1	4	4	10	8	8	8	24	0	15	2
13	1	1	4	4	9	7	7	4	11	0	4	1
14	1	1	4	7	9	10	6	2	4	0	2	1
15	1	1	3	10	8	9	5	2	2	0	1	1
16	1	1	4	* 13	10	8	4	32	2	0	1	1
17	1	1	7	8	3	7	10	259	1	0	3	1
18	1	1	4	6	6	7	14	2,450	1	0	14	0
19	2	1	3	3	7	7	7	181	1	0	2	0
20	2	1	4	3	4	6	a7	30	1	0	2	0
21	2	1	3	3	6	7	a8	15	1	0	1	1
22	3	1	2	3	8	6	a5	12	1	0	1	1
23	3	1	7	*3	8	5	a4	10	1	0	0	1
24	2	1	4	3	7	6	a4	7	1	0	0	1
25	2	1	4	3	8	7	4	4	1	0	0	1
26	2	1	13	3	10	7	4	6	0	0	0	1
27	2	1	12	4	8	6	5	182	0	0	0	1
28	2	1	12	6	7	5	4	1,910	0	0	0	1
29	2	1	11	15	6	4	2	57	0	0	0	2
30	2	3	11	30	-	4	2	48	0	0	0	1
31	2	-	12	*55	-	4	-	27	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	46	3	1	1.5	91
November	35	3	1	1.2	69
December	163	13	2	5.3	323
Calendar year 1939	11,311	2,460	0	31.0	22,040
January	247	55	3	8.0	490
February	445	47	3	15.3	883
March	222	14	4	7.2	440
April	169	14	2	5.6	335
May	5,889	2,450	2	190	11,680
June	524	202	0	17.5	1,040
July	1	1	0	.03	2
August	1,374	942	0	44.3	2,730
September	1,202	951	0	40.1	2,380
Water year 1939-40	10,317	2,460	0	28.2	20,460

*Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.- Stage-discharge relation affected by ice Jan. 4-28.

North Canadian River at Beaver, Okla.

Location.- Water-stage recorder, lat. 36°49'20", long. 100°31'05", in SW¼ sec. 7, T. 4 N., R. 24 E., at bridge on U. S. Highway 270 at Beaver, 1½ miles downstream from Home Creek and 5 miles upstream from Clear Creek. Datum of gage is 2,371.16 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 7,210 square miles.

Records available.- March 1938 to September 1940. March 1904 to December 1905 (gage heights only) at nearby site but at different datum, published as Beaver Creek at Beaver, Okla.

Extremes.- Maximum discharge during year, 11,100 second-feet May 18 (gage height, 6.00 feet); no flow at times.
1938-40: Maximum discharge, 17,400 second-feet Sept. 5, 1938 (gage height, 7.25 feet); no flow at times.

Remarks.- Records fair except those above 1,000 second-feet and those for period of ice effect, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	9	0	0	207		0	0
2					0	6	0	0	107		0	0
3					0	4	0	0	59		0	230
4					0	5	0	0	38		0	383
5					0	8	0	0	534		0	272
6					*b3	12	0	0	1,610		289	50
7						17	0	230	36		80	9
8						16	0	336	4		443	0
9						15	0	615	1		213	0
10					b23	11	18	207	3,070		17	0
11						10	135	45	3,040		8	0
12						8	113	15	1,640		4	0
13					(*)	6	59	8	451		86	0
14					22	6	36	6	306		79	0
15					21	6	23	5	226		24	0
16					26	4	16	4	162		60	0
17					31	4	28	230	101		26	0
18					16	3	75	4,440	59		1	0
19					18	2	125	3,070	33		0	0
20					12	2	83	700	23		0	0
21					41	2	43	220	12		0	0
22					28	1	19	181	10		0	0
23					27	1	11	162	5		0	307
24					15	1	7	149	4		0	1,010
25					17	1	4	113	3		0	522
26					*16	1	2	87	3		0	h21
27					12	1	1	59	2		0	h4
28					12	0	3	2,590	1		0	h4
29					10	0	1	1,410	1		0	h2
30					-	0	0	560	0		0	h2
31					-	0	-	348	-		0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	66,140	11,300	0	181	131,200
January	0	0	0	0	0
February	488	41	0	16.8	968
March	162	17	0	5.2	321
April	802	135	0	26.7	1,590
May	15,790	4,440	0	509	31,320
June	11,748	3,070	0	392	23,300
July	0	0	0	0	0
August	1,330	443	0	42.9	2,640
September	2,816	1,010	0	93.9	5,590
Water year 1939-40	33,136	4,440	0	90.5	65,730

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h No water-stage recorder graph; discharge computed from stage graph based on once-daily readings of staff gage.

North Canadian River near Supply, Okla.

Location.- Water-stage recorder, lat. 36°35'30", long. 99°35'30", in NE¼ sec. 6, T. 24 N., R. 22 W., at bridge on State Highway 34, 1½ miles northwest of Supply and 6½ miles upstream from Wolf Creek. Datum of gage is 1,975.63 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 8,920 square miles.

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 9,300 second-feet Aug. 8 (gage height, 7.67 feet); no flow at times.

1938-40: Maximum discharge, 10,400 second-feet Sept. 7, 1938 (gage height, 8.18 feet); no flow at times.

Maximum stage known, 9.4 feet, date unknown, from information furnished by State Highway Department.

Remarks.- Records fair.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	511	1	0	0
2								0	375	2	0	0
3								0	208	3	0	0
4								0	96	2	0	0
5								0	66	1	0	0
6								0	1,180	0	0	12
7								0	933	0	1	23
8								81	315	0	3,790	14
9								347	195	0	2,450	5
10								147	1,350	0	522	3
11								141	4,010	0	201	2
12								66	2,210	0	111	2
13								29	1,070	0	83	1
14								15	550	0	53	0
15								4	340	0	43	0
16								2	238	0	111	0
17								2	170	0	111	0
18								3	118	0	62	0
19								3,350	79	0	30	0
20								1,480	54	0	21	0
21								485	39	0	14	0
22								230	463	0	11	0
23								161	208	0	8	0
24								114	90	0	6	0
25								83	34	0	3	322
26								62	12	0	2	317
27								45	5	0	2	67
28								36	4	0	1	23
29								1,470	3	0	0	12
30								772	2	0	0	6
31								1,530	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	61,897	7,650	0	170	122,800
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	10,655	3,350	0	344	21,130
June	14,928	4,010	2	498	29,610
July	9	3	0	.3	18
August	7,636	3,790	0	246	15,150
September	809	322	0	27.0	1,600
Water year 1939-40	34,037	4,010	0	93.0	67,510

North Canadian River at Woodward, Okla.

Location.- Staff gage, lat. 36°26'55", long. 99°23'55", on line between secs. 24 and 25, T. 23 N., R. 21 W., at county highway bridge just north of Woodward, 14 miles upstream from Indian Creek and 16 miles downstream from Wolf Creek. Datum of gage is 1,867.44 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 10,700 square miles.

Records available.- October 1938 to September 1940. November 1903 to December 1905 (gage heights only) and January to June 1906 at Atchison, Topeka & Santa Fe Railway bridge 6½ miles downstream. Gage-height records collected at present site since 1919 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 10,300 second-feet Aug. 9 (gage height, 5.44 feet, from graph based on gage readings); no flow at times.
1938-40: Maximum discharge, 10,500 second-feet June 25 and July 3, 1939 (gage height, 5.4 feet, from readings at flood crest); no flow at times.
Maximum stage known, 11.0 feet (revised), present datum, Oct. 12, 1923, from reports of U. S. Weather Bureau.

Remarks.- Records fair except those below 5 second-feet, which are poor. Gage read twice daily, oftener during floods.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	6	0	0	679	105	0	0
2					0	4	0	0	335	94	0	0
3					0	4	0	0	320	24	0	0
4					0	2	0	0	227	13	0	165
5					*0	3	0	0	132	9	0	78
6					0	3	0	0	78	6	288	38
7					0	4	0	0	1,920	3	115	19
8					0	4	0	0	445	1	1,700	14
9					0	4	0	333	273	0	7,090	11
10					0	4	48	268	330	0	1,220	9
11					0	3	31	184	6,200	0	431	6
12					0	3	10	118	3,080	0	251	4
13					0	2	10	48	1,370	0	187	3
14					0	1	7	23	700	0	135	2
15					0	1	2	15	392	0	108	0
16					0	2	2	12	260	0	90	0
17					0	1	2	10	198	0	153	0
18					0	1	3	12	147	0	108	0
19					*4	0	3	1,640	108	0	72	0
20					14	0	3	1,820	78	0	33	0
21					b7	0	1	700	50	0	18	0
22					b4	0	0	335	90	0	13	2
23					b5	0	0	219	381	0	10	0
24					20	0	0	156	150	0	7	0
25					15	0	0	110	75	0	4	144
26					*11	0	0	75	33	0	3	377
27					10	0	0	55	19	0	1	177
28					8	0	3	44	16	0	0	80
29					7	0	2	394	11	0	0	32
30					-	0	0	1,290	9	0	0	19
31					-	0	-	970	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	-	-	-	-	175,600
January	0	0	0	0	0
February	105	20	0	3.6	208
March	52	6	0	1.7	103
April	127	48	0	4.2	252
May	8,831	1,820	0	285	17,520
June	18,106	6,200	9	604	35,910
July	255	105	0	8.2	506
August	12,037	7,090	0	388	23,880
September	1,180	377	0	39.3	2,340
Water year 1939-40	40,693	7,090	0	111	80,720

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

North Canadian River at Canton, Okla.

Location.- Water-stage recorder, lat. 36°03'30", long. 98°34'55", in northwest corner of sec. 10, T. 18 N., R. 13 W., at bridge on State Highway 58, a quarter of a mile northeast of Canton and 7½ miles upstream from Nine Mile Creek. Datum of gage is 1,560.59 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 11,600 square miles.

Records available.- March 1938 to September 1940. Gage-height records collected at or near same site since 1914 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 5,300 second-feet Aug. 10 (gage height, 9.04 feet); no flow at times.

1938-40: Maximum discharge, 8,750 second-feet May 19, 1938 (gage height, 10.25 feet); no flow at times.

Maximum stage known, 16.8 feet (former site) on Oct. 13, 1923, from reports of U. S. Weather Bureau.

Remarks.- Records good except those above 500 second-feet, which are fair, and those below 10 second-feet, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	96e	84	0	0
2								0	577	736	0	0
3								0	317	510	0	0
4								0	276	h213	0	0
5								0	223	87	0	10
6								0	157	47	0	4
7								0	362	h31	0	45
8								0	1,080	h19	0	34
9								0	317	h14	1,600	19
10								0	296	h7	3,700	8
11								0	1,160	h4	1,100	5
12								20	4,150	h2	h610	2
13								38	2,710	h2	h400	1
14								41	1,620	h1	h275	h0
15								25	a930	h1	169	0
16								18	a552	h0	h126	0
17								9	a387	0	h116	0
18								7	276	0	h98	0
19								6	207	0	h65	0
20								1,200	190	0	h98	0
21								1,220	157	0	h56	0
22								552	130	82	h38	0
23								296	126	h35	h26	0
24								177	141	1	19	0
25								116	252	0	9	0
26								84	124	0	5	0
27								73	75	0	2	h0
28								66	66	0	1	36
29								62	61	0	0	47
30								290	60	0	0	33
31								837	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	84,255	7,080	0	231	167,200
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	5,137	1,220	0	166	10,190
June	17,947	4,150	60	598	35,600
July	1,076	736	0	60.5	3,720
August	8,513	3,700	0	275	16,890
September	244	47	0	8.1	484
Water year 1939-40	33,717	4,150	0	92.1	66,880

a No gage-height record; discharge computed on basis of records for Woodward.
h No water-stage recorder graph; discharge computed on basis of once-daily readings of staff gage.

400452 O - 41 - 15

North Canadian River near El Reno, Okla.

Location.- Water-stage recorder, lat. 35°34', long. 97°58', on line between secs. 32 and 33, T. 13 N., R. 7 W., at bridge on U. S. Highway 81, 2 miles north of El Reno. Datum of gage is 1,299.02 feet above mean sea level (general adjustment of 1929; U. S. Weather Bureau bench mark).

Drainage area.- 12,100 square miles.

Records available.- October 1902 to April 1908 and March 1938 to September 1940. Gage-height records collected at same site since March 1934 and at site 1 mile upstream February 1914 to March 1934, are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 3,080 second-feet June 13 (gage height, 9.32 feet); no flow at times.

1902-8, 1938-40: Maximum discharge, 7,950 second-feet May 21, 1938 (gage height, 11.10 feet), from rating curve extended above 3,000 second-feet; no flow at times.

Flood of October 1923 reached an elevation of 1,326.5 feet above mean sea level at railroad bridge 1 mile above station, from reports of U. S. Weather Bureau.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	5.5	532	48	0	0
2							0	2.0	666	86	0	0
3							0	.2	551	406	0	0
4							0	0	268	323	0	11
5							0	0	203	280	0	8.3
6							0	0	180	164	0	5.0
7							0	0	187	100	0	.6
8							0	.1	159	68	0	0
9							0	.4	791	45	0	0
10							0	0	406	31	346	0
11							414	0	361	23	2,040	0
12							215	0	722	22	790	0
13							52	0	2,780	18	466	0
14							18	0	2,240	10	294	0
15							6.4	0	1,110	7.5	214	0
16							2.3	0	692	5.8	170	0
17							1.4	0	481	4.3	134	0
18							.4	0	347	3.0	117	0
19							.1	0	272	1.8	118	0
20							0	0	216	.9	70	0
21							0	259	178	2.5	49	0
22							0	944	143	1.1	35	0
23							0	537	115	.2	41	0
24							0	304	101	0	25	0
25							0	203	79	0	16	0
26							0	170	70	0	10	0
27							0	128	133	0	5.4	0
28							1.2	100	113	0	2.8	0
29							.4	81	76	0	1.3	0
30							7.1	63	56	0	.2	0
31							-	50	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	67,953.4	4,040	0	186	134,800
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	718.3	414	0	23.9	1,420
May	2,847.2	944	0	91.8	5,650
June	14,228	2,780	56	474	28,220
July	1,651.1	406	0	53.3	3,270
August	4,944.7	2,040	0	160	9,810
September	24.9	11	0	.83	49
Water year 1939-40	24,414.2	2,780	0	66.7	48,420

Lake Overholser near Oklahoma City, Okla.

Staff gage, lat. 35°29', long. 97°40', at dam on North Canadian River on north line of SW¼ sec. 30, T. 12 N., R. 4 W., 5 miles west of Oklahoma City. Datum of gage is 1,065.77 feet above mean sea level (levels by Oklahoma City Water Department). Records available, October 1939 to September 1940. Maximum contents observed during year, 20,200 acre-feet June 15 (gage height, 176.5 feet); minimum observed, 4,150 acre-feet May 21 (gage height, 165.25 feet).

Reservoir is formed by Ambursen type dam flanked by long earth-fill sections; storage began in 1917. Dam was partially washed out in 1923 and rebuilt in 1924. Capacity (based on 1924 survey) 20,200 acre-feet below 176.5 feet (top of spillway gates). Dead storage unknown. Records given herein represent total contents. Water used for municipal water supply by the City of Oklahoma City. Gage read once daily. Gage-height record and capacity table furnished by Oklahoma City Water Department.

Monthly gage height and contents, water year October 1939 to September 1940

Date	Gage height (feet)*	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	172.15	13,200	-
Oct. 31	170.6	10,800	-2,400
Nov. 30	169.45	9,100	-1,700
Dec. 31	168.4	7,700	-1,400
Jan. 31	167.4	6,500	-1,200
Feb. 29	167.0	6,000	-500
Mar. 31	165.8	4,700	-1,300
Apr. 30	166.1	5,000	300
May 31	168.95	8,400	3,400
June 30	176.3	19,900	11,500
July 31	175.85	19,100	-800
Aug. 31	175.8	19,100	0
Sept.30	175.05	17,800	-1,300
Water year 1939-40	-	-	4,600

*Gage height at 8 a.m.

North Canadian River near Oklahoma City, Okla.

Location.- Water-stage recorder, lat. 35°29'40", long. 97°25'40", on line between secs. 20 and 29, T. 12 N., R. 2 W., 2 miles east of Oklahoma City, 5 miles upstream from Crutcho Creek, and 22 miles downstream from Lake Overholser. Datum of gage is 1,140.79 feet above mean sea level. Prior to Feb. 9, 1940, wire-weight gage at same site and datum.

Drainage area.- 12,400 square miles.

Records available.- November 1938 to September 1940.

Extremes.- Maximum discharge during year, 5,240 second-feet July 2 (gage height, 9.80 feet); minimum daily, 15 second-feet Mar. 31.

1938-40: Maximum discharge observed, 7,600 second-feet June 28, 1939 (gage height, 11.47 feet); minimum daily, 12 second-feet Dec. 20, 1938.

Maximum stage known, 16.3 feet Oct. 16, 1923, from information furnished by State Highway Department, about 2 feet of which crest was due to release of ponded water through failure of dam at Lake Overholser, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records good except those prior to Feb. 8, which are fair. Gage read twice daily prior to Feb. 8. Considerable flow diverted into Lake Overholser (see p.221) for municipal use. Low flow sustained by sewage from Oklahoma City.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	24	21	18	28	22	16	28	21	98	22	20
2	24	23	20	18	26	20	16	24	18	3,130	22	18
3	20	23	18	20	33	18	17	25	19	694	20	22
4	21	21	18	20	23	20	17	23	20	572	18	32
5	35	21	21	19	23	21	17	20	21	365	20	201
6	22	23	21	20	a25	21	67	22	21	84	22	268
7	22	21	24	16	a25	21	49	20	24	53	22	76
8	49	23	22	17	a25	21	23	89	20	137	37	33
9	134	20	21	21	23	20	21	68	16	108	48	28
10	31	51	18	29	23	18	41	28	38	71	22	26
11	26	23	21	27	20	19	368	25	22	43	52	34
12	34	21	21	23	20	20	59	22	22	236	49	28
13	26	24	18	24	20	20	33	22	23	104	710	24
14	25	21	25	18	23	20	26	21	27	52	409	22
15	22	30	24	19	21	20	24	23	2,140	38	409	19
16	21	22	20	25	134	18	24	60	1,170	37	279	22
17	22	21	18	23	137	16	70	33	663	34	294	22
18	23	20	17	22	65	17	38	28	397	31	183	22
19	23	18	19	20	49	18	28	24	357	29	137	22
20	23	21	19	23	32	19	26	24	281	28	106	21
21	23	20	19	18	28	19	22	126	218	120	78	20
22	19	20	20	21	27	19	23	165	76	37	36	27
23	23	20	44	22	30	18	23	42	70	33	32	38
24	20	19	21	21	29	16	23	27	176	31	28	42
25	21	21	18	22	23	18	23	23	81	29	23	43
26	37	19	30	20	24	19	22	19	40	28	23	33
27	30	20	23	20	23	21	23	21	32	26	25	28
28	24	21	21	18	24	21	104	21	113	22	25	24
29	18	21	16	20	23	18	59	22	181	23	25	20
30	18	25	20	20	-	18	29	20	62	23	26	23
31	23	-	21	23	-	15	-	20	--	23	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	880	134	18	28.4	1,750
November	677	51	18	22.6	1,340
December	659	44	16	21.3	1,310
Calendar year 1939	74,477	5,620	13	204	147,700
January	647	29	16	20.9	1,280
February	1,006	137	20	34.7	2,000
March	591	22	15	19.1	1,170
April	1,331	368	16	44.4	2,640
May	1,135	165	19	36.6	2,250
June	6,369	2,140	16	212	12,630
July	6,339	3,130	22	204	12,570
August	3,227	710	18	104	6,400
September	1,258	268	18	41.9	2,500
Water year 1939-40	24,119	3,130	15	65.9	47,840

a No gage-height record; discharge computed on basis of sewage-disposal plant records.

North Canadian River near Wetumpka, Okla.

Location.- Water-stage recorder, lat. 35°15'40", long. 96°12'40", in center of SW¼ sec. 12, T. 9 N., R. 10 E., at bridge on U. S. Highway 75, 2½ miles northeast of Wetumpka, 4½ miles upstream from Wewoka Creek, and 70 miles upstream from Deep Fork. Datum of gage is 683.28 feet (revised) above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 13,900 square miles.

Records available.- March 1938 to September 1940.

Extremes.- Maximum discharge during year, 3,820 second-feet Sept. 5 (gage height, 9.47 feet); minimum daily, 26 second-feet Jan. 23, 26.

1938-40: Maximum discharge, 7,440 second-feet Mar. 29, 1938 (gage height, 15.64 feet, from floodmarks); minimum daily, that of Jan. 23, 26, 1940.

Maximum stage known, 26.5 feet sometime in October 1923, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records good except those for periods of ice effect, which are fair. Considerable flow diverted into Lake Overholser (capacity, 17,000 acre-feet), 190 miles upstream. Low flow augmented by sewage from Oklahoma City.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	58	*56	48	61	46	36	237	52	114	96	145
2	44	54	54	45	64	55	48	145	51	114	86	117
3	44	54	53	*45	71	60	139	119	50	1,450	84	102
4	45	51	54	47	67	54	50	119	51	2,930	79	533
5	46	48	*53	44	62	50	37	90	47	1,600	80	3,340
6	45	46	50	b36	*59	47	60	74	45	915	76	2,050
7	45	45	48	b40	56	48	163	64	43	654	74	606
8	46	46	50	b52	55	47	96	61	41	575	69	326
9	51	46	48	*b61	54	45	80	70	129	416	65	234
10	60	48	47	b60	52	45	78	65	282	302	62	232
11	50	48	*46	59	51	45	602	62	279	253	60	234
12	54	48	45	60	48	45	737	60	67	479	59	171
13	55	47	46	55	*47	45	430	60	67	290	58	145
14	52	47	46	59	47	44	210	87	66	228	56	130
15	94	48	44	56	46	43	266	78	50	221	61	123
16	79	53	44	54	47	42	192	72	88	186	142	117
17	61	55	42	*51	58	41	155	70	82	217	564	108
18	54	51	39	b41	74	40	151	66	542	175	842	100
19	50	48	37	b33	*76	39	139	70	754	145	754	92
20	47	47	35	b30	69	39	134	72	545	252	472	88
21	44	47	*36	b27	69	39	91	67	390	1,070	364	85
22	42	48	38	b27	100	39	75	70	314	1,000	276	85
23	40	47	47	eb26	*88	40	80	71	326	444	201	82
24	38	47	52	b29	80	40	76	70	338	1,210	167	78
25	38	47	48	b28	74	40	71	84	351	882	155	75
26	48	47	47	b26	66	38	69	123	403	390	141	71
27	142	46	*47	b28	*59	38	79	128	252	234	119	70
28	98	46	50	b37	53	38	318	96	178	169	134	67
29	85	50	47	b48	50	39	1,200	75	178	136	276	67
30	69	60	47	b61	-	38	377	62	145	121	377	67
31	69	-	52	*b60	-	38	-	58	-	107	244	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,778	142	38	57.4	3,530
November	1,473	58	45	49.1	2,920
December	1,448	56	35	46.7	2,870
Calendar year 1939	100,930	5,630	35	277	200,200
January	1,373	61	26	44.3	2,720
February	1,803	100	46	62.2	3,580
March	1,347	60	38	43.5	2,670
April	6,239	1,200	36	208	12,370
May	2,645	237	58	85.3	5,250
June	6,186	754	41	206	12,270
July	17,279	2,930	107	557	34,270
August	6,293	842	56	203	12,480
September	9,740	3,340	67	325	19,320
Water year 1939-40	57,604	3,340	26	157	114,200

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Wolf Creek at Lipscomb, Tex.

Location.- Water-stage recorder, lat. 36°14', long. 100°16', at bridge on State Highway 305, in northwest corner of Lipscomb, Lipscomb County, and 2 miles upstream from Plum Creek. Prior to Feb. 25, 1938, non-recording gage at same site and datum but continued in use as an auxiliary gage. Datum of gage is 2,377.1 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 694 square miles (contributing area).

Records available.- January 1938 to September 1940.

Extremes.- 1938: Maximum discharge during period January to September, 6,540 second-feet Sept. 4 (gage height, 4.52 feet), from rating curve extended above 3,000 second-feet; no flow at times.

1938-39: Maximum discharge during year, 7,260 second-feet June 23 (gage height, 4.73 feet), from rating curve extended above 3,000 second-feet; no flow at times.

1939-40: Maximum discharge during year, 4,780 second-feet June 10 (gage height, 3.80 feet); no flow at times.

Remarks.- Records poor. Daily records not sufficiently accurate for publication. Gage read once daily from Jan. 25, 1938, to Mar. 2, 1940, twice daily thereafter. No large diversion above station. Low flow partly regulated by reservoir in Perryton State Park, 20 miles upstream (capacity, 900 acre-feet).

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Monthly discharge of Wolf Creek at Lipscomb, Tex., for the period ending Sept. 30, 1938

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
January 25-31, 1938		6	6	6.0	83
February		12	4	6.9	385
March		6	2	3.8	232
April		369	1	31.2	1,860
May		784	4	125	7,660
June		1,140	5	166	9,900
July		240	0	33.3	2,040
August		90	0	3.9	240
September		2,000	0	83.5	4,970
The period		-	-	-	27,370
October 1938		0	0	0	0
November		0	0	0	0
December		3	0	.48	30
Calendar year		-	-	-	-
January 1939		19	0	4.1	254
February		4	0	1.7	95
March		212	1	27.7	1,700
April		1,980	2	94.6	5,630
May		78	0	6.9	424
June		2,380	0	215	12,790
July		1,140	0	57.3	3,520
August		773	0	43.9	2,700
September		0	0	0	0
Water year 1938-39		2,380	0	37.5	27,140
October 1939		0	0	0	0
November		0	0	0	0
December		0	0	0	0
Calendar year 1939		2,380	0	37.5	27,110
January 1940		1	0	.06	4
February		16	0	4.4	254
March		2	0	.74	46
April		6	0	.53	32
May		79	0	10.0	613
June		2,220	0	107	6,360
July		8	0	.26	16
August		1,330	0	55.0	3,380
September		557	0	34.2	2,040
Water year 1939-40		2,220	0	17.6	12,740

Wolf Creek near Shattuck, Okla.

Location.- Water-stage recorder, lat. 36°17'10", long. 99°54'45", in NE¼NE¼ sec. 19, T. 21 N., R. 25 W., at Santa Fe Railway bridge, 2 miles northwest of Shattuck, 2½ miles upstream from Rock Creek, and 3 miles downstream from Ivanhoe Creek. Datum of gage is 2,189.22 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,100 square miles.

Records available.- January 1938 to September 1940.

Extremes.- Maximum discharge during year, 16,600 second-feet Aug. 8 (gage height, 8.42 feet), from rating curve extended above 7,500 second-feet on basis of velocity-area studies; no flow at times.
1938-40: Maximum discharge, that of Aug. 8, 1940; no flow at times.

Remarks.- Records fair except those above 500 second-feet and those for period of ice effect, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2		b1	7	2	2	19	0	0	6
2		0	1		b2	6	2	2	62	0	0	4
3		0	1		b4	6	2	2	20	1	0	432
4		0	1		b6	6	2	2	6	0	0	63
5		0	1		b8	6	2	2	2	0	2	24
6		0	1		10	6	8	2	1	0	1	12
7		0	1		*13	6	9	10	1	0	0	6
8		0	1		11	6	8	45	0	0	3,870	4
9		0	2		b10	6	6	13	243	0	668	3
10		0	2		b11	6	6	6	4,220	0	78	2
11		0	2		12	6	8	4	387	0	60	2
12		0	1		11	6	8	3	92	0	53	1
13		0	1		10	6	8	2	51	0	36	1
14		0	1		9	6	6	1	33	0	20	1
15		0	1		*8	6	4	1	26	0	14	1
16		0	1		8	6	4	3	19	0	12	1
17		0	1		12	4	4	2	15	0	9	0
18		0	*1		12	4	6	2	14	0	8	0
19		0	1		15	3	6	36	11	0	6	0
20		0	2		15	3	5	23	8	0	4	0
21		0	2		15	3	4	26	8	0	4	0
22		1	2		14	3	4	13	10	0	4	2
23		1	2		12	4	3	9	6	62	3	1
24		1	b1		12	3	3	4	4	1	3	2
25		1	0		12	4	3	2	3	0	3	2
26		1	0		10	4	2	1	1	0	2	1
27		1	0		9	3	5	2	0	0	3	2
28		1	0		e	2	6	4	0	0	2	1
29		1	0		7	3	4	28	0	0	6	1
30		2	0		-	2	3	41	0	0	23	1
31		-	0		-	2	-	30	-	0	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	10	2	0	.3	20
December	32	2	0	1.0	63
Calendar year 1939	18,352	3,380	0	50.3	36,400
January	0	0	0	0	0
February	287	15	1	9.9	569
March	144	7	2	4.6	286
April	143	9	2	4.8	284
May	323	45	1	10.4	641
June	5,262	4,220	0	175	10,440
July	64	62	0	2.1	127
August	4,910	3,870	0	158	9,740
September	576	432	0	19.2	1,140
Water year 1939-40	11,751	4,220	0	32.1	23,310

Peak discharge.- June 10 (1 p.m.) 10,700 sec.-ft.; Aug. 8 (9:30 p.m.) 16,600 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Wolf Creek near Supply, Okla.

Location.- Water-stage recorder, lat. 36°34'00", long. 99°33'05", on line between secs. 9 and 10, T. 24 N., R. 22 W., at bridge on U. S. Highway 270, 1 mile southeast of Supply, 1.3 miles downstream from Fort Supply flood-control dam, and 3 miles upstream from mouth. Datum of gage is 1,968.38 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,460 square miles (revised).

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 10,400 second-feet Aug. 8 (gage height, 5.80 feet); no flow at times.

1938-40: Maximum discharge, 14,200 second-feet June 24, 1939 (gage height, 5.60 feet), from rating curve extended above 8,000 second-feet; no flow at times.

Maximum stage known, 9.6 feet, date unknown, from information furnished by State Highway Department.

Remarks.- Records fair. Some regulation during low water from construction activities at Fort Supply dam.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	13	3	6	38		0	4
2					0	12	2	4	38		0	3
3					0	12	2	4	71		0	281
4					12	12	2	2	27		0	234
5					36	13	1	h2	10		0	89
6					h31	12	3	h0	5		476	41
7					h22	14	8	h2	2		33	24
8					h18	12	9	135	0		3,310	15
9					h15	11	9	108	0		2,460	10
10					h16	11	62	28	635		351	5
11					h22	11	28	16	1,990		186	3
12					h16	12	17	10	h234		99	2
13					h13	10	13	8	h145		68	1
14					h11	12	13	4	h92		56	0
15					11	12	8	3	h56		39	0
16					7	11	6	3	h37		31	0
17					0	10	7	5	h26		26	0
18					0	8	10	76	h19		21	0
19					0	8	9	46	h16		18	0
20					41	7	8	21	11		15	0
21					180	7	6	25	7		12	0
22					44	7	5	22	6		8	0
23					33	6	3	21	3		8	0
24					25	6	3	18	2		5	0
25					22	8	3	14	h2		3	0
26					19	8	3	11	h0		2	0
27					16	6	4	8	0		2	0
28					16	6	11	7	0		1	0
29					14	5	12	7	0		0	0
30					-	5	11	8	0		0	0
31					-	4	-	30	-		- 0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	30,191	6,130	0	82.7	59,870
January	0	0	0	0	0
February	642	180	0	22.1	1,270
March	291	14	4	9.4	577
April	281	62	1	9.4	557
May	654	135	0	21.1	1,300
June	3,472	1,990	0	116	6,890
July	0	0	0	0	0
August	7,230	3,310	0	233	14,340
September	712	281	0	23.7	1,410
Water year 1939-40	13,282	3,310	0	36.3	26,340

h Water-stage recorder graph missing or incomplete; discharge computed on basis of once-daily readings of staff gage.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-1850[illegible]

Deep Fork near Beggs, Okla.

Location.- Wire-weight gage, lat. 35°41', long. 96°04', on line between secs. 19 and 20, T. 14 N., R. 12 E., at county highway bridge, 3 miles upstream from Adams Creek, 4 miles south of Beggs, and 8 miles downstream from Flat Rock (Checkerboard) Creek. Datum of gage is 632.55 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Prior to Aug. 29, 1939, staff gage at site 450 feet downstream at same datum.

Drainage area.- 1,980 square miles.

Records available.- September 1938 to September 1940.

Extremes.- 1938-39: Maximum discharge during water year, 2,280 second-feet July 8 (gage height, 12.50 feet, from graph based on gage readings); no flow at times.
1939-40: Maximum discharge during water year, 4,870 second-feet Sept. 5 (gage height, 20.94 feet, from reading at flood crest); no flow at times.

Remarks.- Records for water year 1939-40 good except those for periods of rapidly changing stage or those below 20 second-feet, which are fair, and those for period of ice effect, which are poor. Gage read twice daily.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from September 1938 to September 1939 were collected and computed by Corps of Engineers and prepared for publication by Geological Survey.

Discharge, in second-feet, 1938-40

1938

Sept.	1	9	Sept.	11	24	Sept.	21	29
	2	8		12	21		22	21
	3	7		13	15		23	14
	4	7		14	11		24	11
	5	25		15	11		25	8
	6	44		16	29		26	7
	7	62		17	24		27	6
	8	70		18	74		28	5
	9	48		19	62		29	4
	10	38		20	40		30	3

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3	3			142	23	44	9	28	1,420	51	38
2	2	2			116	27	48	8	91	1,380	38	30
3	2	3		e10	170	30	58	8	107	1,450	33	19
4	1	3			142	29	116	8	74	1,600	58	16
5	1	11			94	66	142	7	70	1,860	66	11
6	1	23			66	70	74	7	54	2,100	35	10
7	1	39		25	48	107	51	6	70	2,250	29	7
8	1	78	e3	17	37	124	172	9	54	2,250	20	6
9	1	107		27	31	142	343	10	36	1,740	58	5
10	1	74		27	28	112	202	11	26	715	78	4
11	2	58		36	24	74	116	945	23	275	98	4
12	3	48		35	23	48	74	636	24	151	250	3
13	4	44		35	21	36	54	1,330	20	102	151	2
14	4	32		107	19	27	38	1,520	16	82	82	2
15	3	25		82	19	23	32	1,050	12	70	54	1
16	3	21		58	17	20	27	1,090	10	54	35	1
17	3	17		43	15	18	24	1,050	8	43	26	1
18	2	12		36	15	17	24	870	7	38	19	1
19	2	11		35	18	15	23	301	6	34	58	1
20	1	9		34	21	17	25	202	7	58	25	0
21	7	8		29	22	12	27	151	18	51	15	14
22	11	8		25	21	11	30	142	26	26	43	21
23	7	8		33	20	11	24	116	24	35	82	14
24	7	7	e11	38	18	11	19	86	14	160	133	5
25	4	7		42	19	11	15	66	14	343	160	4
26	3			41	20	12	14	51	25	574	170	4
27	3			35	20	15	21	66	24	400	329	d2
28	2	e3		31	24	17	13	98	301	191	262	1
29	3			36	-	21	11	54	1,480	116	188	0
30	2			38	-	21	10	51	1,710	74	103	0
31	2	-		160	-	37	-	32	-	58	60	-

d Doubtful gage-height record; discharge interpolated.
e Stage-discharge relation indeterminate; discharge computed on basis of records for station near Dewar.

Discharge, in second-feet, of Deep Fork near Beggs, Okla., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	64	7	11	5	23	6	2,780	26	174	47	1,200
2	0	43	6	11	5	20	7	2,190	22	363	39	910
3	0	33	6	11	6	16	7	1,630	20	588	31	637
4	0	24	7	10	6	15	6	576	16	1,530	26	3,050
5	0	16	7	10	7	14	7	270	15	1,280	22	4,750
6	0	13	6	10	6	14	12	157	14	1,280	22	4,470
7	0	10	5	10	7	11	16	120	13	1,300	16	4,220
8	0	7	5	9	15	10	42	95	12	726	26	3,570
9	1	6	5	9	26	10	64	428	86	257	26	2,640
10	0	4	8	9	25	10	50	688	494	147	20	2,430
11	0	4	7	9	25	9	514	434	960	95	12	2,640
12	1	3	7	8	23	8	2,160	464	479	352	10	2,670
13	0	2	6	8	18	7	1,600	257	576	783	8	1,860
14	0	12	6	8	16	7	1,430	147	494	349	8	577
15	0	6	5	7	15	7	1,430	95	233	210	26	245
16	32	5	5	7	15	8	1,430	68	129	167	115	157
17	27	14	4	7	22	7	940	54	87	111	1,370	120
18	18	36	4	*7	31	6	419	47	64	71	1,160	91
19	14	26	3	7	75	7	363	43	87	50	1,040	75
20	9	21	3	7	75	7	210	40	71	42	1,060	64
21	6	17	3	6	111	7	138	54	47	836	1,160	57
22	6	14	1	6	167	7	111	43	36	1,300	893	50
23	4	11	4	6	120	7	95	47	33	726	324	47
24	4	8	9	6	79	8	75	47	34	612	167	43
25	2	7	7	6	57	7	64	43	31	745	111	36
26	3	6	*16	6	44	7	57	38	36	920	83	36
27	5	6	14	6	36	9	71	38	252	710	60	32
28	3	6	11	6	28	9	495	47	199	302	111	30
29	33	5	11	6	26	8	2,810	39	103	157	380	28
30	14	7	11	6	-	8	3,020	36	57	95	789	28
31	9	-	11	5	-	6	-	30	-	68	1,060	-

*Winter discharge measurement made on this day.
Note.- Stage-discharge relation affected by ice Dec. 31 to Jan. 29.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
September 1938	737	74	3	24.6	1,460
Water year	-	-	-	-	-
October 1938	92	11	1	3.0	182
November	673	107	-	22.4	1,330
December	221	-	-	7.1	438
Calendar year	-	-	-	-	-
January 1939	1,168	160	-	37.7	2,320
February	1,230	170	15	43.9	2,440
March	1,204	142	11	38.8	2,390
April	1,871	343	10	62.4	3,710
May	9,990	1,520	6	322	19,810
June	4,379	1,710	6	146	8,690
July	19,700	2,250	26	635	39,070
August	2,809	329	15	90.6	5,570
September	227	38	0	7.6	450
Water year 1938-39	43,564	2,250	0	119	86,400
October 1939	193	33	0	6.2	383
November	436	64	2	14.5	865
December	210	16	1	6.8	417
Calendar year 1939	43,417	2,250	0	119	86,120
January 1940	240	11	5	7.7	476
February	1,091	167	5	37.6	2,160
March	299	23	6	9.6	593
April	17,649	3,020	6	588	35,010
May	11,045	2,780	30	356	21,910
June	4,726	960	12	158	9,370
July	16,346	1,530	42	527	32,420
August	10,222	1,370	8	330	20,280
September	36,763	4,750	28	1,225	72,920
Water year 1939-40	99,220	4,750	0	271	196,800

Deep Fork near Dewar, Okla.

Location.- Water-stage recorder, lat. 35°28'50", long. 95°52'50", in SE¼ sec. 25, T. 12 N., R. 13 E., at bridge on U. S. Highway 266, 3½ miles east of Dewar and 3½ miles upstream from Wolf Creek. Datum of gage is 578.32 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 2,300 square miles.

Records available.- March 1938 to September 1940.

Extremes.- Maximum discharge during year, 4,140 second-feet Sept. 6 (gage height, 18.45 feet); minimum, 1.8 second-feet Oct. 16 (gage height, 1.10 feet).

1938-40: Maximum discharge, 10,100 second-feet Apr. 4, 1938 (gage height, 21.43 feet, reading at flood crest); minimum, that of Oct. 16, 1939.

Maximum stage known, about 29.0 feet from floodmarks, in October 1908, from information furnished by Corps of Engineers, U. S. Army.

Remarks.- Records good except those below 10 second-feet, which are fair.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to May 4

1.1	1.8	1.6	74	6.0	804
1.15	5.3	2.0	142	8.0	1,250
1.2	11	2.5	217	11.0	2,020
1.3	24	3.0	292	14.0	2,950
1.4	39	4.0	447		

May 5 to Sept. 30

1.2	11	2.5	239	11.0	1,950
1.3	24	3.0	319	14.0	2,680
1.4	39	4.0	476	16.0	3,260
1.6	75	6.0	856	18.0	3,970
2.0	154	8.0	1,290		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	h6.3	24	12	12	9.8	34	11	2,880	39	85	79	1,090
2	h6.3	18	16	12	9.8	30	11	2,740	34	153	60	1,200
3	h5.3	43	12	12	9.8	28	27	2,240	30	364	46	816
4	h5.3	46	9.8	16	9.8	26	82	1,590	26	626	34	1,310
5	h4.4	36	8.6	16	11	23	32	672	21	1,370	30	3,840
6	h4.4	28	7.4	17	9.8	21	32	306	20	1,310	27	4,090
7	h6.3	21	7.4	16	9.8	20	95	186	21	1,290	26	4,000
8	h5.3	18	8.6	15	9.8	20	116	137	20	1,260	21	4,090
9	h5.3	15	8.6	13	9.8	17	56	115	17	769	18	4,140
10	h16	12	8.6	13	9.8	15	67	442	64	295	20	4,090
11	h41	9.8	8.6	13	13	15	921	696	540	175	28	3,690
12	h16	8.6	6.3	15	26	16	1,590	444	898	158	23	3,170
13	7.4	7.4	5.3	13	27	16	2,050	h444	527	355	17	2,730
14	4.4	6.3	6.3	12	27	13	1,700	h287	545	716	13	1,950
15	2.9	5.3	7.4	13	24	12	1,390	h168	510	386	12	h683
16	2.3	4.4	7.4	13	24	11	1,350	h115	271	209	16	h293
17	2.3	6.3	7.4	13	30	9.8	1,350	h83	167	174	377	h189
18	h2.9	8.6	7.4	9.8	44	8.6	886	h64	119	129	1,990	h141
19	h2.9	11	7.4	11	54	9.8	479	h53	85	91	1,480	h113
20	2.9	20	6.3	11	63	9.8	322	h46	73	281	1,110	h93
21	3.6	27	6.3	9.8	83	11	210	h44	87	581	1,090	79
22	13	23	7.4	8.6	88	8.6	144	49	66	976	1,150	67
23	12	18	8.6	9.8	140	8.6	121	53	48	1,290	856	60
24	9.8	16	9.8	12	136	9.8	104	48	41	756	364	54
25	7.4	15	18	12	107	13	88	49	42	619	h189	49
26	12	13	13	12	79	17	79	56	34	736	h135	46
27	61	11	11	12	61	13	85	46	32	898	h103	39
28	58	9.8	11	11	51	11	137	44	172	687	87	38
29	22	9.8	15	11	42	9.8	1,630	46	208	326	206	36
30	12	12	15	11	-	8.6	2,640	49	133	168	380	33
31	14	-	13	9.8	-	11	-	46	-	115	827	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	374.7	61	2.3	12.1	743
November	503.3	46	4.4	16.8	998
December	296.9	18	5.3	9.58	589
Calendar year 1939	45,599.4	2,190	2.3	125	90,440
January	384.8	17	8.6	12.4	763
February	1,218.2	140	9.8	42.0	2,420
March	476.4	34	8.6	15.4	945
April	17,805	2,640	11	594	35,320
May	14,238	2,880	44	459	28,240
June	4,890	898	17	163	9,700
July	17,348	1,370	85	560	34,410
August	10,814	1,990	12	349	21,450
September	42,221	4,140	33	1,407	83,740
Water year 1939-40	110,570.3	4,140	2.3	302	219,300

h Water-stage recorder graph incomplete; discharge computed on basis of gage-height graph based on partial record and once-daily readings of wire-weight gage.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog al Survey

Poteau River at Cauthron, Ark.

Location.- Water-stage recorder, lat. 34°55', long. 94°18', in sec. 16, T. 3 N., R. 31 W., at highway bridge at Cauthron, about 8 miles downstream from Jones Creek. Altitude of gage, 585 feet (from topographic map). Prior to May 2, 1939, wire-weight gage at same site and datum.

Drainage area.- 198 square miles.

Records available.- February 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period February to September, 22,300 second-feet Apr. 16 (gage height, 22.5 feet, from graph based on gage readings), from rating curve extended above 6,600 second-feet by velocity-area studies; no flow Sept. 23-28.
1939-40: Maximum discharge during water year, 2,810 second-feet Apr. 29, Aug. 17; maximum gage height, 10.71 feet Apr. 29; no flow Oct. 1-9.
Flood of June 1935 reached a stage of 27.4 feet, from information furnished by local residents.

Remarks.- Records fair below 10,000 second-feet, poor above. Gage read twice daily prior to May 2, 1939.

Cooperation.- Records for period February to September 1939 collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	336	125	45	28	20	0.8	0.8
2					-	253	89	42	26	8.4	.7	.8
3					-	208	64	37	124	39	.6	.7
4					-	224	56	32	138	14	.6	.6
5					-	3,190	1,440	30	138	5.1	.5	.5
6					-	519	5,640	27	286	2.5	.5	.5
7					-	236	772	29	102	1.6	.4	.4
8					-	167	403	37	41	1.3	.4	.4
9					-	139	257	45	31	1.2	.6	.4
10					-	122	189	32	19	1.0	.7	.4
11					-	115	212	28	11	.9	.7	.4
12					-	83	174	24	16	.9	.7	.4
13					-	69	118	24	81	.9	.9	.3
14					-	57	96	31	38	.8	1.5	.3
15					-	45	96	42	19	.8	1.4	.3
16					-	40	13,800	31	9.9	.7	1.4	.2
17					265	37	7,980	112	4.5	.7	1.2	.2
18					282	35	1,150	1,490	2.8	.7	1.1	.2
19					3,060	30	733	558	5.9	.6	.9	.2
20					2,780	30	322	518	2.2	.6	.8	.1
21					553	28	232	282	1.0	.6	.8	.1
22					317	26	171	171	2.2	.5	.7	.1
23					244	24	135	115	1.8	.5	.6	0
24					224	23	105	83	1.6	.5	.6	0
25					4,850	24	89	312	1.4	.4	.6	0
26					1,200	26	73	231	1.8	.4	9.4	0
27					543	24	83	129	21	.4	1.3	0
28					707	28	139	73	52	1.0	1.4	0
29					-	941	73	49	153	1.2	1.0	.1
30					-	453	56	37	50	.9	.9	.1
31					-	178	-	32	-	.9	.8	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog il Survey

Discharge, in second-feet, of Poteau River at Cauthron, Ark., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.0	4.5	7.0	3.2	30	13	249	44	10	1.9	5.9
2	0	1.0	5.9	7.0	2.8	27	12	160	35	8.8	1.7	7.2
3	0	.9	8.4	5.9	3.5	26	24	115	28	7.7	1.4	170
4	0	.8	5.9	5.9	4.0	23	66	86	25	6.3	1.4	66
5	0	.8	5.1	5.1	4.0	19	37	64	20	4.6	2.0	34
6	0	.8	4.0	5.1	9.9	18	382	50	16	4.3	5.5	20
7	0	.8	3.5	5.9	25	16	1,490	41	14	3.8	4.3	12
8	0	.8	2.8	5.1	28	15	428	36	12	3.2	3.2	7.7
9	0	.8	2.5	4.5	22	13	224	35	9.5	2.9	2.7	5.5
10	.2	.9	2.5	4.5	17	13	146	35	16	2.6	2.6	4.0
11	.2	1.1	2.5	4.0	14	13	417	32	60	2.1	244	3.4
12	.2	1.2	2.0	4.0	19	15	418	28	34	2.6	337	2.9
13	.2	1.1	1.8	5.9	22	20	220	23	23	8.7	135	2.6
14	.1	1.0	1.8	11	19	31	156	19	16	10	52	2.4
15	.2	1.0	1.8	11	14	27	115	16	13	4.8	29	2.4
16	.3	1.1	1.6	13	13	19	81	13	8.8	3.0	16	2.4
17	.6	1.3	1.6	13	16	17	66	10	7.2	2.1	1,020	2.1
18	.6	1.4	1.6	9.9	252	15	66	13	6.7	1.9	1,150	2.3
19	.6	1.5	1.5	7.0	268	14	678	13	5.9	1.7	244	2.3
20	.6	1.6	1.5	5.9	142	14	568	12	5.5	1.9	115	2.6
21	.6	1.8	1.4	5.1	93	12	220	12	4.8	5.2	66	2.9
22	.6	1.8	1.5	5.1	66	13	135	9.5	6.3	26	44	2.9
23	.6	1.8	2.5	4.5	50	12	96	13	8.8	13	32	3.0
24	.6	2.0	2.5	4.0	52	15	73	118	7.2	6.7	25	20
25	.6	2.5	21	3.5	78	17	56	286	5.5	4.0	18	12
26	116	2.0	25	3.2	59	24	52	181	4.6	3.4	13	4.3
27	123	2.0	19	3.2	47	21	59	109	3.8	3.4	12	2.7
28	52	1.8	17	3.2	42	19	214	146	4.3	3.2	12	2.0
29	17	1.6	17	3.2	35	18	1,730	129	7.7	2.7	9.5	1.6
30	3.5	2.8	13	3.2	-	17	443	83	15	2.3	7.7	1.2
31	1.5	-	9.9	3.2	-	16	-	57	-	2.1	6.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
January	-	-	-	-	-	-	-
February 17-28, 1939	15,025	4,850	224	1,252	6.32	2.82	29,800
March	7,710	3,190	23	249	1.26	1.45	15,290
April	34,872	13,800	56	1,162	5.87	6.55	69,170
May	4,728	1,490	24	153	.773	.89	9,380
June	1,409.1	286	1.0	47.0	.237	.26	2,790
July	109.0	39	.4	3.52	.018	.02	216
August	34.5	9.4	.4	1.11	.0056	.006	68
September	8.5	.8	0	.28	.0014	.002	17
The period	-	-	-	-	-	-	126,700
October 1939	319.8	123	0	10.3	.052	.06	634
November	41.0	2.8	.8	1.37	.0069	.008	81
December	192.6	25	1.4	6.21	.031	.04	382
Calendar year	-	-	-	-	-	-	-
January 1940	182.1	13	3.2	5.87	.030	.03	361
February	1,420.4	268	2.8	49.0	.247	.27	2,820
March	569	31	12	18.4	.093	.11	1,130
April	8,685	1,730	12	290	1.46	1.63	17,230
May	2,193.5	286	9.5	70.8	.368	.41	4,350
June	467.6	60	3.8	15.6	.079	.09	927
July	165	26	1.7	5.32	.027	.03	327
August	3,614.6	1,150	1.4	117	.591	.68	7,170
September	410.3	170	1.2	13.7	.069	.08	814
Water year 1939-40	18,260.9	1,730	0	49.9	.252	3.44	36,220

Poteau River near Wister, Okla.

Location.- Water-stage recorder, lat. 34°57', long. 94°42', in NW¼ sec. 32, T. 6 N., R. 25 E., at Chicago, Rock Island & Pacific Railway bridge, three-quarters of a mile upstream from Caston Creek, 2 miles southeast of Wister, and 5½ miles downstream from Fourche Maline. Datum of gage is 433.02 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,015 square miles.

Records available.- May 1938 to September 1940.

Extremes.- Maximum discharge during year, 7,670 second-feet Apr. 12 (gage height, 19.70 feet); no flow Oct. 1-25.
1938-40: Maximum discharge, 90,200 second-feet Apr. 17, 1939 (gage height, 37.1 feet); no flow Sept. 28 to Nov. 3, 1938, Sept. 11 to Oct. 25, 1939.
Maximum stage known, 43.0 feet, former site and datum, in June 1935.

Remarks.- Records good except those below 50 second-feet and those for period of ice effect, which are poor.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	24	105	45	30	249	71	2,470	426	232	12	39
2	0	23	*57	40	30	229	69	1,080	347	193	9.9	31
3	0	22	47	38	34	198	534	766	281	127	8.5	31
4	0	20	37	34	41	178	369	592	235	95	7.2	70
5	0	17	29	33	48	156	235	475	191	168	6.0	221
6	0	14	*33	32	62	144	877	384	156	142	4.6	193
7	0	12	43	34	*123	131	3,670	314	131	102	3.2	241
8	0	11	39	34	129	121	4,110	264	113	75	2.5	188
9	0	9.6	34	*33	117	113	2,300	255	149	57	2.4	109
10	0	8.8	28	31	129	105	1,080	226	400	47	2.5	65
11	0	8.5	23	32	149	111	5,440	196	287	40	3.5	45
12	0	8.1	21	41	136	117	7,010	170	149	35	3.5	31
13	0	7.4	20	44	119	117	4,930	142	123	28	37	21
14	0	6.7	18	41	109	111	2,680	117	156	36	249	16
15	0	6.2	18	39	102	98	969	100	165	54	127	12
16	0	6.4	17	39	100	104	732	89	138	37	72	9.9
17	0	6.9	17	b38	113	117	749	86	150	30	1,110	8.5
18	0	13	15	b37	362	109	1,120	89	180	29	1,820	6.4
19	0	21	*14	b35	592	98	784	93	136	25	1,920	5.7
20	0	20	12	b37	840	93	821	226	153	28	784	6.2
21	0	17	12	b38	*679	86	969	264	238	318	419	6.2
22	0	16	14	b36	524	85	592	173	204	574	270	6.2
23	0	14	18	b35	412	78	458	140	136	458	183	6.4
24	0	14	24	b32	375	77	381	320	109	175	131	6.7
25	0	12	24	*b32	347	72	332	1,080	86	88	98	10
26	a5	10	25	b32	320	71	293	1,200	67	57	72	11
27	24	9.2	25	b32	320	69	270	876	54	41	59	9.6
28	18	7.8	27	b31	293	74	420	969	130	28	54	14
29	9.2	14	37	b30	272	78	4,170	858	484	20	61	12
30	6.2	28	48	b30	-	77	5,410	696	196	18	65	7.8
31	12	-	49	30	-	72	-	541	-	14	50	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	74.4	24	0	2.40	0.0024	0.003	148
November	407.6	28	6.2	13.6	.013	.01	808
December	930	105	12	30.0	.030	.03	1,840
Calendar year 1939	334,506.0	79,600	0	916	.902	12.26	663,400
January	1,095	45	30	35.3	.035	.04	2,170
February	6,907	840	30	238	.234	.25	13,700
March	3,538	249	69	114	.112	.13	7,020
April	51,845	7,010	69	1,728	1.70	1.90	102,800
May	15,251	2,470	86	492	.485	.56	30,250
June	5,770	484	54	192	.189	.21	11,440
July	3,371	574	14	109	.107	.12	6,690
August	7,646.8	1,920	2.4	247	.243	.28	15,170
September	1,439.6	241	5.7	48.0	.047	.05	2,860
Water year 1939-40	98,275.4	7,010	0	269	.265	3.58	194,900

*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of rainfall and records for stations at Cauthron and Poteau.
b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
101904-O U.S. GOVERNMENT PRINTING OFFICE 1936

Poteau River at Poteau, Okla.

Location.- Water-stage recorder, lat. 35°03'35", long. 94°36'10", in SE¼SW¼ sec. 19, T. 7 N., R. 26 E., at St Louis-San Francisco Railroad bridge, 1 mile northeast of Poteau and 2 miles upstream from Nail Creek. Datum of gage is 409.4 feet above mean sea level (Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 1,240 square miles.

Records available.- March 1938 to September 1940.

Extremes.- Maximum discharge during year, 7,540 second-feet Apr. 12; maximum gage height, 22.60 feet Apr. 12; minimum, 0.4 second-foot Oct. 1, 2 (gage height, 1.54 feet).
1938-40: Maximum discharge, 68,200 second-feet Apr. 17, 1939 (gage height, 36.2 feet, from gage reading at flood crest); minimum, 0.4 second-foot Sept. 23-29, Oct. 1, 2, 1939.
Maximum stage known, 39.0 feet June 22, 1935 (discharge, about 100,000 second-feet).

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	7.5	64	52	30	262	86	e3,690	480	192	17	55
2	.5	16	100	50	30	240	84	e1,860	382	217	16	43
3	.6	23	71	45	31	214	356	1,030	308	162	14	35
4	.6	22	59	40	31	196	610	715	257	114	12	34
5	.7	20	48	39	36	178	305	538	219	104	10	118
6	.8	18	36	37	57	164	e562	424	187	146	9.3	168
7	.7	16	32	37	84	153	e3,880	343	159	120	8.1	173
8	.7	13	37	36	142	137	e4,470	290	142	92	6.9	203
9	.9	10	40	36	137	129	e3,350	267	180	73	4.5	155
10	1.7	16	37	35	131	120	e1,840	248	344	61	4.2	102
11	.8	10	31	35	137	120	e4,870	221	340	50	4.5	71
12	.7	9.3	26	34	153	129	e7,360	198	240	42	5.1	52
13	.7	8.1	23	36	144	133	e6,190	180	155	34	4.2	37
14	.6	7.5	22	43	131	127	e4,130	159	127	30	51	30
15	.6	7.5	20	43	122	118	e1,920	139	144	35	142	24
16	.6	7.5	19	40	118	112	970	124	155	43	112	20
17	.7	12	17	40	129	120	820	118	142	37	e2,660	16
18	.7	10	16	40	288	127	1,270	124	166	32	e3,090	14
19	.6	10	16	37	595	118	1,130	122	173	30	e2,820	13
20	.7	18	14	f40	850	112	760	127	139	26	e1,420	10
21	.6	22	14	f40	880	108	1,290	290	164	44	546	8.7
22	.6	22	14	f40	825	108	760	226	198	410	310	7.5
23	.7	19	19	36	466	102	522	185	164	550	212	5.7
24	.7	15	16	35	424	102	410	185	122	292	153	5.1
25	.8	15	16	37	396	98	351	850	98	133	116	8.7
26	4.2	14	17	36	343	94	318	1,540	81	83	92	6.3
27	11	12	20	35	332	90	292	1,190	68	57	75	7.5
28	1.4	10	22	34	316	90	303	1,030	61	40	64	7.5
29	1.7	9.9	23	32	287	90	e3,790	1,080	363	30	61	6.9
30	7.5	27	28	31	-	94	e5,700	820	264	22	66	7.5
31	8.1	-	45	30	-	90	-	640	-	19	68	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	51.6	11	0.4	1.66	0.0013	0.002	102
November	428.3	27	7.5	14.3	.012	.01	850
December	962	100	14	31.0	.025	.03	1,910
Calendar year 1939	375,770.9	57,000	.4	1,030	.831	11.26	745,300
January	1,181	52	30	38.1	.031	.04	2,340
February	7,445	880	30	257	.207	.22	14,770
March	4,075	262	90	131	.106	.12	8,080
April	58,699	7,360	84	1,957	1.58	1.76	116,400
May	18,931	3,690	118	611	.493	.57	37,550
June	6,022	480	61	201	.162	.18	11,940
July	3,320	550	19	107	.088	.10	6,590
August	12,173.8	3,090	4.2	393	.317	.37	24,150
September	1,444.4	203	5.1	48.1	.039	.04	2,860
Water year 1939-40	114,733.1	7,360	.4	313	.252	3.44	227,500

e Discharge computed using rate of change in stage as a factor.
f Discharge computed on basis of estimated gage height.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604-O U. S. GOVERNMENT PRINTING OFFICE: 1936

Frog Bayou near Mountainburg, Ark.

Location.- Water-stage recorder above concrete weir in spillway of Fort Smith Dam, lat. 35°39'40", long. 94°09'10", in NW¼NE¼ sec. 2, T. 11 N., R. 30 W., three-quarters of a mile upstream from Warloop Creek, 1¼ miles upstream from Howard Fork, 2½ miles northeast of Mountainburg, and 3 miles downstream from Jones Fork. Datum of gage is 800.00 feet above mean sea level (general adjustment of 1929, city of Fort Smith bench mark).

Drainage area.- 65 square miles.

Records available.- July 1936 to September 1940.

Extremes.- Maximum discharge during year, 4,220 second-feet Apr. 11 (gage height, 27.35 feet); no flow Oct. 1 to Mar. 3, June 3-28, July 9 to Sept. 30.
1936-40: Maximum discharge observed, 6,500 second-feet Feb. 18, 1938 (gage height, 28.2 feet); no flow during long periods in each year.

Remarks.- Records fair. Discharge represents spillway overflow from Lake Fort Smith.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

24.97	0	25.16	66.1	25.90	971
25.00	1.9	25.22	110	26.30	1,710
25.04	7.7	25.30	178	26.70	2,570
25.08	21.9	25.40	278		
25.12	42.0	25.60	520		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	10.2	336	4.4	26.6		
2						0	10.2	258	1.9	21.9		
3						0	13.8	208	0	13.8		
4						3.0	17.5	169	0	7.7		
5						17.5	6.9	134	0	4.4		
6						21.9	17.2	118	0	1.9		
7						17.5	42.8	94	0	1.0		
8						17.5	80	80	0	.3		
9						13.8	80	73	0	0		
10						13.8	126	60	0	0		
11						17.5	2,350	54	0	0		
12						13.8	827	42.0	0	0		
13						10.2	444	36.7	0	0		
14						7.7	301	31.8	0	0		
15						7.7	228	26.6	0	0		
16						5.8	178	21.9	0	0		
17						5.8	248	21.9	0	0		
18						5.8	301	31.8	0	0		
19						4.4	238	26.6	0	0		
20						4.4	188	21.9	0	0		
21						4.4	151	31.8	0	0		
22						4.4	134	36.7	0	0		
23						3.0	118	42.0	0	0		
24						7.7	94	42.0	0	0		
25						4.4	80	36.7	0	0		
26						3.0	87	31.8	0	0		
27						3.0	80	21.9	0	0		
28						4.4	119	17.5	0	0		
29						7.7	680	13.8	54	0		
30						7.7	469	7.7	47.9	0		
31						10.2	-	5.8	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	19,906	1,000	0	54.5	39,490
January	0	0	0	0	0
February	0	0	0	0	0
March	248.0	21.9	0	8.00	492
April	7,719.6	2,350	6.9	257	15,310
May	2,132.9	336	5.8	68.8	4,230
June	108.2	54	0	3.61	215
July	77.6	26.6	0	2.50	154
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1939-40	10,286.3	2,350	0	28.1	20,400

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Mulberry River near Mulberry, Ark.

Location.- Water-stage recorder, lat. 35°34', long. 94°01', in NW¼ sec. 6, T. 10 N., R. 28 W., a quarter of a mile upstream from Mill Creek, 5 miles northeast of Mulberry, and about 11 miles upstream from Arkansas River. Prior to Apr. 19, 1940, staff gage 500 feet downstream at same datum. Datum of gage is 432.75 feet above mean sea level (general adjustment of 1929, levels by Corps of Engineers, U. S. Army).

Drainage area.- 372 square miles.

Records available.- May 1938 to September 1940.

Extremes.- 1938: Maximum discharge during period May to September, 7,330 second-feet Apr. 23 (gage height, 8.2 feet, from graph based on gage readings); minimum discharge observed, 0.1 second-foot Sept. 20-30 (gage height, 0.5 foot).

1938-39: Maximum discharge during year, 12,600 second-feet Apr. 17 (gage height, 11.2 feet, from reading at flood crest); no flow Sept. 24-28.

1939-40: Maximum discharge during year, 8,010 second-feet Apr. 11 (gage height, 8.6 feet, from graph based on gage readings); minimum discharge observed, 0.1 second-foot Oct. 5-9, 18-20 (gage height, 0.5 foot).

Maximum stage known, 22.0 feet in April 1927.

Remarks.- Records good except those for discharges below 50 second-feet during period May 1938 to October 1939, which are poor. Gage read twice daily.

Cooperation.- Gage-height record prior to Nov. 1, 1939, and results of 22 discharge measurements furnished by Corps of Engineers, U. S. Army.

Rating tables, May 8 1938, to Sept. 30, 1940 (gage height, in feet, and discharge in second-feet)

May 8, 1938, to Apr. 18, 1940

0.5	0.1	1.3	87	3.5	1,530
.6	.4	1.4	121	4.0	1,940
.7	1.8	1.5	162	5.0	2,910
.8	5.4	1.7	265	6.0	4,040
.9	13	1.9	401	7.0	5,430
1.0	25	2.2	630	9.0	8,690
1.1	40	2.5	845		
1.2	62	3.0	1,160		

Apr. 19 to Sept. 30

1.3	87	3.0	1,120
1.4	118	3.5	1,450
1.5	158	4.0	1,850
1.7	258	5.0	2,790
1.9	381	6.0	3,870
2.2	592	7.0	5,160
2.5	804	9.0	8,260

Note.- Same as preceding table below 1.3 feet.

Discharge, in second-feet, 1938-40

1938

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	705	62	13	5.4
2								-	554	62	13	1.8
3								-	438	62	13	1.8
4								-	366	50	13	1.8
5								-	298	40	13	1.8
6								-	210	40	13	1.8
7								-	210	40	13	1.8
8								630	265	32	13	1.8
9								438	210	25	13	1.8
10								386	186	25	5.4	.9
11								330	366	25	5.4	.4
12								265	592	25	5.4	.4
13								238	438	25	5.4	.4
14								265	298	13	5.4	.9
15								210	238	13	5.4	.4
16								162	238	13	62	.4
17								162	515	25	162	.4
18								186	401	25	87	.4
19								265	438	62	62	.4
20								476	330	32	40	.1
21								438	265	25	40	.1
22								1,290	210	25	25	.1
23								5,550	162	25	25	.1
24								2,410	162	25	18	.1
25								1,450	121	13	13	.1
26								1,030	121	13	13	.1
27								910	121	13	13	.1
28								775	87	13	5.4	.1
29								1,450	87	13	5.4	.1
30								1,300	74	13	5.4	.1
31								845	-	13	5.4	-

Discharge, in second-feet, of Mulberry River near Mulberry, Ark., 1938-40--Continued

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	25	40	515	2,120	210	668	438	366	40	1.8
2	.1	.1	25	40	630	1,610	162	592	366	940	40	1.8
3	.1	.1	25	40	630	1,300	162	476	330	1,940	40	1.8
4	.1	.4	25	40	554	1,370	162	401	265	1,230	25	1.8
5	.1	.4	40	32	554	1,770	162	330	210	775	25	.4
6	.1	.4	87	50	630	1,370	1,400	265	210	592	25	.4
7	.1	8.4	87	121	775	1,160	1,300	265	238	438	25	.4
8	.1	50	74	121	705	1,030	1,160	1,190	186	330	13	.4
9	.1	162	62	121	630	910	910	2,030	162	238	25	.4
10	.1	121	62	265	705	2,260	810	1,300	162	210	25	.4
11	.1	87	62	330	705	2,910	668	1,030	121	162	18	.1
12	.1	62	62	265	668	2,120	592	1,550	121	142	13	.1
13	.1	62	62	210	515	1,530	476	2,120	121	121	13	.1
14	.1	40	40	210	476	1,300	438	1,690	121	87	13	.1
15	.1	40	40	162	476	1,030	401	1,300	121	87	13	.1
16	.1	40	40	162	476	910	3,640	1,030	87	62	13	.1
17	.1	40	40	121	401	740	8,300	910	87	62	13	.1
18	.1	40	40	142	554	630	3,680	1,930	62	40	13	.1
19	.2	25	40	186	4,130	554	2,410	1,940	74	40	13	.1
20	.4	25	25	210	4,560	476	1,770	1,450	104	40	5.4	.1
21	.1	25	25	162	2,310	438	1,300	1,470	121	40	5.4	.1
22	.1	25	25	162	1,530	401	1,090	1,850	142	40	5.4	.1
23	.1	25	25	162	1,160	330	910	1,530	142	62	5.4	.1
24	.1	25	25	162	1,030	265	775	1,160	121	142	5.4	0
25	.1	25	25	162	3,240	265	668	970	384	87	5.4	0
26	.1	25	25	162	2,810	265	740	1,030	330	62	5.4	0
27	.1	25	25	162	2,120	265	1,690	1,770	265	62	1.8	0
28	.1	25	25	162	2,910	238	1,160	1,160	1,070	62	1.8	0
29	.1	25	25	162	-	210	910	910	810	87	1.8	.2
30	.1	25	25	238	-	210	740	668	515	87	1.8	.4
31	.1	-	25	476	-	210	-	515	-	62	1.8	-

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	23	121	162	72	243	416	2,890	77	58	5.4	26
2	.4	19	238	150	72	232	373	2,080	72	54	4.8	22
3	.4	17	216	133	72	216	373	1,570	64	50	3.9	29
4	.4	17	172	129	72	200	431	1,240	58	44	3.1	182
5	.1	15	150	114	72	186	373	990	52	39	2.8	122
6	.1	15	125	101	77	172	380	836	48	33	2.8	90
7	.1	15	111	107	87	162	1,190	692	46	30	3.1	67
8	.1	15	97	94	114	154	1,370	592	48	26	4.3	54
9	.1	13	87	87	129	146	1,060	520	52	23	5.4	44
10	.9	22	80	84	137	137	1,000	443	109	20	8.4	39
11	.4	32	72	90	142	137	5,740	362	82	17	11	32
12	.4	77	67	181	142	142	4,030	305	72	15	23	29
13	.4	62	62	438	137	146	2,360	258	70	13	305	26
14	.4	62	56	461	137	150	1,690	226	62	11	191	23
15	.4	52	54	401	137	162	1,300	205	58	9.2	126	22
16	.4	54	48	337	129	162	1,060	186	52	8.4	99	19
17	.4	62	46	291	137	162	1,300	158	44	7.0	96	17
18	.1	72	44	260	278	158	2,120	163	44	6.4	131	15
19	.1	97	40	221	507	158	1,940	163	48	33	200	14
20	.2	111	39	b200	492	154	2,030	158	80	25	146	12
21	.4	121	37	b186	431	142	1,530	138	93	26	115	11
22	.4	114	35	162	380	137	1,210	138	93	20	96	10
23	.4	101	56	137	337	129	1,020	158	93	20	82	10
24	.4	84	176	129	330	137	867	163	84	18	67	10
25	.4	74	304	b121	330	133	721	163	72	18	56	15
26	3.1	67	284	101	304	137	671	158	62	15	48	13
27	13	62	265	94	291	133	763	134	50	13	44	11
28	40	56	254	87	278	133	728	118	46	11	42	9.2
29	40	48	221	82	265	146	5,200	109	46	9.2	39	8.4
30	25	62	196	82	-	538	3,310	93	54	8.4	33	7.6
31	25	-	181	77	-	507	-	87	-	6.4	29	-

b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

21177-0 U.S. GOVERNMENT PRINTING OFFICE: 1937

Monthly discharge, in second-feet, of Mulberry River near Mulberry, Ark., 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
May 8-31, 1938	21,441	5,550	162	893	2.40	2.14	42,530
June	8,706	705	74	290	.780	.87	17,270
July	887	62	13	28.6	.077	.09	1,760
August	731.0	162	5.4	23.6	.063	.07	1,450
September	25.9	5.4	.1	.86	.0023	.003	51
The period	-	-	-	-	-	-	63,060
October 1938	3.5	.4	.1	.11	.00030	.0003	6.9
November	1,053.9	162	.1	35.1	.094	.11	2,090
December	1,238	87	25	39.9	.107	.12	2,460
Calendar year	-	-	-	-	-	-	-
January 1939	5,040	476	32	163	.438	.50	10,000
February	36,399	4,560	401	1,300	3.49	3.64	72,200
March	30,197	2,910	210	974	2.62	3.02	59,890
April	38,796	8,300	162	1,293	3.48	3.88	76,950
May	35,500	2,120	265	1,145	3.08	3.55	70,410
June	7,486	1,070	62	250	.672	.75	14,850
July	8,695	1,940	40	280	.753	.87	17,250
August	451.8	40	1.8	14.6	.039	.05	896
September	11.5	1.8	0	.38	.0010	.001	23
Water year 1938-39	164,871.7	8,300	0	452	1.22	16.49	327,000
October 1939	154.3	40	.1	4.98	.013	.02	306
November	1,641	121	13	54.7	.147	.16	3,250
December	3,934	304	35	127	.341	.39	7,800
Calendar year 1939	168,305.6	8,300	0	461	1.24	16.83	333,800
January 1940	5,299	461	77	171	.460	.53	10,510
February	6,088	507	72	210	.565	.61	12,080
March	5,651	538	129	182	.489	.56	11,210
April	46,556	5,740	373	1,552	4.17	4.65	92,340
May	15,496	2,890	87	500	1.34	1.55	30,740
June	1,931	109	44	64.4	.173	.19	3,830
July	687.0	58	6.4	22.2	.060	.07	1,360
August	2,023.0	305	2.8	65.3	.176	.20	4,010
September	989.2	182	7.6	33.0	.089	.10	1,960
Water year 1939-40	90,449.5	5,740	.1	247	.664	9.03	179,400

Petit Jean Creek near Blue Mountain, Ark.

Location.- Water-stage recorder, lat. 35°06', long. 93°40', in NE¼ sec. 16, T. 5 N., R. 25 W., 1.2 miles upstream from Cedar Creek, 1.6 miles downstream from Lick Creek, and 3½ miles southeast of Blue Mountain. Datum of gage is 349.24 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 495 square miles.

Records available.- January 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period January to September, 62,600 second-feet Apr. 16 (gage height, 29.95 feet), by slope-area method; minimum, 0.3 second-feet Sept. 28.
1939-40: Maximum discharge during year, 3,700 second-feet Apr. 29 (gage height, 13.65 feet); minimum, 0.1 second-foot Oct. 25.

Remarks.- Records fair except those for days of rapidly changing stage and those for discharges below 20 second-feet which are poor.

Cooperation.- Records for water year 1938-39 collected and prepared for publication in cooperation with Corps of Engineers, U. S. Army. Results of 5 discharge measurements made during the 1939-40 water year furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				-	243	990	406	198	83	55	19	1.4
2				-	292	750	337	172	81	40	18	1.3
3				-	471	616	267	150	107	30	15	1.2
4				-	529	2,180	238	135	173	25	14	1.2
5				-	603	6,950	937	125	104	23	12	1.2
6				-	870	1,870	7,430	116	144	21	12	1.2
7				-	960	810	4,400	115	138	18	11	1.1
8				-	645	616	1,090	129	96	15	11	1.1
9				-	529	517	750	176	78	12	27	1.1
10				-	1,260	529	566	140	64	11	13	1.5
11				-	900	541	460	120	54	9.0	6.8	3.6
12				-	566	438	396	110	54	8.0	5.2	4.4
13				-	482	356	328	107	54	7.0	5.0	4.4
14				-	1,020	310	292	114	62	7.0	4.6	3.8
15				-	3,580	267	584	118	59	7.0	4.4	3.2
16				138	1,390	228	31,600	120	49	6.4	4.0	2.7
17				138	780	201	37,400	110	46	5.9	3.6	2.2
18				181	690	181	11,700	217	45	5.4	4.2	1.9
19				180	4,000	165	2,390	417	43	5.0	3.8	1.5
20				169	9,840	154	930	276	40	5.2	3.6	1.3
21				152	4,550	149	690	228	38	5.2	3.6	1.1
22				139	1,060	138	541	178	44	4.6	3.8	.9
23				151	750	125	460	149	38	5.7	3.8	.8
24				366	660	115	396	118	32	14	4.2	.7
25				386	7,440	109	346	148	28	10	4.4	.6
26				319	9,420	107	310	664	25	8.2	5.2	.5
27				259	3,280	113	284	417	24	7.8	10	.4
28				228	1,650	124	337	228	42	27	4.2	.4
29				228	-	506	276	147	83	13	2.4	1.0
30				301	-	660	235	116	99	7.0	1.8	1.9
31				267	-	505	-	96	-	9.0	1.5	-

Peak discharge.- Feb. 15 (9:30 a.m.) 4,120 sec.-ft.; Feb. 25 (9:30 a.m.) 10,500 sec.-ft.; Mar. 5 (6:30 a.m.) 8,670 sec.-ft.; Apr. 6 (6 p.m.) 8,230 sec.-ft.; Apr. 16 (8:30 p.m.) 62,600 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog il Survey

Discharge, in second-feet, of Petit Jean Creek near Blue Mountain, Ark., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	5.4	2.4	12	7.0	113	80	870	69	59	12	31
2	1.6	4.2	5.7	10	6.8	104	70	603	56	86	12	105
3	1.5	3.4	5.4	9.5	7.3	92	215	460	48	85	26	426
4	1.5	2.7	6.6	9.8	7.5	61	205	356	40	76	15	147
5	1.4	2.2	7.5	9.0	7.8	72	181	267	35	72	9.8	87
6	1.4	1.6	7.5	8.5	12	66	405	199	32	54	8.8	54
7	1.3	1.3	7.0	8.5	13	61	1,930	164	27	42	10	38
8	1.2	1.1	6.8	7.8	12	55	1,260	134	26	34	11	29
9	1.3	.8	6.6	7.5	22	52	616	123	26	28	12	22
10	1.9	1.0	5.9	7.8	43	48	471	117	59	22	14	17
11	1.8	1.2	5.9	8.0	38	46	705	108	122	19	22	13
12	1.6	1.0	5.7	8.0	36	46	1,340	93	82	16	242	12
13	1.4	.9	5.2	8.0	35	50	810	78	54	43	284	10
14	1.3	.7	5.0	8.8	36	52	616	67	47	158	135	9.2
15	1.2	.8	5.9	8.8	41	49	494	59	42	75	80	8.5
16	1.1	1.0	6.4	8.8	42	47	386	53	41	41	56	8.0
17	1.0	1.2	6.4	12	62	47	319	48	40	30	115	7.5
18	.9	1.9	5.7	13	319	46	292	48	34	45	1,440	7.0
19	.9	6.4	5.4	13	553	42	1,360	82	24	751	460	6.6
20	.6	6.8	5.2	13	438	41	1,890	123	111	912	251	6.1
21	.5	4.8	5.0	12	319	40	900	74	668	284	156	5.7
22	.4	3.0	5.2	12	235	40	630	55	154	161	108	5.2
23	.2	2.4	6.4	11	187	40	505	49	78	102	77	5.0
24	.2	1.8	6.8	9.8	169	45	396	59	54	65	58	5.4
25	.1	1.5	7.0	8.8	163	51	301	143	49	52	45	29
26	58	1.4	9.0	8.0	151	69	251	228	39	41	38	81
27	151	1.3	13	7.5	145	90	251	192	31	34	38	42
28	62	1.3	13	7.5	139	97	249	138	80	23	54	25
29	25	1.3	12	7.3	126	97	2,550	114	251	17	41	15
30	12	1.4	11	7.0	-	101	1,850	104	122	15	39	10
31	7.3	-	12	7.0	-	99	-	86	-	13	32	-

Peak discharge.- Apr. 19 (9:30 p.m.) 2,510 sec.-ft.; Apr. 29 (8 p.m.) 3,700 sec.-ft.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
January 16-31, 1939	3,602	386	138	225	0.455	0.27	7,140
February	58,460	9,840	243	2,088	4.22	4.39	116,000
March	21,320	6,950	107	688	1.39	1.60	42,290
April	106,373	37,400	235	3,546	7.16	7.99	211,000
May	5,654	664	96	182	.368	.42	11,210
June	2,027	173	24	67.6	.137	.15	4,020
July	427.4	55	4.6	13.8	.028	.03	848
August	242.1	27	1.5	7.81	.016	.02	480
September	49.6	4.4	.4	1.65	.0033	.004	98
The period	-	-	-	-	-	-	393,100
October 1939	343.4	151	0.1	11.1	.022	.03	681
November	65.8	6.8	.7	2.19	.0044	.005	131
December	218.6	13	2.4	7.05	.014	.02	434
Calendar year	-	-	-	-	-	-	-
January 1940	289.7	13	7.0	9.35	.019	.02	575
February	3,372.4	553	6.8	116	.234	.25	6,690
March	1,979	113	40	63.8	.129	.15	3,930
April	21,528	2,550	70	718	1.45	1.62	42,700
May	5,294	870	48	171	.345	.40	10,500
June	2,541	668	24	84.7	.171	.19	5,040
July	3,455	912	13	111	.224	.26	6,850
August	3,901.6	1,440	8.8	126	.255	.29	7,740
September	1,267.2	426	5.0	42.2	.085	.09	2,510
Water year 1939-40	44,255.7	2,550	.1	121	.244	3.32	87,780

Petit Jean Creek at Danville, Ark.

Location.- Water-stage recorder and concrete control, lat. 35°04', long. 93°24', in SE¼ sec. 25, T. 5 N., R. 23 W., at highway bridge at Danville, a quarter of a mile downstream from Dutch Creek, 1,800 feet upstream from Chicago, Rock Island & Pacific Railway bridge. Datum of gage is 303.24 feet above mean sea level (general adjustment of 1929).

Drainage area.- 760 square miles.

Records available.- June 1916 to September 1940.

Average discharge.- 24 years, 801 second-feet.

Extremes.- Maximum discharge during year, 3,380 second-feet Apr. 30; maximum gage height, 19.40 feet Apr. 30; minimum, 0.4 second-foot Oct. 25, 26 (gage height, 2.16 feet).
1916-39: Maximum discharge, 70,800 second-feet Apr. 17, 1939 (gage height, 31.82 feet, reading at flood crest); no flow Nov. 6-8, 1924, Sept. 23-28, Oct. 5-9, 1935, July 23-26, 30, 31, Aug. 1 to Sept. 30, 1936.

Remarks.- Records good.

Cooperation.- Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	18	5.4	22	22	231	152	e2,930	107	130	19	47
2	1.3	12	5.7	21	22	212	132	e1,720	89	80	16	44
3	1.3	9.8	8.0	21	22	186	120	e1,030	78	82	14	100
4	1.4	8.4	9.8	21	22	165	248	e700	68	92	14	404
5	1.4	7.3	11.5	22	23	145	257	530	61	76	23	163
6	1.1	6.7	13	21	29	132	296	418	106	73	32	96
7	1.0	6.4	15	21	44	119	e1,800	335	75	65	21	72
8	.8	5.7	15	20	50	108	e2,840	276	51	55	15.5	58
9	.8	5.4	14	20	44	97	e2,220	238	45	47	15	45
10	5.7	5.0	14	22	45	90	e1,270	218	54	41	17	36
11	2.6	5.0	14	23	71	86	e940	192	97	35	18	29
12	2.0	4.4	13	24	83	83	e1,360	166	118	30	20	23
13	2.0	4.1	12.5	26	80	86	e1,530	143	80	51	192	19
14	1.8	3.6	11.5	29	79	90	e1,070	122	65	43	270	16
15	1.4	3.6	11	28	76	83	e800	106	57	101	148	14
16	1.3	3.4	10	28	79	79	e620	92	51	85	94	12
17	1.1	3.4	9.8	28	135	76	516	85	54	59	78	11
18	1.0	3.9	9.8	28	e560	75	460	80	55	44	e380	10
19	.8	7.7	10	27	e1,010	73	e1,000	80	54	43	e1,260	9.4
20	.7	16	10	28	e1,000	69	e2,410	93	58	e840	e640	e.4
21	.7	19	9.8	28	e745	68	e2,350	137	e540	e860	283	7.7
22	.6	13	9.4	28	572	68	e1,420	195	e670	315	179	7.3
23	.6	10	10.5	28	432	68	e900	135	198	172	126	7.0
24	.5	8.0	11.5	28	376	73	e660	97	99	124	94	7.3
25	.4	6.7	15.5	27	355	96	544	90	72	87	78	7.3
26	1.1	6.0	18	26	322	97	446	152	62	66	68	7.0
27	30	5.4	18.5	24	296	113	404	257	55	55	59	42
28	140	5.0	22	23	276	146	396	231	48	48	52	59
29	94	4.4	26	23	257	160	e2,070	172	104	39	61	41
30	50	5.0	24	23	-	158	e3,330	143	231	29	59	28
31	29	-	23	23	-	158	-	127	-	23	55	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	378.0	140	0.4	12.2	0.016	0.02	750
November	222.3	19	3.4	7.41	.0098	.01	441
December	411.2	26	5.4	13.3	.018	.02	816
Calendar year 1939	345,898.8	59,400	.4	948	1.25	16.92	686,100
January	761	29	20	24.5	.032	.04	1,510
February	7,127	1,010	22	246	.324	.35	14,140
March	3,490	231	68	113	.149	.17	6,920
April	32,561	3,330	120	1,085	1.43	1.59	64,580
May	11,290	2,930	80	364	.479	.55	22,390
June	3,502	670	45	117	.154	.17	6,950
July	3,890	860	23	125	.164	.19	7,720
August	4,400.5	1,260	14	142	.187	.22	8,730
September	1,430.4	404	7.0	47.7	.063	.08	2,840
Water year 1939-40	69,463.4	3,330	.4	190	.250	3.41	137,800

e Determined by using rate of change in stage as a factor.

161604-O U.S. GOVERNMENT PRINTING OFFICE 1936

Fourche La Fave River near Gravelly, Ark.

Location.- Water-stage recorder, lat. 34°52', long. 93°39', in NW¼ sec. 34, T. 3 N., R. 25 W., at bridge on State Highway 28, 1 mile downstream from Garner Creek, 1¾ miles east of Gravelly, and 6 miles upstream from Gaffords Creek. Datum of gage is 410.50 feet above mean sea level (general adjustment of 1939, levels by Corps of Engineers, U. S. Army). Prior to May 11, 1939, wire-weight gage at same site and datum.

Drainage area.- 413 square miles.

Records available.- February 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period, 44,700 second-feet Apr. 16 (gage height, 27.00 feet, from reading at flood crest), by slope-area method; no flow Sept. 22-30.
1939-40: Maximum discharge during year, 4,630 second-feet Apr. 29 (gage height, 10.32 feet); no flow Oct. 1-9, 20-25, Nov. 4-9.

Remarks.- Records fair below 15,000 second-feet, poor above. Gage read twice daily prior to May 11, 1939.

Cooperation.- Gage-height record to Oct. 15, 1939, and results of 27 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	1,420	694	284	183	64.1	25.9	4.6
2					-	1,030	532	245	238	47.7	20.3	4.0
3					-	854	452	213	400	39.4	15.9	3.4
4					-	833	380	183	341	39.4	13.4	2.9
5					-	5,100	821	165	335	56.2	11.5	2.6
6					-	1,870	14,700	146	344	46.8	12.2	2.4
7					-	1,100	3,230	135	366	36.4	12.2	1.7
8					-	833	1,570	142	282	29.6	12.6	1.0
9					-	712	1,080	169	221	24.6	32.0	1.0
10					-	620	833	149	179	19.7	43.0	.9
11					-	601	791	149	149	17.3	43.0	.8
12					-	516	712	129	135	14.5	35.6	.9
13					532	436	564	129	132	13.0	25.2	2.6
14					819	394	468	177	122	11.5	21.5	2.9
15					3,460	341	452	187	111	9.8	19.7	2.4
16					1,750	302	18,600	165	98.2	8.6	18.6	2.1
17					1,100	266	29,100	171	87.0	7.5	20.0	1.0
18					812	243	3,740	866	77.2	6.6	23.4	.6
19					2,400	225	1,750	1,170	77.2	5.9	15.0	.4
20					7,020	215	1,200	1,610	75.8	5.0	12.2	.3
21					2,170	197	896	1,010	64.1	4.4	10.1	.2
22					1,300	183	712	656	59.2	3.8	8.6	0
23					940	171	582	500	55.0	4.0	7.7	0
24					875	159	468	394	50.7	9.8	7.2	0
25					7,800	155	408	380	46.8	9.5	8.3	0
26					4,600	151	366	601	55.0	10.7	8.0	0
27					1,990	149	631	548	49.6	9.5	7.2	0
28					1,870	153	656	380	53.0	11.5	9.8	0
29					-	376	422	282	114	45.2	8.3	0
30					-	1,320	330	223	95.4	47.7	6.6	0
31					-	917	-	185	-	29.6	5.2	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog il Survey

Discharge, in second-feet, of Fourche La Fave River near Gravelly, Ark., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	1.8	19.1	22.8	109	64.1	1,100	217	44.9	11.1	40.2
2	0	.2	1.8	19.7	22.2	102	60.3	730	175	53.9	11.8	38.7
3	0	.1	2.4	20.3	22.2	95.4	60.3	548	144	56.0	10.4	36.4
4	0	0	2.4	18.6	23.4	88.4	57.1	436	122	44.9	8.6	34.8
5	0	0	2.3	18.2	23.4	82.8	53.9	352	105	36.4	8.0	44.9
6	0	0	1.8	18.2	25.9	77.2	132	289	92.6	31.8	7.7	37.9
7	0	0	1.7	18.6	26.7	73.0	1,400	233	81.4	28.8	7.2	28.8
8	0	0	1.5	18.2	27.4	67.9	1,430	195	71.7	26.7	6.3	24.0
9	0	0	1.3	17.7	28.1	64.1	791	179	71.7	23.4	6.8	19.1
10	.2	.1	1.3	18.6	32.5	60.3	548	163	120	20.9	8.9	16.3
11	.4	.1	1.3	20.3	44.0	59.2	468	142	102	18.2	11.8	13.7
12	.4	.2	1.3	20.3	56.0	58.2	564	124	85.6	17.7	13.7	11.5
13	.4	.1	1.3	20.3	60.3	62.8	582	111	67.9	47.6	163	10.4
14	.3	.1	1.2	22.8	62.8	58.2	468	98.2	58.2	23.4	199	9.2
15	.2	.2	1.0	24.0	65.4	55.0	394	89.8	50.7	16.3	107	8.3
16	.2	.2	1.0	21.5	67.9	52.8	324	80.0	44.9	14.1	73.0	7.5
17	.1	.2	1.0	21.5	82.8	50.7	276	74.4	42.1	11.5	66.6	6.8
18	.1	.4	.9	23.4	197	50.7	243	75.8	39.4	9.8	868	6.3
19	.1	.8	1.0	25.9	464	48.7	825	75.8	37.9	9.2	728	6.1
20	0	.8	.9	27.4	500	47.7	1,630	69.2	53.9	54.8	380	5.4
21	0	1.2	.9	27.4	366	46.8	917	65.4	73.0	92.6	243	5.0
22	0	1.4	1.0	27.4	286	50.7	638	59.2	299	65.4	177	4.6
23	0	1.7	2.0	28.1	231	50.7	516	60.3	189	61.6	135	4.4
24	0	1.8	2.4	25.9	207	56.0	436	67.9	124	53.9	111	4.4
25	0	1.8	2.4	28.8	181	62.8	366	402	94.0	44.0	94.0	4.8
26	.2	1.8	2.9	27.4	157	64.1	302	638	75.8	34.0	80.0	4.4
27	.4	1.7	4.2	26.7	144	66.6	266	468	60.3	27.4	67.9	4.0
28	.4	1.5	8.3	25.9	130	70.5	286	380	53.9	22.2	59.2	3.8
29	.4	1.3	11.1	24.6	117	70.5	2,740	468	55.0	17.7	53.9	4.0
30	.2	1.5	14.5	24.6	-	67.9	2,100	366	51.7	14.5	51.7	3.4
31	.2	-	17.7	23.4	-	65.4	-	279	-	12.6	45.8	-

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
February 13-18, 1939	39,438	7,800	532	2,465	5.97	5.55	78,220
March	21,842	5,100	149	705	1.71	1.97	43,320
April	87,140	29,100	330	2,905	7.03	7.85	172,800
May	11,743	1,610	129	379	.918	1.06	23,290
June	4,596.2	400	46.8	153	.370	.41	9,120
July	691.3	64.1	3.8	22.3	.054	.06	1,370
August	520.2	43.0	5.2	16.8	.041	.05	1,030
September	38.7	4.6	0	1.29	.0031	.003	77
The period	-	-	-	-	-	-	329,200
October 1939	4.2	.4	0	.14	.00034	.0004	8.3
November	19.4	1.8	0	.65	.00016	.002	38
December	96.6	17.7	.9	3.12	.0076	.009	192
Calendar year	-	-	-	-	-	-	-
January 1940	704.8	28.8	17.7	22.7	.055	.06	1,400
February	3,673.8	500	22.2	127	.308	.33	7,290
March	2,036.1	109	46.8	65.7	.159	.18	4,040
April	18,937.7	2,740	53.9	631	1.53	1.71	37,560
May	8,419.0	1,100	59.2	272	.659	.76	16,700
June	2,858.7	299	37.9	95.3	.231	.26	5,670
July	1,036.2	92.6	9.2	33.4	.081	.09	2,060
August	3,815.4	868	6.3	123	.298	.34	7,570
September	449.1	44.9	3.4	15.0	.036	.04	891
Water year 1939-40	42,051.0	2,740	0	115	.278	3.78	83,420

Fourche La Fave River near Nimrod, Ark.

Location.- Water-stage recorder, lat. 34°57', long. 93°08', in SE¼ sec. 33, T. 4 N., R. 20 W., 3 miles southwest of Nimrod and 7¾ miles upstream from South Fourche La Fave River. Datum of gage is 295.53 feet above mean sea level (general adjustment of 1929; Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 684 square miles.

Records available.- March 1936 to September 1940.

Extremes.- Maximum discharge during year, 4,910 second-feet June 11 (gage height, 10.80 feet); no flow Nov. 2-10.
1936-40: Maximum discharge, 36,100 second-feet Feb. 19, 1938 (gage height, 29.7 feet, site and datum then in use); no flow at times in 1936, 1939.

Remarks.- Records good except those below 500 second-feet, which are fair.

Cooperation.- Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 10 to Jan. 4, Sept. 13-30)

3.5	0.2	4.2	27	5.6	513
3.6	1.2	4.4	51	6.0	750
3.7	3.0	4.6	86	6.5	1,130
3.8	5.5	4.8	137	7.0	1,570
3.9	8.8	5.0	212	9.0	4,210
4.0	13	5.3	352		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	0.1	0.7	4.2	29	162	93	2,800	337	75	25	50
2	.9	0	.8	6.1	29	144	88	1,570	270	69	23	50
3	.9	0	.9	6.7	28	131	86	1,050	212	82	21	65
4	.8	0	1.1	11	28	126	84	757	180	69	18	78
5	.7	0	1.1	24	29	115	80	586	158	62	18	47
6	.7	0	1.1	26	32	107	104	464	154	61	19	37
7	.6	0	1.2	28	32	104	1,510	378	137	54	22	31
8	.6	0	1.2	28	32	98	2,360	308	115	48	21	32
9	.6	0	1.3	28	31	91	1,790	270	102	43	20	36
10	.9	.1	1.3	28	34	84	1,020	238	115	38	24	32
11	.8	.2	1.3	28	37	82	790	212	2,860	35	27	28
12	.8	.2	1.3	28	37	82	839	192	1,040	32	26	25
13	.7	.2	1.3	28	38	82	784	168	347	34	23	20
14	.6	.2	1.3	29	46	78	750	151	212	24	20	17
15	.6	.2	1.5	31	64	75	604	140	151	51	24	14
16	.6	.2	1.8	30	69	73	496	123	120	41	192	12
17	.7	.2	2.2	29	80	69	415	109	104	39	131	11
18	.6	.3	2.2	29	137	65	362	109	212	32	102	9.2
19	.6	.3	2.4	29	469	64	886	107	137	25	544	8.0
20	.4	.3	2.8	28	598	62	2,180	102	115	25	853	7.3
21	.3	.4	3.2	27	633	59	2,140	95	469	39	508	5.8
22	.2	.4	3.2	28	491	62	1,260	100	212	32	332	4.7
23	.2	.4	6.7	32	378	61	875	137	196	29	234	4.2
24	.1	.3	6.1	35	313	64	731	129	313	82	172	3.7
25	.1	.3	5.8	35	280	69	598	126	208	131	131	5.2
26	.3	.3	7.3	35	247	80	491	209	148	82	115	5.2
27	.3	.3	8.0	35	216	88	415	615	115	48	120	4.7
28	.3	.3	6.1	32	192	100	378	530	100	46	104	4.2
29	.2	.3	4.7	32	172	104	2,130	409	112	42	80	3.7
30	.1	.3	4.2	31	-	102	4,290	486	91	35	67	3.7
31	.1	-	4.2	30	-	100	-	426	-	29	57	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	16.2	0.9	0.1	0.52	0.00076	0.0009	32
November	5.8	.4	0	.19	.00028	.0003	12
December	88.3	8.0	.7	2.85	.0042	.005	175
Calendar year 1939	307,162.0	32,600	0	842	1.23	16.69	609,200
January	831.0	35	4.2	26.8	.039	.04	1,650
February	4,801	633	28	166	.243	.26	9,520
March	2,783	162	59	89.8	.131	.15	5,520
April	28,629	4,290	80	954	1.39	1.56	56,780
May	13,096	2,800	95	422	.617	.71	25,980
June	9,042	2,860	91	301	.440	.49	17,930
July	1,534	131	24	49.5	.072	.08	3,040
August	4,073	853	18	131	.192	.22	8,080
September	654.6	78	3.7	21.8	.032	.04	1,300
Water year 1939-40	65,553.9	4,290	0	179	.262	3.56	130,000

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog. l Survey

101604-O U.S. GOVERNMENT PRINTING OFFICE 1936

Bayou Meto near Stuttgart, Ark.

Location.- Wire-weight gage, lat. 34°27'15", long. 91°37'00", in SE¼ sec. 11, T. 3 S., R. 6 W., at highway bridge 5½ miles southwest of Stuttgart and 8 miles upstream from Crooked Creek. Auxiliary staff gage, lat. 34°24'25", long. 91°36'30", in NW¼ sec. 36, T. 3 S., R. 6 W., 5.4 miles downstream from main gage. Datum of each gage is 169.94 feet above mean sea level (general adjustment of 1929).

Records available.- October 1935 to September 1940.

Extremes.- Maximum discharge during year, 1,060 second-feet Feb. 22-24; maximum gage height observed, 17.01 feet Feb. 22; no flow at times in October, November, August, and September.

1935-40: Maximum discharge observed, 6,550 second-feet Jan. 26, 27, 1937 (gage height, 25.50 feet); no flow at times during each year.

Remarks.- Records good except those below about 100 second-feet, which are fair. Discharge above about 250 second-feet computed by using fall as determined by twice-daily readings of auxiliary staff gage as a factor. Flow affected by diversions for irrigation. During flows above about 600 second-feet, Bayou Meto and Crooked Creek are interconnected above station. For records on Crooked Creek, below interconnection, see page 244. Gages read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	0	69	246	24	860	c248	908	c162	69	a0.5	0.1
2	15	0	63	229	28	819	c194	943	c142	c220	a0	0
3	18	0	54	192	30	740	c144	937	112	c301	a0	.6
4	19	0	51	158	33	671	c113	920	88	295	a0	2.0
5	38	0	48	c120	36	545	c92	914	69	253	a0	11
6	46	0	61	88	57	414	c78	880	51	186	a0	36
7	48	0	57	63	98	321	219	858	40	135	a0	51
8	43	0	63	43	140	234	383	823	28	c110	a0	57
9	36	0	63	30	c233	c177	478	773	24	c100	24	57
10	30	0	60	28	362	c137	539	705	29	88	30	51
11	22	0	51	33	486	c110	609	631	75	72	28	46
12	19	0	46	43	602	91	673	538	c188	60	30	38
13	12	.9	38	51	680	91	720	437	258	60	32	26
14	6.5	.6	30	81	725	105	723	305	279	48	33	17
15	4.4	.3	24	133	768	119	712	198	291	38	36	12
16	3.4	.3	20	189	792	119	698	145	267	32	32	8.4
17	2.1	.6	16	c262	823	119	689	114	218	30	24	5.0
18	1.4	3.6	14	299	923	119	704	88	178	38	19	4.2
19	1.2	14	13	293	1,000	119	870	66	161	40	11	3.9
20	.9	32	11	267	1,030	112	952	54	140	36	4.5	3.4
21	.6	66	9.0	219	1,040	105	972	43	112	26	2.1	3.4
22	.2	98	8.2	171	1,060	98	1,020	36	98	17	1.3	3.0
23	0	112	20	134	1,060	91	1,030	43	112	17	1.2	2.6
24	0	133	51	105	1,060	91	1,020	54	126	18	1.1	3.0
25	0	147	69	78	1,050	98	1,020	75	126	17	.8	13
26	0	147	98	60	1,030	105	1,010	c128	119	12	.8	18
27	0	140	c142	48	982	91	982	c230	105	6.4	.4	13
28	0	126	c198	40	960	88	961	320	98	a4	.3	10
29	0	98	253	33	922	c192	c912	325	88	a2	.2	21
30	0	75	267	26	-	c277	830	274	72	a1	.1	38
31	0	-	264	24	-	c283	-	227	-	a.5	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	372.1	48	0	12.0	738
November	1,194.3	147	0	39.8	2,370
December	2,221.2	267	8.2	71.7	4,410
Calendar year 1939	281,197.2	3,420	0	770	558,300
January	3,786	299	24	122	7,510
February	18,054	1,060	24	623	35,810
March	7,541	860	88	243	14,960
April	19,595	1,030	78	653	38,870
May	12,992	943	36	419	25,770
June	3,876	291	24	129	7,690
July	2,331.9	301	.5	75.2	4,630
August	312.4	36	0	10.1	620
September	554.6	57	0	18.5	1,100
Water year 1939-40	72,830.5	1,060	0	199	144,500

a No gage-height record; discharge estimated from observer's notes.
c Discharge computed from hydrograph drawn on basis of records for preceding and following periods.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Crooked Creek near Humphrey, Ark.

Location.- Wire-weight gage, lat. 34°25'35", long. 91°40'00", in SE¼ sec. 20, T. 3 S., R. 6 W., at bridge on U. S. Highway 79, 100 feet upstream from St. Louis-Southwestern Railway bridge, 2 miles east of Humphrey, and 5¾ miles upstream from mouth. Datum of gage is 169.94 feet above mean sea level (general adjustment of 1929). Prior to Feb. 21, 1940, staff gage at site 100 feet downstream at same datum.

Records available.- October 1938 to September 1940. Prior to February 1940, high-water periods only.

Extremes.- Maximum discharge during year, 585 second-feet Feb. 22 (gage height, 16.20 feet); no flow Aug. 15 to Sept. 30.
1938-40: Maximum discharge observed, 1,780 second-feet Feb. 15, 1939 (gage height, 22.70 feet); no flow at times.

Remarks.- Records fair. Crooked Creek and Bayou Meto are interconnected above station at high stages. Gage read twice daily.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Feb. 11 to Apr. 19

10.0	1.0	12.0	24	13.6	159
10.4	4.2	12.4	33	14.0	231
10.7	6.9	12.7	47	15.0	403
11.0	10	13.0	71	15.8	533
11.5	16	13.3	111	16.2	585

Apr. 20 to Sept. 30

9.9	0.1	11.0	15	12.8	89
10.0	.8	11.5	29	13.2	119
10.2	2.8	12.0	48	13.6	167
10.5	6.6	12.4	66	13.9	213

Note.- Same as preceding table above 13.9 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					-	231	50	301	5.1	4.0	1.8	
2					-	151	39	369	3.6	74	1.4	
3					-	90	32	386	2.5	153	2.0	
4					-	53	27	335	2.2	107	1.7	
5					-	33	23	301	2.0	64	1.0	
6					-	25	20	222	2.0	40	.7	
7					-	21	33	167	1.8	24	.3	
8					-	19	71	129	1.5	17	.1	
9					-	16	151	96	1.4	12	.4	
10					-	15	168	68	2.6	10	.7	
11					168	13	151	48	19	7.7	1.0	
12					195	12	127	34	30	6.9	.7	
13					213	12	111	24	48	5.2	.3	
14					213	12	97	17	56	4.2	.1	
15					213	16	71	13	54	4.0	0	
16					213	25	57	10	42	3.3	0	
17					213	28	44	8.0	32	2.6	0	
18					318	26	44	6.5	23	10	0	
19					454	23	168	5.2	17	12	0	
20					533	20	301	4.1	15	10	0	
21					572	18	403	3.4	23	8.6	0	
22					585	16	454	6.3	29	7.2	0	
23					572	16	471	13	28	6.3	0	
24					559	16	471	14	22	5.5	0	
25					533	16	437	13	15	5.0	0	
26					488	16	403	12	11	4.6	0	
27					437	19	352	12	7.2	4.0	0	
28					403	20	301	13	6.9	3.5	0	
29					318	35	267	12	6.9	3.0	0	
30					-	90	249	9.3	4.5	2.6	0	
31					-	66	-	7.0	-	2.2	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October					
November					
December					
Calendar year					
January	-	-	-	-	-
February 11-29	7,200	585	168	379	14,280
March	1,169	231	12	37.7	2,320
April	5,593	471	20	186	11,090
May	2,658.8	386	3.4	85.8	5,270
June	514.2	56	1.4	17.1	1,020
July	623.4	153	2.2	20.1	1,240
August	12.2	2.0	0	.39	24
September	0	0	0	0	0
The period	-	-	-	-	35,240

U. S. GOVERNMENT PRINTING OFFICE 1939—O-M2003

Upper Tallahatchie River near New Albany, Miss.

Location.- Water-stage recorder, lat. 34°34', long. 88°54', in NE¼ sec. 8, T. 6 S., R. 4 E., Chickasaw meridian, at bridge on county road, 8 miles upstream from Cane Creek and 9 miles northeast of New Albany.

Drainage area.- 23.9 square miles.

Records available.- February 1939 to September 1940.

Extremes.- Maximum discharge during year, 4,950 second-feet Apr. 4 (gage height, 11.71 feet), from rating curve extended above 1,910 second-feet on basis of records for nearby stations and slope-area studies; minimum, 9.1 second-feet Aug. 22, 23.

1939-40: Maximum discharge, 6,700 second-feet May 22, 1939 (gage height, 12.3 feet), from rating curve extended above 1,910 second-feet on basis of records for nearby stations, and by slope-area studies; minimum, that of Aug. 22, 23, 1940.

Remarks.- Records fair except those between 50 and 2,000 second-feet, which are good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	d12	12	40	d22	b24	29	66	d32	12	13	17	15
2	d13	12	14	d21	26	118	60	d25	12	16	18	14
3	12	14	15	d22	25	85	60	d23	13	16	14	14
4	12	14	15	d13	34	48	1,070	23	12	14	12	14
5	12	15	15	14	36	45	86	22	13	14	12	12
6	11	15	15	17	39	42	73	20	14	d21	12	12
7	11	16	15	d16	26	43	65	18	176	d23	12	12
8	11	16	14	d16	25	41	56	17	15	d24	12	13
9	11	15	16	d17	143	36	53	17	11	d21	160	12
10	13	22	16	d18	61	37	50	16	11	d38	d17	12
11	10	15	17	d27	31	d124	83	16	14	d22	d14	13
12	11	16	17	d26	27	d407	40	16	14	d462	d12	13
13	11	17	d23	d21	28	d319	34	16	d16	41	d12	12
14	11	14	14	d123	24	d53	30	16	d28	30	d13	12
15	11	14	14	28	24	d47	27	18	d18	50	d11	12
16	11	12	13	27	21	d36	25	18	d28	28	d17	12
17	10	12	14	27	73	30	28	17	21	24	d11	12
18	11	13	14	27	57	34	887	15	20	21	14	12
19	10	d22	15	b20	37	30	141	15	21	21	12	12
20	10	d14	16	b20	36	27	64	15	20	24	12	12
21	11	14	14	b17	32	25	48	14	19	20	11	13
22	12	14	14	b16	30	24	42	20	16	20	10	12
23	12	14	62	*b15	29	22	41	46	15	20	9.5	12
24	11	14	d18	b15	36	28	35	29	20	19	d10	14
25	11	14	d19	b15	31	25	35	18	18	18	d11	12
26	10	13	d118	b15	31	25	35	16	16	19	d11	11
27	9.9	12	d29	b14	37	25	35	16	15	18	d16	11
28	12	12	d25	b14	31	28	34	16	39	16	d240	11
29	11	13	b25	*b15	30	d445	35	16	14	15	d53	11
30	11	12	d27	b17	-	203	d70	16	12	14	d108	10
31	11	-	d23	b20	-	78	-	16	-	14	17	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	345.9	13	9.9	11.2	0.469	0.54
November	432	22	12	14.4	.603	.67
December	706	118	13	22.8	.954	1.10
Calendar year	-	-	-	-	-	-
January	695	123	13	22.4	.937	1.08
February	1,084	143	21	37.4	1.56	1.68
March	2,559	445	22	82.5	3.45	3.98
April	3,408	1,070	25	114	4.77	5.32
May	598	46	14	19.3	.808	.93
June	673	176	11	22.4	.937	1.05
July	1,116	462	13	36.0	1.51	1.74
August	910.5	240	9.5	29.4	1.23	1.42
September	369	15	10	12.3	.515	.57
Water year 1939-40	12,896.4	1,070	9.5	35.2	1.47	20.08

Peak discharge.- Mar. 12 (6 a.m.) 2,200 sec.-ft.; Mar. 13 (1 a.m.) 1,960 sec.-ft.; Mar. 29 (6 p.m.) 1,690 sec.-ft.; Apr. 4 (5:40 a.m.) 4,950 sec.-ft.; Apr. 18 (11 a.m.) 1,810 sec.-ft.; July 12 (4:30 p.m.) 2,370 sec.-ft.

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

d Faulty recorder record because of faulty intake action; discharge determined from twice-daily gage readings or graph based on gage readings and partial recorder graph.

Tallahatchie River at Etta, Miss.

Location.- Water-stage recorder, lat. 34°28', long. 89°13', in SW¼ sec. 8, T. 7 S., R. 1 E., Chickasaw meridian, at bridge on State Highway 30, three-quarters of a mile northeast of Etta, 3¾ miles upstream from Puskus Creek, 4 miles downstream from Locks Creek, and 13 miles west of New Albany.

Drainage area.- 526 square miles (revised).

Records available.- September 1938 to September 1940.

Extremes.- Maximum discharge during year, 27,300 second-feet Apr. 19 (gage height, 20.43 feet); minimum, 12 second-feet Oct. 26.
1938-40: Maximum discharge, 29,900 second-feet Feb. 15, 1939 (gage height, 20.71 feet); minimum, 4.1 second-feet Oct. 3, 16, 1938.

Remarks.- Records good except those below 100 second-feet and those for period of ice effect, which are fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	16	181	78	*b80	330	1,560	1,730	77	130	d52	d99
2	29	16	100	64	b100	381	750	635	69	340	160	d64
3	23	16	51	59	b120	1,600	540	320	62	350	424	d48
4	20	16	39	71	*b360	602	1,750	215	56	154	111	d38
5	19	16	36	66	b1,100	380	3,330	182	54	103	d65	d32
6	17	16	32	56	2,000	290	1,380	163	51	274	d50	d29
7	16	18	31	84	1,030	263	602	149	370	680	d38	30
8	15	20	31	93	475	320	445	136	2,910	549	d35	26
9	14	19	30	75	1,320	246	340	125	803	625	d288	25
10	13	19	30	85	3,640	215	290	d115	305	1,780	154	d24
11	19	67	30	128	3,040	436	548	d99	d263	3,780	135	d25
12	17	47	28	359	1,190	3,640	1,610	d80	d371	3,310	d75	23
13	14	50	129	207	680	10,300	680	d85	d186	3,510	d102	21
14	15	40	63	1,700	635	11,200	445	84	439	2,690	125	21
15	13	29	46	885	392	4,180	360	96	d415	2,550	71	19
16	14	26	39	281	290	1,140	290	87	d512	3,740	98	17
17	17	24	37	198	582	625	263	78	d504	1,950	182	d17
18	15	24	34	157	2,780	475	3,800	73	d222	625	d65	d16
19	14	50	35	b75	1,770	680	22,000	d70	d181	320	d69	d15
20	13	90	38	b75	1,040	425	8,430	d64	d167	437	49	d15
21	16	49	34	b70	725	320	2,720	d59	d99	366	36	d14
22	14	36	32	b70	510	281	935	100	d82	254	33	d14
23	13	32	211	b65	380	238	660	680	d72	171	31	d14
24	13	30	751	b65	525	249	497	1,110	d67	135	28	d15
25	14	29	126	b60	515	281	415	370	d84	113	27	d23
26	14	28	237	b60	465	215	350	194	64	d98	27	d17
27	15	27	1,070	*b55	426	207	300	140	52	d85	24	d15
28	126	26	215	b55	660	222	263	149	766	d76	603	d15
29	36	27	122	b60	425	705	263	130	1,460	d66	702	d15
30	20	27	95	b85	-	3,520	1,120	110	361	d62	590	d15
31	17	-	86	b90	-	3,980	-	91	-	d55	496	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	679	126	13	21.9	0.042	0.05
November	930	90	16	31.0	.059	.07
December	4,019	1,070	28	130	.247	.28
Calendar year 1939	387,760.1	25,600	9.1	1,062	2.02	26.80
January	5,531	1,700	55	178	.338	.39
February	27,555	3,640	80	950	1.81	1.95
March	47,946	11,200	207	1,547	2.94	3.39
April	56,936	22,000	263	1,898	3.61	4.03
May	7,719	1,730	59	249	.473	.55
June	11,124	2,910	51	371	.705	.79
July	29,378	3,780	55	948	1.80	2.08
August	4,945	702	24	160	.304	.35
September	761	99	14	25.4	.048	.05
Water year 1939-40	197,523	22,000	13	540	1.03	13.98

Peak discharge.- Mar. 14 (1:30 p.m.) 14,500 sec.-ft.; Apr. 19 (7:45 a.m.) 27,300 sec.-ft.
*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Faulty recorder record because of plugged intake, recorder pen not marking or recorder clock stopped. Discharge determined from twice-daily gage readings or graph based on gage readings and partial recorder graph.

Tallahatchie River near Sardis, Miss.

Location.- Wire-weight gage, lat. 34°23', long. 89°53', in SW¼ sec. 19, T. 8 S., R. 7 W., Chickasaw meridian, at bridge on U. S. Highway 51 (old), 5 miles upstream from Illinois Central Railroad bridge, 4 miles southeast of Sardis, 9 miles upstream from former site at Batesville, 13 miles downstream from Sardis Dam, and about 15 miles upstream from point of diversion of Panola-Quitman floodway. Datum of gage is 187.73 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,680 square miles.

Records available.- June 1906 to December 1912 (published as Tallahatchie River at Batesville), July 1928 to September 1931, October 1938 to September 1940, in reports of Geological Survey. December 1931 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge observed during year, 4,610 second-feet Aug. 19 (gage height, 10.40 feet); minimum observed, 29 second-feet Dec. 6; minimum gage height observed, 0.14 foot June 3.

1928-31, 1938-40: Maximum discharge observed, 39,000 second-feet June 20, 1939; minimum observed, 29 second-feet Sept. 5, Dec. 6, 1939; minimum gage height observed, that of June 3, 1940.

A stage of 26.36 feet occurred Jan. 15, 1932 (discharge, 65,300 second-feet).

Remarks.- Records good except those for Nov. 9-16, which are fair. Gage read twice daily. Flow completely regulated by storage in Sardis Dam Reservoir (capacity, 1,570,000 acre feet).

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	341	410	63	1,050	750	2,270	2,810	4,250	44	2,210	3,350	3,470
2	225	410	50	1,050	600	2,270	2,810	4,010	42	840	1,250	3,410
3	177	435	42	1,000	495	2,210	2,930	3,950	55	390	2,510	3,350
4	140	435	38	1,000	750	2,210	3,110	3,890	495	210	2,990	3,230
5	275	410	32	950	780	2,150	3,050	3,830	390	130	3,050	3,110
6	410	410	39	910	910	2,090	3,050	3,770	230	112	3,050	3,050
7	410	385	350	910	840	2,090	3,050	3,710	160	180	3,050	2,930
8	410	363	720	e70	1,150	2,090	3,110	3,650	160	109	3,290	2,810
9	410	363	810	810	1,730	2,030	3,110	3,050	109	112	3,890	2,690
10	435	363	810	720	1,430	1,970	3,170	1,370	96	107	3,890	2,570
11	410	363	780	780	1,370	1,970	3,170	2,930	75	85	3,590	2,450
12	410	363	430	810	1,490	2,210	3,230	3,290	68	112	3,230	2,330
13	410	341	270	840	1,670	2,750	3,050	3,230	74	720	1,430	2,210
14	363	341	170	1,050	1,910	2,210	2,990	3,170	76	220	520	2,150
15	363	341	112	840	2,090	2,210	2,930	3,050	9e	150	330	2,030
16	385	435	121	840	2,090	2,570	2,930	2,750	810	88	1,100	1,910
17	410	485	570	870	2,330	3,110	3,050	840	1,670	64	3,110	1,850
18	363	485	810	910	2,510	3,350	4,070	390	2,450	56	4,250	1,730
19	235	485	870	950	2,330	3,530	3,770	230	2,150	58	4,550	1,430
20	149	485	840	1,000	2,270	3,530	3,290	180	660	112	4,490	570
21	235	485	840	1,000	2,270	3,470	3,470	150	370	130	4,370	310
22	319	460	810	1,000	2,330	3,410	3,890	112	210	101	4,310	190
23	363	460	950	950	2,390	3,350	4,130	96	140	61	4,250	140
24	385	460	870	950	2,450	3,290	4,250	98	102	85	4,130	109
25	385	319	810	910	2,450	3,230	3,830	82	78	e70	4,070	88
26	410	186	870	870	2,450	3,110	3,890	67	66	1,790	3,950	67
27	410	122	910	840	2,390	3,050	4,310	63	58	2,450	3,830	57
28	435	106	910	810	2,330	2,990	4,310	60	76	3,110	3,830	50
29	410	92	950	810	2,330	2,930	4,250	55	290	3,590	3,710	46
30	410	74	950	780	-	3,110	4,190	50	780	3,710	3,590	42
31	410	-	1,000	750	-	2,870	-	46	-	3,710	3,530	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	10,903	435	140	352	0.210	0.24
November	10,872	485	74	362	.215	.24
December	17,797	1,000	32	574	.342	.39
Calendar year 1939	1,079,717	30,500	30	2,958	1.76	23.90
January	27,830	1,050	720	898	.535	.62
February	50,885	2,510	495	1,755	1.04	1.12
March	84,230	3,530	1,970	2,717	1.62	1.87
April	103,200	4,310	2,810	3,440	2.05	2.29
May	56,419	4,250	46	1,820	1.08	1.24
June	12,082	2,450	42	403	.240	.27
July	25,672	3,710	56	828	.493	.57
August	100,490	4,550	330	3,242	1.93	2.22
September	50,379	3,470	42	1,679	1.00	1.12
Water year 1939-40	550,759	4,550	32	1,505	.896	12.19

Note.- Discharge for period of backwater from log jam Nov. 9-16 computed on basis of gage heights and two discharge measurements.

Tallahatchie River near Lambert, Miss.

Location.- Wire-weight gage, lat. 34°10'50", long. 90°12'55", in SW¼ sec. 29, T. 27 N., R. 1 E., Choctaw meridian, at county highway bridge a quarter of a mile downstream from Coldwater River, 4 miles southeast of Lambert, and 24½ miles downstream from point of diversion of Panola-Quitman floodway. Datum of gage is 124.00 feet above mean sea level (general adjustment of 1929). Auxiliary staff gage for slope determination, at Shine Turner Bridge on county road 5¾ miles downstream from main gage. Datum of auxiliary gage is 126.61 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,980 square miles (authority, Corps of Engineers, U. S. Army; does not include approximately 2,600 square miles, flow from which is diverted through Panola-Quitman floodway).

Records available.- October 1938 to September 1940 in reports of Geological Survey. January 1936 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge observed during year, 4,090 second-feet July 8; maximum gage height, 25.98 feet July 15; minimum discharge, 145 second-feet Nov. 9-11; minimum gage height, 6.17 feet Oct. 27-29.

1938-40: Maximum discharge observed, 15,100 second-feet Feb. 20, 1939 (gage height, 34.64 feet); minimum discharge, 110 second-feet Nov. 2, 3, 1938 (gage height, 5.01 feet).

A stage of 36.8 feet (from floodmarks) occurred in January 1932 (probably affected by levee breaks above).

Remarks.- Records fair. Reference gage read twice daily. Discharge determined by using fall as determined by once-daily readings of auxiliary staff gage as a factor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	162	222	1,130	287	2,540	884	2,190	545	1,300	382	360
2	415	182	221	996	272	2,240	1,180	1,630	480	1,800	340	591
3	526	198	209	873	272	1,980	1,530	1,690	414	2,830	376	960
4	571	182	224	717	272	1,730	1,450	1,520	363	3,320	429	746
5	578	158	229	574	323	1,140	1,460	1,550	343	3,610	454	652
6	470	177	230	496	333	1,050	1,300	1,510	310	3,880	325	609
7	452	159	249	424	580	929	1,250	1,350	285	3,860	369	451
8	436	155	241	366	811	887	1,190	1,300	285	4,090	431	407
9	357	145	245	289	1,050	730	1,370	992	317	3,950	321	429
10	353	145	245	250	1,800	629	1,400	898	327	3,880	262	325
11	318	145	254	292	1,880	564	1,350	679	281	3,620	372	227
12	305	220	242	308	2,930	658	1,090	683	380	3,500	430	465
13	306	207	242	302	2,870	412	1,180	633	500	3,340	459	200
14	200	217	241	335	2,830	609	1,100	511	681	3,040	639	257
15	178	233	223	605	2,820	981	1,250	502	798	3,000	895	287
16	190	238	257	688	2,780	1,040	1,320	458	717	2,840	921	255
17	178	267	229	901	2,670	1,380	1,210	439	688	2,750	982	231
18	191	281	229	1,010	2,820	1,370	969	278	736	2,850	957	271
19	184	272	246	1,130	3,390	1,490	1,100	387	709	2,680	868	208
20	191	248	246	1,120	3,690	1,480	2,020	365	693	2,630	846	243
21	184	243	249	994	3,830	1,400	2,630	240	647	2,310	796	229
22	184	242	227	765	3,680	1,350	2,790	363	744	1,960	634	250
23	184	242	221	637	3,760	1,170	2,960	329	811	1,680	648	220
24	198	232	184	475	3,570	1,040	2,750	385	830	1,560	573	214
25	198	251	180	524	3,440	955	2,960	410	763	1,270	549	589
26	211	251	397	309	3,310	881	3,030	593	652	1,170	468	822
27	176	250	521	271	3,210	720	2,830	772	552	1,010	417	1,070
28	176	239	580	275	3,160	681	2,760	972	435	728	380	1,200
29	173	267	1,110	434	2,810	620	2,740	865	494	545	407	1,300
30	191	222	1,130	303	-	588	2,550	775	896	402	387	1,290
31	213	-	1,160	282	-	733	-	656	-	413	393	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	8,760	578	173	283	0.143	0.16
November	6,450	281	145	215	.109	.12
December	10,683	1,160	180	345	.174	.20
Calendar year 1939	1,232,685	15,100	145	3,377	1.71	23.13
January	18,075	1,130	250	583	.294	.34
February	65,450	3,830	272	2,257	1.14	1.23
March	33,977	2,540	412	1,096	.554	.64
April	53,603	3,030	884	1,787	.903	1.01
May	26,125	2,190	240	843	.426	.49
June	16,676	896	281	556	.281	.31
July	75,818	4,090	402	2,446	1.24	1.42
August	16,710	982	262	539	.272	.31
September	15,358	1,300	200	512	.259	.29
Water year 1939-40	347,685	4,090	145	950	.480	6.52

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Tallahatchie River at Swan Lake, Miss.

Location.- Wire-weight gage, lat. 33°52'55", long. 90°16'45", in NE¼ sec. 10, T. 23 N., R. 1 W., Choctaw meridian, at county highway bridge, half a mile northeast of Swan Lake, 2 miles downstream from Cassidy Bayou, and 17 miles downstream from point where Panola-Quitman Floodway empties into Tallahatchie River. Datum of gage is 113.45 feet above mean sea level (general adjustment of 1929). Auxiliary staff gage for slope determination, at highway bridge at Glendora, 3.8 miles downstream from main gage. Datum of auxiliary gage is 112.34 feet above mean sea level (general adjustment of 1929).

Drainage area.- 5,130 square miles (authority, Corps of Engineers, U. S. Army).

Records available.- November 1938 to September 1940 in reports of Geological Survey. November 1929 to September 1938 except low-water periods (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss. Gage-height records collected at same site since November 1904 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge observed during year, 10,400 second-feet July 18-20; maximum gage height observed, 25.15 feet July 21; minimum daily discharge, 470 second-feet Dec. 9 (gage height, 3.18 feet).

1938-40: Maximum discharge observed, 43,200 second-feet Feb. 22, 1939 (gage height, 32.97 feet); minimum daily, that of Dec. 9, 1939.

A stage of 37.0 feet occurred Jan. 15, 1932 (affected by break in levee).

Remarks.- Records fair. Gage read twice daily but only 8 a.m. gage readings were used in computing daily discharge for period Nov. 22 to Sept. 30. Discharge after Nov. 22 computed by using fall as determined by once-daily readings of auxiliary staff gage as a factor. Flow partly regulated by Sardis Dam Reservoir (capacity, 1,570,000 acre-feet).

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	792	547	2,940	1,430	6,940	6,420	8,850	1,310	2,720	4,360	4,890
2	1,520	760	564	3,160	1,450	6,520	6,640	9,170	1,100	2,710	4,540	4,670
3	1,340	732	577	2,730	1,370	6,250	6,920	6,990	939	4,900	4,490	4,940
4	1,140	732	577	2,170	1,450	5,770	6,580	8,530	816	3,900	4,310	4,800
5	1,050	704	550	2,110	1,740	5,450	6,410	6,980	742	6,860	3,830	4,700
6	984	704	478	1,890	2,000	4,900	6,170	8,360	706	6,930	3,520	4,430
7	984	704	514	1,880	2,520	4,440	5,870	8,060	824	7,210	3,540	4,190
8	952	704	483	1,710	2,840	4,030	5,540	7,590	958	7,820	3,540	3,850
9	920	704	470	1,650	3,020	3,480	5,350	7,680	1,210	8,280	3,390	3,640
10	856	704	750	1,660	3,820	3,420	5,410	6,470	1,240	8,060	3,560	3,190
11	792	760	1,000	1,550	5,080	3,330	5,130	6,640	1,960	7,970	4,530	3,200
12	760	920	1,130	1,620	5,750	3,070	5,200	5,930	1,540	7,990	5,260	3,040
13	760	1,080	1,160	1,730	6,510	4,270	5,700	5,080	1,220	7,850	5,840	2,950
14	732	1,180	1,160	1,810	6,540	6,090	5,940	4,490	1,100	8,450	6,190	2,810
15	704	1,080	990	2,020	6,260	7,080	5,890	4,310	1,130	8,800	5,940	2,700
16	612	1,020	730	2,360	6,120	8,470	5,840	4,010	1,300	8,990	5,560	2,600
17	660	984	625	2,360	6,300	8,820	5,860	3,800	1,380	9,900	4,140	2,480
18	660	920	501	2,380	6,310	8,820	5,190	3,640	1,520	10,400	3,090	2,330
19	680	732	553	2,460	6,880	8,650	6,420	3,150	1,850	10,400	3,120	2,300
20	680	792	849	2,310	7,100	8,600	8,000	2,510	2,230	10,400	3,840	2,240
21	642	920	1,110	2,170	7,570	8,310	8,950	1,830	2,540	10,100	4,610	2,080
22	612	920	1,220	2,130	7,520	7,710	9,760	1,460	2,610	9,760	4,800	1,790
23	590	910	1,320	1,900	7,820	7,520	10,200	1,270	2,140	9,310	4,990	1,280
24	590	853	2,040	1,800	7,610	7,050	10,100	1,180	1,620	8,530	4,990	862
25	600	851	1,980	1,590	7,270	6,740	10,200	1,210	1,350	8,050	5,030	1,040
26	626	797	2,090	1,850	7,770	6,190	9,950	1,220	1,240	7,500	5,080	1,050
27	642	842	2,810	1,680	7,740	5,550	9,350	1,250	1,120	6,380	4,800	1,240
28	660	783	2,820	1,460	7,260	5,340	9,420	1,340	939	7,460	4,710	1,330
29	704	644	2,930	1,730	7,050	4,890	8,660	1,370	979	5,400	4,610	1,390
30	792	571	2,710	1,550	-	5,060	9,110	1,420	1,650	4,710	6,840	1,550
31	824	-	2,620	1,490	-	5,640	-	1,370	-	4,580	5,870	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	25,448	1,520	590	821	0.160	0.18
November	24,799	1,180	571	827	.161	.18
December	37,858	2,930	470	1,221	.238	.27
Calendar year 1939	3,241,160	43,200	470	8,880	1.73	23.48
January	61,850	3,160	1,460	1,995	.389	.45
February	152,100	7,820	1,370	5,245	1.02	1.10
March	188,400	8,820	3,070	6,077	1.18	1.37
April	216,180	10,200	5,130	7,206	1.40	1.57
May	139,160	9,170	1,180	4,489	.875	1.01
June	41,263	2,610	706	1,375	.268	.30
July	232,320	10,400	2,710	7,494	1.46	1.68
August	142,920	6,840	3,090	4,610	.899	1.04
September	83,562	4,940	862	2,785	.543	.61
Water year 1939-40	1,345,860	10,400	470	3,677	.717	9.76

Note.- No record of slope Dec. 9-12; discharge determined from hydrograph developed on basis of gage heights at upper gage.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Yazoo River at Greenwood, Miss.

Location.- Wire-weight gage, lat. 33°31'17", long. 90°11'03", in SW¼ sec. 10, T. 19 N., R. 1 E., Choctaw meridian, at bridge on U. S. Highways 49E and 82, in Greenwood, 0.4 mile downstream from Palousha Bayou and 3 miles downstream from confluence of Tallahatchie and Yalobusha Rivers. Datum of gage is 92.19 feet above mean sea level (general adjustment of 1929).

Drainage area.- 7,450 square miles (from reports of Mississippi River Commission).

Records available.- January 1908 to June 1913, October 1938 to September 1940 in reports of Geological Survey. January 1909 to December 1927 (discharge measurements only) and January 1928 to September 1940 in reports of Mississippi River Commission.

Extremes.- Maximum discharge during year, 19,800 second-feet July 22, 23 (gage height, 25.74 feet); minimum, 825 second-feet Dec. 10, 11 (gage height, 2.51 feet).

1908-13, 1938-40: Maximum discharge observed, 39,100 second-feet Apr. 5, 1912 (discharge measurement); maximum gage height observed, 38.7 feet Apr. 6, 7, 1912 (present datum); minimum discharge, that of Dec. 10, 11, 1939.

1913-38: Maximum discharge, 72,900 second-feet Jan. 19, 1932 (gage height, 40.1 feet), from reports of Mississippi River Commission.

Maximum stage known, 41.2 feet in 1882 caused by overflow from Mississippi River (discharge not determined), from reports of Mississippi River Commission.

Remarks.- Records good. Gage read once daily at 7 a.m. by U. S. Weather Bureau. Discharge Feb. 9 to May 22 and July 2 to Sept. 30 determined from "loop" curves defined by frequent discharge measurements. Flow partly regulated by Sardis Dam Reservoir on Tallahatchie River (capacity, 1,570,000 acre-feet).

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,140	1,050	1,000	3,480	1,900	11,300	11,500	19,400	2,450	2,400	10,500	6,110
2	1,130	1,050	1,000	3,160	1,850	10,800	11,500	18,300	2,300	4,380	10,000	6,230
3	1,460	1,050	960	2,920	1,800	10,100	11,600	17,600	2,150	8,400	9,400	6,360
4	1,550	1,050	915	2,750	1,800	9,370	11,500	16,900	2,000	10,200	9,150	6,230
5	1,500	1,000	915	2,650	1,900	8,540	11,400	16,200	1,900	10,400	8,420	5,910
6	1,410	1,000	960	2,500	2,400	7,800	11,100	15,400	1,800	10,500	7,700	5,660
7	1,360	1,000	915	2,450	2,650	7,120	10,600	14,800	1,700	10,900	6,860	5,340
8	1,320	1,000	870	2,350	3,420	6,450	10,100	14,200	1,900	11,200	6,200	5,050
9	1,280	1,000	870	2,150	4,200	5,850	9,780	13,400	1,750	11,600	5,670	4,770
10	1,280	1,000	825	2,100	6,240	5,330	9,240	12,600	2,000	12,300	6,540	4,390
11	1,230	1,050	825	2,050	6,800	4,950	8,850	11,700	2,150	12,700	8,740	4,160
12	1,180	1,050	915	2,250	7,760	5,200	8,850	10,600	2,400	12,800	9,100	3,830
13	1,140	1,650	1,140	2,150	8,560	9,260	8,680	9,250	2,350	15,200	9,100	3,560
14	1,100	1,500	1,320	2,200	9,370	9,540	8,600	7,950	2,250	14,800	9,100	3,400
15	1,100	1,550	1,360	2,550	9,690	10,400	8,500	6,990	2,000	15,100	9,040	3,220
16	1,050	1,550	1,320	2,750	9,830	11,000	8,450	6,310	1,900	15,600	8,950	3,050
17	1,000	1,410	1,230	3,020	10,000	11,600	8,350	5,780	2,000	16,400	8,700	2,880
18	1,410	1,320	1,100	3,220	10,400	12,200	9,020	5,390	2,100	17,400	8,300	2,800
19	1,230	1,230	1,050	3,160	10,600	12,700	11,900	4,960	2,200	18,200	7,880	2,650
20	1,180	1,180	960	2,970	10,900	12,900	12,400	4,540	2,400	19,300	7,530	2,580
21	1,140	1,180	960	2,750	11,100	13,400	13,000	3,850	3,280	19,700	7,390	2,440
22	1,050	1,180	1,100	2,650	11,500	13,600	13,600	3,240	3,220	19,800	7,240	2,300
23	1,050	1,140	1,360	2,600	11,600	13,800	14,200	2,700	3,160	19,600	7,040	2,160
24	1,000	1,140	2,050	2,400	11,800	13,900	14,800	2,750	2,800	19,300	6,810	1,900
25	960	1,140	2,000	2,350	12,000	13,900	16,000	2,650	2,500	18,400	6,520	1,780
26	915	1,140	2,400	2,100	12,000	13,800	17,200	2,650	2,150	17,700	6,230	1,580
27	915	1,140	3,420	2,000	11,900	13,200	18,100	2,600	2,000	16,700	5,990	1,470
28	960	1,140	3,480	1,950	11,900	12,800	18,700	2,600	1,850	15,700	5,800	1,470
29	1,000	1,100	3,680	1,950	11,500	12,300	19,100	2,650	1,850	13,400	5,610	1,540
30	960	1,050	3,870	2,000	-	11,800	19,200	2,550	2,100	12,200	6,520	1,780
31	1,000	-	3,800	1,950	-	11,600	-	2,500	-	11,200	6,110	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	36,050	1,550	915	1,163	0.156	0.18
November	35,040	1,650	1,000	1,168	.157	.17
December	48,570	3,870	825	1,567	.210	.24
Calendar year 1939	3,807,460	31,000	825	10,430	1.40	18.99
January	77,530	3,480	1,950	2,501	.336	.39
February	227,370	12,000	1,800	7,840	1.05	1.14
March	326,510	13,900	4,950	10,530	1.41	1.63
April	365,820	19,200	8,350	12,190	1.64	1.83
May	262,910	19,400	2,500	8,481	1.14	1.31
June	66,610	3,280	1,700	2,220	.298	.33
July	433,480	19,800	2,400	13,980	1.88	2.16
August	238,140	10,500	5,610	7,682	1.03	1.19
September	106,600	6,360	1,470	3,553	.477	.53
Water year 1939-40	2,224,630	19,800	825	6,078	.816	11.10

U. S. GOVERNMENT PRINTING OFFICE

Cane Creek near New Albany, Miss.

Location.- Water-stage recorder, lat. 34°34', long. 88°57', in SW¼ sec. 11, T. 6 S., R. 3 E., Chickasaw meridian, at bridge on county road, 5¼ miles upstream from mouth, and 6¾ miles northeast of New Albany.

Drainage area.- 23.8 square miles (revised).

Records available.- February 1939 to September 1940.

Extremes.- Maximum discharge during year, 2,860 second-feet Apr. 4 (gage height, 7.55 feet), from rating curve extended above 1,530 second-feet on basis of velocity-area study and records for nearby streams; minimum, 1.0 second-foot Oct. 10, 24-26.

1939-40: Maximum discharge, 5,700 second-feet May 22, 1939 (gage height, 8.43 feet), from rating curve extended above 1,530 second-feet on basis of velocity-area study and records for nearby streams; minimum, 0.3 second-foot Sept. 13, 1939.

Remarks.- Records good except those below 20 second-feet, which are fair.

Revisions.- Revised figures of monthly discharge in second-feet per square mile and run-off in inches for the period Feb. 10 to Sept. 30, 1939, published herein, supersede those published in Water-Supply Paper 857.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	1.4	28	8.0	b12	22	47	24	6.1	5.0	3.4	5.0
2	1.6	1.4	5.1	7.0	b14	72	38	16	5.4	6.4	47	3.2
3	1.4	1.4	4.2	8.4	b13	78	33	15	5.0	7.6	6.1	3.1
4	1.3	1.4	3.6	6.1	b36	24	974	12	4.8	5.9	3.6	2.8
5	1.2	1.4	3.4	5.6	26	21	66	12	4.1	4.1	3.2	2.6
6	1.2	1.6	3.6	6.1	61	18	42	11	3.8	5.4	2.8	2.3
7	1.2	1.6	3.6	8.3	25	20	43	10	69	7.8	2.4	2.0
8	1.1	1.6	3.2	8.0	21	21	34	9.7	32	9.4	2.2	1.7
9	1.1	1.6	3.4	8.4	122	19	29	10	7.6	8.1	33	1.7
10	5.1	4.0	3.6	7.7	117	17	27	10	6.4	143	3.8	1.5
11	2.3	5.7	3.4	14	37	92	97	8.7	5.9	46	9.3	1.4
12	1.6	4.0	3.2	12	27	516	65	8.1	7.6	146	3.2	1.4
13	1.3	4.4	11	11	24	525	34	7.8	7.6	149	3.2	1.4
14	1.3	3.4	5.1	207	19	59	31	7.3	11	30	3.1	1.4
15	1.3	2.1	4.6	20	19	41	28	9.4	19	29	2.6	1.3
16	1.3	2.1	4.4	16	16	33	24	7.8	13	18	3.2	1.3
17	1.3	2.1	4.6	14	75	27	24	7.3	9.0	13	2.8	1.3
18	1.2	2.6	4.4	12	123	28	911	7.3	7.3	8.7	2.2	1.3
19	1.2	11	4.4	b10	46	25	456	7.0	6.7	7.0	2.3	1.3
20	1.2	4.8	4.6	b9.5	44	21	79	6.7	5.2	11	2.2	1.3
21	1.2	4.2	4.2	b8.5	32	18	56	6.7	4.3	9.5	2.1	1.2
22	1.1	3.6	3.8	b7.5	26	18	44	16	3.8	7.0	2.1	1.2
23	1.1	3.2	73	*b7.5	22	16	42	32	3.6	5.4	2.1	1.1
24	1.0	2.8	18	b7.0	36	21	32	40	3.8	5.0	4.0	1.3
25	1.0	2.6	11	b6.5	28	17	29	13	3.9	4.3	2.2	1.3
26	1.0	2.6	71	b6.0	23	14	25	9.7	3.6	3.9	2.1	1.2
27	1.1	2.6	32	b6.0	32	14	24	7.3	3.1	3.6	2.0	1.2
28	3.6	2.8	12	b6.5	29	19	21	10	55	3.8	314	1.2
29	1.8	3.2	11	*b7.0	24	364	23	9.0	30	3.5	60	1.2
30	1.6	3.2	9.8	b9.0	-	441	53	8.1	5.7	3.1	64	1.3
31	1.6	-	8.9	b10	-	72	-	7.3	-	4.2	11	-

Peak discharge.- Mar. 12 (11 a.m.) 1,160 sec.-ft.; Mar. 13 (6 a.m.) 1,100 sec.-ft.; Mar. 29 (8 p.m.) 1,160 sec.-ft.; Apr. 4 (6 a.m.) 2,860 sec.-ft.; Apr. 18 (3 p.m.) 1,620 sec.-ft.

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- Owing to faulty intake action, twice daily gage readings were used in combination with recorder graph for entire year.

Monthly discharge, in second-feet, of Cane Creek near New Albany, Miss., 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
February 10-28, 1939	3,343	1,220	25	176	7.39	5.22
March	1,490	309	13	48.1	2.02	2.33
April	2,299	480	21	76.6	3.22	3.59
May	2,560.6	1,390	6.4	82.6	3.47	4.00
June	4,334	1,020	16	144	6.05	6.75
July	608.7	108	5.3	19.6	.824	.95
August	823.2	213	1.4	26.6	1.12	1.29
September	87.9	43	.3	2.93	.123	.14
Water year	-	-	-	-	-	-
October 1939	47.6	5.1	1.0	1.54	.065	.07
November	90.4	11	1.4	3.01	.126	.14
December	366.1	73	3.2	11.8	.496	.57
Calendar year	-	-	-	-	-	-
January 1940	480.6	207	5.6	15.5	.651	.75
February	1,129	123	12	38.9	1.63	1.76
March	2,693	525	14	86.9	3.65	4.21
April	3,431	974	21	114	4.79	5.34
May	366.2	40	6.7	11.8	.496	.57
June	353.3	69	3.1	11.8	.496	.55
July	713.7	149	3.1	23.0	.966	1.11
August	607.2	314	2.0	19.6	.824	.95
September	51.5	5.0	1.1	1.72	.072	.08
Water year 1939-40	10,329.6	974	1.0	28.2	1.18	16.10

Lukesasper Creek at Cotton Plant, Miss.

Location.- Staff gage, lat. 34°35', long. 89°01', in NW¼ sec. 5, T. 6 S., R. 3 E., Chickasaw meridian, at bridge on county road, half a mile southwest of Cotton Plant.
Drainage area.- 11.1 square miles (revised).
Records available.- February to September 1939 (discontinued).
Revisions.- Revised figures of monthly discharge in second-feet per square mile and run-off in inches given herein, supersede those published in Water-Supply Paper 857.

Monthly discharge, in second-feet, 1939

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
February 7-28, 1939	1,962.2	661	4.8	89.2	8.01	6.55
March	835.5	279	.9	27.0	2.42	2.79
April	1,029.3	285	2.7	34.3	3.08	3.44
May	1,068.0	732	.1	34.5	3.10	3.57
June	2,611.1	714	1.7	87.0	7.81	8.72
July	465.9	242	.1	15.0	1.35	1.56
August	255.8	92	0	8.25	.741	.85
September	6.8	6.2	0	.227	.020	.02
Water year	-	-	-	-	-	-

Cypress Creek near Etta, Miss.

Location.- Water-stage recorder, lat. 34°26', long. 89°17', in SE¼ sec. 27, T. 7 S., R. 1 W., Chickasaw meridian, at bridge on State Highway 30, 4½ miles southwest of Etta, about 5 miles upstream from mouth and 16 miles east of Oxford.

Drainage area.- 28.5 square miles.

Records available.- January 1939 to September 1940.

Extremes.- Maximum discharge during year, 1,460 second-feet Mar. 13 (gage height, 9.20 feet); minimum, 1.5 second-feet Oct. 24.

1939-40: Maximum discharge, 3,920 second-feet June 17, 1939 (gage height, 10.12 feet), from rating curve extended above 2,070 second-feet; minimum, that of Oct. 24, 1939.

Remarks.- Records fair except those above 20 second-feet, which are good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	2.6	8.7	5.4	6.3	14	32	205	4.2	4.5	3.8	3.8
2	3.8	2.6	6.7	5.0	7.1	14	23	30	3.8	34	5.9	3.8
3	3.5	2.6	4.5	4.5	8.3	47	19	15	3.5	19	12	3.5
4	3.2	2.7	4.2	4.7	45	21	31	11	3.3	9.3	4.5	3.0
5	2.7	3.0	3.8	4.8	52	16	19	10	3.2	6.3	3.8	3.3
6	2.2	3.2	3.8	4.3	145	14	14	8.7	3.2	25	3.8	3.3
7	2.2	3.3	3.8	5.8	35	13	15	7.9	19	46	3.5	3.0
8	2.6	3.2	3.8	6.9	18	13	14	7.1	50	30	3.3	3.2
9	2.4	2.8	3.8	5.8	105	12	12	6.7	7.9	63	5.2	2.8
10	2.2	2.8	3.8	5.6	230	11	11	6.9	10	157	10	2.7
11	3.8	5.4	3.6	9.6	53	14	38	6.3	5.6	82	18	2.6
12	2.7	4.0	3.6	33	24	500	112	6.1	4.5	53	6.3	2.6
13	2.4	5.8	4.5	13	19	816	28	6.1	5.0	383	13	2.8
14	2.6	4.0	5.2	177	17	143	19	5.8	9.7	45	20	3.0
15	2.7	3.0	4.2	44	14	38	15	5.8	7.1	81	6.3	2.8
16	3.0	2.7	3.8	11	31	26	12	5.4	7.5	118	6.4	2.7
17	2.8	2.6	3.8	9.1	52	20	11	5.2	7.5	20	35	2.8
18	2.8	2.7	3.8	7.9	185	25	713	5.0	6.1	13	6.7	2.7
19	2.6	8.6	4.0	6.3	51	43	518	4.8	7.1	10	5.6	2.7
20	2.4	7.6	4.2	5.8	31	20	67	4.7	8.1	11	5.0	2.7
21	2.2	4.0	3.8	5.6	23	17	40	4.3	4.8	11	4.3	2.7
22	2.1	3.8	3.6	5.4	17	15	29	22	4.2	10	4.2	2.7
23	2.0	4.0	16	5.4	14	14	28	23	3.6	6.9	3.6	2.7
24	1.5	3.5	31	5.4	23	14	23	22	3.5	6.0	3.8	3.2
25	1.7	3.3	7.3	5.2	31	15	20	9.1	3.8	5.4	4.2	4.2
26	2.2	3.3	17	5.0	18	13	18	6.3	3.5	4.8	3.5	2.8
27	2.6	3.3	38	4.8	18	13	16	5.4	3.0	4.7	3.3	2.8
28	7.4	3.3	9.2	5.2	24	14	15	6.3	12	4.5	4.2	2.7
29	3.3	3.3	6.3	6.0	16	29	15	6.1	55	4.2	5.4	2.7
30	2.4	3.0	5.6	6.5	-	267	29	5.2	6.7	4.0	13	2.4
31	2.2	-	5.4	6.3	-	102	-	4.3	-	3.8	4.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	87.2	7.4	1.5	2.81	0.099	0.11
November	110.0	8.6	2.6	3.67	.129	.14
December	230.8	38	3.6	7.45	.261	.30
Calendar year	-	-	-	-	-	-
January	430.3	177	4.3	13.9	.488	.56
February	1,294.7	230	6.3	44.6	1.56	1.68
March	2,333	816	11	75.3	2.64	3.04
April	1,976	713	11	65.9	2.31	2.58
May	477.5	205	4.3	15.4	.540	.62
June	276.4	55	3.0	9.21	.323	.36
July	1,275.4	383	3.8	41.1	1.44	1.66
August	232.3	35	3.3	7.49	.263	.30
September	88.7	4.2	2.4	2.96	.104	.12
Water year 1939-40	8,812.3	816	1.5	24.1	.846	11.47

Peak discharge.- Mar. 12 (5 p.m.) 1,060 sec.-ft.; Mar. 13 (9:30 a.m.) 1,460 sec.-ft.; Apr. 18 (6:30 p.m.) 1,380 sec.-ft.; July 13 (10 a.m.) 635 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

North Tippah Creek near Ripley, Miss.

Location.- Water-stage recorder, lat. 34°44', long. 89°02', in SW¼ sec. 18, T. 4 S., R. 3 E., Chickasaw meridian, at bridge on State Highway 4, 2 miles upstream from Tippah drainage canal and 5½ miles west of Ripley.

Drainage area.- 20.0 square miles.

Records available.- February 1939 to September 1940.

Extremes.- Maximum discharge during year, 845 second-feet Apr. 18 (gage height, 10.23 feet); no flow Sept. 16-24.
1939-40: Maximum discharge, 1,510 second-feet June 17, 1939 (gage height, 11.40 feet), from rating curve extended above 869 second-feet on basis of records for adjacent streams; no flow Sept. 16-24, 1940.

Remarks.- Records fair except those above 30 second-feet, which are good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	0.9	6.3	5.8	3.9	14	28	55	2.5	3.5	2.3	1.6
2	.8	.9	4.1	4.0	4.8	17	20	20	2.4	4.8	2.7	1.2
3	.8	.8	2.1	3.4	4.4	62	16	14	2.3	4.8	1.6	.9
4	.6	.8	1.9	4.1	8.5	23	23	11	2.2	3.8	1.1	.8
5	.6	1.2	1.9	3.5	14	18	13	10	1.6	2.4	.9	.8
6	.6	1.1	1.9	2.8	62	14	10	8.1	1.7	2.6	1.2	.6
7	.6	1.3	1.9	4.7	20	16	11	7.2	42	8.7	.8	.6
8	.6	1.6	1.9	5.6	13	24	9.7	6.0	38	20	.8	.4
9	.4	1.4	1.8	4.0	100	15	7.9	5.4	16	8.3	24	.3
10	.4	1.9	2.0	3.6	94	13	6.8	6.4	17	38	3.8	.2
11	.7	6.4	2.0	11	31	12	43	4.4	9.7	20	7.3	.2
12	.5	3.8	1.7	11	21	62	120	3.8	6.4	158	3.0	.2
13	.4	4.4	3.6	7.9	16	297	35	3.7	5.6	88	1.7	.1
14	.4	2.0	2.2	52	14	56	25	3.4	6.9	31	1.6	.1
15	.4	1.5	2.0	16	11	32	19	5.6	6.4	33	1.5	.1
16	.4	1.5	1.8	10	9.5	24	15	4.0	5.4	14	3.5	0
17	.4	1.5	2.0	9.0	50	19	13	3.8	4.8	8.3	3.1	0
18	.5	1.6	2.2	6.0	167	18	426	2.8	3.4	4.6	1.4	0
19	.4	3.8	2.4	3.4	46	18	407	2.9	2.6	3.2	1.2	0
20	.7	4.4	2.9	2.8	42	14	68	2.8	2.3	9.0	.9	0
21	1.0	3.3	2.2	2.8	30	12	39	2.5	1.4	31	.8	0
22	.5	2.4	1.8	2.9	23	12	29	3.4	1.3	39	.6	0
23	.4	2.0	40	3.0	19	10	25	25	1.2	8.5	.6	0
24	.3	1.9	20	3.5	32	11	19	37	2.2	5.4	.3	0
25	.5	1.5	5.8	3.2	26	11	16	11	3.6	4.0	.4	.7
26	1.1	1.3	21	2.5	18	9.2	14	6.6	1.4	3.2	.4	.4
27	1.8	1.2	32	2.4	22	8.8	12	4.8	1.3	2.8	.6	.1
28	5.8	1.2	11	2.6	25	11	11	5.4	52	2.3	13	.1
29	1.2	1.2	7.6	3.2	17	24	11	4.1	37	1.9	31	.1
30	.9	1.1	5.0	4.3	-	196	19	3.3	5.6	1.5	16	.1
31	.8	-	6.0	3.5	-	51	-	2.6	-	1.6	3.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	25.7	5.8	0.3	0.83	0.042	0.05
November	59.9	6.4	.8	2.00	.100	.11
December	202.0	40	1.7	6.52	.326	.38
Calendar year	-	-	-	-	-	-
January	204.5	52	2.4	6.60	.330	.38
February	944.1	167	3.9	32.6	1.63	1.76
March	1,124.0	297	8.8	36.3	1.82	2.10
April	1,511.4	426	6.8	50.4	2.52	2.81
May	286.0	55	2.5	9.23	.462	.53
June	286.2	52	1.2	9.54	.477	.53
July	567.2	158	1.5	18.3	.915	1.05
August	130.5	31	.3	4.21	.210	.24
September	9.5	1.6	0	.32	.016	.02
Water year 1939-40	5,351.0	426	0	14.6	.730	9.96

Peak discharge.- Mar. 13 (10 a.m.) 550 sec.-ft.; Apr. 18 (7 p.m.) 845 sec.-ft.; July 12 (11 p.m.) 580 sec.-ft.

Note.- Because of recorder pen not marking Dec. 2-7, Jan. 20-23, May 18-20, faulty intake action June 5-7, 21-24, 26-28, July 29-31, Aug. 1, 3-9, 13-16, 18-28, Sept. 1-30, or when recorder clock was stopped June 29 to July 5, discharge determined from twice-daily gage readings or from graph based on gage readings and partial recorder graph.

Potts Creek near Potts Camp, Miss.

Location.- Water-stage recorder, lat. 34°35'40", long. 89°20'00", on line between N½ of sections 5 and 6, T. 6 S., R. 1 W., Chickasaw meridian, at bridge on State Highway from Potts Camp to Cornersville, 1.2 miles north of Bethlehem, 1.7 miles upstream from mouth, 3.9 miles south of Potts Camp, and 6.2 miles northwest of Cornersville. Prior to Jan. 31, 1940, staff gage at same site and datum.

Drainage area.- 8.26 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 535 second-feet Apr. 4 (gage height, 9.99 feet); no flow at times during October, November, and September.
Flood of June 17, 1939, reached a stage of about 15 feet, from information furnished by local residents.

Remarks.- Records fair above and poor below 1 second-foot. Staff gage read twice daily when used.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.2	0.6	b0.5	3.4	9.8	5.4	0.4	1.3	0.4	0.2
2		0	.6	.6	b.5	3.3	7.0	4.2	.4	4.0	.2	.2
3		0	.4	.7	b.5	3.9	5.2	3.9	.3	4.2	.2	.1
4		0	.4	.7	b2.0	3.4	153	3.1	.3	2.0	.2	.1
5		0	.4	.6	b6.0	3.0	22	2.7	.3	1.5	.2	.1
6		0	.4	.5	22	2.7	13	2.4	.2	1.6	.6	.1
7		0	.4	.9	5.4	3.0	11	1.9	8.6	2.7	.3	0
8		0	.3	.9	3.4	3.1	8.5	1.8	4.7	1.9	.2	0
9		0	.3	1.1	45	2.5	6.5	1.6	3.4	7.6	8.2	0
10		.1	.4	1.2	22	2.3	5.2	1.6	2.2	23	2.3	0
11		.6	.4	2.0	8.8	2.8	39	1.4	2.0	8.0	3.5	0
12		.5	.4	1.4	5.7	51	34	1.3	1.9	4.8	1.2	0
13		.5	3.1	1.4	4.8	149	14	1.2	6.2	3.8	15	0
14		.2	.6	18	4.1	20	10	1.1	4.3	2.5	1.6	0
15		.2	.6	2.2	3.4	12	7.8	3.1	2.2	2.4	.9	0
16		.2	.6	1.9	2.8	8.8	6.1	1.1	1.8	34	8.4	0
17		.2	.6	1.6	28	6.5	5.5	1.0	1.3	8.9	1.3	0
18		.2	.4	b1.5	28	5.4	208	1.0	.9	3.9	3.5	0
19		2.9	.4	b1.0	12	4.6	80	.9	.7	2.8	1.1	0
20		.9	.4	b.5	9.8	4.1	28	.9	.6	2.5	.4	0
21		.5	.2	b.5	7.4	3.4	17	.7	.4	1.9	.3	0
22		.5	.2	b.5	5.9	3.6	13	19	.4	1.6	.2	0
23		.5	42	*b.5	5.4	3.1	10	8.7	.4	1.4	.2	0
24		.5	5.3	b.5	7.2	4.1	8.1	8.3	.4	1.3	.1	.9
25		.5	3.6	b.5	6.1	3.1	6.5	2.4	.4	1.2	.2	.2
26		.5	3.1	b.5	5.2	2.8	5.9	1.6	.4	.9	.2	0
27		.5	3.9	b.5	5.7	2.5	5.2	1.3	.4	.8	.1	0
28		.5	1.3	b.5	5.0	2.8	4.8	1.3	63	.6	9.9	0
29		.5	1.1	*b1.0	3.9	12	4.6	.9	8.1	.6	1.1	0
30		.7	.9	b1.0	-	54	12	.6	2.4	.4	.4	0
31		-	.7	b.5	-	16	-	.6	-	.6	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	0	0	0	0	0	0
November	11.7	2.9	0	.39	.047	.05
December	76.6	42	.2	2.47	.299	.34
Calendar year	-	-	-	-	-	-
January	45.8	18	.5	1.48	.179	.21
February	266.5	45	.5	9.19	1.11	1.20
March	402.2	149	2.3	13.0	1.57	1.81
April	740.7	208	4.6	24.7	2.99	3.34
May	87.0	19	.6	2.81	.340	.39
June	119.0	63	.2	3.97	.481	.54
July	134.7	34	.4	4.35	.527	.61
August	62.6	15	.1	2.02	.245	.28
September	1.9	.9	0	.06	.007	.008
Water year 1939-40	1,948.7	208	0	5.32	.644	8.78

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Note.- Discharge Oct. 1-31 estimated as no flow on basis of rainfall records and information received from observer and local residents; discharge Jan. 23, 30 determined from wholly or partly estimated gage heights; discharge Jan. 31, Feb. 1-3, Apr. 24, 25, July 30, 31 computed on basis of daily gage readings.

Bagley Creek near Abbeville, Miss.

Location.- Water-stage recorder, lat. 34°30'18", long. 89°24'53", in SW¼ sec. 4, T. 7 S., R. 2 W., Chickasaw meridian, at bridge on forest road, 1½ miles east of Bagley Tower, 2 miles upstream from mouth, 5 miles east of Abbeville, and 11 miles northeast of Oxford. Prior to Nov. 21, 1939, staff gage at same site and datum.

Drainage area.- 9.96 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 322 second-feet Apr. 18 (gage height, 8.65 feet); minimum discharge observed, 0.3 second-foot Oct. 13.
Flood of June 17, 1939, reached a stage of about 11.4 feet, from floodmarks (discharge not determined).

Remarks.- Records good except those below 5 second-feet, which are fair. Staff gage read twice daily, oftener during periods of rapidly changing stage.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	0.6	3.3	2.7	*b3.0	5.9	9.7	16	1.7	2.1	0.8	2.7
2	.6	.6	1.9	2.0	b3.0	5.6	9.1	9.9	1.7	2.4	2.6	2.4
3	.5	.6	1.3	3.4	b2.5	7.1	8.0	8.0	1.6	2.4	1.7	2.2
4	.5	.8	1.2	2.2	b4.5	6.1	9.7	6.7	1.4	2.1	1.2	2.0
5	.4	.9	1.2	2.3	b8.0	5.6	7.1	5.8	1.2	2.0	2.2	1.8
6	.4	.8	1.4	2.8	22	5.2	6.7	5.0	1.2	3.0	2.1	1.7
7	.4	.9	1.4	2.5	6.9	5.0	7.4	4.5	4.3	4.2	1.4	1.6
8	.5	1.0	1.4	2.6	5.2	5.2	6.5	3.9	3.4	3.3	1.3	1.6
9	.4	.9	1.4	2.2	25	4.4	5.8	3.8	2.3	3.7	2.6	1.6
10	.5	1.1	1.4	2.2	23	4.4	5.4	3.7	2.1	7.2	19	1.4
11	.5	3.2	1.3	4.0	9.9	4.7	21	3.1	1.8	7.8	21	1.4
12	.4	2.9	1.3	4.3	6.9	81	30	2.9	1.9	4.3	9.4	1.3
13	.4	2.2	4.2	3.5	6.1	122	14	2.8	3.4	4.9	20	1.2
14	.4	1.0	2.0	9.7	5.4	23	11	2.7	3.7	3.7	11	1.2
15	.4	.8	1.5	b3.5	5.0	14	9.5	3.3	2.8	3.3	4.7	1.1
16	.4	.7	1.6	b2.5	4.5	12	8.4	2.8	2.4	2.9	39	1.0
17	.4	.9	1.6	b2.0	19	11	8.4	2.8	2.2	2.8	13	1.1
18	.4	.8	1.6	*b1.5	22	12	202	2.7	1.9	2.0	6.5	1.0
19	.5	2.8	1.6	b1.0	9.9	12	65	2.7	1.6	1.7	7.0	1.0
20	.5	1.6	1.7	b1.0	8.6	8.4	28	2.5	1.4	2.7	3.8	1.0
21	.5	1.2	1.4	b1.0	7.8	7.6	18	2.3	1.4	7.6	3.2	1.0
22	.6	1.2	1.3	b1.0	6.7	6.7	15	8.4	1.2	4.4	2.8	1.0
23	.7	1.1	11	b1.0	6.1	6.5	13	8.9	1.2	1.5	2.5	1.0
24	.6	1.0	5.7	b1.5	8.8	7.8	12	7.4	1.2	1.2	2.5	1.2
25	.6	1.0	3.2	b1.5	7.6	6.9	10	4.1	1.2	1.1	2.3	1.2
26	.7	1.1	7.4	*b1.5	6.1	6.1	9.1	3.3	1.0	1.0	2.2	1.1
27	.7	.9	6.4	b2.0	7.6	6.1	7.4	3.1	.8	.9	2.0	1.0
28	1.1	1.0	3.4	b3.0	8.4	6.3	6.3	3.4	10	.9	19	.9
29	.7	1.0	2.9	b3.5	6.1	7.1	5.9	2.8	6.9	.8	6.1	.8
30	.6	1.1	1.8	b4.0	-	30	18	2.3	2.4	.8	6.2	.8
31	.6	-	2.7	b3.0	-	14	-	2.0	-	.8	3.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	16.8	1.1	0.4	0.54	0.054	0.06
November	35.7	3.2	.6	1.19	.119	.13
December	81.5	11	1.2	2.63	.264	.30
Calendar year	-	-	-	-	-	-
January	80.9	9.7	1.0	2.61	.262	.30
February	265.6	25	2.5	9.16	.920	.99
March	459.7	122	4.4	14.8	1.49	1.72
April	587.4	202	5.4	19.6	1.97	2.20
May	143.6	16	2.0	4.63	.465	.54
June	71.3	10	.8	2.38	.238	.27
July	89.5	7.8	.8	2.89	.290	.33
August	222.3	39	.8	7.17	.720	.83
September	40.3	2.7	.8	1.34	.135	.15
Water year 1939-40	2,094.6	202	.4	5.72	.574	7.82

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.- Water in gage well frozen Dec. 30 to Jan. 5, Jan. 19 to Feb. 3; discharge determined from twice-daily gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Clear Creek near Oxford, Miss.

Location.- Water-stage recorder, lat. 34°21', long. 89°40', in S½ sec. 30, T. 8 S., R. 4 W., Chickasaw meridian, at bridge on State Highway 6, 1½ miles upstream from Hudson Creek, 8.3 miles west of Oxford, and 9 miles upstream from mouth.

Drainage area.- 9.30 square miles.

Records available.- January 1939 to September 1940.

Extremes.- Maximum discharge during year, 3,400 second-feet July 12 (gage height, 9.17 feet), from rating curve extended above 1,530 second-feet; minimum, 3.2 second-feet at times during October, November and June.

1939-40: Maximum discharge, that of July 12, 1940; minimum, 3.0 second-feet July 19-22, 1939.

Remarks.- Records fair.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.8	3.2	3.9	4.0	4.9	4.8	4.2	9.5	3.5	3.9	5.5	3.9
2	3.6	3.2	3.7	3.9	4.6	4.9	4.3	5.0	3.5	4.3	15	3.8
3	3.5	3.3	3.7	3.9	4.3	4.8	4.6	4.2	3.3	4.1	4.8	3.8
4	3.3	3.3	3.6	3.9	8.5	4.8	13	3.9	3.3	3.8	4.3	3.8
5	3.3	3.2	3.6	3.9	10	4.6	4.4	3.9	3.2	3.8	4.1	3.7
6	3.3	3.2	3.6	4.1	8.2	4.6	4.4	4.1	3.2	27	3.9	3.7
7	3.4	3.4	3.6	4.4	4.3	4.8	4.9	3.9	7.8	56	3.8	3.7
8	3.4	3.4	3.6	4.6	4.3	4.6	4.9	3.9	4.1	7.4	3.6	3.6
9	3.5	3.5	3.6	4.6	48	4.6	4.9	4.1	3.7	6.3	4.0	3.6
10	3.5	3.6	3.6	4.8	6.7	4.6	4.6	4.1	3.8	5.8	38	3.6
11	3.5	3.5	3.6	4.9	4.8	4.6	23	3.9	3.7	6.7	28	3.6
12	3.5	3.8	4.1	4.6	4.8	105	7.7	3.9	3.6	246	10	3.6
13	3.6	3.7	6.7	4.6	4.8	56	5.5	3.8	4.2	19	7.2	3.6
14	3.5	3.7	4.6	34	4.4	7.6	5.4	3.8	4.2	7.6	5.4	3.6
15	3.5	3.6	4.2	3.8	4.4	7.2	5.2	3.8	4.1	6.3	5.0	3.5
16	3.4	3.7	4.1	3.7	4.2	6.7	5.0	3.6	4.1	5.5	5.0	3.5
17	3.3	3.7	4.0	3.6	16	6.3	7.9	3.6	3.9	5.5	4.9	3.5
18	3.3	3.8	3.8	3.6	7.1	26	215	3.6	3.8	5.5	7.4	3.5
19	3.2	3.9	3.8	3.6	5.0	8.5	14	3.6	3.8	10	4.4	3.6
20	3.2	3.8	3.7	3.6	5.4	5.0	8.6	3.6	3.8	11	4.3	3.6
21	3.2	3.6	3.7	3.7	5.0	4.9	7.0	3.6	3.7	6.5	4.2	3.6
22	3.3	3.6	3.8	3.7	4.9	5.5	6.3	3.6	3.7	5.8	4.2	3.6
23	3.4	3.6	24	3.8	4.6	5.5	6.7	3.6	3.7	5.8	4.2	3.6
24	3.5	3.6	5.5	3.8	5.6	5.5	5.8	3.6	3.7	5.8	4.7	4.1
25	3.5	3.6	4.9	3.8	5.4	5.5	5.5	3.6	3.7	5.5	4.3	4.0
26	3.6	3.5	22	3.8	5.0	5.5	5.2	3.4	3.7	5.5	4.2	3.8
27	20	3.5	5.6	3.9	5.5	5.5	4.9	3.4	3.6	5.5	4.2	3.8
28	4.1	3.6	4.4	4.1	4.9	6.0	4.9	3.4	112	5.5	4.8	3.8
29	3.5	3.6	4.3	4.2	4.9	31	4.6	3.3	5.5	5.5	20	3.8
30	3.3	3.6	4.2	4.3	-	26	21	3.3	3.9	5.5	4.0	3.8
31	3.2	-	4.1	4.4	-	4.2	-	3.5	-	5.5	3.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	123.2	20	3.2	3.97	0.427	0.49
November	106.3	3.9	3.2	3.54	.381	.43
December	167.6	24	3.6	5.41	.582	.67
Calendar year						
January	155.6	34	3.6	5.02	.540	.62
February	210.5	48	4.2	7.26	.781	.84
March	385.1	105	4.2	12.4	1.33	1.53
April	423.4	215	4.2	14.1	1.52	1.70
May	122.1	9.5	3.3	3.94	.424	.49
June	225.8	112	3.2	7.53	.810	.90
July	507.9	246	3.8	16.4	1.76	2.03
August	231.3	38	3.6	7.46	.802	.92
September	110.7	4.1	3.5	3.69	.397	.44
Water year 1939-40	2,769.5	246	3.2	7.57	.814	11.06

Note.- Owing to faulty intake action, discharges below about 35 second-feet were determined from twice-daily gage readings or from graph based on gage readings and partial recorder graph.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Hudson Creek near Oxford, Miss.

Location.- Water-stage recorder, lat. 34°21', long. 89°41', in S½ sec. 25, T. 8 S., R. 5 W., Chickasaw meridian, at bridge on State Highway 6, three-quarters of a mile upstream from mouth, 1 mile north of Burgess, and 9½ miles west of Oxford.

Drainage area.- 9.35 square miles.

Records available.- January 1939 to September 1940.

Extremes.- Maximum discharge during year, 720 second-feet Aug. 11 (gage height, 7.21 feet); minimum, 0.1 second-foot at times during October, November and December.
1939-40: Maximum discharge, 1,550 second-feet Jan. 29, 1939 (gage height, 8.90 feet, from floodmarks), from rating curve extended above 827 second-feet; minimum, that of October, November, December 1939.

Remarks.- Records fair except those above 20 second-feet, which are good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.1	0.3	0.3	1.0	0.9	1.3	7.0	0.2	0.8	2.3	0.4
2	.2	.1	.1	.2	.7	1.0	1.0	1.3	.2	6.1	38	.3
3	.2	.2	.2	.2	.6	1.1	.8	1.0	.2	.8	.8	.3
4	.2	.2	.2	.2	5.0	.9	5.2	.8	.2	.6	.7	.3
5	.2	.1	.1	.2	5.5	.9	.9	.7	.2	.4	.5	.3
6	.2	.1	.1	.2	6.2	.8	.8	.7	.2	23	.6	.3
7	.2	.1	.1	.3	1.0	.8	1.0	.5	14	44	.3	.3
8	.2	.1	.2	.3	.5	.8	.7	.5	.8	5.0	.3	.3
9	.2	.1	.2	.2	39	.8	.7	.5	2.4	1.2	8.4	.2
10	.2	.2	.2	.3	5.0	.8	.6	.5	1.4	1.7	43	.2
11	.2	.2	.2	.6	2.0	.8	17	.3	.7	6.0	53	.2
12	.1	.3	.6	.6	1.7	57	7.5	.3	.6	107	1.9	.2
13	.2	.3	1.4	.3	1.5	45	2.6	.3	1.0	26	5.0	.2
14	.1	.1	.2	17	1.2	1.8	2.4	.3	1.6	6.9	d1.2	.2
15	.1	.1	.2	.4	1.0	1.2	1.9	.3	.7	4.3	d.8	.2
16	.2	.2	.2	.4	1.0	1.0	1.5	.2	1.0	2.7	12	.2
17	.2	.2	.2	.3	9.6	.8	2.8	.2	.5	2.6	d.8	.2
18	.2	.2	.2	.3	6.7	7.1	128	.3	.4	2.4	9.6	.2
19	.2	.3	.2	.3	2.0	2.4	16	.3	.3	40	.9	.2
20	.2	.2	.2	.2	1.9	1.8	6.4	.2	.2	37	.5	.2
21	.2	.2	.2	.2	1.4	1.3	4.5	.2	.2	10	.5	.2
22	.2	.2	.2	.2	1.0	1.3	3.4	.3	.2	9.1	.5	.2
23	.2	.2	13	.2	1.0	1.3	4.3	.2	.2	5.0	.4	.2
24	.2	.2	2.7	.2	2.4	1.7	2.7	.5	.3	3.4	.4	.9
25	.2	.2	1.4	.2	1.3	1.4	2.3	.3	.3	2.7	.4	.3
26	.2	.1	20	.2	1.2	1.3	2.2	.2	.2	2.7	.4	.3
27	4.0	.1	.9	.2	1.3	1.2	2.2	.3	.2	2.7	.3	.3
28	.1	.2	.5	.3	1.1	1.7	1.8	.3	60	2.7	.8	.2
29	.1	.2	.4	.3	.9	20	2.3	.2	5.0	2.4	29	.2
30	.1	.2	.3	.5	-	21	10	.2	1.1	2.2	2.1	.2
31	.1	-	.3	.5	-	2.3	-	.2	-	3.4	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	9.4	4.0	0.1	0.30	0.032	0.04
November	5.2	.3	.1	.17	.018	.02
December	45.2	20	.1	1.46	.156	.18
Calendar year	-	-	-	-	-	-
January	25.8	17	.2	.83	.089	.10
February	104.7	39	.5	3.61	.386	.42
March	182.2	57	.8	5.88	.629	.73
April	234.8	128	.6	7.83	.837	.93
May	19.1	7.0	.2	.62	.066	.08
June	94.5	60	.2	3.15	.337	.38
July	364.8	107	.4	11.8	1.26	1.45
August	215.9	53	.3	6.96	.744	.86
September	7.9	.9	.2	.26	.028	.03
Water year 1939-40	1,309.5	128	.1	3.58	.383	5.22

d Questionable gage height; discharge computed on basis of records for nearby streams.
Note.- Owing to faulty intake action, discharges below about 50 second-feet were determined from twice-daily gage readings or graph based on gage readings and partial recorder graph.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Yocona River near Enid, Miss.

Location.- Water-stage recorder, lat. 34°09', long. 89°55', in T. 11 S., R. 7 W., Chickasaw meridian, at bridge on U. S. Highway 51, 200 feet downstream from Tolliver Creek, 1 mile downstream from Bear Creek, 2 miles northeast of Enid, 2½ miles upstream from Illinois Central Railroad bridge, 6 miles upstream from drainage-canal diversion, and 24½ miles upstream from mouth. Datum of gage is 189.82 feet above mean sea level (general adjustment of 1929). Prior to Sept. 30, 1939, wire-weight gage at same site and datum.

Drainage area.- 560 square miles.

Records available.- July 1928 to September 1931 and October 1938 to September 1940 in reports of Geological Survey. December 1931 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge during year, 12,600 second-feet Mar. 13 (gage height, 17.84 feet); minimum, 42 second-feet Oct. 26 (gage height, 2.79 feet).

1928-31; 1938-40: Maximum discharge, 16,800 second-feet Mar. 30, 1939; minimum, 34 second-feet Sept. 28, 1931; minimum gage height, 0.78 foot Oct. 3, 1929.

A stage of 21.0 feet occurred on Jan. 14, 1932 (discharge, 27,000 second-feet).

Remarks.- Records fair below and good above 300 second-feet.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	148	75	154	152	190	297	1,280	2,270	111	332	120	283
2	113	64	160	135	186	270	877	1,320	99	1,970	166	184
3	94	58	115	120	186	462	543	919	91	1,000	233	144
4	72	58	111	122	458	304	510	510	83	510	122	117
5	66	59	98	120	656	250	560	350	78	299	103	101
6	59	61	93	115	2,060	224	415	290	72	2,380	94	96
7	59	62	86	139	1,360	208	367	250	118	2,640	93	94
8	58	61	83	160	919	206	362	222	495	1,450	122	98
9	59	66	80	133	2,470	194	292	208	371	1,670	2,020	82
10	56	75	80	129	3,190	190	260	204	332	2,210	3,740	75
11	56	172	78	291	2,110	213	736	184	240	2,370	2,810	69
12	58	144	80	699	1,750	5,540	1,850	168	210	2,970	816	67
13	58	202	122	362	1,190	11,700	898	162	158	5,400	510	62
14	61	127	113	756	664	10,900	560	148	306	2,370	664	62
15	59	99	94	646	478	5,340	415	152	238	7,330	304	62
16	61	93	93	430	385	2,010	324	154	226	4,190	252	59
17	61	86	93	277	1,080	1,070	285	139	250	2,010	297	56
18	59	80	93	224	2,370	757	8,850	131	180	1,230	218	53
19	59	78	94	170	1,450	898	10,900	126	156	628	206	51
20	56	96	94	332	1,190	628	8,780	118	137	1,400	156	48
21	56	91	93	290	940	526	3,640	117	122	1,750	127	48
22	54	86	94	252	510	400	1,600	113	108	1,000	113	50
23	50	85	457	252	367	332	1,070	178	103	462	110	50
24	46	83	719	256	495	329	816	302	99	306	106	70
25	43	85	316	252	757	334	646	258	106	246	110	118
26	43	83	722	216	560	285	594	208	101	212	103	74
27	51	82	1,110	210	430	270	510	148	a82	182	101	59
28	222	82	510	218	415	283	446	242	a67	166	342	56
29	127	78	329	246	359	866	430	196	a902	150	858	58
30	118	78	206	268	-	5,220	616	162	462	137	1,850	56
31	93	-	172	262	-	2,370	-	127	-	129	818	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,275	222	43	73.4	0.131	0.15
November	2,649	202	58	88.3	.158	.18
December	6,742	1,110	78	217	.388	.45
Calendar year 1939	339,200	15,200	40	929	1.66	22.54
January	8,234	756	115	266	.475	.55
February	29,375	3,190	186	1,013	1.81	1.95
March	52,876	11,700	190	1,706	3.05	3.51
April	49,432	10,900	260	164.8	2.94	3.28
May	10,076	2,270	113	325	.580	.67
June	6,103	902	67	203	.362	.41
July	49,099	7,330	129	1,584	2.83	3.26
August	17,684	3,740	93	570	1.02	1.17
September	2,502	283	48	83.4	.149	.17
Water year 1939-40	237,047	11,700	43	648	1.16	15.75

Peak discharge.- Mar. 13 (7 p.m.) 12,600 sec.-ft.; Mar. 30 (1:30 p.m.) 6,230 sec.-ft.; Apr. 18 (8 p.m.) 11,700 sec.-ft.; July 13 (6 a.m.) 6,760 sec.-ft.; July 15 (4 p.m.) 11,300 sec.-ft.; Aug. 10 (9 p.m.) 6,650 sec.-ft.

a No gage-height record; discharge computed on basis of gage readings made at Water Valley, about 15 miles upstream.

Note.- Discharge for periods Jan. 19 to Feb. 3, July 4, 5, Aug. 21-24, 27-29 and Aug. 19, 20, computed on basis of twice-daily gage readings.

Long Creek at Courtland, Miss.

Location.- Water-stage recorder, lat. 34°13'40", long. 89°56'25", in sec. 9, T. 10 S., R. 7 W., Chickasaw meridian, at bridge on U. S. Highway 51, 1 mile south of Courtland, 5½ miles upstream from mouth, and 6 miles south of Batesville. Prior to March 21, 1940, wire-weight gage at same site and datum.

Drainage area.- 63.3 square miles.

Records available.- March to September 1940.

Extremes.- Maximum discharge during period, 5,440 second-feet July 12 (gage height, 14.82 feet), from rating curve extended above 2,700 second-feet by velocity-area studies; minimum discharge observed, 1.8 second-feet June 22, 26, 27; minimum gage height observed, 3.73 feet Aug. 8.

Remarks.- Records good between 250 and 3,000 second-feet, fair above and below. Wire-weight gage read twice daily when used.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	18	123	2.8	5.7	4.2	5.7
2						-	14	14	2.8	324	279	8.1
3						-	11	9.5	2.8	37	35	6.5
4						9.0	51	7.7	2.2	19	10	5.7
5						7.3	12	6.9	2.5	6.5	8.1	4.0
6						7.3	9.0	5.7	2.8	475	6.9	3.0
7						7.3	13	4.9	129	82	4.9	2.0
8						7.3	12	4.5	21	24	154	3.2
9						6.5	10	4.2	23	41	759	3.0
10						6.5	10	4.0	28	19	689	2.5
11						143	270	3.8	8.5	511	70	2.5
12						933	115	3.8	6.1	1,030	56	2.5
13						615	39	3.5	3.8	900	70	3.0
14						54	35	3.5	4.0	56	30	2.8
15						23	32	3.2	3.8	253	12	2.8
16						17	30	3.5	3S	51	190	3.0
17						13	29	3.5	6.1	40	30	2.8
18						12	1,940	3.5	4.2	18	409	2.5
19						15	264	4.0	3.0	69	171	2.8
20						11	53	3.8	2.5	446	14	2.5
21						8.5	28	3.8	2.2	578	6.9	2.8
22						7.3	20	3.8	1.8	181	4.9	3.0
23						7.3	18	4.0	2.0	26	4.0	3.5
24						12	13	5.3	2.2	15	49	25
25						11	10	3.8	2.0	8.5	23	15
26						8.1	9.0	3.8	2.0	6.9	4.0	11
27						7.3	7.7	4.9	2.0	6.9	3.0	9.0
28						8.5	6.1	8.5	272	5.7	35	9.0
29						159	6.9	3.5	333	6.9	132	8.5
30						334	57	2.8	8.5	6.1	70	7.3
31						37	-	2.8	-	5.7	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March 4-31	2,487.2	933	6.5	88.8	1.40	1.46
April	3,142.7	1,940	6.1	105	1.66	1.85
May	267.5	123	2.8	8.63	.136	.16
June	924.6	333	1.8	30.8	.487	.54
July	5,253.9	1,030	5.7	170	2.69	3.10
August	3,347.9	759	3.0	108	1.71	1.97
September	165.0	25	2.0	5.50	.087	.10
Water year	-	-	-	-	-	-

Note.- Discharge for periods of faulty or no recorder record, May 29 to June 6, June 19-27, July 8, 10, 18, 23-31, Aug. 1, 4-7, 15, 20-23, 26, 27, 31, Sept. 1-23, 25-30, determined from twice-daily gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Coldwater River near Coldwater, Miss.

Location.- Wire-weight gage, lat. 34°43', long. 89°59', in SW¼ sec. 19, T. 4 S., R. 7 W., Chickasaw meridian, at bridge on U. S. Highway 51, 1¼ miles northwest of Coldwater, 1½ miles downstream from Beartail Creek, and 3½ miles upstream from Hickahala Creek. Datum of gage is 208.25 feet above mean sea level (general adjustment of 1929).

Drainage area.- 617 square miles.

Records available.- July 1928 to September 1931 and October 1938 to September 1940 in reports of Geological Survey. December 1931 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge observed during year, 8,300 second-feet June 30 (gage height, 14.64 feet); minimum observed, 78 second-feet Oct. 24-27; minimum gage height observed, 3.62 feet Sept. 12.

1928-31; 1938-40: Maximum discharge, 41,800 second-feet Jan. 9, 1930 (gage height, 18.86 feet); minimum, 69 second-feet Sept. 30, 1929; minimum gage height, 2.36 feet Aug. 21, 1929.

A stage of 21.0 feet occurred Jan. 21, 1935, from floodmark (discharge, 79,500 second-feet).

Remarks.- Records poor. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180	90	106	110	126	187	750	1,050	114	3,300	122	217
2	142	90	118	102	126	177	334	1,050	110	1,670	134	162
3	114	90	114	98	126	167	212	550	110	1,050	172	130
4	102	90	114	98	126	177	187	222	110	388	162	110
5	98	94	118	94	134	157	242	152	106	197	122	102
6	98	98	114	94	210	152	162	138	106	157	114	102
7	98	102	110	94	415	147	142	126	110	152	114	98
8	94	106	106	98	258	147	142	122	177	202	114	94
9	94	106	106	98	830	142	134	118	182	810	126	94
10	94	110	106	98	1,480	142	134	114	550	852	268	94
11	94	118	110	118	1,670	147	142	114	364	896	504	94
12	98	122	110	160	1,290	152	276	110	254	810	650	94
13	102	130	110	175	810	316	284	110	192	730	325	94
14	102	126	110	415	490	610	202	110	334	770	650	94
15	102	114	110	852	242	490	182	110	292	376	1,090	94
16	102	106	110	373	202	316	162	110	232	237	830	94
17	102	106	114	210	217	237	152	110	187	182	596	94
18	98	106	110	155	1,190	192	268	110	162	162	292	94
19	98	114	110	130	1,840	232	1,210	110	534	147	182	94
20	94	134	110	118	2,160	261	1,890	110	690	187	147	94
21	90	122	110	126	1,260	207	1,800	110	242	248	134	94
22	86	114	110	122	790	162	1,140	138	157	192	134	94
23	82	110	138	122	376	167	770	710	126	177	118	98
24	78	106	314	122	254	162	364	518	118	147	110	142
25	78	102	243	122	254	162	222	268	126	134	110	810
26	78	98	200	114	232	157	182	237	126	130	110	690
27	78	94	670	114	212	152	162	162	114	126	110	242
28	98	90	630	122	207	152	130	134	152	122	118	138
29	94	94	230	130	202	152	138	126	1,210	122	316	114
30	90	94	138	130	-	254	343	122	6,820	118	412	102
31	90	-	126	126	-	918	-	118	-	118	300	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,048	180	78	98.3	0.159	0.18
November	3,176	134	90	106	.172	.19
December	5,125	670	106	165	.267	.31
Calendar year 1939	369,867	15,000	78	1,013	1.64	22.29
January	5,040	852	94	163	.264	.30
February	17,729	2,160	126	611	.990	1.07
March	7,413	918	142	239	.387	.45
April	12,468	1,890	130	415	.673	.75
May	7,389	1,050	110	238	.386	.44
June	14,107	6,820	106	470	.762	.85
July	14,909	3,300	118	481	.780	.90
August	8,688	1,090	110	280	.454	.52
September	4,667	810	94	156	.253	.28
Water year 1939-40	103,749	6,820	78	283	.459	6.24

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Coldwater River at Pratts Bridge, near Arkabutla, Miss.

Location.- Water-stage recorder, lat. 34°45'25", long. 90°08'35", in NW¼ sec. 10, T. 4 S., R. 9 W., Chickasaw meridian, at bridge on county highway between Arkabutla and Eudora, 5 miles upstream from Cub Lake Bayou, 4¼ miles northwest of Arkabutla, 5 miles south of Eudora, 18½ miles downstream from station near Coldwater, and 20 miles upstream from station at Savage. Datum of gage is 188.26 feet above mean sea level (general adjustment of 1929). Prior to Oct. 1, 1939, staff gage at same site and datum.

Drainage area.- 1,000 square miles (authority, Corps of Engineers, U. S. Army).

Records available.- October 1938 to September 1940 in reports of Geological Survey. April 1937 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge during year, 8,170 second-feet June 29 (gage height, 10.24 feet); minimum, 123 second-feet Oct. 13, 14, 23-25; minimum gage height, 0.43 foot Oct. 13.

1938-40: Maximum discharge observed, 23,600 second-feet Feb. 4, 1939 (gage height, 12.50 feet); minimum discharge, 120 second-feet at times during October 1938 (gage height, 0.00 foot).

A stage of 21.3 feet occurred in January 1935 (from floodmarks).

Remarks.- Records fair.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers. U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	462	139	159	233	179	305	1,160	962	159	6,250	159	660
2	350	135	187	183	175	278	990	1,200	155	4,420	187	390
3	224	131	199	167	179	260	580	1,200	147	2,600	203	260
4	171	131	187	155	183	251	370	807	143	1,970	296	199
5	151	131	179	155	199	251	572	410	139	1,070	233	167
6	139	135	183	155	314	224	596	269	135	498	163	167
7	139	135	179	151	683	215	341	224	135	341	147	167
8	135	139	175	159	750	211	278	207	175	440	143	159
9	131	139	171	163	1,030	207	242	199	323	790	147	155
10	127	143	171	163	1,750	203	211	195	380	1,160	269	155
11	127	151	175	195	2,060	199	211	191	732	1,290	644	155
12	127	171	179	260	2,400	203	380	187	552	1,340	830	151
13	123	191	183	314	2,140	305	855	179	420	1,370	810	147
14	123	224	183	668	1,650	940	566	175	400	1,290	580	147
15	127	203	187	1,080	930	1,160	370	171	552	1,160	880	147
16	127	175	179	1,050	538	810	296	167	430	816	990	147
17	127	159	175	688	478	538	251	167	370	450	960	147
18	127	155	171	400	1,620	390	510	163	305	305	790	147
19	127	163	167	278	2,060	400	1,670	163	510	242	486	147
20	127	187	159	h199	2,720	538	a2,540	163	830	224	332	147
21	127	215	151	h171	2,720	430	a2,980	159	628	462	233	143
22	127	187	147	h171	2,400	323	a2,130	167	360	450	191	143
23	123	171	215	h183	1,760	269	a1,460	451	224	323	187	143
24	123	167	486	h191	946	242	a1,080	930	175	251	163	323
25	123	159	660	h179	596	242	a596	810	163	195	151	2,250
26	127	155	486	h155	524	260	a410	498	179	175	151	2,140
27	135	147	644	h151	420	224	332	332	159	163	147	1,200
28	179	143	1,020	h151	350	215	269	242	394	159	147	552
29	187	139	905	h175	332	219	233	203	5,480	151	187	269
30	171	143	486	h183	-	391	350	183	2,760	151	594	183
31	147	-	296	183	-	930	-	167	-	147	830	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,860	462	123	157	0.157	0.18
November	4,763	224	131	159	.159	.18
December	9,044	1,020	147	292	.292	.34
Calendar year 1939	552,811	21,000	123	1,515	1.52	20.56
January	8,709	1,080	151	281	.281	.32
February	32,086	2,720	175	1,106	1.11	1.20
March	11,633	1,160	199	375	.375	.43
April	22,829	2,980	211	761	.761	.85
May	11,541	1,200	159	372	.372	.43
June	17,514	5,480	135	584	.584	.65
July	30,653	6,250	147	989	.989	1.14
August	12,230	990	143	395	.395	.46
September	11,307	2,250	143	377	.377	.42
Water year 1939-40	177,169	6,250	123	484	.484	6.60

a No gage-height record; discharge computed on basis of twice-daily gage readings at Arkabutla dam site, 1.6 miles upstream.

h Computed on basis of twice-daily staff gage readings.

Coldwater River at Savage, Miss.

Location.- Wire-weight gage, lat. 34°38'00", long. 90°13'50", in SW¼ sec. 23, T. 5 S., R. 10 W., Chickasaw meridian, at county highway bridge 1,000 feet downstream from Yazoo & Mississippi Valley Railroad bridge, a quarter of a mile west of Savage, 7¾ miles upstream from Arkabutla canal, and 9½ miles southeast of Tunica. Datum of gage is 169.28 feet above mean sea level (general adjustment of 1929). Prior to Apr. 1, 1940, staff gage at same site and datum. Auxiliary staff gage for slope determination, half a mile downstream from Arkabutla Creek and 4½ miles downstream from main gage. Datum of auxiliary gage is 163.38 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,225 square miles (authority, Corps of Engineers, U. S. Army).

Records available.- October 1908 to October 1912, October 1938 to September 1940 in reports of Geological Survey. December 1935 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge observed during year, 4,320 second-feet July 3; maximum gage height observed, 15.52 feet July 4; no flow at times owing to backwater from Arkabutla canal; minimum gage height, 1.03 feet Oct. 18-27.

1908-12; 1938-40: Maximum discharge observed, 25,100 second-feet Feb. 5, 1939; maximum gage height observed, 18.1 feet Apr. 18, 1910 (former site, present datum); no flow at times during water years 1938-40 owing to backwater from Arkabutla canal; minimum gage height, -3.2 feet Oct. 10-17, 26-28, 1908, Sept. 19, 20, 1909 (former site, present datum).

A stage of 20.0 feet occurred during January 1935 (from floodmarks).

Remarks.- Records poor. Main gage read twice daily. Stage-discharge relation affected by backwater from Arkabutla canal 7¾ miles (revised) below, causing no flow on occasional periods. Discharge determined by using fall as determined by twice-daily readings of auxiliary staff gage as a factor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	509	162	170	613	b146	891	868	824	176	2,890	169	611
2	469	129	205	385	b146	584	957	957	169	3,730	172	610
3	401	137	241	297	b157	469	981	1,010	162	4,320	190	473
4	286	139	248	223	b163	313	798	1,060	148	4,220	173	329
5	203	139	239	220	b218	339	793	1,020	143	3,920	243	234
6	165	142	207	194	167	314	698	663	152	3,530	229	181
7	159	142	203	189	451	283	692	592	169	3,160	179	174
8	139	139	209	188	539	265	663	368	171	2,810	124	179
9	129	118	216	187	759	262	569	289	198	2,510	149	161
10	145	109	202	203	1,180	279	432	233	182	2,150	198	133
11	148	175	190	209	1,380	252	143	225	447	1,770	288	116
12	148	158	193	237	1,530	242	c0	193	622	1,740	496	130
13	146	189	202	280	1,820	248	512	173	665	1,560	663	142
14	148	204	210	515	1,760	381	579	167	673	1,680	749	131
15	148	210	215	762	1,800	604	683	180	627	1,660	739	161
16	145	167	223	858	1,810	828	527	161	509	1,590	740	163
17	135	158	219	931	1,660	806	440	151	475	1,440	842	163
18	124	195	200	884	1,690	809	340	144	456	1,210	894	163
19	124	198	213	b588	2,020	717	1,430	152	426	889	879	163
20	124	198	209	b586	2,130	614	1,650	139	563	569	739	157
21	124	209	205	*b286	2,210	550	1,810	127	741	310	572	160
22	124	236	209	b178	1,930	447	1,970	162	689	426	356	140
23	124	177	248	b158	2,380	418	2,210	220	580	491	221	148
24	124	191	102	b156	2,490	356	2,390	517	367	417	197	c0
25	124	212	570	b156	2,390	308	2,460	765	257	321	156	746
26	124	197	771	b156	2,160	268	2,400	788	195	248	162	1,180
27	125	199	662	b156	1,880	274	1,880	709	192	219	138	1,250
28	180	172	711	b153	1,490	272	1,380	520	254	202	162	1,220
29	195	170	820	b141	1,230	230	1,130	355	1,220	178	169	1,110
30	171	173	847	b126	-	479	818	213	1,880	172	253	845
31	160	-	685	b136	-	699	-	225	-	172	483	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,572	509	124	180	0.147	0.17
November	5,144	236	109	171	.140	.16
December	10,044	847	102	324	.264	.30
Calendar year 1939	626,883	25,100	0	1,717	1.40	19.03
January	10,450	931	126	337	.275	.32
February	39,686	2,490	146	1,368	1.12	1.20
March	13,801	891	230	445	.363	.42
April	32,203	2,460	0	1,073	.876	.98
May	13,502	1,060	127	436	.356	.41
June	13,510	1,880	143	450	.367	.41
July	50,504	4,320	172	1,629	1.33	1.53
August	11,724	894	124	378	.309	.36
September	11,373	1,250	0	379	.309	.35
Water year 1939-40	217,513	4,320	0	594	.485	6.61

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
c Backwater from Arkabutla canal; discharge determined as zero on basis of negative slope.

Yalobusha River at Graysport, Miss.

Location.- Water-stage recorder, lat. 33°49', long. 89°37', in E½ sec. 36, T. 23 N., R. 6 E., Choctaw meridian, at bridge on State Highway 8, half a mile north of Graysport, half a mile downstream from Butputter Creek, 4½ miles upstream from Redgrass Creek, 11 miles east of Grenada, and 11¼ miles upstream from Skuna River. Prior to Mar. 29, 1940, wire-weight gage at same site and datum.

Drainage area.- 607 square miles.

Records available.- March to September 1940.

Extremes.- Maximum discharge during period, 18,500 second-feet Apr. 19 (gage height, 24.76 feet); minimum, 12 second-feet Sept. 22-24, 30; minimum gage height, 5.39 feet Sept. 23, 24, 30.

Remarks.- Records good. Wire-weight gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	1,320	394	70	292	51	584
2						432	1,160	471	52	825	64	210
3						346	793	339	42	1,510	196	123
4						432	775	218	37	1,730	235	87
5						335	1,440	168	31	1,890	120	65
6						324	1,510	138	28	1,920	56	48
7						272	1,420	117	30	1,920	49	39
8						218	1,240	102	76	1,950	38	33
9						182	836	87	35	4,520	256	28
10						158	499	75	28	8,470	715	26
11						150	451	63	23	6,320	1,000	23
12						909	1,010	54	22	5,120	685	21
13						1,980	1,140	49	25	6,150	320	19
14						4,250	1,000	45	29	5,400	211	17
15						6,000	820	49	110	4,250	485	16
16						5,400	527	47	130	3,750	513	15
17						4,370	346	42	72	3,350	865	15
18						3,650	1,380	39	57	2,750	1,000	14
19						2,950	11,300	34	49	2,250	453	14
20						2,250	14,800	31	50	1,880	224	14
21						1,770	7,950	30	93	1,240	129	13
22						1,040	5,000	28	57	386	72	13
23						464	3,870	43	42	210	64	12
24						346	3,050	300	29	161	51	12
25						292	2,250	220	25	126	42	15
26						253	1,760	114	34	111	35	17
27						218	866	80	24	87	31	22
28						252	325	77	20	72	145	21
29						370	244	143	200	60	195	17
30						894	210	198	289	52	839	13
31						1,320	-	99	-	52	1,120	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March 2-31	41,827	6,000	150	1,394	2.30	2.57
April	69,292	14,800	210	2,310	3.81	4.25
May	3,894	471	28	126	.208	.24
June	1,809	289	20	60.3	.099	.11
July	68,804	8,470	52	2,219	3.66	4.22
August	10,259	1,120	31	331	.545	.63
September	1,566	584	12	52.2	.086	.10
Water year	-	-	-	-	-	-

Peak discharge.- Apr. 19 (8 a.m.) 18,500 sec.-ft.; July 10 (4 a.m.) 9,670 sec.-ft.; Aug. 18 (10 a.m.) 1,120 sec.-ft.

Note.- Discharge for periods of faulty or no recorder record because of faulty intake action, May 8-23, June 3-15, 19-28, July 26-31, Aug. 1, 2, 5-9, 22-28, Sept. 4-30, determined from twice-daily gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Yalobusha River at Grenada, Miss.

Location.- Wire-weight gage, lat. 33°47', long. 89°48', in NE¼ sec. 7, T. 22 N., R. 5 E., Choctaw meridian, at bridge on U. S. Highway 51, in Grenada, 0.9 mile downstream from Illinois Central Railroad bridge, 1 mile downstream from Batupan River, 5 miles downstream from Skuna River, and 63 miles upstream from confluence with Tallahatchie River). Datum of gage is 152.27 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,550 square miles.

Records available.- June to November 1906, July 1908 to March 1912, July 1928 to September 1931, and October 1938 to September 1940 in reports of Geological Survey. December 1931 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge observed during year, 29,100 second-feet Apr. 21 (gage height, 27.26 feet); minimum discharge, 44 second-feet Oct. 27, 28; minimum gage height, 4.06 feet Oct. 28.

1906, 1908-12, 1928-31, 1938-40: Maximum discharge observed, 35,700 second-feet May 20, 1930 (gage height, 27.49 feet); minimum discharge, 40 second-feet at times during October and November 1909 (gage height, 0.95 foot).

A stage of 28.4 feet occurred on Jan. 13, 1932 (discharge, 46,000 second-feet).

Remarks.- Records good above and fair below 200 second-feet. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 1-30)

4.05	44	6.0	230	19.0	3,700	25.0	10,100
4.3	54	6.5	300	21.0	4,500	25.3	11,600
4.6	74	7.5	480	22.5	5,600	25.6	13,800
5.0	106	9.0	810	23.5	6,780	27.1	27,300
5.5	160	12.0	1,590	24.3	8,200		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	202	46	66	153	121	1,460	3,240	1,460	272	1,230	318	1,540
2	286	46	74	126	126	1,100	3,150	1,950	230	2,610	372	810
3	174	46	74	116	136	888	2,490	1,980	131	3,700	546	502
4	106	46	90	94	174	766	1,680	1,380	160	4,020	634	318
5	78	46	90	86	372	766	2,040	1,020	153	3,540	524	258
6	63	46	82	86	1,230	744	2,040	612	141	3,390	444	188
7	54	48	74	121	1,950	634	2,010	502	146	3,660	286	146
8	52	48	70	126	2,250	546	1,950	426	202	3,660	258	136
9	50	50	70	146	2,550	462	1,650	372	316	4,500	460	121
10	50	54	66	153	3,660	444	1,120	336	336	6,000	3,060	102
11	48	63	66	188	3,630	480	1,020	300	286	11,000	4,560	90
12	48	82	66	546	3,510	2,070	2,040	286	202	14,700	4,180	90
13	48	202	82	612	3,630	5,440	2,340	258	153	18,300	3,510	86
14	48	230	90	810	4,060	6,780	2,160	244	160	17,400	1,980	86
15	46	160	82	836	4,380	7,080	1,680	244	202	13,800	1,100	82
16	46	111	78	914	3,860	9,500	1,380	244	216	11,600	1,120	78
17	46	90	82	678	3,780	10,100	992	230	286	8,950	1,070	74
18	46	78	78	408	3,820	7,600	3,030	216	300	7,250	1,490	74
19	46	70	78	258	4,180	6,100	7,800	202	286	6,000	1,510	74
20	46	66	86	216	4,180	5,800	14,700	188	244	5,040	1,100	70
21	46	63	90	131	4,180	4,560	27,300	167	230	4,500	836	70
22	46	63	86	121	4,140	3,900	21,900	167	272	3,570	502	70
23	46	63	258	153	3,660	3,090	12,300	216	174	2,130	336	70
24	46	60	524	146	3.210	1.710	8,450	862	141	1,020	286	70
25	46	60	568	136	3.180	1,070	6,480	914	146	700	272	86
26	46	60	788	141	2,940	836	5,040	700	131	568	244	86
27	44	57	914	126	2,670	766	3,980	426	121	480	244	82
28	46	57	940	131	2,280	992	2,910	354	188	408	300	78
29	46	57	766	216	1.860	1,120	1,380	444	678	372	462	74
30	46	57	408	216	-	1,890	940	426	888	354	1,430	74
31	46	-	230	126	-	2,940	-	318	-	336	1,770	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,087	286	44	67.3	0.043	0.05
November	2,225	230	46	74.2	.048	.05
December	7,116	940	66	230	.148	.17
Calendar year 1939	663,408	19,500	44	1,735	1.12	15.20
January	8,316	914	86	268	.173	.20
February	79,719	4,380	121	2,749	1.77	1.91
March	91,634	10,100	444	2,956	1.91	2.20
April	149,192	27,300	940	4,973	3.21	3.58
May	17,444	1,980	167	563	.363	.42
June	7,393	888	121	246	.159	.18
July	164,988	18,300	336	5,322	3.43	.96
August	35,224	4,560	244	1,136	.733	.85
September	5,685	1,540	70	190	.123	.14
Water year 1939-40	571,023	27,300	44	1,560	1.01	13.71

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Skuna River near Coffeeville, Miss.

Location.- Water-stage recorder, lat. 35°54'35", long. 89°38'30", in NW¼ sec. 35, T. 24 N., R. 6 E., Choctaw meridian, at bridge on county road 1 mile south of Gums, 3¼ miles upstream from Turkey Creek, 5 miles south of Coffeeville, and 9¼ miles upstream from mouth. Prior to Mar. 27, 1940, staff gage at same site and datum.

Drainage area.- 435 square miles.

Records available.- March to September 1940.

Extremes.- Maximum discharge during period, 16,100 second-feet Apr. 20 (gage height, 20.58 feet); minimum discharge, 14 second-feet Sept. 16, 20-23; minimum gage height, 3.54 feet Sept. 20, 22, 23.

Remarks.- Records good. Staff gage was read twice daily.

Rating table for period Mar. 5 to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)

3.55	14	8.0	370	17.5	2,530
3.7	18	9.0	494	18.0	3,110
4.0	30	10.0	640	18.2	3,510
4.5	56	12.0	1,000	18.4	4,200
5.0	90	15.0	1,570	18.8	6,000
6.0	170	16.5	1,940	19.6	10,400
7.0	265	17.0	2,170	20.4	14,900

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	1,300	246	56	313	36	113
2						-	672	828	45	245	45	56
3						-	295	634	39	758	70	42
4						-	235	255	34	1,110	68	32
5						201	230	161	31	641	49	28
6						161	245	125	29	557	31	26
7						141	183	109	28	1,320	28	24
8						125	170	94	45	1,530	33	25
9						117	165	82	68	2,230	278	24
10						105	141	76	76	3,940	763	20
11						158	149	68	46	6,000	776	18
12						686	334	61	34	3,200	523	17
13						1,780	580	56	32	2,490	229	16
14						5,590	370	50	32	1,550	186	15
15						6,250	240	56	72	1,800	275	15
16						3,130	183	52	66	1,680	129	14
17						1,630	153	50	99	1,590	253	15
18						529	989	46	132	1,100	361	15
19						392	5,380	42	63	338	190	15
20						370	14.900	38	65	201	382	14
21						295	10,700	35	51	225	139	14
22						215	4,210	33	38	225	60	14
23						183	1,950	50	26	165	44	14
24						161	725	188	23	113	36	18
25						157	305	326	19	86	33	25
26						153	235	173	18	68	30	21
27						141	192	94	16	58	28	17
28						149	165	76	41	51	32	18
29						197	149	109	231	48	288	16
30						513	149	105	657	43	235	15
31						1,110	-	76	-	39	250	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October						
November						
December						
Calendar year						
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March 5-31	24,639	6,250	105	913	2.10	2.11
April	45,694	14,900	141	1,523	3.50	3.91
May	4,394	828	33	142	.326	.38
June	2,212	657	16	73.7	.169	.19
July	34,344	6,000	39	1,108	2.55	2.94
August	5,880	776	28	190	.437	.50
September	716	113	14	23.9	.055	.06
Water year	-	-	-	-	-	-

Peak discharge.- May 2 (7:30 p.m.) 962 sec.-ft.; June 30 (2 p.m.) 742 sec.-ft.; July 11 (8:30 p.m.) 6,800 sec.-ft.; Aug. 10 (5:30 p.m.) 1,250 sec.-ft.

Note.- Discharge for periods of faulty or no recorder record because of faulty intake action, May 16-23, Aug. 6-8, 24-28, Sept. 4-30, and because of clock stoppage June 19-28, determined from twice-daily gage readings.

400452 O - 41 - 18

Sunflower River at Sunflower, Miss.

Location.- Wire-weight gage, lat. 33°32'50", long. 90°32'35", in NE¼ sec. 6, T. 19 N., R. 3 W., Choctaw meridian, at bridge on U. S. Highway 49W (old), a quarter of a mile west of Sunflower, 2½ miles downstream from Jones Bayou, 19 miles upstream from Quiver River, 20⅝ miles downstream from former station near Ruleville, and 23 miles upstream from former station at Baird. Datum of gage is 92.85 feet above mean sea level (general adjustment of 1929).

Drainage area.- 562 square miles (authority, Corps of Engineers, U. S. Army).

Records available.- October 1938 to September 1940 in reports of Geological Survey. February 1918 to September 1935 (gage heights only), and October 1935 to September 1938 (unpublished) in files of Corps of Engineers, U. S. Army, Vicksburg, Miss.

Extremes.- Maximum discharge observed during year, 3,040 second-feet Apr. 22 (gage height, 15.42 feet); minimum discharge, 198 second-feet Sept. 11, 12, 14-23; minimum gage height, 1.49 feet Sept. 11, 12.

1938-40: Maximum discharge observed, 6,850 second-feet Apr. 3, 1939 (gage height, 25.00 feet); minimum discharge, that of Sept. 11, 12, 14-23, 1940; minimum gage height, that of Sept. 11, 12, 1940.

Remarks.- Records good. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	240	225	210	512	228	878	780	1,160	253	400	386	228
2	240	225	216	456	222	732	828	1,160	240	716	358	234
3	250	225	222	358	228	636	796	1,100	234	1,310	358	234
4	250	225	216	344	234	556	716	968	228	1,680	372	240
5	250	225	216	302	323	498	620	878	222	1,900	442	234
6	255	225	216	274	540	456	540	748	216	1,900	470	228
7	250	225	216	274	668	414	668	636	216	1,970	442	222
8	240	225	216	267	748	400	950	556	216	2,210	372	216
9	235	225	216	253	878	372	1,160	498	216	2,350	372	210
10	235	225	216	234	1,370	344	1,200	456	234	2,380	556	210
11	230	235	216	253	1,850	330	1,280	414	281	2,260	588	198
12	225	260	216	267	2,060	386	1,680	386	344	2,090	556	198
13	225	281	216	267	2,090	1,330	1,820	358	372	2,300	526	204
14	220	287	216	316	1,940	2,500	1,730	330	386	2,500	484	198
15	225	274	216	414	1,730	2,920	1,550	323	400	2,740	456	198
16	220	267	216	526	1,460	2,950	1,350	309	456	2,840	428	198
17	225	253	216	588	1,260	2,760	1,140	295	512	2,820	386	198
18	225	240	216	588	1,610	2,430	1,310	281	540	2,660	372	198
19	225	234	216	540	2,260	2,090	2,090	281	556	2,400	386	198
20	225	228	216	484	2,690	1,680	2,690	274	540	2,160	400	198
21	225	228	216	428	2,820	1,350	2,980	267	526	1,940	414	198
22	225	234	216	372	2,790	1,060	3,040	260	512	1,780	400	198
23	225	222	274	344	2,580	844	2,920	267	484	1,570	372	198
24	225	216	344	316	2,330	700	2,710	281	470	1,370	330	204
25	225	216	295	281	2,110	588	2,430	281	470	1,160	302	216
26	225	216	386	267	1,850	512	2,060	274	442	968	281	222
27	225	216	540	246	1,570	470	1,700	267	400	796	260	228
28	225	216	636	246	1,310	442	1,390	281	358	684	246	234
29	225	210	636	240	1,060	428	1,200	302	330	572	240	246
30	225	210	620	234	-	540	1,120	281	344	484	234	240
31	225	-	540	234	-	668	-	260	-	428	228	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,165	255	220	231	0.411	0.47
November	6,993	287	210	233	.415	.46
December	9,023	636	210	291	.518	.60
Calendar year 1939	418,049	5,970	210	1,145	2.04	27.66
January	10,725	588	234	346	.616	.71
February	42,809	2,820	222	1,476	2.63	2.83
March	32,264	2,950	330	1,041	1.85	2.14
April	46,448	3,040	540	1,548	2.75	3.07
May	14,432	1,160	260	466	.829	.96
June	10,998	556	216	367	.653	.73
July	53,338	2,840	400	1,721	3.06	3.53
August	12,017	588	228	388	.690	.80
September	6,426	246	198	214	.381	.43
Water year 1939-40	252,638	3,040	198	690	1.23	16.73

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Big Black River at Pickens, Miss.

Location.- Water-stage recorder, lat. 32°52'45", long. 89°58'05", in SW¼ sec. 14, T. 12 N., R. 3 E., Choctaw meridian, at bridge on U. S. Highway 51, half a mile southeast of Pickens, 6 miles downstream from Seneasha Creek, and 6 miles upstream from Cypress Creek. Datum of gage is 195.85 feet above mean sea level (general adjustment of 1929; U. S. Department of Agriculture bench mark, levels by Corps of Engineers, U. S. Army).
Drainage area.- 1,460 square miles.
Records available.- October 1938 to September 1940. July 1936 to September 1938 in files of Corps of Engineers, U. S. Army.
Extremes.- Maximum discharge during year, 25,600 second-feet July 8 (gage height, 19.92 feet); minimum, 48 second-feet Nov. 4-12 (gage height, 3.29 feet).
1938-40: Maximum discharge, that of July 8, 1940; minimum, that of Nov. 4-12, 1940. Maximum stage known, 23.7 feet from information by local residents, Dec. 29, 1926 (discharge not determined). From infomration by local residents, floods of 1892 and May 1930 reached stages of about 23.5 feet.
Remarks.- Records fair.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 18, Jan. 19 to Feb. 5)

3.18	48	8.5	870	17.9	5,950
3.4	60	10.5	1,420	18.2	6,900
3.8	90	11.0	1,570	18.4	8,100
4.4	147	13.0	2,270	19.0	14,500
5.0	216	15.0	3,120	19.8	24,300
6.0	364	16.4	4,020		
7.0	540	17.2	4,750		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	50	66	388	332	2,240	3,720	4,270	484	896	380	1,190
2	67	50	67	286	356	2.060	3,120	4,900	396	706	364	948
3	72	49	69	237	388	1,540	2,670	4,450	332	1,000	1,140	600
4	72	48	74	210	430	1,420	2,630	3,720	272	2,310	2,590	640
5	72	48	77	192	1,230	1,480	3,520	3,070	230	3,020	2,790	560
6	72	48	79	204	3,660	1,610	4,100	2,590	204	3,650	1,960	356
7	67	48	82	293	5,350	1,750	4,100	1,850	192	14,000	870	258
8	57	48	80	560	5,350	1,960	4,180	1,000	180	24,300	520	216
9	57	48	78	706	5,350	2,100	3,580	706	180	17,500	404	186
10	52	48	76	560	6,350	2,200	2,790	580	192	13,900	380	169
11	52	48	75	457	6,700	1,990	2,200	502	300	13,900	684	152
12	52	48	74	520	7,400	1,210	2,790	430	372	15,700	1,330	142
13	52	55	76	1,100	12,300	2,480	3,170	380	251	22,300	1,680	127
14	52	69	76	1,390	11,200	4.890	2,870	348	216	17,500	1,330	121
15	52	89	77	1,640	10,100	5,350	2,470	308	364	14,500	822	115
16	52	97	80	1,680	8,550	4,900	1,960	279	750	13,900	974	111
17	52	94	83	1,480	8,100	4,900	1,330	265	774	12,800	1,210	107
18	49	91	84	1,240	7,400	5,350	1,240	244	750	11,700	1,540	103
19	49	83	91	870	6,700	5,550	3,000	230	662	10,100	1,080	102
20	49	75	101	600	5,950	5,950	4,650	210	484	8,100	1,540	99
21	50	69	120	466	5,200	5,950	8,070	198	316	6,900	1,160	94
22	50	66	158	388	4,450	5,550	13,400	186	685	6,200	750	92
23	50	64	219	348	3,580	4,750	12,300	186	580	5,550	484	90
24	50	63	960	324	3,070	3,360	10,600	186	396	4,900	356	106
25	50	63	1,570	324	3,120	1,680	8,550	272	293	4,360	293	132
26	50	63	1,360	308	2,920	1,080	6,900	466	230	3,160	251	124
27	50	63	1,540	308	2,630	948	5,950	484	204	1,480	223	115
28	50	62	1,570	316	2,390	1,100	5,200	448	180	798	204	127
29	50	63	1,210	332	2.270	1,640	4,020	380	216	620	223	147
30	50	64	922	324	-	2,790	3,120	412	864	520	396	147
31	50	-	600	324	-	3,790	-	560	-	439	684	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,711	72	49	55.2	0.038	0.04
November	1,874	97	48	62.5	.043	.05
December	11,794	1,570	66	380	.260	.30
Calendar year 1939	431,060	6,000	48	1,180	.809	10.97
January	18,375	1,680	192	593	.406	.47
February	142,826	12,300	332	4,925	3.37	3.64
March	93,568	5,950	948	3,018	2.07	2.39
April	138,200	13,400	1,240	4,607	3.16	3.53
May	34,110	4,900	186	1,100	.753	.87
June	11,549	864	180	385	.264	.29
July	256,709	24,300	439	8,281	5.67	6.54
August	28,612	2,790	204	923	.632	.73
September	7,476	1,190	90	249	.171	.19
Water year 1939-40	746,804	24,300	48	2,040	1.40	19.04

Note.- Discharge for periods of faulty or no gage-height record Oct. 1-18, Nov. 13, Mar. 29, May 25-30, June 1-9, 14-17, 21, Sept. 28-30, computed on basis of recorded range in stage, weather records, and comparison with record for Bovina. Discharge, May 31, June 10-13, 18-20, June 22 to July 6, July 29 to Aug. 3, computed from twice-daily gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey
U. S. GOVERNMENT PRINTING OFFICE 1936—O—176916

Big Black River near Bovina, Miss.

Location.- Wire-weight gage, lat. 32°20'51", long. 90°41'48", in SW¼ sec. 22, T. 16 N., R. 5 E., Washington meridian, at bridge on U. S. Highway 80, about 300 feet upstream from Clear Creek, 0.4 mile upstream from Yazoo & Mississippi Valley Railroad bridge, 2 miles east of Bovina, 12 miles upstream from Fourteenmile Creek, and 72 miles upstream from mouth. Datum of gage is 84.93 feet above mean sea level or 85.00 feet above mean Gulf level (levels by Corps of Engineers, U. S. Army from Corps of Engineers, U. S. Army, bench mark).

Drainage area.- 2,810 square miles.

Records available.- October 1938 to September 1940. January 1936 to September 1938, in files of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge during year, 26,000 second-feet July 14, 15, 17, 18; maximum gage height observed, 38.25 feet July 14; minimum discharge, 79 second-feet Nov. 4-6 (gage height, 7.70 feet).

1938-40: Maximum discharge, that of July 14, 15, 17, 18, 1940; maximum gage height observed, that of July 14, 1940; minimum discharge, that of Nov. 4-6, 1939.

Remarks.- Records good. Gage read twice daily, oftener during periods of rapidly changing stage.

Rating table, water-year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Feb. 5-12, Mar. 3 to Apr. 9)

7.7	79	11.0	695	21.0	4,030	32.0	12,300
8.3	173	13.0	1,200	25.0	6,020	35.0	17,100
9.0	294	15.0	1,800	28.0	7,850	36.5	20,100
10.0	483	18.0	2,820	30.0	9,800	38.2	26,000

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	330	82	109	1,500	294	6,890	6,250	13,700	563	795	5,590	523
2	224	80	109	1,070	294	6,070	6,250	13,300	523	1,200	3,520	670
3	190	80	101	745	294	5,020	6,300	12,800	585	4,590	1,960	1,120
4	149	79	101	1,040	711	3,690	6,710	12,800	585	4,590	1,840	1,200
5	133	79	101	1,470	c3,810	2,890	9,200	12,400	543	4,120	1,590	1,140
6	133	79	101	1,040	c7,380	2,290	10,000	11,900	463	4,730	1,800	1,040
7	125	80	101	1,320	c6,590	1,930	11,700	11,200	386	6,650	2,260	945
8	133	82	101	1,170	c6,250	1,770	13,900	10,300	348	7,440	2,640	745
9	133	82	109	995	c6,830	1,770	15,700	9,100	367	8,170	2,670	585
10	133	80	109	870	c7,850	1,870	15,300	7,850	443	8,900	3,240	463
11	133	86	117	845	c8,010	2,000	15,300	5,540	386	10,300	4,490	386
12	125	92	117	845	c8,430	2,190	14,500	2,600	424	14,500	4,830	330
13	117	133	117	745	9,100	4,690	12,800	1,320	443	23,200	4,120	312
14	109	125	117	720	10,200	5,590	11,800	995	424	26,000	2,530	294
15	101	117	117	770	10,800	5,690	10,900	820	463	25,600	2,000	276
16	94	109	117	1,140	10,800	5,800	10,200	695	463	25,600	2,060	258
17	94	109	109	1,530	10,800	5,850	9,100	651	483	25,600	2,000	241
18	94	101	109	1,680	10,800	5,850	8,900	563	483	26,000	1,590	224
19	92	109	117	1,680	10,600	5,960	9,400	523	845	24,400	1,260	224
20	92	125	125	1,560	10,700	6,190	8,340	483	970	22,800	1,470	215
21	91	133	125	1,320	11,000	6,360	7,570	443	1,100	21,300	1,620	207
22	90	133	125	970	11,300	6,420	6,710	367	1,260	19,600	1,530	207
23	88	133	490	720	11,200	6,360	5,910	523	1,290	18,200	1,560	198
24	85	133	1,440	523	10,900	6,130	5,380	1,320	1,230	16,700	1,440	198
25	94	117	1,020	424	10,400	5,910	5,380	1,230	1,140	14,800	1,100	190
26	94	117	1,710	348	9,700	5,800	5,590	970	945	13,400	795	224
27	91	109	2,600	312	9,000	5,750	6,070	670	695	11,800	607	224
28	149	101	2,500	276	8,250	6,360	7,070	673	523	10,600	523	215
29	94	101	2,320	294	7,570	6,540	8,700	695	770	9,200	443	207
30	88	101	2,060	294	-	7,710	12,700	673	1,040	8,010	405	198
31	84	-	1,870	294	-	6,830	-	629	-	6,950	386	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,782	330	84	122	0.043	0.05
November	3,087	133	79	103	.037	.04
December	18,464	2,600	101	596	.212	.24
Calendar year 1939	753,973	9,420	79	2,066	.735	9.98
January	28,510	1,660	276	920	.327	.38
February	229,863	11,300	294	7,926	2.82	3.04
March	154,170	7,710	1,770	4,973	1.77	2.04
April	283,630	15,700	5,380	9,454	3.36	3.75
May	137,933	13,700	367	4,449	1.58	1.82
June	20,183	1,290	348	673	.240	.27
July	425,745	26,000	795	13,730	4.89	5.64
August	63,669	5,590	386	2,060	.733	.85
September	13,459	1,200	190	449	.160	.18
Water year 1939-40	1,382,695	26,000	79	3,778	1.34	18.30

c Stage-discharge relation affected by backwater from log jam.

Homochitto River at Eddiceton, Miss.

Location.- Wire-weight gage, lat. 31°30', long. 90°47', in T. 6 N., R. 4 E., Washington meridian, at bridge on U. S. Highway 84, a quarter of a mile upstream from Mississippi Central Railroad bridge, three-quarters of a mile east of Eddiceton, three-quarters of a mile upstream from McCall Creek, and about 12 miles upstream from Middle Fork Creek.

Drainage area.- 180 square miles.

Records available.- October 1938 to September 1940.

Extremes.- 1938-39: Maximum discharge during period October to September, 30,900 second-feet Mar. 29 (gage height, 12.73 feet, from floodmark), from rating curve extended above 18,000 second-feet on basis of velocity-area studies; minimum discharge observed, 25 second-feet Aug. 16, 17.

1939-40: Maximum discharge observed during water year, 20,600 second-feet July 3 (gage height, 11.09 feet); minimum observed, 30 second-feet June 28.

Remarks.- Records fair. Gage read twice daily, oftener during periods of rapidly changing stage.

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	34	35	54	145	412	555	65	481	51	35	44
2	-	34	35	51	132	1,540	430	65	2,120	66	34	44
3	-	34	41	47	829	460	330	61	929	54	33	43
4	-	67	36	414	320	345	310	58	807	48	31	43
5	-	47	35	1,900	196	492	400	58	3,810	48	29	70
6	-	38	35	163	4,910	6,030	732	58	490	45	28	50
7	-	35	35	81	1,270	700	305	65	300	44	28	43
8	-	34	45	56	520	430	200	77	330	44	28	41
9	-	34	41	48	400	345	169	68	345	43	28	41
10	-	34	38	291	372	277	142	65	172	90	27	41
11	-	34	36	4,700	832	242	137	58	118	100	26	40
12	-	34	36	1,490	345	203	116	58	102	58	38	38
13	-	35	36	1,450	305	172	102	55	91	48	29	38
14	-	34	40	315	375	140	91	54	85	45	26	36
15	29	34	38	182	650	140	89	54	79	44	26	38
16	30	34	36	175	286	123	285	54	75	43	25	40
17	33	34	36	125	574	113	970	73	75	42	42	40
18	37	52	75	345	1,800	104	176	407	75	41	57	41
19	45	52	45	172	490	97	123	266	72	41	36	41
20	42	38	41	160	555	93	93	343	66	77	617	38
21	38	35	40	154	295	100	89	210	65	46	132	38
22	36	35	36	145	210	95	85	69	61	40	41	38
23	36	35	38	140	178	91	75	70	58	36	33	37
24	34	36	77	259	169	89	79	55	56	38	163	37
25	34	36	72	182	2,140	237	85	55	68	53	60	37
26	34	35	972	145	2,470	3,070	75	242	104	90	47	37
27	34	35	172	129	607	1,280	85	203	60	40	47	37
28	34	36	79	121	1,120	460	85	180	52	96	44	37
29	34	35	66	215	-	10,300	73	455	55	72	44	37
30	34	35	60	656	-	5,770	70	151	51	51	44	37
31	34	-	54	189	-	740	-	182	-	43	44	-

Discharge, in second-feet, of Homochitto River at Eddiceton, Miss., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	40	40	95	172	140	555	1,700	61	200	91	50
2	37	41	38	89	166	132	490	520	61	166	87	50
3	36	41	37	85	160	121	460	335	60	9,470	91	48
4	36	40	36	95	1,990	113	1,070	222	57	1,740	87	48
5	36	40	36	113	1,830	106	1,160	169	55	590	87	47
6	36	40	36	97	2,160	102	430	134	55	1,050	83	45
7	36	38	36	157	555	100	2,450	121	58	1,830	89	43
8	35	38	36	132	315	97	590	111	65	595	89	42
9	35	38	36	109	238	89	286	111	61	330	91	41
10	35	38	36	93	443	89	226	109	83	1,310	100	41
11	41	38	35	102	259	87	4,100	109	66	826	81	40
12	36	41	35	360	200	87	2,550	106	58	1,960	81	41
13	35	42	36	206	175	912	372	102	66	665	75	41
14	35	40	35	238	160	305	196	109	65	372	72	41
15	35	38	36	178	142	172	126	104	70	520	72	41
16	35	38	37	145	140	134	85	102	286	648	70	41
17	34	38	36	137	798	121	65	102	151	200	68	41
18	34	38	36	129	1,380	116	1,820	104	91	157	66	40
19	34	37	40	118	490	104	883	100	79	192	66	40
20	34	37	41	116	320	97	320	81	112	163	65	40
21	34	38	38	111	254	95	178	66	145	148	63	40
22	34	37	37	111	230	93	148	68	50	145	63	40
23	34	36	266	129	210	91	132	68	40	142	61	38
24	34	36	207	123	359	89	106	81	37	121	60	50
25	179	36	109	113	600	87	104	73	35	100	58	42
26	66	36	1,040	113	264	85	100	70	33	97	58	40
27	44	36	231	113	200	89	95	68	32	93	55	40
28	43	36	132	111	172	599	91	70	33	97	54	37
29	42	36	113	118	154	2,500	403	77	1,340	100	55	37
30	42	36	102	166	-	2,810	9,430	68	1,100	91	52	37
31	42	-	95	189	-	700	-	65	-	89	51	-

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October 15-31, 1938	598	45	29	35.2	0.196	0.12
November	1,125	67	34	37.5	.208	.23
December	2,463	972	35	79.5	.442	.51
Calendar year	-	-	-	-	-	-
January 1939	14,556	4,700	47	470	2.61	3.01
February	22,695	4,910	132	811	4.51	4.70
March	34,690	10,300	89	1,119	6.22	7.17
April	6,558	970	70	219	1.22	1.36
May	3,954	455	54	128	.711	.82
June	11,254	3,810	51	375	2.08	2.32
July	1,681	100	38	54.2	.301	.35
August	1,922	617	25	62.0	.344	.40
September	1,224	70	37	40.8	.227	.25
Water year	-	-	-	-	-	-
October 1939	1,306	179	34	42.1	.234	.27
November	1,144	42	36	38.1	.212	.24
December	3,104	1,040	35	100	.556	.64
Calendar year 1939	104,088	10,300	25	285	1.58	21.53
January 1940	4,191	360	85	135	.750	.86
February	14,536	2,160	140	501	2.78	3.00
March	10,462	2,810	85	337	1.87	2.16
April	29,021	9,430	65	967	5.37	5.99
May	5,325	1,700	65	172	.956	1.10
June	4,505	1,340	32	150	.833	.93
July	24,207	9,470	89	781	4.34	5.00
August	2,241	100	51	72.3	.402	.46
September	1,262	50	37	42.1	.234	.26
Water year 1939-40	101,304	9,470	34	277	1.54	20.91

Homochitto River near Doloroso, Miss.

Location.- Water-stage recorder, lat. 31°19'53", long. 91°21'37", in sec. 10, T. 4 N., R. 2 W., Washington meridian, at bridge on U. S. Highway 61 (new), about 1,200 feet downstream from Second Creek, 2.2 miles north of Doloroso, about 10 miles upstream from mouth (through Armstrong canal), 16 miles north of Woodville, and 16 miles south of Natchez. Prior to Jan. 31, 1940, wire-weight gage at same site and datum.

Drainage area.- 1,120 square miles.

Records available.- December 1939 to September 1940.

Extremes.- Maximum discharge during period, 35,300 second-feet July 4 (gage height, 21.23 feet) from rating curve extended above 20,000 second-feet by velocity-area studies; minimum discharge observed, 237 second-feet Sept. 20 (gage height, 3.32 feet).
Flood of Apr. 7, 1938, reached a stage of 23.4 feet from information by Corps of Engineers, U. S. Army (discharge not determined).

Remarks.- Records good. Wire-weight gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	744	656	1,070	8,700	15,100	340	4,310	825	359
2			-	615	714	930	3,900	17,800	304	5,060	1,090	340
3			-	540	684	842	2,460	7,260	295	4,860	2,650	359
4			-	552	1,290	792	1,720	3,460	286	24,900	3,900	440
5			-	602	2,390	744	1,820	2,210	286	24,200	4,620	451
6			-	628	4,680	684	2,210	1,530	286	10,400	2,710	369
7			-	760	9,200	656	2,880	1,170	295	6,700	1,560	331
8			-	699	7,100	615	4,540	970	304	12,400	1,920	359
9			-	877	3,510	589	7,150	860	350	11,000	3,530	369
10			-	776	2,270	576	3,990	792	754	6,090	4,860	322
11			-	642	1,720	564	3,230	776	950	5,700	4,180	286
12			-	642	1,720	552	3,780	714	950	9,660	3,120	278
13			-	670	1,390	1,240	12,000	628	670	15,500	1,870	261
14			-	1,030	1,050	2,060	8,200	576	668	11,000	1,210	253
15			253	1,210	895	3,560	3,890	552	930	5,650	930	261
16			261	1,350	825	3,020	2,530	564	1,170	3,660	792	261
17			261	912	1,240	1,720	1,820	552	1,670	3,660	699	253
18			278	670	2,330	1,110	1,770	495	2,740	3,560	656	253
19			304	564	4,850	860	2,670	462	2,960	3,040	642	245
20			350	506	5,700	760	6,050	440	2,880	2,330	589	237
21			350	462	3,280	699	5,290	430	2,210	2,150	540	269
22			379	451	2,090	642	2,960	409	1,570	1,870	495	295
23			1,350	462	1,390	602	1,920	399	1,130	1,300	473	278
24			1,530	462	1,090	576	1,440	409	825	1,030	451	313
25			2,030	451	1,170	540	1,170	419	877	877	440	874
26			4,040	484	1,770	517	1,050	419	895	808	419	833
27			2,740	451	2,210	506	950	379	776	714	409	419
28			3,040	430	1,820	699	877	359	628	684	399	340
29			2,960	430	1,350	2,290	2,070	350	846	842	389	304
30			1,770	462	-	4,500	5,940	389	2,060	990	430	286
31			1,050	540	-	14,000	-	379	-	950	379	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	-	-	-	-	-	-
November	-	-	-	-	-	-
December 15-31	22,946	4,040	253	1,350	1.21	0.76
Calendar year	-	-	-	-	-	-
January	20,074	1,350	430	648	.579	.67
February	70,384	9,200	656	2,427	2.17	2.34
March	48,515	14,000	506	1,565	1.40	1.61
April	108,977	12,000	877	3,633	3.24	3.62
May	61,252	17,800	350	1,976	1.76	2.03
June	30,905	2,960	286	1,030	.920	1.03
July	185,895	24,900	684	5,997	5.35	6.17
August	47,177	4,860	379	1,522	1.36	1.57
September	10,518	874	237	351	.313	.35
Water year	-	-	-	-	-	-

Peak discharge.- Mar. 31 (1 p.m.) 17,300 sec.-ft.; Apr. 13 (2 p.m.) 15,500 sec.-ft.; May 2 (1 a.m.) 22,200 sec.-ft.; July 4 (6:30 p.m.) 35,300 sec.-ft.; July 8 (6:30 p.m.) 15,500 sec.-ft.; July 13 (1 a.m.) 20,200 sec.-ft.

Note.- Discharge for periods of faulty or no recorder record, May 12 to June 4, Aug. 20 to Sept. 24, Sept. 27-30, determined from twice-daily gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Prairie Dog Town Fork of Red River near Canyon, Tex.

Location.- Water-stage recorder and concrete control, lat. 35°01', long. 101°54', about 2 miles downstream from the confluence of Palo Duro and Tierra Blanca Creeks, 4 miles northeast of Canyon, Randall County. Datum of gage is 3,455.0 feet above mean sea level (general adjustment of 1929).

Records available.- January 1924 to October 1926, April 1938 to September 1940.

Extremes.- Maximum discharge during year, 1,420 second-feet May 7 (gage height, 4.86 feet), from rating curve extended above 800 second-feet; no flow at times.

1924-26, 1938-40: Maximum discharge, 1,520 second-feet June 21, 1939 (gage height, 5.10 feet), from rating curve extended above 800 second-feet; no flow at times.

Highest known flood occurred May 30, 1937, when river reached a stage of 9.7 feet, from floodmarks.

Remarks.- Records good except those above 800 second-feet, which are fair. Flow partly regulated by several reservoirs upstream, the principal ones being that near Umbarger on Tierra Blanca Creek, 20 miles upstream (capacity, 18,000 acre-feet), completed June 1938, and Amarillo Reservoir on Palo Duro Creek, 13 miles upstream (capacity, about 3,200 acre-feet), completed in 1927. The larger part of the flood water originating above these reservoirs will be retained in them. Water passed over the spillway of Amarillo Reservoir June 5-12, 1937, the first and only time since its completion according to information furnished by assistant city engineer of Amarillo.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0				
2								0				
3								0				
4								0				
5								0				
6								16				
7								492				
8								5.8				
9								.7				
10								.4				
11								.2				
12								0				
13								0				
14								0				
15								0				
16								0				
17								0				
18								0				
19								0				
20								0				
21								0				
22								0				
23								0				
24								0				
25								0				
26								0				
27								0				
28								0				
29								0				
30								0				
31								0				

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	890.4	548	0	2.44	1,770
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	515.1	492	0	16.6	1,020
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
Water year 1939-40	515.1	492	0	1.41	1,020

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Prairie Dog Town Fork of Red River near Brice, Tex.

Location.- Water-stage recorder, lat. 34°38', long. 100°58', in Briscoe County, 1,200 feet upstream from county highway bridge, 1.2 miles upstream from Byrnes Creek and 7½ miles southwest of Brice, Hall County.

Drainage area.- 5,650 square miles, of which about 4,330 square miles is probably non-contributing.

Records available.- December 1938 to September 1940.

Extremes.- 1938-39: Maximum discharge during period December to September, 20,100 second-feet June 20 (gage height, 4.12 feet), from rating curve extended above 5,000 second-feet on basis of two slope-area computations at gage heights, 3.7 and 4.8 feet; no flow at times.

1939-40: Maximum discharge during water year, 30,300 second-feet Sept. 4 (gage height, 4.84 feet), from rating curve extended above 5,000 second-feet on basis of two slope-area computations; no flow at times.

Maximum stage known, 8.8 feet in August 1933, 1,200 feet below gage. Flood of May 1937 reached a stage of 8.3 feet at same site; data based on information by local resident.

Remarks.- Records poor. Daily discharge published only to show distribution of flow. Auxiliary wire-weight gage located 1,200 feet below gage read once daily, oftener during high water after Apr. 11, 1939. No diversions.

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0			0	0	0		0	0
2				0			0	0	0	127	0	0
3				0			0	0	0		0	0
4				0			0	0	0	0	0	0
5				0			-	0	0	0	0	0
6				0			-	0	0	0	0	0
7				0			0	0	0	0	0	0
8				223			0	0	0	0	0	0
9				10			0	0	0	0	0	0
10				0			0	0	0	0	0	0
11				0			0	0	0	0	4,030	0
12				0			0	0	0	0	152	0
13				0			0	0	0	0	28	0
14				1.8			0	0	0	0	49	0
15				0			0	-	0	0		0
16				0			0	-	0	0	40	0
17				0			0	90	0	0		0
18				0			0	-	0	0		0
19				0			0	-	0	0		0
20				0			0	-		0	0	0
21				0			0	-	1,010	0	0	-
22				0			0	0		0	0	-
23				0			0	0		0	0	0
24				0			0	341		0	0	0
25				0			0	64		0	0	0
26				0			0	5.4		0	0	0
27				0			0	0	89	0	0	0
28				0			0	0		0	0	0
29				0			0	0		0	0	0
30				0			0	0		0	0	0
31				0			-	0	-	0	0	-

Discharge, in second-feet, of Prairie Dog Town Fork of Red River near Brice, Tex., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	0	0		0	0
2							0	0	0		29	0
3							0	0	0		14	51
4							0	0	42		0	1,280
5							0	0	22		0	854
6							0	0	0		0	55
7							0	430	0		0	10
8							0	597	386		59	.6
9							0	63	349		21	0
10							0	32	205		0	0
11							0	0	28		0	0
12							0	0	9.0		0	0
13							0	0	0		0	0
14							0	0	0		0	0
15							0	0	0		13	61
16							0	0	0		40	51
17							0	0	0		487	2.8
18							0	0	0		3.2	0
19							0	0	0		0	0
20							0	0	178		0	0
21							0	0	17		0	0
22							0	11	11		0	0
23							0	49	0		0	0
24							0	0	0		0	0
25							0	0	0		0	0
26							0	0	0		0	0
27							0	0	0		0	0
28							615	583	0		0	0
29							54	114	0		0	0
30							.2	28	0		0	0
31							-	1.4	-		0	-

Peak discharge.- June 8 (11 p.m.) 16,300 sec.-ft.; June 20 (5 p.m.) 5,550 sec.-ft.; Sept. 4 (10 p.m.) 30,300 sec.-ft.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	-	-	-	-	-
November	-	-	-	-	-
December 14-31, 1938	0	0	0	0	0
Calendar year	-	-	-	-	-
January 1939	-	-	0	-	-
February	0	0	0	0	0
March	0	0	0	0	0
April	-	-	-	-	-
May	-	-	0	-	-
June	5,584	-	0	186	11,080
July	381	-	0	12.3	756
August	4,459	4,030	0	144	8,840
September	-	-	0	-	-
Water year	-	-	-	-	-
October 1939	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year	-	-	-	-	-
January 1940	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	669.2	615	0	22.3	1,330
May	1,908.4	597	0	61.6	3,790
June	1,247	386	0	41.6	2,470
July	0	0	0	0	0
August	666.2	487	0	21.5	1,320
September	2,365.4	1,280	0	78.8	4,690
Water year 1939-40	6,856.2	1,280	0	18.7	13,600

Prairie Dog Town Fork of Red River near Estelline, Tex.

Location.- Water-stage recorder and wire-weight gage, lat. 34°35', long. 100°26', at bridge on U. S. Highway 287 (revised), 180 feet upstream from Fort Worth & Denver City Railway bridge, 1.7 miles northwest of Estelline, Hall County, and 6.9 miles upstream from Baylor Creek. Datum of gage is 1,754.60 feet above mean sea level (general adjustment of 1929).

Drainage area.- 6,970 square miles (revised), of which about 4,500 square miles (revised) is probably non-contributing.

Records available.- January 1924 to September 1925, April 1938 to September 1940.

Extremes.- Maximum discharge during year, 24,100 second-feet Sept. 5 (gage height, 7.15 feet), from rating curve extended above 13,000 second-feet; no flow at times.

1924-25, 1938-40: Maximum discharge, 40,000 second-feet June 16, 1938 (gage height, 8.30 feet, from floodmarks), from rating curve extended above 13,000 second-feet; no flow at times.

Maximum stage known, about 14.0 feet, on present gage in May 1914, from information furnished by local resident.

Remarks.- Records poor. Daily discharge published only to show distribution of flow. No diversions. Wire-weight gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	8.9	6.0		0	0
2							0	.5	0		0	2.2
3							0	0	0		0	.4
4							0	0	0		0	0
5							0	0	0		0	4,700
6							0	0	0		0	233
7							0	3.4	0		0	74
8							0	465	0		779	30
9							0	165	1,090		634	11
10							0	28	85		11	1.2
11							20	0	70		2.8	.8
12							8.1	0	2.8		0	.4
13							1.4	0	0		0	0
14							0	0	15		0	0
15							0	0	8.8		0	0
16							0	0	0		168	21
17							0	0	0		5,420	33
18							0	0	0		302	11
19							0	0	0		38	2.1
20							0	0	0		11	0
21							0	0	59		2.0	0
22							0	0	7.1		.8	12
23							0	32	6.7		.6	5.2
24							0	18	24		.2	.6
25							0	0	.6		0	0
26							0	0	0		0	0
27							0	0	0		0	0
28							1,030	862	0		0	0
29							398	84	0		0	0
30							35	30	0		0	0
31							-	17	-		0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	12,623.0	2,300	0	34.6	25,030
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	1,492.5	1,030	0	49.8	2,960
May	1,713.8	862	0	55.3	3,400
June	1,375.0	1,090	0	45.8	2,730
July	0	0	0	0	0
August	7,369.4	5,420	0	238	14,620
September	5,137.9	4,700	0	171	10,190
Water year 1939-40	17,088.6	5,420	0	46.7	33,900

Peak discharge.- Apr. 28 (12:15 p.m.) 10,600 sec.-ft.; Aug. 17 (11 a.m.) 22,800 sec.-ft.; Sept. 5 (6 a.m.) 24,100 sec.-ft.

Red River near Terral, Okla.

Location.- Water-stage recorder and wire-weight gage, lat. 33°52'50", long. 97°56'15", at bridge on U. S. Highway 81, a quarter of a mile downstream from Chicago, Rock Island & Gulf Railway bridge, 1.2 miles south of Terral, Jefferson County, and 3.2 miles downstream from Little Wichita River. Datum of gage is 770.31 feet above mean sea level (general adjustment of 1929).

Drainage area.- 28,280 square miles, of which about 5,440 square miles (revised) is probably non-contributing.

Reoords available.- April 1938 to September 1940.

Extremes.- Maximum discharge during year, 22,400 second-feet July 2 (gage height, 16.62 feet); minimum discharge observed, 46 second-feet Mar. 20-25, but may have been less during period of ice effect.

1938-40: Maximum discharge, 43,700 second-feet May 24, 1938; maximum gage height, 18.14 feet June 23, 1939; minimum discharge, 43 second-feet Mar. 15, 1939.

Maximum stage known, 27.2 feet, on present gage, May 19, 1935; floods of 1891 and May 1908 are reported to have reached about the same stage.

Remarks.- Records good except thoee for period of ice effect, which are poor. Flow slightly regulated by Lake Kemp on Wichita River, in Baylor County, Tex.; principal diversion is for irrigation in the vicinity of Wichita Falls, Tex. Wire-weight gage read twice or more often daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	123	177	150	77	87	110	74	4,240	3,230	1,550	166	188
2	120	126	177	76	87	93	68	2,440	1,360	15,400	173	244
3	128	103	292	82	118	65	58	1,720	854	15,000	166	350
4	128	99	237	85	120	72	54	1,050	610	7,610	173	991
5	110	95	199	89	159	66	53	664	475	4,580	173	10,300
6	113	95	150	76	211	62	1,200	451	370	1,730	177	4,990
7	108	101	120	61	227	58	4,290	335	254	1,020	211	3,430
8	108	95	108	76	156	54	3,960	273	164	801	191	3,790
9	123	99	99	67	126	53	3,020	273	442	610	1,110	1,660
10	153	106	93	91	123	53	2,110	865	3,670	469	971	1,060
11	170	91	89	103	113	50	993	2,850	3,470	370	643	769
12	188	85	85	99	110	49	1,020	2,350	2,270	688	475	561
13	357	91	80	99	106	49	1,060	1,360	928	2,810	391	446
14	380	101	78	93	95	49	1,080	429	654	4,640	446	370
15	335	110	78	77	91	50	790	316	540	3,760	3,030	325
16	273	108	77	68	93	50	434	249	1,090	2,770	7,220	292
17	219	118	76	62	131	50	345	203	2,430	1,290	11,400	227
18	188	113	76		147	50	311	163	2,940	480	11,200	195
19	159	95	74		394	48	240	126	2,770	385	15,300	170
20	128	87	71		506	46	235	110	2,430	316	7,980	156
21	110	69	76		423	46	306	113	2,110	311	2,770	147
22	97	93	77	b60	355	46	140	2,540	754	554	1,340	211
23	87	63	83		316	46	97	1,750	311	1,080	875	756
24	85	77	83		262	46	91	2,770	1,880	2,350	627	971
25	97	77	76		227	60	87	1,800	2,680	1,250	499	506
26	596	76	78		203	123	78	1,450	4,290	391	412	350
27	2,120	83	85		173	123	76	1,210	3,290	263	320	316
28	1,660	97	80	68	147	103	80	4,590	2,270	207	263	391
29	1,690	123	80	82	123	97	249	11,500	1,970	181	235	335
30	1,530	181	76	106	-	85	475	12,900	1,340	166	227	335
31	450	-	77	116	-	76	-	7,140	-	170	195	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	12,133	2,120	85	391	24,060
November	3,074	181	76	102	6,100
December	3,330	292	71	107	6,600
Calendar year 1939	336,247	40,200	56	921	666,900
January	2,373	-	-	76.5	4,710
February	5,449	506	87	188	10,810
March	2,048	123	46	66.1	4,060
April	23,074	4,290	53	769	45,770
May	68,230	12,900	110	2,201	135,300
June	51,866	4,290	184	1,729	102,900
July	73,202	15,400	166	2,361	145,200
August	69,359	15,300	166	2,237	137,600
September	34,832	10,300	147	1,161	69,090
Water year 1939-40	348,970	15,400	46	953	692,200

Peak discharge.- May 29 (11 p.m.) 20,300 sec.-ft.; July 2 (4 p.m.) 22,400 sec.-ft.; Aug. 19 (7 p.m.) 21,300 sec.-ft.

b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Red River near Gainesville, Tex.

Location.- Water-stage recorder, lat. 33°44', long. 97°10', in SW¼ sec. 36, T. 9 S., R. 1 E., at bridge on U. S. Highway 77, a quarter of a mile downstream from Gulf, Colorado & Santa Fe Railway bridge, 5 miles downstream from Fish Creek, and 7 miles north of Gainesville. Datum of gage is 627.91 feet above mean sea level (general adjustment of 1929).

Drainage area.- 29,460 square miles.

Records available.- May 1936 to March 1937 and May 1938 to September 1940.

Extremes.- Maximum discharge during year, 37,500 second-feet July 3 (gage height, 13.23 feet); minimum discharge observed, 48 second-feet Jan. 27 (result of discharge measurement), but may have been slightly less during period of ice effect.
1936-37, 1938-40: Maximum discharge, 67,900 second-feet Sept. 28, 1936 (gage height, 15.95 feet, from reading at flood crest); minimum, that of Jan. 27, 1940.

Remarks.- Records fair except those for periods of ice effect and of faulty or no gage-height record, which are poor.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	1,030	186	90	112	201	99	435	8,480	1,980	a260	421
2	143	507	192	85	*130	177	97	690	5,140	1,940	252	396
3	140	303	183	*87	192	159	90	2,840	3,140	30,900	242	374
4	135	219	168	90	223	143	85	1,970	f1,520	24,300	234	364
5	135	186	168	90	337	125	109	1,380	f790	9,680	232	396
6	151	162	240	b85	337	117	847	934	531	9,100	224	7,410
7	230	148	240	b75	230	109	4,110	658	438	6,400	229	6,380
8	288	138	201	b90	207	90	7,690	556	367	2,960	224	4,570
9	250	125	177	104	204	85	4,990	772	361	2,100	221	4,340
10	802	127	156	114	236	82	3,390	1,350	3,780	1,660	242	3,080
11	684	117	143	114	195	92	3,390	607	11,400	1,280	526	1,700
12	356	125	125	114	180	92	3,390	766	8,530	1,060	770	1,100
13	250	117	112	117	156	69	2,490	2,030	6,120	803	538	814
14	219	114	104	109	153	62	1,770	1,740	f3,420	1,520	417	632
15	226	107	94	*109	148	62	1,240	1,080	f1,190	4,680	674	516
16	299	104	90	109	159	62	1,090	545	f3,080	5,260	19,300	460
17	314	117	87	109	192	62	934	413	3,420	4,000	13,900	425
18	277	122	73		210	62	633	369	3,650	2,890	10,300	400
19	240	120	67		260	62	497	459	4,570	1,540	11,500	374
20	207	117	78		216	62	444	311	3,880	S25	17,000	348
21	189	114	80		210	62	386	1,690	3,420	2,390	6,630	326
22	165	107	80		373	65	341	6,420	f2,590	1,880	4,570	316
23	143	97	94	b48	435	62	345	13,200	f1,600	1,740	2,960	316
24	127	97	92		391	62	322	12,700	f880	1,640	2,140	316
25	117	94	94		345	62	274	7,360	f2,160	1,480	1,560	455
26	109	94	99		299	62	247	4,920	5,030	a1,220	1,140	792
27	104	90	97	(*)	292	62	230	2,890	3,650	a840	919	553
28	176	85	97		253	62	428	5,540	4,340	a525	792	425
29	1,590	109	85	107	223	92	480	8,800	5,140	a390	642	374
30	1,270	165	85	120	-	125	582	20,200	3,300	a320	524	383
31	1,180	-	90	109	-	114	-	15,200	-	a285	455	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	10,662	1,590	104	344	21,150
November	5,157	1,030	85	172	10,230
December	3,877	240	67	125	7,690
Calendar year 1939	370,014	36,500	67	1,014	733,900
January	2,555	120	48	82.4	5,070
February	6,898	435	112	238	13,680
March	2,805	201	62	90.5	5,560
April	41,020	7,690	85	1,367	81,360
May	118,855	20,200	311	3,834	235,700
June	106,217	11,400	361	3,541	210,700
July	127,588	30,900	285	4,116	253,100
August	99,617	19,300	221	3,213	197,600
September	38,756	7,410	316	1,292	76,870
Water year 1939-40	564,007	30,900	48	1,541	1,119,000

*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of records for station near Terral.
b Stage-discharge relation affected by ice.
f Gage-height record faulty; discharge computed on basis of estimated gage height.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Red River near Colbert, Okla.

Location.- Water-stage recorder, lat. 33°49', long. 96°32', in SW¼ sec. 25, T. 8 S., R. 7 E., at Missouri-Kansas-Texas Railroad bridge, 2 miles south of Colbert and 10 miles downstream from Washita River. Datum of gage is 507.36 feet above mean sea level (general adjustment of 1929).

Drainage area.- 38,700 square miles.

Records available.- October 1923 to September 1940. Gage-height records collected at same site since 1906 are contained in reports of U. S. Weather Bureau.

Average discharge.- 17 years, 4,725 second-feet.

Extremes.- Maximum discharge during year, 44,400 second-feet July 4 (gage height, 11.76 feet); minimum daily, 90 second-feet Jan. 23 (occurred during period of ice effect). 1923-40: Maximum discharge, 201,000 second-feet May 21, 1935 (gage height, 23.95 feet); minimum, 75 second-feet Aug. 21, 1934 (gage height, 0.05 foot, present datum). Maximum stage known, 35.5 feet May 26, 1908, from records of Weather Bureau.

Remarks.- Records good except those for period of ice effect, which are fair.

Cooperation.- Results of 28 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	195	1,620	290	204	*204	470	200	1,960	13,600	4,820	1,120	858
2	187	1,520	290	*195	236	431	195	1,410	9,100	4,640	1,000	797
3	183	1,310	296	208	355	399	420	1,110	5,960	7,650	909	732
4	183	918	290	200	405	357	306	1,280	4,200	40,600	832	686
5	175	654	*296	208	412	334	720	2,730	2,980	27,800	777	692
6	183	496	290	b190	*418	312	7,460	3,070	2,210	19,300	744	818
7	294	393	260	b170	470	270	12,400	2,730	1,840	14,900	732	2,280
8	323	340	250	b190	556	270	10,700	1,930	1,620	10,100	725	5,840
9	222	296	345	b205	483	250	9,720	3,130	2,730	7,100	647	4,200
10	384	250	369	245	399	255	6,150	h6,580	9,250	5,370	614	3,390
11	640	255	328	*255	381	270	7,380	h4,500	14,900	4,020	602	3,480
12	1,050	250	280	222	381	255	9,720	h2,840	20,000	3,920	595	2,410
13	1,120	240	250	226	381	231	6,250	h1,620	12,400	3,140	660	1,760
14	742	226	*240	218	334	270	5,110	h1,520	8,500	2,690	1,160	1,420
15	675	231	226	226	*323	245	3,860	h2,280	6,840	2,210	1,240	1,200
16	535	226	213	*218	375	218	3,040	h2,140	5,260	3,020	1,830	1,080
17	375	245	200	222	563	208	2,200	h1,570	6,580	5,370	22,100	1,000
18	399	236	183	213	654	200	2,540	3,850	8,200	4,600	14,600	874
19	438	213	183	b165	970	183	h2,980	8,410	10,800	3,560	10,800	784
20	418	208	175	b130	846	187	h2,570	2,960	9,400	2,760	10,100	725
21	369	204	*163	b100	675	183	1,740	1,890	7,730	5,050	17,100	692
22	323	195	183	b95	605	187	1,360	9,430	5,370	14,400	6,890	640
23	275	195	200	b90	528	187	1,100	25,600	4,600	8,010	4,710	583
24	245	187	200	b100	483	191	918	24,900	3,650	3,980	3,220	553
25	226	179	204	b110	640	183	798	17,600	4,960	2,980	2,620	499
26	222	171	204	*b125	*640	187	758	8,800	5,840	2,550	1,960	470
27	226	167	208	b145	*577	183	698	7,370	5,370	2,280	1,620	458
28	187	167	204	b180	535	183	742	11,600	5,370	2,690	1,380	888
29	208	175	208	195	483	179	1,150	22,100	7,250	2,080	1,240	846
30	464	275	204	195	-	236	2,540	18,600	6,450	1,570	1,120	706
31	1,320	-	208	191	-	218	-	25,400	-	1,280	1,000	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	12,786	1,320	175	412	25,360
November	12,072	1,620	167	402	23,940
December	7,440	369	163	240	14,760
Calendar year 1939	521,492	27,500	163	1,429	1,035,000
January	5,636	255	90	182	11,180
February	14,312	970	204	494	28,390
March	7,732	470	179	249	15,340
April	105,755	12,400	195	3,525	209,800
May	230,910	25,600	1,110	7,449	458,000
June	212,966	20,000	1,620	7,099	422,400
July	224,440	40,600	1,280	7,240	445,200
August	114,647	22,100	595	3,698	227,400
September	41,411	5,840	458	1,380	82,140
Water year 1939-40	990,101	40,600	90	2,705	1,964,000

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
h Water-stage recorder graph incomplete; discharge computed from gage heights based on partial record and once-daily staff-gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Red River at Arthur City, Tex.

Location.- Water-stage recorder, lat. 33°53', long. 95°30', at bridge on U. S. Highway 271, at Arthur City, Lamar County. Datum of gage is 380.07 feet above mean sea level (general adjustment of 1929). Prior to Mar. 25, 1940, wire-weight gage at same site and datum.

Drainage area.- 43,110 square miles.

Records available.- January 1905 to December 1911, July 1936 to September 1940. Gage-height records collected at same site since 1891 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 55,200 second-feet May 24 (gage height, 18.35 feet); minimum discharge observed, 170 second-feet Oct. 8, 9 (gage height, 3.8 feet).
1936-40: Maximum discharge, 222,000 second-feet Feb. 19, 1938 (gage height, 34.3 feet, from graph based on gage readings), from rating curve extended above 100,000 second-feet; minimum discharge observed, that of Oct. 8, 9, 1940.
Maximum stage known, 43.2 feet May 28, 1908 (discharge not determined), from records of U. S. Weather Bureau.

Remarks.- Records good. Gage read once daily prior to Mar. 25, 1940.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army. Gage readings for period prior to Mar. 25, 1940, furnished by U. S. Weather Bureau.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	240	260	384	292	308	800	304	12,600	36,300	12,100	3,430	1,840
2	240	480	425	284	312	746	324	11,600	27,300	10,800	3,070	1,660
3	236	1,280	420	272	352	680	316	10,800	19,000	13,500	2,780	1,450
4	216	1,440	412	260	420	620	268	6,950	10,100	21,600	2,610	1,350
5	200	1,320	400	272	480	565	389	3,060	7,250	40,500	2,440	1,350
6	188	1,160	384	264	520	540	3,250	2,180	5,800	27,600	2,280	1,160
7	176	920	376	304	570	510	37,900	3,310	4,760	19,200	2,230	1,260
8	170	716	364	328	565	465	41,200	3,950	3,950	14,500	2,180	1,900
9	204	590	352	340	545	425	25,200	7,830	3,560	10,800	2,130	4,010
10	336	510	340	364	530	412	19,800	15,000	3,820	8,450	2,030	6,220
11	348	465	324	384	585	400	16,500	14,500	18,400	6,780	1,980	4,720
12	410	440	368	368	605	376	16,500	8,800	26,400	5,980	1,930	3,920
13	580	412	412	336	565	470	16,800	5,320	27,000	5,640	1,880	3,830
14	790	396	400	308	510	704	11,600	3,820	19,800	6,160	1,880	2,920
15	965	384	380	300	455	752	8,450	2,720	15,500	5,320	1,880	2,200
16	902	380	364	300	425	550	5,640	2,440	13,000	4,620	2,130	1,780
17	742	388	336	300	788	408	4,760	3,010	15,200	3,950	2,610	1,500
18	646	485	308	288	1,520	364	4,480	2,950	24,000	4,760	15,900	1,300
19	556	450	284	280	1,980	340	3,950	3,400	26,400	6,160	16,900	1,160
20	490	376	276	260	2,080	320	3,820	11,300	25,200	6,160	13,900	1,080
21	445	348	264	242	1,930	300	3,820	21,000	21,000	12,600	13,400	976
22	425	336	288	239	1,700	308	3,430	28,200	19,800	15,000	16,400	911
23	410	320	324	245	1,400	500	2,660	30,600	14,500	22,200	9,600	883
24	400	304	304	257	1,130	668	2,230	51,000	7,500	20,400	6,500	869
25	376	300	300	300	955	352	1,930	48,900	6,160	17,000	5,060	806
26	348	292	300	292	830	268	1,700	35,600	6,160	13,500	3,920	750
27	316	276	300	280	830	300	1,520	31,600	8,800	11,200	3,240	730
28	296	264	300	300	860	312	1,560	40,500	7,800	8,400	2,620	718
29	292	280	296	292	860	320	5,560	40,500	12,300	5,040	2,340	704
30	288	344	296	280	-	555	14,500	41,200	13,500	4,480	2,020	744
31	272	-	292	324	-	372	-	35,600	-	3,950	1,840	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	12,503	965	170	403	24,800
November	15,916	1,440	260	531	31,570
December	10,573	425	264	341	20,970
Calendar year 1939	888,141	49,400	170	2,433	1,761,000
January	9,175	384	239	296	18,200
February	24,600	2,080	308	848	48,790
March	14,702	800	268	474	29,160
April	260,361	41,200	268	8,679	516,400
May	540,240	51,000	2,180	17,430	1,076,000
June	450,260	36,300	3,560	15,010	893,100
July	368,350	40,500	3,950	11,880	730,600
August	153,110	16,900	1,840	4,939	303,700
September	54,701	6,220	704	1,823	108,500
Water year 1939-40	1,914,491	51,000	170	5,231	3,802,000

Red River at Index, Ark.

Location.- Water-stage recorder, lat. 33°33', long. 94°02', in SW¼ sec. 7, T. 14 S., R. 28 E., at bridge on U. S. Highway 271, at Index, 2½ miles south of Ogden, and about 25 miles (revised) upstream from Little River. Datum of gage is 246.87 feet above mean sea level (general adjustment of 1929). Prior to Dec. 12, 1940, wire-weight gage at same site and datum.

Drainage area.- 46,580 square miles.

Records available.- July 1936 to September 1940. Gage-height records collected at same site since 1917 are contained in reports of U. S. Weather Bureau.

Extremes.- Maximum discharge during year, 70,100 second-feet May 26 (gage height, 19.70 feet); minimum, 415 second-feet Jan. 27.
1936-40: Maximum discharge, 297,000 second-feet Feb. 23, 1938 (gage height, 34.25 feet, from reading at flood crest); minimum discharge observed, 400 second-feet Sept. 12-14, 1936.

Remarks.- Records good.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	495	505	490	590	535	1,460	1,260	13,400	46,500	17,600	6,140	2,910
2	490	490	510	580	530	1,460	1,390	20,700	35,500	35,200	5,190	2,620
3	490	470	535	565	545	1,390	1,260	18,700	29,900	33,900	4,520	2,440
4	490	455	555	570	565	1,330	1,120	15,400	23,200	26,800	3,960	2,260
5	505	455	575	560	590	1,220	958	13,400	18,300	22,400	3,380	2,170
6	490	455	590	565	658	1,140	1,520	10,800	13,400	38,300	2,910	2,170
7	480	460	595	580	680	1,040	4,810	7,950	10,200	40,500	2,530	1,920
8	480	505	628	580	740	988	24,100	5,760	8,580	25,400	2,260	1,830
9	480	550	628	585	845	950	61,600	4,810	7,110	21,100	2,080	1,660
10	480	600	635	585	935	898	38,400	6,790	6,330	17,200	2,000	1,520
11	495	762	642	580	995	868	26,800	16,800	5,950	14,300	2,260	1,740
12	565	1,010	642	565	1,020	875	22,400	19,500	6,160	12,100	2,170	3,580
13	575	1,020	635	580	1,120	898	20,700	16,100	16,800	9,990	1,830	5,190
14	530	875	620	620	1,130	852	22,400	11,800	24,100	8,810	1,590	4,810
15	490	808	605	635	1,090	830	19,900	8,370	24,100	8,160	1,460	4,240
16	460	770	595	672	1,070	830	16,500	6,330	19,500	7,950	1,330	3,960
17	455	725	600	688	1,060	852	13,400	4,810	16,800	7,530	1,240	3,380
18	495	702	628	732	1,030	942	10,200	3,960	16,800	6,520	1,240	2,720
19	778	688	620	755	1,010	1,020	8,810	3,860	19,500	6,140	1,210	2,260
20	988	658	595	740	1,060	965	8,370	5,570	24,600	6,330	9,380	2,000
21	1,020	628	570	672	1,520	860	8,160	7,650	25,900	9,730	15,400	1,740
22	980	605	575	590	2,720	808	7,110	15,800	23,700	12,400	13,400	1,590
23	905	585	658	550	3,100	778	6,330	23,900	20,300	18,700	13,400	1,590
24	792	580	672	535	3,200	725	5,760	31,100	17,900	21,900	14,300	1,520
25	665	565	695	495	3,200	695	4,720	55,300	14,700	23,700	10,500	1,390
26	560	550	710	430	2,910	688	3,960	68,500	11,100	21,100	7,740	1,330
27	515	540	718	415	2,260	702	3,480	52,500	9,040	17,600	6,520	1,260
28	505	530	710	480	1,920	748	3,290	44,100	8,370	14,700	5,760	1,160
29	505	500	680	555	1,590	762	3,580	57,400	9,270	13,700	4,720	1,130
30	505	485	628	570	-	1,020	6,140	66,900	10,200	11,400	3,960	1,090
31	505	-	605	560	-	1,330	-	58,100	-	7,740	3,290	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	18,168	1,020	455	586	36,040
November	18,531	1,020	455	618	36,760
December	19,144	718	490	618	37,970
Calendar year 1939	1,732,892	67,600	455	4,748	3,437,000
January	18,179	755	415	586	36,060
February	39,628	3,200	530	1,366	78,600
March	29,924	1,460	688	965	59,350
April	358,428	61,600	958	11,950	710,900
May	696,060	68,500	3,860	22,450	1,381,000
June	523,810	46,500	5,950	17,460	1,039,000
July	538,900	40,500	6,140	17,380	1,069,000
August	157,670	15,400	1,210	5,086	312,700
September	69,180	5,190	1,090	2,306	137,200
Water year 139-40	2,487,622	68,500	415	6,797	4,935,000

Note.- Discharge for Oct. 1 to Dec. 11, Jan. 18-28, July 25 to Aug. 9, computed from stage graph based on once-daily wire-weight gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog al Survey

Red River at Garland, Ark.

Location.- Water-stage recorder, lat. 33°21', long. 93°42', in SE¼ sec. 17, T. 16 S., R. 25 W., at Garland. Datum of gage is 203.08 feet above mean sea level (general adjustment of 1929).

Drainage area.- 51,500 square miles.

Records available.- October 1927 to December 1931, June 1934 to September 1940.

Extremes.- Maximum discharge during year, 86,900 second-feet May 30; maximum gage height, 22.91 feet May 31; minimum, 526 second-feet Nov. 7 (gage height, 1.48 feet).
1927-31, 1934-40: Maximum discharge, 327,000 second-feet Feb. 25, 1938; maximum gage height, 35.97 feet Feb. 24, 1938, just before break in levee above gage; minimum discharge, 400 second-feet Oct. 8-19, 1931.
Maximum stage known prior to 1938, 35.4 feet, present datum, in April 1927 (discharge not determined).

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	682	682	1,010	1,570	1,100	3,550	2,340	16,100	80,600	h19,200	9,400	4,490
2	694	646	1,020	1,490	1,080	3,250	2,610	28,800	72,200	h44,200	6,970	3,930
3	662	598	1,010	1,430	1,040	3,030	2,680	35,000	67,400	h61,000	5,860	3,550
4	694	586	1,030	1,380	1,030	2,890	2,610	34,500	58,900	54,000	4,990	3,250
5	682	574	1,350	1,320	1,040	2,680	2,340	31,600	49,800	52,200	4,330	3,030
6	706	562	1,690	1,270	1,100	2,540	2,340	28,000	41,000	58,200	h3,850	2,890
7	694	538	1,690	1,210	1,160	2,340	3,320	23,000	32,500	69,000	h3,620	2,980
8	670	550	1,570	1,190	1,260	2,140	11,500	16,600	24,800	65,000	h3,250	3,180
9	658	802	1,490	1,160	1,410	2,010	47,500	11,400	18,200	52,200	h3,030	3,780
10	658	1,370	1,440	1,150	2,080	1,940	58,900	9,190	13,400	45,800	h2,960	3,620
11	658	1,510	1,390	1,150	3,100	1,820	52,200	12,800	12,100	37,500	h2,890	3,100
12	634	1,510	1,290	1,150	3,550	1,820	45,800	25,200	11,900	31,200	h2,820	2,750
13	658	1,430	1,200	1,130	3,400	1,750	41,500	28,400	12,600	23,600	2,890	3,480
14	670	1,290	1,160	1,090	3,250	2,140	40,000	25,200	22,200	17,200	2,610	5,160
15	670	1,150	1,130	1,290	3,030	2,340	40,000	19,200	27,600	12,800	2,400	5,330
16	706	1,050	1,080	1,820	2,890	2,540	33,500	14,200	26,800	10,700	2,200	4,820
17	754	1,010	1,040	2,140	2,680	2,750	26,800	11,000	22,600	9,840	2,080	4,490
18	766	1,110	1,020	2,400	2,540	2,750	20,800	9,190	20,800	8,980	2,080	4,010
19	778	1,130	982	2,400	2,400	2,610	16,200	8,350	24,000	7,950	2,890	3,550
20	862	1,040	958	f2,270	2,270	2,540	14,400	11,000	31,600	7,350	9,120	3,030
21	1,040	1,010	934	f2,140	2,340	2,400	15,300	15,300	38,500	9,400	19,500	2,680
22	1,150	970	934	f1,940	2,890	2,200	16,200	21,200	40,500	15,300	24,000	2,400
23	1,130	1,030	982	f1,750	3,850	2,140	15,000	35,000	37,000	20,500	21,900	2,200
24	1,040	1,110	934	f1,630	4,490	1,820	12,800	48,000	32,000	28,400	18,200	2,080
25	994	1,150	970	f1,510	4,490	1,690	11,400	64,200	26,800	34,000	15,900	2,080
26	910	1,100	994	f1,400	4,490	1,630	10,500	78,800	20,800	33,200	12,600	1,940
27	862	1,030	1,050	f1,280	4,170	1,630	9,190	82,400	14,700	28,000	9,620	1,820
28	802	958	1,370	f1,160	4,170	1,570	8,150	78,800	h11,600	22,600	7,950	1,750
29	778	910	1,630	1,110	3,930	1,570	7,550	82,400	h10,300	17,900	6,970	1,880
30	730	946	1,690	1,130	-	1,630	9,400	86,400	h11,600	14,700	5,860	1,940
31	706	-	1,630	1,130	-	1,750	-	85,100	-	12,100	5,160	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	24,118	1,150	634	778	47,840
November	29,352	1,510	538	978	58,220
December	37,668	1,690	934	1,215	74,710
Calendar year 1939	3,819,410	82,200	538	10,460	7,576,000
January	46,190	2,400	1,090	1,490	91,620
February	76,230	4,490	1,030	2,629	151,200
March	69,460	3,550	1,570	2,241	137,800
April	582,730	58,900	2,340	19,420	1,156,000
May	1,076,330	86,400	8,350	34,720	2,135,000
June	914,800	80,600	10,300	30,490	1,814,000
July	924,020	69,000	7,350	29,810	1,833,000
August	227,900	24,000	2,080	7,352	452,000
September	95,170	5,330	1,750	3,172	188,800
Water year 1939-40	4,103,968	86,400	538	11,210	8,140,000

f Water-stage recorder graph incomplete; discharge computed on basis of partial recorder graph and twice-daily readings of wire-weight gage.
h No water-stage recorder record; discharge computed on basis of twice-daily readings of wire-weight gage, furnished by Corps of Engineers, U. S. Army.

400452 O - 41 - 19

U. S. GOVERNMENT PRINTING OFFICE 1942—O-162002

Red River at Shreveport, La.

Location.- Water-stage recorder, lat. 32°31', long. 93°44', in SE¼ sec. 30, T. 18 N., R. 13 W., Louisiana meridian, at Illinois Central Railroad bridge at Shreveport, half a mile downstream from Cross Bayou, and 310 miles (revised) upstream from mouth. Datum of gage is 131.48 feet above mean sea level (general adjustment of 1929).

Drainage area.- 59,300 square miles.

Records available.- July 1928 to September 1929, October 1938 to September 1940 in reports of Geological Survey. October 1929 to September 1938 in reports of Corps of Engineers, U. S. Army. 1872 to 1905 (fragmentary records of discharge) and May 1873 to September 1938 (daily gage heights) in reports of Mississippi River Commission.

Extremes.- Maximum discharge during year, 95,600 second-feet July 8 (gage height, 22.04 feet); minimum, 792 second-feet Nov. 9 (gage height, 0.24 foot).

1928-29, 1938-40: Maximum discharge observed, 121,000 second-feet May 26, 27, 1929 (maximum gage height, 27.48 feet); minimum discharge recorded, that of Nov. 9, 1939.

Maximum stage known, 45.9 feet (present datum) in August 1849.

Flood of May 26, 1930, reached a stage of 35.91 feet (discharge, 240,000 second-feet).

Remarks.- Records good.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 13 to Apr. 9, Aug. 3-23, Aug. 28 to Sept. 30)

Oct. 1 to Nov. 25

0.2	760
1.5	1,800

Nov. 26 to Sept. 30

0.2	760	3.0	3,800	11.6	21,680	19.8	71,000
.8	1,250	7.0	10,200	13.8	30,960	22.0	95,600
2.0	2,500	9.4	15,480	17.6	53,480		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,040	960	1,500	2,220	1,650	6,740	4,100	20,100	88,400	21,700	20,400	7,540
2	1,000	960	1,350	2,220	1,650	6,420	4,400	23,200	86,000	39,200	18,100	6,740
3	1,000	896	1,350	2,170	1,650	6,260	5,000	36,300	80,500	62,800	15,000	6,100
4	1,000	872	1,350	2,170	1,750	5,460	5,620	44,000	76,100	78,300	12,900	5,460
5	1,000	856	1,400	2,000	1,850	5,000	5,940	44,000	67,000	79,400	11,300	5,150
6	1,000	840	1,350	1,950	2,000	4,700	6,580	41,000	59,100	78,300	10,200	4,850
7	960	816	1,350	1,900	2,170	4,550	9,350	37,400	50,900	86,000	9,180	4,550
8	960	808	1,650	1,800	2,220	4,250	10,800	32,000	43,400	94,400	8,340	4,400
9	960	816	1,900	1,750	3,130	3,660	13,800	26,400	36,800	89,600	7,700	4,250
10	920	808	1,900	1,700	3,200	3,390	44,400	21,300	31,000	80,500	7,060	4,400
11	872	960	1,800	1,650	3,390	3,200	60,600	18,100	26,400	72,000	6,420	4,700
12	864	1,520	1,750	1,650	3,520	3,200	56,900	17,500	24,000	63,600	5,780	4,700
13	872	1,760	1,600	1,650	3,520	3,520	51,500	26,400	23,200	56,200	5,780	4,250
14	864	1,800	1,550	1,700	3,520	3,660	47,000	34,100	22,400	49,600	5,620	3,800
15	856	1,720	1,500	1,750	3,520	3,520	44,600	32,500	27,600	41,600	5,150	4,100
16	872	1,600	1,450	1,600	4,100	3,950	43,400	26,800	35,700	34,100	g4,700	5,300
17	904	1,520	1,400	1,600	5,150	4,400	39,800	21,700	36,800	29,000	g4,250	5,780
18	920	1,400	1,350	1,800	5,620	4,550	36,300	18,400	33,600	25,600	g3,950	5,460
19	960	1,320	1,250	2,280	5,940	4,700	33,000	16,200	30,500	24,000	g3,660	5,150
20	1,000	1,280	1,250	2,680	5,780	4,550	29,500	14,500	32,500	21,700	g3,390	4,700
21	1,000	1,320	1,200	2,870	5,620	4,400	27,200	14,500	39,200	21,000	g5,300	4,250
22	1,040	1,320	1,450	2,870	5,300	4,100	27,200	18,400	46,400	21,000	g10,900	3,660
23	1,120	1,280	2,870	2,740	5,000	3,950	28,100	24,800	48,300	24,000	g12,700	3,260
24	1,240	1,200	2,280	2,680	5,150	3,660	27,600	36,800	45,800	29,000	g23,200	3,060
25	1,320	1,160	1,950	2,390	5,940	3,260	25,600	50,200	41,000	36,800	g21,700	2,870
26	1,400	1,160	1,900	2,280	6,740	3,060	24,000	63,600	35,700	43,400	g17,800	2,800
27	1,280	1,250	1,850	2,170	7,220	3,060	22,000	74,000	30,000	44,600	g15,700	2,740
28	1,200	1,300	1,800	2,000	7,220	3,130	20,700	76,100	24,800	39,200	g13,600	2,680
29	1,120	1,250	1,700	1,900	6,900	3,260	21,000	74,000	22,400	32,500	g11,600	2,560
30	1,000	1,400	1,750	1,800	-	3,520	20,400	79,400	20,700	27,200	9,520	2,390
31	960	-	2,000	1,700	-	3,800	-	87,200	-	23,200	8,500	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	31,504	1,400	856	1,016	0.017	0.02	62,490
November	36,152	1,800	808	1,205	.020	.02	71,710
December	50,750	2,870	1,200	1,637	.028	.03	100,700
Calendar year 1939	8,172,856	87,600	808	14,170	.239	3.24	10,262,900
January	63,640	2,870	1,600	2,053	.035	.04	126,200
February	120,420	7,220	1,650	4,152	.070	.08	238,800
March	128,880	6,740	3,060	4,157	.070	.08	255,600
April	796,390	60,600	4,100	26,550	.448	.50	1,580,000
May	1,150,900	87,200	14,500	37,130	.626	.72	2,283,000
June	1,266,200	88,400	20,700	42,210	.712	.79	2,511,000
July	1,469,500	94,400	21,000	47,400	.799	.92	2,915,000
August	319,400	23,200	3,390	10,300	.174	.20	633,500
September	131,650	7,540	2,390	4,388	.074	.08	261,100
Water year 1939-40	5,565,386	94,400	808	15,210	.256	3.48	11,039,000

g Computed from graph based on gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolog. Survey

104604-O U. S. GOVERNMENT PRINTING OFFICE 1936

Red River at Coushatta, La.

Location.- Wire-weight gage, lat. 32°01', long. 93°21', in NW¼ sec. 24, T. 12 N., R. 10 W., Louisiana meridian, at bridge on U. S. Highway 84 at Coushatta, 242 miles upstream from mouth. Datum of gage is 95.85 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 61,640 square miles.

Records available.- October 1938 to September 1940 in reports of Geological Survey. Discharge observations, August and November 1893, in reports of Mississippi River Commission. August 1890 to June 1894, (gage heights) and April 1937 to September 1938 (gage heights and discharge observations) in reports of Corps of Engineers, U. S. Army.

Extremes.- 1938-39: Maximum discharge observed during year, 99,000 second-feet Mar. 3 (gage height, 24.10 feet); minimum, 1,170 second-feet Sept. 30 (gage height, 1.67 feet).

1939-40: Maximum discharge during year, 92,700 second-feet July 9 (gage height, 23.36 feet); minimum, 880 second-feet Nov. 10, 11 (gage height, 1.25 feet).

1937-40: Maximum discharge, 181,000 second-feet Mar. 1, 1938, from loop curve through discharge measurements; maximum gage height, 34.30 feet Mar. 2-3, 1938; minimum discharge, that of Nov. 10-11, 1939.

Remarks.- Records fair. Gage read once daily Oct. 1, 1938, to Nov. 5, 1939; twice daily thereafter.

Cooperation.- Gage-height record and results of 48 discharge measurements furnished by Corps of Engineers, U. S. Army.

Rating table, water years 1938-40 (gage height, in feet, and discharge, in second-feet)
(Backwater curve used Oct. 1 to Nov. 2, 1938)

1.2	850	4.8	5,270	15.1	34,150
1.7	1,210	8.5	12,100	18.7	55,900
2.4	1,910	10.6	16,760	21.4	75,800
3.4	3,130	12.9	24,000	24.1	99,000

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,040	1,500	2,610	4,290	18,400	84,000	53,200	46,200	11,700	10,700	3,130	2,670
2	2,040	1,500	2,490	4,290	17,900	91,800	62,200	44,400	10,600	16,000	3,000	3,000
3	2,080	1,800	2,550	4,290	21,200	99,000	63,600	40,800	9,790	15,200	2,870	3,130
4	2,120	2,120	2,610	4,290	24,400	97,200	60,100	34,700	9,030	13,300	2,870	3,130
5	2,160	2,080	2,610	4,930	26,400	93,600	55,900	29,200	8,460	11,900	2,740	3,000
6	2,120	2,020	2,490	5,950	30,100	90,000	52,600	24,800	8,100	11,100	2,610	2,740
7	2,080	2,250	2,550	6,120	34,200	86,600	49,400	21,900	8,100	10,700	2,550	2,550
8	2,040	3,270	2,490	5,950	36,400	82,300	48,700	20,600	7,920	11,100	2,430	2,370
9	1,990	4,140	2,430	5,950	36,900	79,000	56,600	19,000	7,740	11,900	2,310	2,310
10	1,920	3,550	2,370	6,840	38,000	75,000	68,100	17,600	8,460	11,700	2,310	2,310
11	1,820	3,000	2,370	8,650	36,400	69,600	72,600	16,200	9,980	11,300	2,310	2,310
12	1,800	3,000	2,740	10,900	34,200	64,400	70,400	15,200	13,900	10,600	2,250	2,250
13	1,750	3,130	3,000	14,100	29,200	58,700	66,600	14,300	16,800	9,790	2,130	2,130
14	1,720	3,270	3,000	17,000	28,600	53,200	62,900	13,500	15,700	9,220	2,080	2,020
15	1,690	3,550	2,740	19,000	28,600	48,000	58,000	12,700	13,100	8,840	2,080	1,910
16	1,650	3,690	2,610	20,000	27,800	43,800	53,900	12,300	10,900	8,840	2,130	1,800
17	1,600	3,690	2,490	20,600	29,600	40,200	50,000	11,900	8,840	8,100	2,550	1,740
18	1,600	3,840	2,370	20,200	36,900	36,900	46,200	12,500	7,740	7,200	2,870	1,740
19	1,590	3,990	2,250	19,600	45,000	33,600	49,400	13,700	6,840	6,300	3,000	1,690
20	1,590	4,140	2,130	19,000	48,700	31,600	77,400	13,500	6,480	5,780	2,740	1,590
21	1,540	4,290	2,020	19,600	50,000	28,200	89,100	12,700	6,480	5,270	2,740	1,540
22	1,500	4,290	2,080	19,600	50,600	26,400	93,600	12,700	6,480	4,930	3,840	1,440
23	1,500	4,290	2,020	18,400	52,000	24,800	93,600	15,700	6,120	4,450	4,770	1,440
24	1,500	4,140	2,190	17,900	59,400	22,900	90,000	20,900	5,780	4,290	5,100	1,390
25	1,480	3,990	2,430	17,600	64,400	21,900	84,800	23,200	5,440	3,990	4,770	1,340
26	1,480	3,840	2,550	17,300	68,100	21,200	77,400	23,600	4,930	3,840	4,290	1,260
27	1,500	3,690	2,740	17,300	71,100	20,200	68,800	21,900	4,770	3,550	3,840	1,260
28	1,500	3,410	3,410	18,100	77,400	19,000	61,500	18,700	4,610	3,550	3,410	1,260
29	1,500	3,130	3,690	19,000	-	19,000	54,600	16,000	4,450	3,410	3,270	1,210
30	1,500	2,870	3,990	19,300	-	24,000	49,400	13,900	4,770	3,270	3,000	1,210
31	1,500	-	4,290	19,300	-	37,400	-	12,700	-	3,270	3,000	-

Note.- Discharge Oct. 1 to Nov. 2 computed from backwater curve drawn through four discharge measurements.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1939—O-178917

Discharge, in second-feet, of Red River at Coushatta, La., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,170	1,090	1,390	2,870	1,800	8,100	4,290	27,800	85,700	22,600	26,800	11,300
2	1,170	1,020	1,440	3,130	1,740	7,740	4,450	28,200	85,700	30,100	24,800	10,400
3	1,130	980	1,490	3,270	1,640	7,380	4,770	35,200	83,200	52,600	21,200	9,220
4	1,090	980	1,390	3,270	1,960	7,020	5,270	46,800	79,800	71,100	19,600	8,280
5	1,090	980	1,260	3,410	3,000	6,660	5,950	50,000	75,800	78,200	17,300	7,740
6	1,090	980	1,260	3,270	5,270	5,950	6,300	49,400	67,400	77,400	15,700	7,020
7	1,090	945	1,260	3,130	4,290	5,610	7,560	46,200	59,400	79,000	14,600	6,660
8	1,050	910	1,260	3,130	3,840	5,270	10,700	42,000	51,300	87,400	13,700	6,120
9	1,050	910	1,260	3,000	5,610	5,100	13,300	36,400	43,800	91,800	13,700	5,780
10	1,020	880	1,490	2,740	6,480	4,450	21,900	30,600	38,000	87,400	12,700	5,610
11	1,020	910	1,690	2,550	6,300	4,140	55,200	25,200	33,100	82,300	11,700	5,610
12	1,020	1,300	1,690	2,490	6,120	3,840	63,600	21,900	28,600	75,000	11,100	5,780
13	980	1,440	1,590	2,370	6,660	4,930	58,700	22,900	26,400	69,600	10,600	5,780
14	980	1,640	1,490	2,250	7,020	5,780	53,200	33,100	26,000	62,200	10,200	5,270
15	945	1,910	1,440	2,190	7,380	5,950	49,400	38,000	26,400	55,200	9,790	4,930
16	945	1,800	1,390	2,190	7,380	5,610	48,700	34,700	35,800	48,000	9,220	5,100
17	945	1,740	1,300	2,020	7,380	5,610	46,800	29,200	40,800	42,600	8,460	6,300
18	945	1,590	1,300	1,960	7,380	5,780	43,800	24,000	41,400	38,600	8,100	6,660
19	980	1,490	1,260	1,960	7,560	5,780	40,800	21,600	38,000	35,200	8,460	6,480
20	980	1,390	1,260	2,370	7,560	5,780	36,900	19,000	36,400	33,100	7,920	6,120
21	1,020	1,300	1,210	2,740	7,380	5,610	35,800	17,600	39,600	30,600	7,380	5,780
22	980	1,260	1,540	2,870	7,200	5,440	32,600	18,100	46,800	29,600	8,280	5,270
23	1,020	1,260	2,430	2,870	6,660	5,100	32,600	22,900	51,300	29,600	15,700	4,930
24	1,020	1,260	4,290	2,870	6,300	4,610	33,600	32,100	52,000	33,100	22,900	4,450
25	1,130	1,260	3,990	2,610	6,300	4,290	32,600	44,400	48,000	39,600	22,900	4,140
26	1,440	1,210	3,990	2,490	6,840	3,990	30,100	57,300	42,600	45,600	20,600	3,840
27	1,440	1,170	3,840	2,430	7,560	3,690	27,800	66,600	36,900	49,400	18,400	3,690
28	1,390	1,170	3,410	2,310	8,100	3,550	26,000	73,400	31,600	46,800	16,800	3,550
29	1,300	1,170	3,130	2,190	8,460	3,550	26,800	75,000	28,600	42,600	15,000	3,410
30	1,130	1,260	3,000	2,020	-	3,840	27,800	75,800	25,600	36,900	13,500	3,270
31	1,130	-	2,870	1,910	-	3,990	-	80,600	-	31,100	12,300	-

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1938	53,900	2,160	1,480	1,739	106,900
November	97,470	4,290	1,500	3,249	193,300
December	82,310	4,290	2,020	2,655	163,300
Calendar year	-	-	-	-	-
January 1939	425,350	20,600	4,290	13,720	843,700
February	1,121,900	77,400	17,900	40,070	2,225,000
March	1,623,500	99,000	19,000	52,370	3,220,000
April	1,940,600	93,600	46,200	64,690	3,849,000
May	627,000	46,200	11,900	20,230	1,244,000
June	254,010	16,800	4,450	8,467	503,800
July	253,390	16,000	3,270	8,174	502,600
August	92,990	5,100	2,080	3,000	184,400
September	59,940	3,130	1,210	1,998	118,900
Water year 1938-39	6,632,360	99,000	1,210	18,170	13,150,000
October 1939	33,690	1,440	945	1,087	66,820
November	37,205	1,910	880	1,240	73,800
December	61,610	4,290	1,210	1,987	122,200
Calendar year 1939	6,531,185	99,000	880	17,890	12,950,000
January 1940	80,880	3,410	1,910	2,609	160,400
February	171,170	8,460	1,640	5,902	339,500
March	164,140	8,100	3,550	5,295	325,600
April	887,290	63,600	4,290	29,580	1,760,000
May	1,226,000	80,600	17,600	39,550	2,432,000
June	1,406,000	85,700	25,600	46,870	2,789,000
July	1,634,300	91,800	22,600	52,720	3,242,000
August	449,410	26,800	7,380	14,500	891,400
September	178,490	11,300	3,270	5,950	354,000
Water year 1939-40	6,330,185	91,800	880	17,290	12,560,000

Red River at Alexandria, La.

Location.- Wire-weight gage, lat. 31°19', long. 92°27', in T. 4 N., R. 1 W., Louisiana meridian, at old bridge on U. S. Highway 165, between Alexandria and Pineville, 121.4 (revised) miles upstream from mouth. Datum of gage is 44.24 feet above mean sea level (general adjustment of 1929) and 44.18 feet above mean Gulf level (datum of Mississippi River Commission). (Levels by Corps of Engineers, U. S. Army).

Drainage area.- 65,900 square miles.

Records available.- October 1938 to September 1940 in reports of Geological Survey. 1858, 1879-1937 (fragmentary, gage heights and discharges), 1872-1938 (gage heights) in reports of Mississippi River Commission. February 1929 to September 1938 (discharge observations) in reports of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge during year, 88,900 second-feet July 9 (from loop curve); maximum gage height, 29.1 feet July 10, 11; minimum discharge, 1,480 second-feet on many days in October and November (gage height, 0.2 foot).

1928-40: Maximum discharge observed, 194,000 second-feet Feb. 4, 1932 (gage height, 43.77 feet); minimum observed, 1,180 second-feet Aug. 28, 1934; minimum gage height observed, -1.08 feet Sept. 23, 1936.

Maximum discharge observed prior to 1928, 210,000 second-feet July 2, 1908 (gage height, 41.6 feet); minimum gage height observed, -3.7 feet Sept. 29, 1881 (discharge not determined).

Remarks.- Records good. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,630	1,840	1,840	13,000	4,180	13,600	7,320	42,700	77,000	35,400	35,500	15,800
2	1,630	1,750	1,930	11,000	4,070	13,200	7,520	43,700	77,600	33,900	31,100	14,300
3	1,630	1,660	2,020	9,600	4,030	13,000	7,700	43,700	76,900	34,100	28,400	12,800
4	1,580	1,570	2,110	8,540	4,070	12,400	7,520	44,500	76,000	54,800	27,000	11,500
5	1,580	1,570	2,200	7,900	7,710	11,900	7,700	50,300	73,500	70,200	24,900	10,500
6	1,580	1,570	2,110	7,720	14,000	11,500	7,900	53,500	69,200	78,200	22,500	9,500
7	1,580	1,480	2,020	8,050	20,500	10,800	10,300	53,000	63,300	82,000	20,300	8,860
8	1,580	1,480	2,020	8,340	23,200	9,950	13,300	48,700	57,200	84,900	18,800	8,200
9	1,560	1,480	2,020	8,540	23,700	9,420	14,500	46,200	51,200	88,900	20,300	7,720
10	1,580	1,480	2,020	8,340	24,100	8,890	17,200	43,500	43,600	88,700	25,200	7,080
11	1,580	1,480	2,020	8,050	25,100	8,500	22,100	38,700	38,100	88,300	27,000	6,610
12	1,580	1,460	2,110	7,720	25,500	7,900	59,500	33,200	33,200	85,000	26,100	6,300
13	1,530	1,480	2,290	7,300	25,100	7,350	67,300	28,200	29,000	80,600	24,100	6,170
14	1,530	1,480	2,380	6,830	23,900	8,100	69,900	26,500	25,800	74,700	22,000	6,170
15	1,480	1,750	2,380	6,400	22,000	9,250	67,000	31,700	25,400	68,500	20,200	6,010
16	1,460	2,020	2,290	6,110	20,700	10,300	62,600	37,500	26,700	62,000	18,400	5,880
17	1,480	2,290	2,290	5,710	19,700	10,600	59,000	37,700	36,100	56,500	16,400	5,450
18	1,480	2,380	2,200	5,460	20,000	10,400	57,000	34,200	49,400	50,700	14,500	5,300
19	1,480	2,470	2,200	5,320	20,700	10,300	55,300	29,100	52,900	45,300	12,900	5,880
20	1,480	2,380	2,200	5,080	20,700	10,400	52,500	24,500	52,700	40,800	11,700	6,300
21	1,480	2,290	2,110	4,840	20,400	10,300	49,600	21,200	50,700	38,000	11,300	6,300
22	1,480	2,110	2,110	4,840	19,700	10,300	46,400	19,000	49,800	34,800	10,900	6,170
23	1,480	2,020	2,740	4,960	18,600	9,950	42,700	16,700	52,100	32,800	11,300	5,880
24	1,480	2,020	7,180	4,960	17,200	9,420	40,200	21,100	54,200	33,000	14,900	5,880
25	1,750	1,930	10,900	5,080	16,200	8,890	38,800	28,800	54,300	34,000	23,000	5,450
26	1,840	1,930	13,300	4,960	15,000	8,300	37,100	42,800	51,600	37,500	25,400	5,000
27	1,930	1,930	16,400	4,840	14,200	7,900	33,600	55,000	49,000	43,000	24,700	4,720
28	2,020	1,840	17,700	4,710	13,800	7,350	31,200	66,500	45,500	47,200	23,000	4,310
29	2,020	1,840	17,400	4,500	13,600	6,960	30,400	72,800	41,400	47,000	21,300	4,050
30	2,020	1,840	16,400	4,400	-	7,050	36,000	75,400	37,700	44,300	19,500	3,910
31	1,930	-	14,500	4,300	-	7,110	-	75,600	-	40,000	17,800	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	50,480	2,020	1,480	1,628	0.025	0.03	100,100
November	54,840	2,470	1,480	1,828	.028	.03	108,800
December	163,390	17,700	1,840	5,271	.080	.09	324,100
Calendar year 1939	7,424,230	91,500	1,480	20,340	.309	4.18	14,720,000
January	207,400	13,000	4,300	6,690	.102	.12	411,400
February	501,660	25,500	4,030	17,300	.263	.28	995,000
March	301,290	13,600	6,960	9,719	.147	.17	597,600
April	1,061,160	69,900	7,320	35,370	.537	.60	2,105,000
May	1,288,000	75,600	16,700	41,550	.631	.73	2,555,000
June	1,521,100	77,600	25,400	50,700	.769	.86	3,017,000
July	1,735,100	88,900	32,800	55,970	.849	.98	3,442,000
August	650,400	35,500	10,900	20,980	.318	.37	1,290,000
September	218,000	15,800	3,910	7,267	.110	.12	432,400
Water year 1939-40	7,752,820	88,900	1,480	21,180	.321	4.38	15,380,000

Note.- Discharge Dec. 25 to Sept. 30 determined from loop rating curves.

Salt Fork of Red River at Mangum, Okla.

Location.- Water-stage recorder and wire-weight gage, lat. 34°52', long. 99°31', in SW¼SE¼ sec. 34, T. 5 N., R. 22 W., at bridge on State Highway 34, half a mile south of Mangum and 13 miles downstream from Fish Creek. Datum of gage is 1,490.87 feet (revised) above mean sea level (general adjustment of 1929; levels by Bureau of Reclamation).

Drainage area.- 1,390 square miles.

Records available.- April 1905 to June 1906 and October 1937 to September 1940.

Extremes.- Maximum discharge during year, 6,850 second-feet July 12 (gage height, 8.71 feet); no flow at times.

1905-6, 1937-40: Maximum gage height observed, 14.7 feet June 16, 1938 (discharge not determined); no flow at times.

Maximum stage known, that of June 16, 1938, from information furnished by local residents.

Remarks.- Records fair except those above 100 second-feet and those below 5 second-feet, which are poor. Gage read at least once daily. Water-stage recorder graph obtained only for crest flow of Apr. 28, July 12, Aug. 18, Sept. 3.

Cooperation.- Results of 19 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0				a14	6	0	13	24	0	0	0
2	0				27	2	0	f4	9	0	0	0
3	0				36	f2	0	f1	1	0	0	359
4	0				36	f1	0	0	0	0	0	49
5	0				38	0	0	0	0	0	0	3
6	0				72	0	0	0	0	0	0	0
7	0				51	0	0	0	0	0	0	0
8	0				38	0	0	0	0	0	0	0
9	130				23	0	0	0	0	0	0	0
10	1				22	0	0	3	0	0	65	0
11	0				f22	0	64	1	0	f86	23	0
12	0				14	0	13	0	0	796	2	0
13	0				8	0	7	0	0	2	0	0
14	0				7	0	5	0	0	0	0	0
15	0				5	0	a3	0	0	0	0	0
16	0				12	0	a1	0	0	0	5	0
17	0				f20	0	0	0	0	0	61	0
18	0				22	0	0	0	0	0	394	0
19	0				27	0	0	0	0	0	153	0
20	0				54	0	0	0	0	0	36	0
21	0				38	0	0	0	0	0	8	0
22	0				51	0	0	f132	0	0	2	0
23	0				35	0	0	161	0	0	0	0
24	0				f31	0	0	65	0	0	0	130
25	0				25	0	0	20	0	0	0	16
26	0				f20	0	0	f8	0	0	0	0
27	0				17	0	0	3	0	0	0	0
28	0				15	0	610	2	0	0	0	0
29	0				12	0	130	1	0	0	0	0
30	0				-	0	42	f1	0	0	0	0
31	0				-	0	-	0	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	131	130	0	4.2	260
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	29,415.1	6,330	0	80.6	58,340
January	0	0	0	0	0
February	845	72	5	29.1	1,680
March	11	6	0	.4	22
April	875	610	0	29.2	1,740
May	415	161	0	13.4	823
June	34	24	0	1.1	67
July	884	796	0	28.5	1,750
August	749	394	0	24.2	1,490
September	557	359	0	18.6	1,100
Water year 1939-40	4,501	796	0	12.3	8,930

a No gage-height record; discharge interpolated.
f Computed from gage-height graph estimated on basis of occasional gage readings.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

North Fork of Red River near Granite, Okla.

Location.- Water-stage recorder, lat. 34°58', long. 99°20', on line between secs. 20 and 29, T. 6 N., R. 20 W., at bridge on State Highway 9, 2½ miles east of Granite, 7 miles upstream from Lugert Dam, and 9 miles upstream from Elm Fork of North Fork of Red River. Datum of gage is 1,534.85 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.- 2,540 square miles.

Records available.- June 1903 to December 1905 (gage heights only), January 1906 to March 1908 and April 1938 to September 1940. April 1930 to September 1932 at site 7 miles downstream (published as North Fork of Red River at Lugert Dam).

Extremes.- Maximum discharge during year, 4,090 second-feet July 2 (gage height, 4.50 feet); no flow at times.

1930-32, 1938-40: Maximum discharge, 10,400 second-feet May 7, 1930 (gage height 13.70 feet, site and datum then in use), by computation of flow over dam (published in error in Water-Supply Paper 877); no flow at times.

Flood of May 18, 1935, reached a stage of 9.8 feet, from information furnished by State Highway Department.

Remarks.- Records fair.

Cooperation.- Results of eight discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0				0	0.6	0	26	0	0	0	
2	0				0	0	0	12	0	906	0	
3	0				.3	0	0	4.8	0	64	0	
4	0				.1	0	0	2.9	0	10	32	
5	0				0	0	0	1.5	0	2.4	.6	
6	0				0	0	0	.6	0	.6	0	
7	0				5.3	0	0	0	0	0	0	
8	0				8.5	0	0	0	0	0	0	
9	4.6				5.3	0	0	0	4.2	0	0	
10	0				1.8	0	0	0	12	0	26	
11	0				1.0	0	3.8	0	6.6	0	16	
12	0				.1	0	26	0	1.3	3.1	2.8	
13	0				0	0	30	0	4.3	.3	0	
14	0				0	0	6.1	0	4.0	0	0	
15	0				0	0	1.8	0	.6	0	0	
16	0				.6	0	.1	0	1.2	0	0	
17	0				1.6	0	0	0	.4	0	0	
18	0				.5	0	0	0	.1	0	0	
19	0				.2	0	0	0	0	0	0	
20	0				0	0	0	0	0	0	0	
21	0				0	0	0	0	0	0	0	
22	0				.1	0	0	.2	0	0	0	
23	0				4.7	0	0	.4	0	0	0	
24	0				9.4	0	0	0	0	0	0	
25	0				9.0	0	0	0	0	0	0	
26	0				9.0	0	0	0	0	0	0	
27	0				6.7	0	0	.1	0	0	0	
28	0				3.8	0	481	0	0	0	0	
29	0				2.1	0	455	0	0	0	0	
30	0				-	0	79	0	0	0	0	
31	0				-	0	-	0	-	0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	4.6	4.6	0	0.15	9.1
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	35,077.1	5,880	0	96.1	69,560
January	0	0	0	0	0
February	70.1	9.4	0	2.42	139
March	.6	.6	0	.02	1.2
April	1,082.8	481	0	36.1	2,150
May	48.5	26	0	1.56	96
June	34.7	12	0	1.16	69
July	986.4	906	0	31.8	1,960
August	77.4	32	0	2.50	154
September	0	0	0	0	0
Water year 1939-40	2,305.1	906	0	6.30	4,580

North Fork of Red River near Headrick, Okla.

Location.- Water-stage recorder, lat. 34°38', long. 99°06', in center of N½ sec. 21, T. 2 N., R. 18 W., at bridge on U. S. Highway 62, 2½ miles east of Headrick and 13 miles upstream from Otter Creek. Datum of gage is 1,299.83 feet above mean sea level (general adjustment of 1929; Bureau of Reclamation bench mark).

Drainage area.- 4,360 square miles.

Records available.- April 1938 to September 1940. April to July 1905 (gage heights only) at site a quarter of a mile downstream (published as "near Snyder, Okla."). July 1905 to May 1908 at Navajo dam site 10 miles upstream.

Extremes.- Maximum discharge during year, 1,580 second-feet Apr. 29 (gage height, 4.57 feet); maximum gage height, 4.66 feet Apr. 30; no flow at times.

1938-40: Maximum discharge, 13,400 second-feet June 22, 1939 (gage height, 7.70 feet); no flow at times.

Maximum stage known, 16.1 feet sometime prior to 1927, from information furnished by State Highway Department.

Remarks.- Records fair except those for period of ice effect, which are poor. Flow regulated by storage in Lake Altus (present capacity, about 2,000 acre-feet) 40 miles upstream.

Cooperation.- Results of 24 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0			0	0	3.6	0	438	21	7.1	0	0
2	0			0	.1	1.7	0	176	17	662	0	0
3	0			0	7.4	1.5	0	93	14	716	0	1.3
4	0			0	12	1.1	0	58	7.4	518	0	7.4
5	0			0	18	.4	0	34	4.6	322	0	121
6	0			0	16	.2	.3	20	2.5	72	0	107
7	0			0	*14	.1	.2	16	1.1	32	0	34
8	0			0	11	.1	.1	22	.4	16	0	16
9	0			0	9.6	.1	0	18	.2	8.7	0	8.0
10	160			0	5.1	.1	0	68	.2	4.6	0	2.2
11	234			.1	4.6	.1	2.0	76	0	3.6	0	.5
12	86			0	3.6	0	60	36	33	33	0	.2
13	37			0	2.2	0	76	20	39	75	0	0
14	20			0	*1.3	0	108	12	34	79	0	0
15	9.4			.3	1.1	0	60	7.4	47	34	0	0
16	3.2			.7	3.8	0	31	5.6	74	14	0	0
17	1.1			*3.6	15	0	20	5.1	83	5.6	4.0	0
18	.3			2.8	22	0	14	2.8	50	2.5	4.2	0
19	0			b2.0	20	0	12	1.9	22	.7	0	0
20	0			b1.0	*14	0	9.4	1.1	9.4	.3	6.9	0
21	0			b.5	14	0	4.6	.9	4.6	.8	56	0
22	0			0	13	0	2.8	5.6	2.8	.1	20	0
23	0			0	12	0	.9	6.2	13	0	7.5	0
24	0			0	12	0	0	320	145	0	1.5	276
25	0			0	12	0	0	198	126	0	.2	500
26	0			0	8.7	0	0	111	135	0	0	625
27	0			0	7.4	0	0	111	52	0	0	266
28	0				*5.6	0	73	96	24	0	0	88
29	0			0	4.6	0	1,240	70	15	0	0	47
30	0			0	-	0	1,290	42	8.0	0	0	28
31	0			0	-	0	-	29	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	553.0	234	0	17.8	1,100
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1939	70,841.0	10,500	0	194	140,500
January	11.0	3.6	0	.35	22
February	270.1	22	0	9.31	536
March	9.0	3.6	0	.29	18
April	3,004.3	1,290	0	100	5,960
May	2,100.6	438	.9	67.8	4,170
June	985.2	145	0	32.8	1,950
July	2,607.0	716	0	84.1	5,170
August	100.3	56	0	3.24	199
September	2,127.6	625	0	70.9	4,220
Water year 1939-40	11,768.1	1,290	0	32.2	23,340

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Elm Fork of North Fork of Red River near Mangum, Okla.

Location.- Water-stage recorder, lat. 34°56', long. 99°30', on line between secs. 10 and 11, T. 5 N., R. 22 W., at bridge on U. S. Highway 283, 3 miles north of Mangum, 5 miles downstream from Haystack Creek, and 18 miles upstream from mouth. Datum of gage is 1,530.77 feet above mean sea level (Bureau of Reclamation bench mark).

Drainage area.- 834 square miles.

Records available.- April 1905 to March 1908, March 1930 to September 1931, April 1938 to September 1940.

Extremes.- Maximum discharge during year, 2,090 second-feet Sept. 23 (gage height, 4.98 feet); no flow at times.

1930-31, 1938-40: Maximum discharge, 18,600 second-feet June 16, 1938 (gage height, 9.15 feet), from rating curve extended above 13,000 second-feet; no flow at times.

Maximum stage known, 16.4 feet, in spring of 1921, present datum, from information furnished by State Highway Department.

Remarks.- Records fair except those for periods of ice effect and no gage height record which are poor.

Cooperation.- Results of 44 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.4	*7.0	e.8	14	7.0	1.7	34	11	f0.8	0	2.3
2	0	.2	6.0	9.4	17	6.0	1.7	20	11	1.2	0	.8
3	0	.2	5.5	10	27	5.0	1.2	14	5.5	.6	0	273
4	0	.2	5.0	9.4	24	5.0	1.2	9.4	4.1	.5	0	249
5	0	.5	4.5	S	21	5.0	.8	7.6	3.3	.4	6.2	34
6	0	.8	4.5	5	*17	4.5	6.0	6.5	2.9	f.3	2.5	f7.0
7	0	1.2	4.1	5.5	14	4.1	10	6.0	2.0	f.1	5.0	f3.3
8	6.2	1.4	4.1	6	11	3.7	10	142	1.2	0	1.8	f1.4
9	626	1.7	4.1	13	e.S	3.7	10	62	27	0	.3	f1.0
10	139	2.3	4.5	17	9.4	3.7	9.4	f28	164	0	32	.6
11	26	5.9	4.5	19	7.0	4.1	47	f21	38	11	19	.5
12	12	21	3.7	17	6.5	4.5	62	f15	16	147	10	.4
13	7.0	11	3.7	14	6.5	4.1	21	f12	12	38	5.0	.1
14	4.5	7.6	*3.7	10	6.5	4.1	11	11	129	S.2	6.0	0
15	2.9	5.5	3.7	*11	*6.0	4.5	S.8	a10	51	1.2	11	0
16	2.3	5.0	3.7	11	11	3.7	7.0	aS	23	.5	25	0
17	1.7	4.5	3.3	10	20	3.3	5.5	a7	14	.3	18	0
18	1.2	4.5	3.7	7	23	2.9	4.1	a5	9.4	.1	317	0
19	1.0	4.5	*3.3	4	19	2.6	3.7	a4	8.8	.1	113	0
20	.6	4.1	3.7	4	19	2.6	3.3	2.0	4.5	.1	34	0
21	.6	4.1	4.1	4	20	2.3	2.6	1.7	3.3	7.3	f17	0
22	.6	4.1	4.1	*4.5	19	2.6	2.3	413	9.8	3.0	f10	S.7
23	.5	3.7	9.4	5	*14	2.6	1.4	442	56	.5	6.5	1,050
24	.5	3.7	11	*5.5	13	2.3	1.7	111	225	.1	f4.5	455
25	.5	3.3	13	6	11	2.6	1.2	62	41	0	f3.3	689
26	.4	3.7	15	6.5	10	2.9	1.4	34	18	0	f2.6	90
27	.3	4.1	*14	7	*S.S	2.9	1.0	40	13	0	62	42
28	.2	4.5	13	10	7.6	2.9	606	25	5.0	0	15	23
29	.3	5.0	13	*12	7.0	2.9	S28	20	3.3	0	11	15
30	.3	6.5	11	9.4	-	2.6	94	14	f1.7	0	7.0	10
31	.3	-	S.2	10	-	2.0	-	12	-	0	5.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	834.9	626	0	26.9	1,660
November	125.2	21	.2	4.17	248
December	202.1	15	3.3	6.52	401
Calendar year 1939	30,471.7	5,250	0	83.5	60,440
January	279.0	19	4	9.00	553
February	398.1	27	6.0	13.7	790
March	112.7	7.0	2.0	3.64	224
April	1,765.0	828	.8	58.8	3,500
May	1,599.2	442	1.7	51.6	3,170
June	913.8	225	1.2	30.5	1,810
July	221.3	147	0	7.14	439
August	750.5	317	0	24.2	1,490
September	2,956.1	1,050	0	98.5	5,860
Water year 1939-40	10,157.9	1,050	0	27.8	20,140

*Winter discharge measurement made on this day.
a No gage-height record; discharge interpolated.
f Stilling well shut off by sand bar; discharge computed on basis of estimated gage heights.
Note.- Stage-discharge relation affected by ice Jan. 5-10, 18-28.

Pease River near Crowell, Tex.

Location.- Water-stage recorder and wire-weight gage, lat. 34°06', long. 99°41', at bridge on State Highway 283 (revised), 4 miles upstream from Raggedy Creek, 7 miles upstream from Kansas City, Mexico & Orient Railway bridge, and 8 miles north of Crowell, Foard County. Datum of gage is 1,330.44 feet above mean sea level (Texas State Highway bench mark).

Drainage area.- 2,937 square miles, of which about 533 square miles is probably non-contributing.

Records available.- January 1924 to September 1940.

Average discharge.- 15 years (1924-26, 1927-40), 190 second-feet.

Extremes.- Maximum discharge during year, 24,400 second-feet May 28 (gage height, 7.62 feet); no flow at times.

1924-40: Maximum discharge, 86,000 second-feet Sept. 18, 1936 (gage height, 13.0 feet, from graph based on gage readings), from rating curve extended above 24,000 second-feet by logarithmic plotting; no flow at times.

Maximum stage known, 19.6 feet June 4, 1891.

Remarks.- Records poor. Daily discharge published only to show distribution of flow during year. No diversions. Wire-weight gage read once or more often daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	5.0	5.5	0.5	2.0	0	64	69	0	0	32
2	0	0	4.0	3.5	1.0	1.1	0	34	132	0	0	9.4
3	0	0	3.0	2.5	6.5	.5	0	23	50	0	0	1,750
4	0	0	1.7	2.0	17	.5	0	15	23	0	0	70
5	0	0	1.4	2.5	16	.4	.3	6.0	12	0	340	231
6	0	0	1.1	2.5	14	.4	2.0	4.5	8.2	0	1,250	112
7	0	0	.8	4.0	11	0	3.5	3.0	e.2	0	132	62
8	61	0	.8	4.5	8.8	0	2.5	11	30	0	41	23
9	1,310	0	.4	6.0	6.5	0	1.4	8.2	20	0	17	17
10	294	0	.4	8.8	5.5	0	.8	3.0	10	0	134	12
11	240	0	.4	8.2	4.5	0	37	1.4	5.0	227	42	6.5
12	50	0	.2	6.5	4.0	0	30	.6	3.5	154	18	4.0
13	26	0	.1	4.5	2.5	0	17	.8	3.5	19	12	1.8
14	15	0	0	3.0	1.8	0	7.6	.5	3.0	3.2	442	1.2
15	11	0	0	1.8	1.7	0	2.0	0	16	0	1,230	.4
16	5.5	0	0	1.7	19	0	1.4	0	6.5	0	2,560	.2
17	5.0	0	0	1.6	39	0	.2	0	4.0	0	11,100	.2
18	2.5	0	.1	1.1	39	0	.2	0	1.6	0	7,000	.2
19	1.6	0	.1	.6	28	0	0	0	1.4	0	754	.1
20	1.4	0	0	.6	22	0	0	0	1.0	0	262	0
21	1.0	0	0	.5	17	0	0	.2	.5	0	117	0
22	.4	0	.3	.3	12	0	0	46	.4	0	61	0
23	0	0	1.2	.4	11	0	0	92	.2	0	38	537
24	0	0	1.7	.5	9.4	0	0	28	287	0	29	232
25	0	0	4.0	.3	8.2	0	0	22	96	0	23	74
26	0	0	6.5	.2	6.0	0	0	30	30	0	17	26
27	0	0	9.4	.4	5.5	0	0	62	15	0	9.4	11
28	0	0	11	1.0	4.0	0	2,610	5,120	4.5	0	5.5	7.6
29	0	0	10	1.6	3.5	0	1,120	645	1.8	0	4.0	4.0
30	0	1.0	8.8	1.2	-	0	245	257	.2	0	4.0	.6
31	0	-	7.0	1.0	-	0	-	104	-	0	74	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,024.4	1,310	0	65.3	4,020
November	1.0	1.0	0	.03	2.0
December	79.4	11	0	2.56	157
Calendar year 1939	e0,e04.7	2e,400	0	221	160,300
January	78.8	e.8	.2	2.54	156
February	324.9	39	.5	11.2	644
March	4.9	2.0	0	.16	9.7
April	4,080.9	2,610	0	136	8,090
May	6,601.2	5,120	0	213	13,090
June	843.5	287	.2	28.1	1,670
July	403.2	227	0	13.0	800
August	25,715.9	11,100	0	830	51,010
September	3,225.2	1,750	0	108	6,400
Water year 1939-40	43,383.3	11,100	0	119	86,050

Peak discharge.- Apr. 28 (8:30 p.m.) 12,200 sec.-ft.; May 28 (9 a.m.) 24,400 sec.-ft.; Aug. 17 (4 p.m.) 22,800 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Cache Creek near Walters, Okla.

Location.- Water-stage recorder, lat. 34°20', long. 98°17', in SE¼ sec. 19, T. 2 S., R. 10 W., at bridge on U. S. Highway 70 N., 1¾ miles east of Walters and 12 miles upstream from West Cache Creek.

Drainage area.- 630 square miles.

Records available.- April 1938 to September 1940.

Extremes.- Maximum discharge during year, 2,240 second-feet July 23 (gage height, 18.41 feet); no flow at times.

1938-40: Maximum discharge observed, 5,500 second-feet May 24, 1938 (gage height, 26.02 feet); no flow at times in 1939 and 1940.

Maximum stage known, about 30 feet in 1906, from information furnished by local residents.

Remarks.- Records good except those below 1 second-foot and those for period of incomplete gage heights, which are fair. Flow partially regulated by Lake Lawtonka on Medicine Bluff Creek 39 miles above station (enlarged capacity, 42,300 acre-feet) and Lake Thomas on Little Medicine Bluff Creek 40 miles above station (capacity 8,300 acre-feet).

Cooperation.- Results of 31 discharge measurements furnished by Corps of Engineers, U.S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.2	0.1	*1.7	0.8	c0.4	50	17	12	2.7	0.9
2		0	.1	.1	2.2	.7	c.4	22	12	813	2.0	2.1
3		0	.1	.1	2.3	.7	.4	13	45	1,770	1.8	.8
4		0	.1	.1	2.5	1.2	.2	8.2	30	365	1.8	.7
5		0	.1	.1	3.2	5.0	2.3	5.9	7.3	66	2.5	.1
6		0	.2	.1	5.3	5.6	8.6	3.7	3.7	27	3.5	.1
7		0	.2	.2	*3.2	5.6	6.1	2.7	2.4	15	351	.1
8		0	.2	.1	2.0	5.3	12	2.6	1.9	8.9	124	.4
9		.1	.2	.1	1.5	4.5	10	3.1	1.4	5.6	33	.1
10		.2	.2	.2	1.3	4.3	5.3	2.3	1.1	4.1	16	.1
11		.2	.2	.2	1.0	4.5	6.4	1.9	.7	3.3	8.5	0
12		.1	.2	.2	1.0	3.2	467	1.6	.5	81	5.4	0
13		.1	*.2	1.3	1.0	5.6	202	1.0	.6	290	4.1	0
14		.1	.2	2.2	*.9	4.3	f49	.6	6.1	55	5.4	.1
15		.1	.2	1.4	.9	2.2	f22	.3	.8	27	9.3	.1
16		.2	.1	1.0	2.6	2.0	f12	.2	11	13	15	0
17		.2	.1	*.9	2.9	2.0	f7.8	.1	155	6.8	10	0
18		.2	.1	.7	4.8	1.4	f266	39	37	3.9	4.1	0
19		.3	.1	.5	8.0	1.0	f76	34	9.8	2.6	2.2	0
20		.2	.1	.5	*4.5	.7	f24	14	7.5	1.6	1.3	0
21		.2	.1	.3	2.3	.5	f13	55	4.1	8.8	3.4	0
22		.3	.1		1.6	.3	f11	698	2.4	1,130	2.6	.3
23		.4	.2		1.2	.4	7.8	76	1.8	1,320	1.2	.2
24		.4	.2	b.2	1.0	.4	4.6	43	72	106	.7	.1
25		.3	.2		.9	.3	2.7	23	290	46	.5	.1
26		.2	.2		.9	.3	2.2	15	73	24	.3	0
27		.1	.1	1.2	1.0	.2	1.6	80	20	15	.2	0
28		.1	*.1	1.4	1.0	.4	39	420	8.9	9.8	.1	0
29		.3	.1	1.6	*1.0	.5	64	230	124	6.8	.1	0
30		.3	.1	2.0	-	.4	213	86	46	4.8	.1	0
31		-	.1	2.0	-	c.4	-	36	-	3.5	.1	0

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	4.6	.4	0	.15	9.1
December	4.6	.2	.1	.15	9.1
Calendar year 1939	2,912.4	296	0	7.98	5,780
January	19.6	2.2	.1	.63	39
February	63.7	8.0	.9	2.20	126
March	64.7	5.6	.2	2.09	128
April	1,536.8	467	.2	51.2	3,050
May	1,968.2	698	.1	63.5	3,900
June	993.0	290	.5	33.1	1,970
July	6,245.5	1,770	1.6	201	12,390
August	612.9	351	.1	19.8	1,220
September	6.3	2.1	0	.21	12
Water year 1939-40	11,519.9	1,770	0	31.5	22,850

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.
d Temporary backwater from debris; discharge interpolated.
f Water-stage recorder graph incomplete; discharge computed from partial record and estimated gage heights.

Wichita River at Wichita Falls, Tex.

Location.- Wire-weight gage, lat. 33°54'30", long. 98°32'05", at Tenth Street bridge in Wichita Falls, 4 miles upstream from Fort Worth & Denver City Railway bridge and about 7 miles upstream from mouth of Holliday Creek. Datum of gage is 924.3 feet above mean sea level (general adjustment of 1929).

Drainage area.- 3,105 square miles, of which 1,988 square miles is above Lake Kemp Dam.

Records available.- March 1938 to September 1940. February 1900 to January 1902 and October 1910 to December 1911 (gage heights only) at site 4 miles downstream.

Extremes.- Maximum discharge observed during year, 2,830 second-feet Aug. 15 (gage height, 10.17 feet); minimum observed, 24 second-feet Jan. 31.

1938-40: Maximum discharge observed, 7,240 second-feet June 10, 1938 (gage height, 17.00 feet); minimum observed, 6.0 second-feet Feb. 21, 1939 (ice jam above station).

Maximum discharge known, 50,000 second-feet June 8, 1915 (gage height not determined), computed by Big Wichita River Irrigation Co.; maximum gage height known since completion of Lake Kemp Dam in 1920, 20.6 feet, on present gage, Sept. 16, 1936 (discharge, 10,000 second-feet, from 1938 rating curve extended above 7,200 second-feet).

Remarks.- Records good. Gage read twice daily, more frequently during floods. Flow partly regulated by Lake Kemp (capacity, between 500,000 and 600,000 acre-feet). Since completion of dam in 1920 no flow has been permitted to pass over spillway. Water is diverted at dam (capacity of diversion reservoir, about 40,000 acre-feet), about 50 miles upstream, for irrigation in the vicinity of Wichita Falls. Area available for irrigation, 42,000 acres.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	49	107	49	28	27	47	133	214	52	171	131
2	69	49	79	52	33	28	61	79	164	39	140	191
3	69	51	69	77	56	27	67	58	81	39	140	188
4	67	54	56	67	42	28	65	65	60	36	198	248
5	60	54	49	54	39	31	131	45	44	33	174	234
6	79	60	49	49	39	30	1,200	34	45	52	117	151
7	67	54	45	51	41	31	1,380	30	45	49	140	109
8	65	51	45	42	37	30	359	174	49	47	134	104
9	104	51	47	75	36	31	117	1,690	87	47	161	99
10	97	51	44	56	37	33	90	641	317	52	191	85
11	92	49	42	47	37	45	92	317	191	106	151	90
12	73	63	44	36	37	56	157	191	81	1,890	151	83
13	51	73	42	39	37	51	154	129	67	1,800	164	92
14	51	79	41	44	33	49	97	87	61	419	198	83
15	58	71	36	39	33	44	71	71	263	120	1,780	65
16	56	61	31	36	37	44	54	49	147	73	1,800	61
17	51	61	30	30	63	45	39	45	209	61	1,880	67
18	44	60	33	31	181	45	26	45	112	52	446	65
19	41	54	[illegible]	[illegible]	92	45	31	42	67	63	151	95
20	44	[illegible]	[illegible]	[illegible]	56	47	29	47	49	42	83	115
21	54	47	33	44	41	47	29	67	42	67	73	117
22	61	47	31	44	37	85	33	67	52	67	65	195
23	79	47	41	44	36	164	29	753	49	56	60	164
24	75	47	41	39	33	115	30	410	1,320	51	47	131
25	69	54	42	34	33	77	120	198	1,210	52	34	104
26	73	75	45	36	33	81	77	357	479	52	44	104
27	79	69	49	41	31	77	47	266	397	65	77	69
28	71	61	52	41	28	69	86	761	278	90	51	102
29	60	75	49	36	27	58	312	1,990	107	115	41	65
30	56	109	51	31	-	54	433	777	67	115	85	49
31	51	-	49	26	-	54	-	271	-	140	92	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,039	104	41	65.8	4,040
November	1,775	109	47	59.2	3,520
December	1,442	107	30	46.5	2,860
Calendar year 1939	48,694	2,230	24	133	96,600
January	1,348	77	26	43.5	2,670
February	1,293	181	27	44.6	2,560
March	1,648	164	27	53.2	3,270
April	5,465	1,380	28	182	10,840
May	9,889	1,990	30	319	19,610
June	6,354	1,320	42	212	12,600
July	5,942	1,890	33	192	11,790
August	9,039	1,880	34	292	17,930
September	3,456	248	49	115	6,850
Water year 1939-40	49,690	1,990	26	136	98,540

Little Wichita River near Archer City, Tex.

Location.- Water-stage recorder and concrete control, lat. 33°40', long. 98°36', at bridge on State Highway 79, 1.5 miles downstream from confluence of North and Middle Forks of Little Wichita River and 4.8 miles north of Archer City, Archer County. Datum of gage is 934.72 feet above mean sea level (general adjustment of 1929).

Drainage area.- 496 square miles.

Records available.- May 1932 to September 1940.

Extremes.- Maximum discharge during year, 2,610 second-feet June 17 (gage height, 21.58 feet); no flow at times.
1932-40: Maximum gage height, 25.67 feet Sept. 17, 1936 (discharge not determined); no flow at times.

Remarks.- Records good except those for periods of backwater effect or no gage-height record, which are fair. No diversions above station.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 12-20, Dec. 4-28, Feb. 5-15, Apr. 7, 14-28, May 20, 21, 27, Aug. 17)

4.1	0	4.6	11.7	5.2	74	6.5	273	12.0	900
4.2	.2	4.7	17.8	5.4	105	7.0	318	14.0	1,210
4.3	1.5	4.8	24.3	5.6	145	8.0	418	16.0	1,560
4.4	3.3	4.9	33.5	5.8	195	9.0	525	18.0	1,920
4.5	6.9	5.0	46	6.0	228	10.0	640	20.0	2,290

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	2.5	133	a0.1	0	0.6	0	17	17	2.7	0	
2	0	1.3	38	a.1	0	.3	0	5.1	8.5	1.6	0	
3	0	.8	17	a.1	.9	.2	0	3.1	3.8	1.0	0	
4	0	.2	6.4	a.1	94	.2	0	2.5	2.3	.5	0	
5	0	.1	3.1	a.1	18	.1	0	1.5	1.2	.3	0	
6	0	.1	1.8	a.1	9.0	.1	731	.6	.8	.2	0	
7	0	.1	1.2	a0	0	0	c1,300	.3	.4	.1	0	
8	0	.1	.9	a0	2.3	0	837	440	.4	.1	0	
9	.8	.1	.8	a0	1.2	0	53	1,530	.2	0	0	
10	170	0	.4	a0	.6	0	19	1,570	71	0	0	
11	86	0	.2	a0	.4	0	195	284	123	0	0	
12	6.0	0	.3	a0	.2	0	353	22	23	867	0	
13	2.1	0	.2	a0	.1	0	78	9.0	50	1,620	0	
14	.9	0	.2	a0	.1	0	24	f4.1	46	1,240	0	
15	.4	0	.1	0	.1	0	17	a2.7	183	73	83	
16	.2	0	.1	0	1.0	0	3.8	a1.5	701	20	1,040	
17	.1	0	.1	0	283	0	1.9	a.6	2,460	8.5	c1,020	
18	.1	0	.1	0	210	0	.9	a.2	2,240	3.8	252	
19	.1	0	.1	0	50	0	.2	a.1	287	2.1	84	
20	0	0	0	0	20	0	.1	f0	60	1.5	26	
21	0	0	0	0	10	0	0	.1	63	1.2	11	
22	0	0	0	0	4.8	0	0	a.1	41	.9	4.4	
23	0	0	0	0	2.7	0	0	a320	15	.4	2.5	
24	0	0	0	0	1.6	0	0	a455	369	.1	1.5	
25	0	0	0	0	.9	0	0	a308	1,210	.1	.8	
26	703	0	0	0	.5	0	0	a121	828	0	.4	
27	1,740	0	.1	0	.4	0	0	f178	61	0	.2	
28	699	0	.1	0	.8	0	0	391	21	0	.1	
29	24	0	a.1	0	.5	0	42	1,220	9.5	0	.1	
30	7.3	87	a.1	0	-	0	34	847	5.1	0	.1	
31	3.6	-	a.1	0	-	0	-	48	-	0	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	3,443.6	1,740	0	111	6,830
November	92.3	87	0	3.08	183
December	204.5	133	0	6.60	406
Calendar year 1939	15,161.3	1,740	0	41.5	30,080
January	.6	.1	0	.02	1.2
February	717.9	283	0	24.8	1,420
March	1.5	.6	0	.05	3.0
April	3,689.9	1,300	0	123	7,320
May	7,782.5	1,570	0	251	15,440
June	8,901.2	2,460	.2	297	17,660
July	3,845.1	1,620	0	124	7,630
August	2,526.1	1,040	0	81.5	5,010
September	0	0	0	0	0
Water year 1939-40	31,205.2	2,460	0	85.3	61,900

Peak discharge.- Oct. 27 (5 p.m.) 1,880 sec.-ft.; May 10 (4 a.m.) 1,780 sec.-ft.; June 17 (2 p.m.) 2,610 sec.-ft.

a No gage-height record; discharge computed from graph based on range in stage, engineer's notes and weather records.
c Stage-discharge relation affected by backwater from tributary inflow downstream.
f Discharge computed on basis of partial gage-height record.

Washita River near Clinton, Okla.

Location.- Wire-weight gage, lat. 35°31', long. 98°57', in SW¼SW¼ sec. 12, T. 21 N., R. 17 W., at Chicago, Rock Island & Pacific Railway bridge, a quarter of a mile northeast of Clinton and a quarter of a mile downstream from Beaver Creek. Datum of gage is 1,463.05 feet above mean sea level (general adjustment of 1929). Water-stage recorder at site three-quarters of a mile upstream from Beaver Creek prior to Mar. 26, 1940, when it was temporarily removed due to highway bridge construction. Staff gage at same site and datum as water-stage recorder, Mar. 26 to May 7, 1940. Datum of gage was 1,467.60 feet above mean sea level (general adjustment of 1929).

Drainage area.- 2,070 square miles; at site of water-stage recorder, 1,990 square miles.

Records available.- October 1935 to September 1940.

Extremes.- Maximum discharge during year, 15,000 second-feet Apr. 11 (gage height, 25.5 feet, from floodmarks); minimum, 1.7 second-feet Oct. 27 (gage height, 4.86 feet).
1935-40: Maximum discharge observed, 26,900 second-feet June 5, 1936 (gage height, 28.50 feet), from rating curve extended above 13,000 second-feet; minimum discharge, 1.7 second-feet Sept. 29, 1939, Oct. 27, 1940.

Remarks.- Records good except those above 3,000 second-feet, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Gage read twice daily.

Cooperation.- Results of 38 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	2.2	6.0	9.2	10	7.4	4.3	90	20	109	2.7	19
2	2.0	2.2	5.8	7.4	*14	6.6	4.3	58	20	5,280	1.9	27
3	2.1	2.3	5.8	6.8	15	6.3	4.3	42	19	1,580	2.0	31
4	2.2	2.6	*5.6	6.3	17	6.3	4.7	35	17	162	4.2	163
5	2.0	3.1	5.6	4.7	18	6.3	4.1	27	24	62	6.0	13
6	1.9	3.3	5.6	3.7	15	6.0	6.8	26	16	39	434	5.5
7	1.9	3.6	5.6	3.1	*13	5.8	5.3	a21	164	26	281	26
8	2.3	3.7	5.6	2.5	*10	5.6	3.5	a18	390	18	55	44
9	32	4.1	5.8	*2.2	11	5.4	6.8		90	14	34	18
10	22	13	5.8	2.0	9.2	5.4	625		40	11	23	11
11	8.4	23	*5.8	3.7	9.2	5.6	8,690	a95	29	10	16	10
12	6.0	6.5	5.4	5.0	*9.2	5.6	2,780		65	10	15	8.7
13	5.0	11	5.2	7.1	8.0	5.4	235		33	8.4	15	7.3
14	4.3	8.5	5.2	6.5	7.7	5.2	91	25	66	8.4	13	5.8
15	3.7	6.8	5.0	6.0	7.7	5.0	52	20	22	7.6	10	5.1
16	3.4	6.3	5.0	5.2	8.0	4.7	40	519	18	5.8	8.4	5.3
17	3.1	6.0	5.2	6.3	11	4.7	29	833	17	6.2	8.4	4.4
18	2.9	6.0	*5.0	5.2	10	4.5	25	155	14	4.9	9.7	4.0
19	2.6	5.8	4.7	4.0	11	4.7	22	333	14	4.9	18	4.0
20	2.5	5.6	5.0	3.6	11	4.5	21	109	12	4.2	7.3	4.0
21	2.5	5.6	5.2	3.2	9.2	4.5	15	49	11	3.2	5.1	3.2
22	2.3	5.6	5.2	2.8	9.5	4.5	14	37	10	4.2	4.0	20
23	2.2	5.4	6.6	*3.1	*9.2	4.7	14	575	9.7	3.4	3.2	30
24	2.0	5.4	7.4	2.8	8.8	4.5	14	158	8.2	184	2.9	183
25	1.9	5.2	7.1	2.5	8.5	4.7	12	86	21	62	2.3	47
26	1.9	5.4	8.0	2.3	*8.8	4.5	12	62	12	34	70	22
27	1.8	5.4	*5.5	2.3	8.5	5.2	12	45	17	15	1,270	12
28	1.8	5.4	6.0	3.7	8.2	5.2	57	37	11	9.0	178	9.4
29	1.8	5.8	5.4	5.0	8.0	5.2	1,090	32	7.9	5.5	51	9.0
30	1.8	6.0	6.3	5.8	-	5.0	251	27	6.2	3.8	32	8.4
31	2.0	-	6.8	7.1	-	4.5	-	23	-	3.5	23	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	134.3	32	1.8	4.33	266
November	182.8	23	2.2	6.09	363
December	179.2	8.0	4.7	5.78	355
Calendar year 1939	40,296.9	2,450	1.8	110	79,920
January	143.2	9.2	2.0	4.62	284
February	304.7	18	7.7	10.5	604
March	163.5	7.4	4.5	5.27	324
April	14,162.1	8,690	4.1	472	28,090
May	3,918	833	18	125	7,770
June	1,225.0	390	6.2	40.8	2,430
July	7,700.1	5,280	3.2	248	15,270
August	2,617.1	1,270	1.9	84.4	5,190
September	761.1	183	3.2	25.4	1,510
Water year 1939-40	31,491.1	8,690	1.8	86.0	62,450

*Winter discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station near Carnegie.
Note.- Stage-discharge relation affected by ice Jan. 2-28. Intakes to gage well clogged Oct. 5-11; discharge computed on basis of at least once-daily readings of outside gage.

Washita River at Carnegie, Okla.

Location.- Water-stage recorder, lat. 35°07', long. 98°36', on line between secs. 5 and 6, T. 7 N., R. 13 W., at bridge on U. S. Highway 54, 0.3 mile upstream from power dam of Southwestern Light and Power Co. and half a mile north of Carnegie. Datum of gage is 1,273.80 feet above mean sea level (general adjustment of 1929).

Drainage area.- 3,170 square miles.

Records available.- November 1937 to September 1940.

Extremes.- Maximum discharge during year, 4,250 second-feet July 4 (gage height, 9.01 feet); minimum, 6.8 second-feet Nov. 3.
1937-40: Maximum discharge, 7,080 second-feet May 23, 1938 (gage height, 11.14 feet); minimum, that of Nov. 3, 1939.
Maximum stage known, 18.4 feet, date unknown.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Records of daily discharge include occasional flow through hydroelectric plant.

Cooperation.- Results of 43 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	7.0	16	19	22	20	15	928	72	51	48	79
2	8.0	7.0	16	18	20	17	14	270	64	2,320	44	64
3	8.0	6.9	16	15	21	17	14	157	59	3,250	42	77
4	8.0	7.0	16	15	24	17	14	125	53	4,050	44	79
5	8.4	7.6	16	a19	30	17	13	102	50	2,250	176	95
6	9.2	8.0	15	a18	29	17	18	89	46	366	247	154
7	10	8.4	14	a12	31	17	21	85	50	221	129	316
8	11	9.2	14	a11	31	17	23	79	53	163	607	189
9	17	10	14	a12	30	17	19	79	368	136	280	122
10	20	11	14	a16	24	16	18	133	298	122	128	77
11	20	13	15	17	24	17	789	179	139	109	88	64
12	30	15	14	19	23	17	2,350	186	86	112	69	55
13	31	14	14	20	20	17	3,150	131	62	139	69	46
14	21	20	14	17	19	16	2,680	95	102	87	66	43
15	16	25	14	17	20	16	344	81	74	81	55	39
16	14	20	14	18	21	16	182	175	77	74	55	36
17	14	17	15	20	25	17	131	217	66	72	51	34
18	13	15	15	a17	27	16	102	729	51	70	200	32
19	11	14	15	a12	25	16	87	488	46	66	59	31
20	10	14	15	a12	23	15	77	243	43	66	43	30
21	10	14	15	a12	23	15	68	295	40	303	70	31
22	10	14	16	a12	21	16	64	157	36	174	53	36
23	9.2	14	17	a12	20	15	59	112	34	98	43	40
24	7.8	14	18	a11	21	14	55	415	37	a74	37	38
25	7.2	14	19	a10	20	14	53	519	37	a72	36	63
26	7.4	14	19	a9	20	14	51	210	36	a71	90	176
27	7.2	15	a18	a9	20	14	50	148	30	139	173	85
28	7.4	15	a14	a11	20	15	237	125	30	95	704	57
29	7.4	15	a12	a15	20	15	1,860	107	32	72	790	44
30	7.0	16	15	19	-	15	2,570	90	34	57	164	32
31	6.9	-	18	23	-	15	-	81	-	51	107	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	374.7	31	6.9	12.1	743
November	394.1	25	6.9	13.1	782
December	477	19	12	15.4	946
Calendar year 1939	57,515.8	2,850	6.9	158	114,100
January	467	23	9	15.1	926
February	674	31	19	23.2	1,340
March	497	20	14	16.0	986
April	15,128	3,150	13	504	30,000
May	6,830	928	79	220	13,550
June	2,205	368	30	73.5	4,370
July	15,011	4,050	51	484	29,770
August	4,767	790	36	154	9,460
September	2,264	316	30	75.5	4,490
Water year 1939-40	49,088.8	4,050	6.9	134	97,360

Peak discharge.- Apr. 14 (5:30 a.m.) 3,790 sec.-ft.; July 2 (4 p.m.) 3,150 sec.-ft.; July 4 (9 a.m.) 4,250 sec.-ft.

a No water-stage recorder graph; discharge computed on basis of twice-daily readings of auxiliary staff gage below dam except for the period Jan. 21-29 when discharge was computed on basis of two discharge measurements and weather records.

9-232 February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geolc cal Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-163005

Washita River near Tabler, Okla.

Location.- Water-stage recorder, lat. 34°58', long. 97°51', at county highway bridge in SW¼SW¼ sec. 21, T. 6 N., R. 6 W., 1 mile downstream from Little Washita River, 5 miles south of Tabler, and 7½ miles upstream from Winter Creek. Prior to June 7, 1940, wire-weight gage at same site and datum.

Drainage area.- 4,940 square miles.

Records available.- April to September 1940.

Extremes.- Maximum discharge during period, 3,380 second-feet July 5 (gage height, 13.54 feet); minimum daily, 38 second-feet.

Maximum stage known, 30.6 feet Apr. 7, 1927 (from highwater mark pointed out by observer), partly caused by release of ponded water by failure of railroad embankment on Little Washita River.

Remarks.- Records good except those prior to June 7, 1940, which are fair. Gage read twice daily prior to June 7. Flow regulated by power plant at Chickasha, 8 miles above station.

Cooperation.- Results of 19 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	1,610	166	90	78	425
2							-	1,970	131	1,660	83	208
3							-	1,070	145	1,750	71	137
4							-	540	120	2,780	65	122
5							-	330	131	3,060	87	93
6							-	267	128	3,170	38	178
7							-	238	92	2,320	102	180
8							-	167	83	695	467	197
9							-	177	249	433	302	173
10							92	145	122	311	202	278
11							1,170	148	159	276	444	188
12							478	148	212	796	293	157
13							668	144	303	349	141	96
14							1,940	198	171	220	109	92
15							2,470	180	170	173	121	64
16							1,930	188	269	180	129	74
17							763	146	257	153	132	71
18							380	386	137	118	77	51
19							239	378	150	113	82	44
20							199	409	239	98	71	52
21							179	974	93	115	150	46
22							143	1,230	50	235	90	56
23							176	552	97	433	68	43
24							139	236	204	400	69	54
25							137	444	113	243	60	59
26							157	303	84	140	67	78
27							141	483	79	119	60	47
28							179	399	101	96	52	52
29							365	255	87	84	93	102
30							207	197	41	95	179	126
31							-	200	-	115	700	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October					
November					
December					
Calendar year					
January	-	-	-	-	-
February	-	-	-	-	--
March	-	-	-	-	-
April 10-30	12,152	2,470	92	579	24,100
May	14,112	1,970	144	455	27,990
June	4,383	303	41	146	8,690
July	20,622	3,170	84	672	41,300
August	4,662	700	38	151	9,290
September	3,543	425	43	118	7,030
The period	-	-	-	-	118,400

Washita River near Pauls Valley, Okla.

Location.- Water-stage recorder, lat. 34°46', long. 97°15', near center of sec. 1, T. 3 N., R. 1 W., 2½ miles northwest of Pauls Valley, 5½ miles downstream from Owl Creek and 7½ miles upstream from Washington Creek. Datum of gage is 856.14 feet above mean sea level (general adjustment of 1929).

Drainage area.- 5,390 square miles.

Records available.- March 1938 to September 1940. May to December 1899 (gage heights only) at site about 9 miles downstream.

Extremes.- Maximum discharge during year, 7,150 second-feet July 4 (gage height, 23.42 feet); minimum discharge observed, 22 second-feet Oct. 22 (gage height, 3.93 feet, from observer's reading).

1938-40: Maximum discharge, 8,880 second-feet May 23, 1938 (gage height, 24.92 feet, from floodmarks); minimum, that of Oct. 22, 1939.

Remarks.- Records good except those for period of ice effect, which are fair. Flow slightly regulated during low water by power plant at Chickasha, 82 miles above station.

Revisions.- Revised figures of discharge, in second-feet, for Mar. 30 to Apr. 3, 1938 superseding those published in Water-Supply Paper 857, are given herein.

Mar. 30	6,570	Apr. 1	1,140	Apr. 3	884
31	2,240	2	1,010		

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
Mar. 29-31	16,520	7,710	2,240	5,507	32,770
April	20,676	-	-	689	41,010
Period Mar. 29 to Sept. 30, 1938	-	-	-	-	370,800

Cooperation.- Results of 52 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	30	44	73	*82	69	77	276	245	135	115	109
2	27	29	41	57	82	81	79	616	229	4,110	133	465
3	24	28	77	68	83	91	61	1,720	206	6,480	142	397
4	24	28	69	51	89	89	50	1,410	185	6,570	108	316
5	24	27	51	77	101	82	86	735	172	3,280	100	224
6	30	26	*41	55	114	81	72	501	161	3,150	100	164
7	47	26	63	38	*117	73	115	386	152	3,150	99	134
8	28	28	60	31	*101	81	129	345	147	2,860	98	110
9	33	30	69	68	101	81	95	442	147	1,410	79	172
10	168	36	50	*63	102	75	115	316	165	658	277	172
11	549	47	49	61	102	76	328	214	288	514	325	185
12	249	35	50	59	101	77	886	199	217	539	234	214
13	120	32	*59	76	88	65	1,010	172	333	787	382	221
14	68	31	50	80	*89	71	465	178	316	661	355	152
15	51	30	51	61	82	75	1,260	160	306	430	234	148
16	42	30	50	53	97	72	2,010	172	470	306	199	108
17	37	30	50	*87	112	54	2,280	221	430	270	172	102
18	34	30	*54	b52	119	82	1,320	652	489	245	165	90
19	30	30	*47	b40	138	70	812	268	306	245	165	80
20	27	36	59	b45	144	66	501	442	674	221	140	82
21	26	42	52	b37	*126	52	358	376	270	199	92	77
22	41	33	*56	b44	112	72	297	2,280	229	275	78	71
23	44	31	59	b55	114	68	262	1,790	196	214	79	64
24	31	46	56	b49	107	75	237	960	992	408	115	74
25	26	47	58	b*55	106	88	206	565	355	477	102	70
26	51	41	45	b41	*106	62	192	442	237	430	91	58
27	209	51	77	b54	102	75	172	489	195	335	84	58
28	132	38	59	b41	92	56	204	565	159	229	79	64
29	103	57	64	b51	87	70	335	565	351	164	78	66
30	67	59	77	74	-	58	229	442	205	146	79	72
31	42	-	56	82	-	78	-	325	-	129	72	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,420	549	24	78.1	4,800
November	1,064	59	26	35.5	2,110
December	1,743	77	41	56.2	3,460
Calendar year 1939	112,605	4,030	24	309	223,400
January	1,778	87	31	57.4	3,530
February	2,996	144	82	103	5,940
March	2,285	89	52	73.7	4,530
April	14,233	2,280	50	474	28,230
May	18,224	2,280	160	588	36,150
June	8,827	992	147	294	17,510
July	39,027	6,570	129	1,259	77,410
August	4,571	382	72	147	9,070
September	4,319	465	58	144	8,570
Water year 1939-40	101,487	6,570	24	277	201,300

Peak discharge.- May 22 (8 p.m.) 3,590 sec.-ft.; July 2 (10 p.m.) 6,460 sec.-ft.; July 4 (9 a.m.) 7,150 sec.-ft.; July 8 (2:30 a.m.) 3,200 sec.-ft.

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- Water-stage recorder graph fragmentary Oct. 2-19, Oct. 26 to Nov. 1, Jan. 4-10, Apr. 18-22, Apr. 29 to May 2, May 5-6, 19, 20, May 23 to June 3, June 10, 15, July 10 to Aug. 10, Aug. 12, Aug. 14 to Sept. 1; discharge computed on basis of fragmentary recorder graph and at least once-daily readings of wire-weight gage.

400452 O - 41 - 20

Washita River near Durwood, Okla.

Location.- Water-stage recorder, lat. 34°14', long. 96°58', in center of sec. 3, T. 4 S., R. 3 E., at Mulkey Bridge on State Highway 18, 1½ miles downstream from Caddo Creek and 3 miles north of Durwood. Datum of gage is 650.57 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.- 7,310 square miles.

Records available.- August 1928 to September 1940.

Average discharge.- 12 years, 1,250 second-feet.

Extremes.- Maximum discharge during year, 12,300 second-feet July 3 (gage height, 23.63 feet); minimum, 20 second-feet Jan. 8 (gage height, 2.95 feet), caused by ice effect above station.

1928-40: Maximum discharge, 68,000 second-feet Feb. 17, 1938 (gage height, 41.20 feet, from floodmarks); minimum discharge observed, 17 second-feet Aug. 14, 1934 (gage height, 2.77 feet).

Maximum stage known, about 42 feet sometime in May 1908.

Remarks.- Records good except those for periods of rapidly changing stage, which are fair.

Cooperation.- Results of 23 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	106	87	87	60	121	76	487	884	455	250	117
2	35	80	87	94	87	106	73	378	677	2,280	231	106
3	41	54	73	73	117	102	83	393	564	7,760	199	168
4	43	48	64	91	133	98	91	1,500	477	12,000	199	455
5	35	39	54	80	133	98	239	1,530	444	11,000	199	434
6	35	43	73	83	129	98	2,060	1,030	392	6,030	181	392
7	48	43	76	64	137	102	3,700	613	355	3,780	159	265
8	33	43	70	37	145	91	1,200	1,460	314	3,500	155	212
9	156	41	57	60	145	91	470	4,840	3,040	3,120	151	181
10	598	45	73	70	137	94	191	1,890	4,070	1,810	151	146
11	121	48	76	87	121	102	1,000	880	6,440	1,040	142	181
12	248	51	83	94	125	109	1,710	544	2,070	1,240	304	194
13	372	60	76	87	121	102	1,190	393	1,320	1,200	345	212
14	230	57	67	83	121	94	1,250	336	2,170	946	294	231
15	153	54	73	76	113	87	713	291	1,100	915	796	241
16	98	51	73	91	177	73	940	277	1,220	654	1,270	190
17	87	57	76	94	571	80	2,110	705	5,720	542	1,990	177
18	73	57	73	67	509	83	2,280	3,760	5,990	450	544	146
19	60	54	70	39	230	80	1,470	596	3,220	402	450	130
20	57	48	64	45	157	70	790	498	1,430	381	345	121
21	54	48	70	57	258	87	642	1,090	1,170	3,580	274	109
22	51	48	70	60	221	80	625	9,380	824	2,980	236	117
23	45	48	94	64	191	83	399	8,180	575	1,300	181	117
24	41	64	94	48	174	76	341	3,660	3,170	712	159	109
25	43	64	91	48	166	91	316	1,620	3,060	581	159	106
26	106	64	87	64	161	91	272	977	1,200	592	190	94
27	370	64	83	64	153	91	239	2,670	654	558	168	90
28	481	60	83	67	137	102	253	8,240	536	498	155	87
29	357	64	70	67	137	87	1,350	6,320	444	402	146	76
30	258	102	91	67	-	87	820	2,690	548	335	130	83
31	125	-	83	70	-	73	-	1,270	-	284	121	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	4,493	598	33	145	8,910
November	1,705	106	39	56.8	3,380
December	2,361	94	54	76.2	4,680
Calendar year 1939	135,806	3,760	33	372	269,400
January	2,178	94	37	70.3	4,320
February	5,066	571	60	175	10,050
March	2,829	121	70	91.3	5,610
April	26,893	3,700	73	896	53,540
May	68,498	9,380	277	2,210	135,900
June	54,078	6,440	314	1,803	107,300
July	71,327	12,000	284	2,301	141,500
August	10,274	1,990	121	331	20,380
September	5,287	455	76	176	10,490
Water year 1939-40	254,989	12,000	33	697	505,900

Peak discharge.- May 22 (7 a.m.) 11,700 sec.-ft.; May 28 (2:30 p.m.) 11,200 sec.-ft.; June 11 (5 a.m.) 8,120 sec.-ft.; June 18 (12:30 a.m.) 7,580 sec.-ft.; July 3 (11:45 p.m.) 12,300 sec.-ft.; July 21 (7 p.m.) 6,500 sec.-ft.

Note.- Water-stage recorder graph incomplete or missing Oct. 10-14, 26, 28, 29, Nov. 28 to Dec. 1, Feb. 16-26, Apr. 9 to May 8, May 21, 24-27, May 30 to June 1, June 13, 19-25, July 1, 2, 13, Aug. 21, 22; discharge computed on basis of available incomplete recorder graph and at least once-daily readings of wire-weight gage.

Caddo Creek near Ardmore, Okla.

Location.- Wire-weight gage, lat. 34°15', long. 97°06', on west line of NW¼ sec. 4, T. 4 S., R. 2 E., 5 miles north of Ardmore and 10 miles upstream from mouth. Datum of gage is 709.48 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Prior to July 23, 1936, staff gage at same site and datum.

Drainage area.- 280 square miles.

Records available.- June 1936 to September 1940.

Extremes.- Maximum and minimum discharges for water years 1936 to 1940 are contained in the following table:

Water year	Maximum			Minimum observed		
	Date	Discharge (sec.-ft.)	Gage height (feet)	Date	Discharge (sec.-ft.)	Gage height (feet)
1935-36*	Sept.27	3,590	†22.22	Sept.13,14	0.6	0.60
1936-37*	Apr. 21	5,270	†23.3	July 16,17	1.6	.96
1937-38*	Feb. 16	26,000	†27.94	-	(**)	-
1938-39	June 12	710	‡11.79	-	(**)	-
1939-40	May 22	10,700	‡25.16	-	(**)	-

*Partial year. ‡From graph based on gage readings.
†From reading at crest of rise. **No flow at times.

1936-40: Maximum discharge, 26,000 second-feet Feb. 16, 1938 (gage height, 27.94 feet, from reading at flood crest), from rating curve extended above 10,000 second-feet; no flow at times.

Remarks.- Records for water year 1939-40 fair. Gage read twice daily, oftener during rises.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from June 1936 to September 1939 collected and computed by Corps of Engineers, U. S. Army, and prepared for publication by Geological Survey.

Discharge, in second-feet, 1936-40

1936

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	6.3	1.7	0.8
2									-	70	1.8	.8
3									-	4.8	1.8	.9
4									-	2.8	1.7	1.0
5									32	2.8	1.7	1.0
6									361	3.7	1.7	1.0
7									247	2.8	1.9	.9
8									51	2.8	1.7	.9
9									29	2.6	1.7	.9
10									19	2.4	1.7	.8
11									16	2.4	1.8	.7
12									15	2.0	1.8	.7
13									13	2.0	1.7	.6
14									12	2.2	1.7	.6
15									11	2.0	1.6	.8
16									9.5	2.0	1.6	1.3
17									8.7	2.0	1.5	99
18									8.7	1.7	1.5	601
19									7.3	1.7	1.4	403
20									6.0	1.7	1.3	32
21									6.0	2.2	1.2	6.5
22									4.8	1.7	1.1	318
23									4.8	2.1	1.0	52
24									4.8	2.2	1.0	132
25									4.8	2.2	.9	128
26									4.8	2.0	1.0	246
27									3.8	1.8	.9	2,620
28									3.8	1.7	.9	2,320
29									3.0	1.7	.8	495
30									3.0	1.7	.8	172
31									-	1.7	.8	-

Discharge, in second-feet, of Caddo Creek near Ardmore, Okla., 1936-40--Continued

1936-37

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	116	42	7.0	6.5	99	12	41	50	13	1.9		
2	114	37	7.5	6.5	94	12	35	47	9.0	1.7		
3	84	32	9.0	6.5	69	12	99	38	8.4	1.7		
4	89	28	8.2	6.5	57	151	404	38	8.1	2.0		
5	42	24	8.2	6.0	61	62	116	35	35	1.7		
6	33	21	9.0	6.5	49	44	69	41	17	1.6		
7	61	19	9.0	6.5	49	117	61	35	14	2.0		
8	268	16	7.5	7.5	42	56	50	34	13	2.3		
9	34	16	7.0	7.5	34	50	47	30	14	3.0		
10	30	14	7.0	7.5	32	41	41	34	15	3.3		
11	24	12	7.0	7.0	30	38	38	65	15	3.6		
12	18	11	6.5	6.5	27	2,460	38	56	12	2.8		
13	15	10	5.5	9.0	26	843	35	52	9.0	2.1		
14	12	9.7	5.5	15	26	436	35	38	7.3	2.0		
15	9.8	9.1	5.5	13	22	268	34	26	6.3	1.7		
16	9.0	8.6	5.5	9.8	20	182	30	20	7.3	1.6		
17	8.4	8.3	5.5	12	20	140	28	18	10	1.6		
18	7.5	7.8	5.5	12	18	110	28	17	8.1	-		
19	7.8	7.6	5.5	11	18	98	27	15	6.8	-		
20	6.0	7.3	5.5	10	20	73	684	14	5.3	-		
21	5.0	7.1	5.5	10	16	61	3,160	12	4.3	-		
22	127	7.0	5.5	8.2	14	53	436	19	4.8	-		
23	290	9.0	5.4	8.2	13	50	180	20	3.8	-		
24	67	7.5	5.5	11	13	59	116	17	3.3	-		
25	936	5.7	5.5	10	12	88	92	15	3.0	-		
26	368	5.7	6.0	11	14	61	73	12	2.9	-		
27	127	5.7	9.0	42	17	57	65	9.8	2.6	-		
28	79	5.7	7.5	212	14	44	57	8.7	2.3	-		
29	61	5.9	6.5	300	-	41	53	8.1	2.2	-		
30	54	6.3	6.5	214	-	47	44	9.7	2.0	-		
31	46	-	6.5	142	-	44	-	10	-	-		

Note.- Backwater from trash Oct. 30 to Nov. 30, Dec. 15-19; discharge from hydrograph based on seven measurements and prior and subsequent records.

1937-38

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	5.0	16	35	73	233	65	18	5.6	1.7	0.7
2		-	5.2	22	30	73	203	61	15	4.3	1.6	.7
3		-	7.7	18	28	69	147	50	14	4.0	1.2	.6
4		-	6.9	15	26	57	128	71	12	3.4	1.0	.6
5		-	7.3	13	26	61	116	242	11	2.8	.9	.6
6		-	6.8	15	23	53	98	61	9.5	2.6	.8	.5
7		-	6.3	13	22	50	98	78	11	2.1	.7	.5
8		-	6.3	13	20	44	104	304	15	2.0	.7	.5
9		-	5.9	11	18	41	92	64	364	1.9	.7	.4
10		-	6.0	12	18	44	73	41	338	9.6	.7	.1
11		-	6.4	10	17	44	65	34	52	5.2	.7	0
12		4.0	6.8	9.7	16	41	61	30	30	3.3	.6	0
13		4.2	7.1	8.6	16	35	53	162	23	2.4	.6	0
14		4.0	20	9.5	25	32	53	61	18	2.0	.7	.8
15		4.4	98	9.2	1,690	32	184	44	14	1.6	.7	.7
16		3.8	207	8.4	15,800	31	170	35	12	1.6	.6	.6
17		4.2	375	8.4	11,900	31	69	34	15	1.9	17	.4
18		3.8	80	8.4	2,960	29	53	29	12	1.9	4.7	0
19		3.6	44	8.0	530	28	50	29	9.7	1.8	1.8	0
20		4.3	32	8.0	361	31	47	110	8.7	2.0	1.2	0
21		4.6	26	8.4	281	24	50	50	7.6	1.7	.9	0
22		5.0	24	10	249	113	77	92	6.8	10	.8	0
23		5.0	22	1,240	233	39	65	617	6.3	3.9	.8	0
24		5.3	19	700	189	30	47	460	5.6	2.3	.7	0
25		5.4	17	156	134	22	41	75	5.7	3.7	.7	0
26		5.8	16	82	110	260	38	30	8.0	56	.7	0
27		5.8	18	61	92	553	429	15	7.7	7.6	.7	0
28		5.7	16	61	82	1,960	828	38	13	3.2	.8	0
29		5.3	22	87	-	4,500	148	30	8.1	2.2	.8	0
30		5.6	20	65	-	780	77	24	6.3	3.0	.7	0
31		-	18	44	-	337	-	20	-	2.1	.6	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Discharge, in second-feet, of Caddo Creek near Ardmore, Okla., 1936-40--Continued

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	1.9	2.7	19	2.3	0.9	1.1	0	0.5
2				0	2.0	2.4	15	2.1	.8	210	0	0
3				0	1.9	2.3	12	2.0	.8	278	0	0
4				0	1.8	2.1	11	1.8	.7	286	0	0
5				0	1.7	2.0	26	1.6	.6	27	0	0
6				0	1.6	1.8	100	1.5	.6	7.8	0	0
7				0	1.4	1.8	61	1.6	.1	3.6	0	0
8				77	1.4	1.6	32	11	0	2.0	0	0
9				242	1.6	1.7	20	7.5	0	1.5	0	0
10				11	2.1	1.8	15	3.1	0	1.0	0	0
11				6.6	1.9	1.9	14	2.2	0	.7	0	0
12				4.6	1.6	1.6	9.4	1.8	337	.5	0	0
13				3.1	1.5	1.5	8.0	2.9	177	.4	0	0
14				2.7	1.4	1.4	12	5.8	24	.4	0	0
15				2.3	1.3	1.3	12	2.6	6.8	.2	2.2	0
16				2.0	1.2	1.2	16	2.0	3.0	0	1.2	0
17				1.9	1.4	1.2	13	1.4	1.8	0	.7	0
18				2.2	1.6	1.2	9.7	35	1.2	0	.1	0
19				2.0	3.3	1.1	6.1	9.1	2.0	0	0	0
20				1.8	4.0	1.1	7.3	5.6	21	0	0	0
21				1.9	2.8	1.0	6.4	3.0	45	0	0	0
22				1.6	2.0	3.1	6.0	2.1	5.6	0	7.4	0
23				1.2	1.8	3.9	5.7	1.7	9.2	0	136	8
24				2.0	1.7	2.0	5.3	1.3	7.2	0	2.0	0
25				2.1	1.8	126	5.1	1.0	36	0	.9	0
26				1.8	1.7	30	4.6	1.2	9.7	0	.6	0
27				1.8	2.1	37	35	1.1	4.3	1.8	.5	0
28				1.7	2.3	319	13	2.8	3.3	.9	6.6	0
29				1.8	-	48	4.5	2.3	3.8	.1	5.6	0
30				1.9	-	32	2.7	1.2	2.7	0	1.5	0
31				2.0	-	29	-	1.0	-	0	.7	-

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	3.5	0.5	0.1	2.7	1.0	20	187	35	9.1	2.8
2	0	0	3.0	.3	0	2.4	1.0	13	131	160	8.0	2.3
3	0	0	3.0	.3	.6	2.1	.8	9.8	105	828	7.3	2.1
4	0	0	3.0	.3	2.1	1.8	.8	8.0	81	1,150	6.7	2.0
5	0	0	3.5	.3	1.2	1.7	316	6.6	129	191	4.2	2.3
6	0	0	3.2	.8	.8	1.8	1,370	4.9	102	81	3.5	4.0
7	0	0	3.2	1.0	.6	1.6	1,160	4.2	152	54	3.1	4.2
8	0	0	3.1	.9	.6	1.5	209	191	54	39	2.8	2.9
9	481	0	2.9	.8	.4	1.2	82	1,850	947	31	2.3	2.4
10	46	0	2.9	.8	.4	1.3	50	309	5,830	26	1.9	1.7
11	2.9	0	3.0	1.1	.6	1.2	255	97	2,000	21	1.8	1.3
12	1.0	.7	3.0	1.0	1.5	1.5	249	57	368	52	1.9	1.1
13	.4	2.5	2.9	.8	1.4	1.6	71	44	362	31	1.6	1.1
14	.3	2.2	2.9	.7	1.3	1.2	44	35	332	31	1.5	.8
15	.2	2.4	2.9	.5	1.3	1.4	36	26	243	18	334	.7
16	.1	2.5	2.9	.4	138	1.4	29	20	491	15	262	.6
17	0	2.6	2.9	.3	186	1.3	41	190	1,140	12	1,250	.6
18	0	2.6	3.0	.3	53	1.3	23	1,180	857	9.4	68	.5
19	0	2.5	2.6	.3	30	.8	20	62	337	8.2	21	.4
20	0	2.6	2.6	.3	17	.6	18	72	251	7.3	14	.3
21	0	2.9	2.7	.3	12	.6	16	343	152	901	11	.3
22	0	2.9	2.9	.3	9.7	1.7	14	5,550	105	450	9.7	.3
23	0	2.6	3.2	.3	8.3	2.1	12	1,900	75	142	9.1	.4
24	0	2.5	3.0	.3	7.7	1.4	11	288	384	64	8.2	.5
25	0	2.7	3.0	.3	5.7	.9	10	127	237	39	7.9	.3
26	9.9	3.0	3.2	.3	4.6	.8	9.7	69	99	27	7.3	.3
27	2.7	2.8	3.2	.3	4.3	.9	9.2	698	69	21	7.6	.3
28	13	2.5	3.2	.3	3.9	1.1	83	1,800	54	17	7.3	.3
29	3.0	3.4	3.0	.2	3.1	.9	143	2,090	59	14	4.5	.3
30	1.0	3.8	3.0	.2	-	.8	48	421	49	12	3.7	.3
31	.3	-	1.6	.2	-	.8	-	251	-	10	3.2	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Monthly discharge, in second-feet, of Caddo Creek near Ardmore, Okla., 1936-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
June 5-30, 1936	889.8	361	3.0	34.2	1,760
July	141.7	70	1.7	4.57	281
August	43.7	1.9	.8	1.41	87
September	7,638.2	2,620	.6	255	15,150
The period	-	-	-	-	17,280
October 1936	3,148.5	936	5.0	102	6,240
November	406.0	42	5.7	13.5	805
December	206.3	9.0	5.4	6.65	409
Calendar year	-	-	-	-	-
January 1937	1,141.2	300	6.0	36.8	2,260
February	926.0	99	12	33.1	1,840
March	5,810	2,460	12	187	11,520
April	6,216	3,160	27	207	12,330
May	844.3	65	8.1	27.2	1,680
June	264.8	35	2.0	8.83	525
July 1-17	36.6	3.6	1.6	2.15	73
August	-	-	-	-	-
September	-	-	-	-	-
The period	-	-	-	-	37,680
October 1937	-	-	-	-	-
November 12-30	89.8	5.8	3.6	4.73	178
December	1,157.7	375	5.0	37.3	2,300
Calendar year	-	-	-	-	-
January 1938	2,750.6	1,240	8.0	88.7	5,460
February	34,931	15,800	16	1,248	69,280
March	9,517	4,500	22	307	18,880
April	3,897	828	38	130	7,730
May	3,056	617	15	98.6	6,060
June	1,077.0	364	5.6	35.9	2,140
July	157.7	56	1.6	5.09	313
August	46.8	17	.6	1.51	93
September	7.7	.8	0	.26	15
The period	-	-	-	-	112,400
October 1938	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Calendar year 1938	55,440.8	15,800	0	152	110,000
January 1939	379.6	242	0	12.2	753
February	52.8	4.0	1.2	1.89	105
March	664.7	319	1.0	21.4	1,320
April	508.8	100	2.7	17.0	1,010
May	121.5	35	1.0	3.92	241
June	705.1	337	0	23.5	1,400
July	823.0	286	0	26.5	1,630
August	166.0	136	0	5.35	329
September	.5	.5	0	.02	1
Water year 1938-39	3,422.0	337	0	9.38	6,790
October 1939	561.8	481	0	18.1	1,110
November	49.7	3.8	0	1.66	99
December	92.0	3.5	1.6	2.97	182
Calendar year 1939	4,125.5	481	0	11.3	8,180
January 1940	14.7	1.1	.2	.47	29
February	496.2	186	0	17.1	984
March	42.4	2.7	.6	1.37	84
April	4,332.5	1,370	.8	144	8,590
May	17,736.5	5,550	4.2	572	35,180
June	15,362	5,830	49	512	30,470
July	4,496.9	1,150	7.3	145	8,920
August	2,084.2	1,250	1.5	67.2	4,130
September	37.4	4.2	.3	1.25	74
Water year 1939-40	45,306.3	5,830	0	124	89,850

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologi l Survey

81174-0 U. S. GOVERNMENT PRINTING OFFICE 1937

Blue River near Blue, Okla.

Location.- Wire-weight gage, lat. 33°59', long. 96°15', at south edge of SW¼ sec. 34, T. 6 S., R. 10 E., at bridge on U. S. Highway 70, 2 miles southwest of Blue, and 4½ miles upstream from Caddo Creek. Datum of gage is 498.36 feet above mean sea level (general adjustment of 1929, levels by Corps of Engineers, U. S. Army).

Drainage area.- 477 square miles.

Records available.- June 1936 to September 1940.

Extremes.- Maximum and minimum discharges for water years 1936 to 1940 are contained in the following table:

Water year	Maximum			Minimum observed	
	Date	Discharge (sec.-ft.)	Gage height (feet)	Date	Discharge (sec.-ft.)
1935-36*	Sept.28	3,280	†21.43	Sept.15,16	**0
1936-37*	Jan. 15	3,370	‡22.00	July 15	18
1937-38*	Feb. 17	29,400	†31.81	Sept.23-26	20
1938-39	Apr. 16	3,320	†21.50	Sept.29	.3
1939-40	May 23	9,000	†26.82	Oct. 15	1.7

*Partial year. ‡From graph based on gage readings.
†From reading at flood crest. **Estimated.

1936-40: Maximum discharge, 29,400 second-feet Feb. 17, 1938 (gage height, 31.81 feet, from reading at flood crest), from rating curve extended above 9,000 second-feet; no flow (estimated) Sept. 15, 16, 1936.

Remarks.- Records for July 1936 to September 1938, poor; records for water years 1938-39, and 1939-40, fair, except those for discharges below 50 second-feet, which are poor. Low flow regulated by reservoir at Oklahoma State Fish Hatchery, 17 miles above station. Gage read twice daily, oftener during rises.

Cooperation.- Records for water year 1939-40 collected and prepared in cooperation with Corps of Engineers, U. S. Army; records from July 1936 to September 1939 collected and computed by Corps of Engineers and prepared for publication by Geological Survey.

Discharge, in second-feet, 1936-40

1936

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	30	16	3.5
2									-	33	16	3.0
3									-	36	16	3.0
4									-	46	15	2.5
5									-	33	15	2.5
6									-	30	15	2.0
7									131	27	14	2.0
8									83	27	14	1.5
9									70	27	13	1.5
10									50	27	13	1.0
11									39	27	13	1.0
12									39	21	12	1.0
13									39	21	12	.5
14									32	21	11	.5
15									32	27	11	0
16									32	27	10	0
17									32	27	9.5	11
18									32	21	9.0	25
19									32	21	8.5	13
20									32	21	8.0	145
21									32	21	7.5	101
22									30	88	7.5	23
23									27	87	7.0	26
24									27	22	6.5	14
25									27	18	6.0	60
26									27	18	5.5	40
27									27	18	5.0	2,050
28									27	18	4.5	3,020
29									27	17	4.5	1,570
30									27	17	4.0	302
31									-	17	3.5	-

Note.- Discharge for period July 26 to Sept. 16 uncertain; computed on basis of two discharge measurements and records for Caddo Creek near Ardmore, Okla.

Discharge, in second-feet, of Blue River near Blue, Okla., 1936-40--Continued

1936-37

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	111	96	34	106	399	88	121	96	418	28		
2	74	92	36	88	261	88	111	94	234	27		
3	54	78	39	106	211	88	106	97	92	25		
4	47	92	34	88	211	155	301	92	66	22		
5	36	58	40	78	191	370	191	93	58	22		
6	34	58	78	74	191	238	121	88	101	20		
7	515	58	41	482	181	241	226	83	54	19		
8	183	58	54	520	171	312	1,060	74	54	19		
9	224	54	45	348	161	191	231	74	97	22		
10	83	54	40	141	141	141	116	70	359	42		
11	54	54	38	101	131	131	101	70	199	47		
12	41	54	38	115	131	306	92	70	98	41		
13	38	50	38	976	131	915	88	96	78	28		
14	36	50	39	2,750	121	382	88	66	62	21		
15	33	50	40	3,020	121	322	83	62	48	18		
16	31	50	41	948	111	221	83	58	74	-		
17	29	49	42	312	106	181	74	58	121	-		
18	28	48	44	241	101	161	70	54	121	-		
19	26	48	47	181	106	151	103	54	54	-		
20	25	45	48	161	106	131	670	49	42	-		
21	24	54	48	201	111	111	2,370	48	37	-		
22	25	62	50	171	106	106	2,220	152	34	-		
23	341	58	54	116	96	106	536	152	33	-		
24	386	58	54	166	92	724	411	58	31	-		
25	2,270	62	54	345	92	516	211	49	28	-		
26	2,880	40	58	693	88	181	161	45	28	-		
27	1,310	35	1,160	1,080	92	141	141	41	27	-		
28	262	34	1,950	1,000	92	121	131	39	26	-		
29	171	34	386	1,120	-	111	116	38	26	-		
30	141	34	201	1,080	-	121	106	37	36	-		
31	111	-	171	821	-	141	-	36	-	-		

Note.- Gage-height record doubtful for period Oct. 13-21; discharge estimated on basis of three discharge measurements.

1937-38

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	41	55	123	244	646	147	115	83	115	26
2		-	a42	52	83	226	356	139	83	72	72	23
3		-	a43	48	83	226	284	139	80	66	55	22
4		-	a44	45	80	217	294	131	80	66	45	32
5		-	a45	45	80	208	274	139	76	62	40	27
6		-	45	45	76	199	334	131	76	58	38	38
7		-	45	42	72	190	1,550	131	76	58	38	34
8		-	42	42	69	181	2,610	423	558	55	34	27
9		-	42	42	69	403	730	432	2,580	55	32	25
10		-	42	42	66	287	367	172	773	55	35	24
11		-	42	42	66	208	304	147	515	55	35	61
12		-	42	42	66	190	274	139	798	52	32	161
13		-	45	41	66	181	244	131	623	52	62	58
14		-	45	40	62	172	226	131	210	48	39	52
15		-	48	39	66	378	1,050	123	139	48	35	47
16		-	114	39	1,570	368	888	123	115	111	32	106
17		58	545	40	22,800	217	329	147	264	48	30	62
18		66	392	40	18,900	181	235	131	107	52	58	35
19		48	154	40	6,420	155	199	115	115	52	80	28
20		42	95	143	1,740	155	208	115	83	52	41	24
21		42	72	2,770	555	155	199	107	157	48	31	22
22		41	266	2,410	542	147	337	255	159	52	31	24
23		41	320	2,260	469	147	254	240	107	48	24	20
24		41	91	3,790	389	147	190	722	83	80	25	20
25		41	66	1,030	334	139	181	261	76	72	24	20
26		42	58	220	294	144	172	147	87	69	27	20
27		42	55	147	274	1,970	172	131	80	58	24	22
28		42	55	115	264	2,690	199	163	83	62	23	23
29		42	62	115	-	5,720	172	131	299	91	27	22
30		41	72	107	-	5,840	155	107	133	109	37	22
31		-	58	95	-	2,730	-	95	-	348	35	-

a No gage-height record; discharge interpolated.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Discharge, in second-feet, of Blue River near Blue, Okla., 1936-40--Continued

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	18	22	33	32	91	52	35	23	26	1.2	11
2	22	20	22	32	37	66	42	34	21	23	2.0	11
3	22	18	22	33	34	48	37	33	23	189	3.7	8.0
4	22	13	28	33	32	45	34	30	25	192	4.2	10
5	22	3.2	30	33	32	45	38	30	26	92	4.2	8.0
6	22	3.2	29	30	27	83	40	28	44	41	6.4	7.4
7	22	5.8	28	22	30	55	162	27	33	29	4.2	5.2
8	22	5.4	27	22	30	48	87	38	34	26	11	5.2
9	16	6.2	27	42	28	42	55	41	23	19	11	2.2
10	16	6.6	28	37	29	37	48	41	19	16	10	.9
11	16	11	29	31	33	41	42	38	19	15	6.0	2.2
12	15	20	29	42	27	36	26	29	28	12	6.2	4.7
13	20	4.0	28	31	24	34	33	78	41	12	8.0	2.0
14	18	11	35	28	29	41	29	59	31	16	13	.9
15	23	4.0	27	26	38	28	36	47	24	15	10	.5
16	21	6.2	27	25	31	18	1,890	34	20	15	6.0	.4
17	21	26	28	21	31	31	2,060	25	19	16	9.0	.4
18	20	14	28	31	34	32	228	33	19	13	4.2	3.7
19	22	8.0	29	28	52	34	131	34	19	12	9.3	7.4
20	22	28	30	33	76	35	82	38	21	13	6.4	4.2
21	22	10	31	26	80	41	65	35	21	13	3.8	6.2
22	19	20	32	18	55	34	59	29	19	13	5.2	5.7
23	20	8.9	41	28	38	38	53	24	19	15	6.4	3.7
24	20	25	37	35	73	27	50	21	19	14	13	3.5
25	19	25	38	28	530	54	47	22	17	8.0	11	2.6
26	19	26	45	28	163	234	44	26	25	3.5	28	1.1
27	18	26	32	28	89	76	82	26	23	9.3	18	.5
28	19	26	29	28	177	93	123	27	19	12	13	.4
29	20	26	37	29	-	313	65	24	23	8.0	8.7	.3
30	20	25	34	30	-	157	47	21	30	2.2	11	1.3
31	18	-	33	28	-	76	-	21	-	1.1	8.7	-

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	18	8.3	17	18	26	20	175	275	101	101	49
2	1.8	16	26	23	21	24	20	76	235	117	93	46
3	1.9	11	23	15	30	24	155	52	195	455	90	54
4	2.3	3.2	15	19	60	22	57	44	165	371	82	49
5	2.4	2.7	10	19	30	21	30	42	145	287	79	49
6	2.4	7.0	13	20	32	21	2,230	34	125	165	76	63
7	2.3	9.5	15	15	32	21	5,060	32	117	101	72	135
8	2.2	5.8	16	15	29	20	1,390	82	117	97	72	60
9	2.4	9.5	17	20	30	19	205	830	180	90	69	49
10	2.7	4.0	19	19	24	20	117	676	1,040	79	66	44
11	2.8	5.1	14	16	21	22	804	139	1,480	76	63	42
12	2.7	6.2	15	31	22	63	907	82	1,240	106	63	42
13	2.1	6.4	13	22	21	60	225	63	271	537	60	39
14	1.9	6.0	13	19	21	28	125	52	265	510	60	39
15	1.7	5.8	17	21	20	22	90	46	265	101	60	39
16	2.1	17	14	15	86	20	76	44	1,610	97	72	39
17	4.2	19	18	19	250	19	69	44	5,010	82	267	39
18	5.0	16	23	19	145	18	60	54	4,700	72	558	39
19	4.0	6.8	19	19	101	20	63	1,100	864	79	185	36
20	4.6	7.6	14	20	63	20	49	294	323	277	109	36
21	3.5	19	8.1	d18	44	19	46	1,680	205	806	82	34
22	3.7	19	20	17	34	19	46	3,440	195	2,220	69	39
23	4.0	19	23	18	32	16	42	7,760	165	4,630	63	42
24	4.3	12	26	15	32	16	42	4,100	185	1,040	60	46
25	5.0	16	24	11	28	16	42	761	311	275	57	42
26	5.0	12	26	18	26	20	39	287	205	205	54	39
27	6.8	6.4	28	17	26	19	39	1,240	155	175	49	36
28	8.1	17	17	15	26	19	274	3,060	117	145	57	34
29	8.6	19	19	17	26	19	573	3,120	205	125	57	34
30	14	17	19	16	-	21	262	1,560	155	117	54	34
31	19	-	20	17	-	24	-	367	-	109	52	-

d Doubtful gage-height record; discharge interpolated.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Monthly discharge, in second-feet, of Blue River near Blue, Okla., 1936-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
June 7-30, 1936	953	131	27	39.7	1,890
July	891	88	17	28.7	1,770
August	312.5	16	3.5	10.1	620
September	7,425.5	3,020	0	248	14,730
The period	-	-	-	-	19,010
October 1936	9,623	2,880	24	310	19,090
November	1,667	96	34	55.6	3,310
December	5,042	1,950	34	163	10,000
Calendar year	-	-	-	-	-
January 1937	17,629	3,020	74	569	34,970
February	4,052	399	88	145	8,040
March	7,192	915	88	232	14,270
April	10,439	2,370	70	348	20,710
May	2,193	152	36	70.7	4,350
June	2,726	418	26	90.9	5,410
July 1-15	401	47	18	26.7	795
August	-	-	-	-	-
September	-	-	-	-	-
The period	-	-	-	-	120,900
October 1937	-	-	-	-	-
November 17-30	629	66	41	44.9	1,250
December	3,128	545	41	101	6,200
Calendar year	-	-	-	-	-
January 1938	14,023	3,790	39	452	27,810
February	55,678	22,800	62	1,988	110,400
March	24,415	5,840	139	788	48,430
April	13,433	2,610	155	448	26,640
May	5,645	722	95	182	11,200
June	8,730	2,580	76	291	17,320
July	2,237	348	48	72.2	4,440
August	1,256	115	23	40.5	2,490
September	1,127	161	20	37.6	2,240
The period	-	-	-	-	258,400
October 1938	619	23	15	20.0	1,230
November	449.5	28	3.2	15.0	892
December	942	45	22	30.4	1,870
Calendar year 1938	128,554.5	22,800	3.2	352	255,000
January 1939	918	42	18	29.6	1,820
February	1,891	530	24	67.5	3,750
March	2,033	313	18	65.6	4,030
April	5,787	2,060	26	193	11,480
May	1,028	78	21	33.2	2,040
June	727	44	17	24.2	1,440
July	890.1	192	1.1	28.7	1,770
August	262.8	28	1.2	8.48	521
September	120.6	11	.3	4.02	239
Water year 1938-39	15,668.0	2,060	.3	42.9	31,080
October 1939	135.4	19	1.7	4.37	269
November	339	19	2.7	11.3	672
December	552.4	28	8.1	17.8	1,100
Calendar year 1939	14,684.3	2,060	.3	40.2	29,120
January 1940	562	31	11	18.1	1,110
February	1,330	250	18	45.9	2,640
March	708	63	16	22.8	1,400
April	13,157	5,060	20	439	26,100
May	31,336	7,760	32	1,011	62,150
June	20,520	5,010	117	684	40,700
July	13,647	4,630	72	440	27,070
August	2,941	558	49	94.9	5,830
September	1,368	135	34	45.6	2,710
Water year 1939-40	86,595.8	7,760	1.7	237	171,800

21174-0 U. S. GOVERNMENT PRINTING OFFICE. 1937

Muddy Boggy Creek near Farris, Okla.

Location.- Wire-weight gage, lat. 34°16', long. 95°55', in NW¼ sec. 26, T. 3 S., R. 13 E., at bridge on State Highway 3, 1¼ miles downstream from McGee Creek and 2¾ miles northwest of Farris. Datum of gage is 446.58 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,120 square miles.

Records available.- November 1937 to September 1940.

Extremes.- Maximum discharge during year, 19,600 second-feet Apr. 7 (gage height, 36.6 feet, from graph based on gage readings); no flow at times.
1937-40: Maximum discharge, 52,500 second-feet Feb. 17, 1938 (gage height, 43.10 feet, from reading at flood crest); no flow at times.

Remarks.- Records fair except those for days of rapidly changing stage and those below about 20 second-feet, which are poor. Gage read twice daily or oftener.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 30 to Aug. 16, Aug. 24-29, Sept. 2, 4, 5, 10-25, 27, 29, 30)

0.5	5.7	2.0	102	8.0	1,170	21.0	5,580
.7	10	2.5	178	10.0	1,570	25.0	7,900
1.0	19	3.0	258	12.0	2,070	29.0	10,800
1.4	38	4.0	428	15.0	2,960	33.0	14,600
1.7	62	6.0	788	18.0	4,100	36.0	18,400

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.6	0.1	0.4	17	9.0	4,540	356	354	27	52
2		0	1.0	0	.5	14	9.2	1,630	242	116	22	41
3		0	.6	0	1.1	11	204	362	154	77	18	69
4		0	.3	0	4.4	9.2	306	202	102	80	14	36
5		0	.2	0	4.6	8.4	450	123	74	648	13	32
6		0	.1	0	7.5	7.1	8,910	87	55	948	12	134
7		0	0	.2	9.2	6.2	17,500	67	50	250	10	812
8		0	0	.2	7.1	5.3	8,860	50	44	67	8.8	343
9		0	0	.2	5.5	4.2	1,650	2,900	1,170	47	7.5	72
10		0	0	.4	4.2	4.6	608	1,010	1,770	40	6.4	36
11		0	0	.9	3.8	8.6	2,170	356	4,100	36	4.9	30
12		0	0	1.5	3.5	243	4,020	170	1,830	226	4.0	32
13		0	0	1.5	2.6	88	2,630	102	752	210	3.0	59
14		0	0	1.4	3.8	43	907	62	704	81	2.9	15
15		0	0	1.1	4.4	30	410	53	500	72	2.4	10
16		0	0	1.1	6.9	23	258	48	1,640	72	33	8.2
17		0	0	.9	114	18	202	44	5,960	50	1,970	6.4
18		.1	0	.9	599	11	242	3,140	3,410	40	746	4.2
19		.2	0	.7	500	8.8	186	3,300	1,970	88	1,420	3.0
20		0	0	.5	274	8.0	123	720	1,260	2,230	1,430	2.6
21		.1	0	.4	178	7.8	88	566	437	8,640	422	2.8
22		.1	0	.3	95	7.5	95	10,700	226	7,750	82	4.6
23		0	.5	.3	62	6.8	68	9,920	215	3,050	51	4.8
24		.1	.5	.3	45	5.7	56	4,730	184	1,580	39	5.1
25		0	.4	.3	38	5.7	48	2,320	1,020	585	28	3.8
26		0	.5	.3	33	4.6	43	1,220	880	157	16	d3.4
27		0	.4	.3	28	4.4	39	3,480	376	88	17	3.0
28		0	.4	.3	24	4.2	615	9,780	131	62	16	a2.6
29		.2	.3	.3	20	5.7	8,300	6,060	359	50	20	2.1
30		1.5	.2	.3	-	12	7,570	1,320	960	41	192	1.6
31		-	.2	.4	-	10	-	572	-	32	84	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	2.3	1.5	0	.08	4.6
December	7.2	1.6	0	.23	14
Calendar year 1939	58,950.4	10,100	0	162	116,900
January	15.1	1.5	0	.49	30
February	2,079.5	599	.4	71.7	4,120
March	642.8	243	4.2	20.7	1,270
April	66,576.2	17,500	9.0	2,219	132,100
May	69,654	10,700	44	2,247	138,200
June	30,931	5,960	44	1,031	61,350
July	27,767	8,640	32	896	55,080
August	6,721.9	1,970	2.4	217	13,330
September	1,831.2	612	1.6	61.0	3,630
Water year 1939-40	206,228.2	17,500	0	563	409,100

a No gage-height record; discharge interpolated.
d Doubtful gage height; discharge interpolated.

Kiamichi River near Belzoni, Okla.

Location.- Water-stage recorder, lat. 34°12', long. 95°29', in SE¼ sec. 14, T. 4 S., R. 17 E., 1¾ miles northwest of Belzoni and 6 miles downstream from Cedar Creek. Datum of gage is 389.91 feet above mean sea level (general adjustment of 1929, levels by Corps of Engineers, U. S. Army). Prior to Aug. 14, 1940, wire-weight gage at same site and datum.

Drainage area.- 1,420 square miles.

Records available.- December 1925 to September 1931, October 1935 to September 1940.

Extremes.- Maximum discharge observed during year, 14,700 second-feet Apr. 7 (gage height, 24.10 feet); no flow at times.

1925-31, 1935-40: Maximum discharge, 83,700 second-feet Feb. 18, 1938 (gage height, 44.00 feet, from reading at flood crest), from rating curve extended above 46,000 second-feet on basis of slope-area determination at 61,400 second-feet; no flow at times.

Maximum stage known, 44.2 feet in October 1915, from information furnished by local residents.

Remarks.- Records good. Gage read twice daily prior to Aug. 14, 1940.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 5						Apr. 6 to Sept. 30					
3.7	0	4.2	27	5.3	327	3.9	9	5.1	270	14.0	5,470
3.8	1.5	4.4	57	6.0	642	4.0	17	5.5	425	18.0	8,720
3.9	4.0	4.6	96	6.6	932	4.2	39	6.0	642	22.0	12,500
4.0	8.5	4.8	147			4.4	70	7.0	1,130	24.0	14,600
4.1	16	5.0	212			4.6	113	9.0	2,190		
						4.8	168	11.0	3,340		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	61	52	51	372	134	4,580	1,330	1,070	74	88
2	0	0	54	75	54	327	113	2,200	932	732	62	84
3	0	0	37	71	62	287	110	1,430	782	1,030	52	78
4	0	0	31	68	110	247	440	1,030	642	1,430	45	74
5	0	0	35	61	147	230	882	832	552	832	39	66
6	0	0	94	51	203	209	5,170	642	404	530	37	74
7	0	0	81	57	552	185	14,100	507	346	384	63	222
8	0	0	79	64	372	162	10,600	921	289	308	45	235
9	0	0	75	61	440	142	3,900	6,020	252	252	30	197
10	.3	0	68	64	350	136	2,240	2,970	218	200	24	139
11	0	0	61	83	307	212	2,760	1,630	513	165	21	95
12	0	0	57	134	247	247	6,870	782	1,040	155	18	74
13	0	0	51	106	212	230	4,380	574	707	139	17	62
14	0	0	47	101	196	198	2,410	440	446	123	15	50
15	0	.1	41	106	178	175	1,700	327	404	111	11	43
16	0	.8	33	115	147	170	1,280	307	327	97	9	37
17	0	3.0	31	106	350	178	1,030	307	710	90	11	34
18	0	2.2	33	101	732	172	1,130	3,330	687	78	9	30
19	0	2.0	30	96	687	147	1,330	7,090	486	70	8	27
20	0	1.5	27	101	642	136	1,130	3,190	574	436	848	25
21	0	1.2	24	96	932	134	882	1,490	425	4,160	522	25
22	0	.9	28	96	687	131	732	6,880	346	3,290	327	26
23	0	.6	40	92	552	125	597	13,200	642	1,460	235	22
24	0	1.2	47	83	462	125	507	11,600	425	732	171	21
25	0	1.2	51	83	394	120	417	8,360	308	446	134	17
26	0	1.2	44	71	394	110	394	4,560	235	327	108	15
27	.1	1.5	40	68	552	110	350	5,920	235	252	88	12
28	0	1.8	35	61	484	106	949	10,400	324	174	80	11
29	0	2.0	38	57	440	101	7,240	7,610	958	134	82	9
30	0	6.7	41	54	-	125	8,680	3,310	2,050	104	97	9
31	0	-	44	54	-	147	-	2,020	-	86	80	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0.4	0.3	0	0.01	0.8
November	27.9	6.7	0	.93	55
December	1,458	94	24	47.0	2,890
Calendar year 1939	367,859.3	34,700	0	1,008	729,600
January	2,488	134	51	80.3	4,930
February	10,938	932	61	377	21,700
March	5,496	372	101	177	10,900
April	82,457	14,100	110	2,749	163,600
May	114,459	13,200	307	3,692	227,000
June	17,589	2,050	218	586	34,890
July	19,397	4,160	70	626	38,470
August	3,362	848	8	108	6,670
September	1,901	235	9	63.4	3,770
Water year 1939-40	259,573.3	14,100	0	709	514,900

Little River near Idabel, Okla.

Location.- Wire-weight gage, lat. 33°56', long. 94°49', in NE¼ sec. 19, T. 7 S., R. 24 E., 3 miles north of Idabel and 13 miles downstream from mouth of Glover Creek. Datum of gage is 318.52 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,100 square miles.

Records available.- October 1929 to September 1931, October 1935 to September 1940.

Extremes.- Maximum discharge during year, 17,200 second-feet May 25 (gage height, 31.71 feet, from reading at flood crest); minimum discharge observed, 0.9 second-foot Oct. 3, 4 (gage height, 2.37 feet).
1929-31, 1935-40: Maximum discharge, 77,200 second-feet Feb. 18, 1938 (gage height, 39.3 feet, from floodmarks), from rating curve extended above 30,000 second-feet; no flow at times.

Remarks.- Records good except those below 20 second-feet, which are fair. Gage read twice daily or oftener.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	2.7	118	158	119	350	425	7,990	3,350	2,570	165	165
2	1.1	2.8	158	163	121	300	350	4,990	1,760	8,130	135	155
3	.9	2.6	169	153	119	275	288	2,560	1,220	9,290	121	155
4	.9	2.5	174	138	123	250	250	1,490	920	8,210	105	197
5	1.2	2.7	176	133	125	238	300	1,130	725	4,840	94	785
6	1.4	2.8	192	133	155	225	1,260	860	575	2,000	87	1,700
7	1.7	3.4	192	133	429	205	6,200	700	725	1,040	76	1,370
8	1.8	2.9	163	130	980	195	8,830	550	575	750	69	810
9	3.2	4.6	140	128	1,100	185	7,610	2,500	475	600	64	525
10	12	5.4	126	128	950	175	4,720	7,010	600	475	57	450
11	11	9.2	109	133	775	175	2,550	5,850	525	400	50	325
12	7.0	10	100	169	650	195	2,640	3,050	475	325	47	250
13	5.4	8.4	95	233	550	262	3,530	1,610	450	400	47	205
14	4.1	8.2	84	287	475	425	2,460	1,070	450	325	46	155
15	3.4	9.5	82	341	425	450	1,880	775	400	325	47	145
16	2.8	13	78	366	375	400	1,490	625	325	325	57	125
17	2.7	16	74	422	350	350	1,190	575	288	275	232	121
18	3.2	18	69	422	400	325	1,040	1,600	525	275	6,280	105
19	3.0	18	63	375	425	275	1,010	9,280	375	400	7,880	99
20	3.0	12	60	325	450	250	950	9,350	288	525	4,420	96
21	3.1	10	57	260	475	238	890	7,480	325	625	1,540	88
22	3.2	12	60	205	525	215	750	5,940	288	1,070	750	84
23	3.5	10	78	185	500	215	700	8,450	250	1,280	600	81
24	3.6	9.5	104	175	475	205	650	12,800	450	1,070	425	161
25	3.6	11	100	165	400	195	625	16,900	350	800	325	930
26	4.0	9.2	123	155	375	185	550	12,700	238	575	250	750
27	5.4	7.4	123	145	350	175	500	8,530	195	450	205	450
28	4.6	7.2	121	135	400	275	450	9,400	175	350	185	250
29	3.8	9.0	136	125	375	400	3,240	10,000	798	262	175	225
30	3.2	14	143	125	-	450	8,370	8,850	733	215	175	215
31	2.7	-	153	119	-	450	-	6,150	-	185	165	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	111.e	12	0.9	3.61	222
November	254	18	2.5	8.47	504
December	3,620	192	57	117	7,180
Calendar year 1939	413,370.7	30,600	.9	1,133	819,900
January	6,256	422	119	202	12,410
February	12,971	1,100	119	447	25,730
March	8,508	450	175	274	16,880
April	65,698	8,830	250	2,190	130,300
May	170,765	16,900	550	5,509	338,700
June	18,828	3,350	175	628	37,340
July	48,362	9,290	185	1,560	95,920
August	24,874	7,880	46	802	49,340
September	11,182	1,700	81	373	22,180
Water year 1939-40	371,429.8	16,900	.9	1,015	736,700

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Little River near Horatio, Ark.

Location.- Water-stage recorder, lat. 38°55', long. 94°23', in NW¼ sec. 11, T. 10 S., R. 32 W., 1½ miles upstream from Canney Creek, 2 miles southwest of Horatio, and about 28 miles upstream from Cossatot River.

Drainage area.- 2,690 square miles.

Records available.- December 1930 to September 1940.

Extremes.- Maximum discharge during year, 37,500 second-feet July 2 (gage height, 30.62 feet), discharge measurement; minimum, 4.5 second-feet Oct. 4, 5 (gage height, 3.41 feet).

1930-40: Maximum discharge, 110,000 second-feet Jan. 25, 1938 (gage height, 36.93 feet), from rating curve extended above 60,000 second-feet; minimum, 1 second-foot Aug. 18 to Sept. 1, 1934; minimum gage height, 3.09 feet Aug. 25-27, 1934.

Maximum stage known, 38 feet sometime in August 1915.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	21	177	559	284	1,160	1,160	19,000	11,000	8,400	522	433
2	4.7	21	573	516	273	1,040	1,040	15,000	5,940	33,600	454	398
3	4.7	20	894	478	277	923	894	9,920	3,200	31,800	390	367
4	4.5	19	894	451	284	837	781	5,070	2,390	23,700	336	401
5	16	18	727	416	288	754	727	3,110	1,830	16,600	297	612
6	54	16	633	382	341	674	2,030	2,320	1,510	9,850	270	1,390
7	40	15	578	374	746	608	11,600	1,760	1,330	4,330	238	2,110
8	33	14	530	349	1,640	544	17,800	1,450	1,360	2,470	226	1,630
9	30	12	460	330	2,270	506	16,600	1,950	1,180	1,900	205	1,120
10	58	17	394	318	2,270	469	13,500	7,940	1,180	1,570	186	830
11	56	21	349	314	1,950	433	9,370	10,200	1,570	1,330	167	635
12	49	25	310	420	1,670	451	7,940	8,380	1,570	1,090	164	483
13	41	23	280	855	1,460	646	8,380	4,750	1,330	955	154	386
14	40	21	252	1,250	1,320	1,460	7,280	2,630	1,240	905	164	315
15	41	26	235	1,320	1,160	1,640	5,470	1,830	1,120	830	398	270
16	40	50	215	1,460	1,040	1,500	3,970	1,510	1,030	805	311	235
17	41	73	202	1,390	952	1,250	3,030	1,690	2,710	755	451	208
18	56	90	186	1,280	923	1,070	2,470	4,310	6,240	658	12,300	188
19	58	114	177	1,190	981	952	3,190	22,800	14,700	755	14,400	170
20	56	160	165	1,010	1,500	866	4,510	24,600	11,500	2,040	11,500	159
21	50	199	154	809	1,740	781	3,970	18,200	5,670	2,470	6,770	147
22	45	270	151	700	1,640	700	2,950	14,100	4,510	4,840	2,790	140
23	41	259	174	613	1,560	638	2,470	16,500	2,870	6,770	1,630	137
24	35	228	222	568	1,420	588	2,790	20,200	1,970	4,780	1,240	149
25	35	193	530	497	1,280	544	2,550	22,600	1,630	2,950	980	147
26	32	174	727	446	1,640	516	2,040	21,500	1,300	2,040	805	436
27	30	186	809	420	1,640	497	1,690	21,600	1,030	1,480	730	780
28	30	160	727	378	1,390	554	1,510	23,500	880	1,150	780	479
29	29	140	700	353	1,320	923	9,260	24,500	1,900	930	680	374
30	28	160	669	322	-	1,100	20,000	20,600	2,470	755	536	348
31	22	-	618	303	-	1,190	-	16,100	-	612	466	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	1,104.9	58	4.5	35.6	0.013	0.02	2,190
November	2,745	270	12	92	.034	.04	5,440
December	13,712	894	151	442	.164	.19	27,200
Calendar year 1939	1,093,190.7	51,800	4.5	2,995	1.11	15.12	2,168,000
January	20,071	1,460	303	647	.241	.28	39,810
February	35,259	2,270	273	1,216	.452	.49	69,940
March	25,814	1,640	433	833	.310	.36	51,200
April	170,972	20,000	727	5,699	2.12	2.36	339,100
May	369,650	24,600	1,450	11,920	4.43	5.11	733,200
June	98,160	14,700	880	3,272	1.22	1.36	194,700
July	173,120	33,600	612	5,585	2.08	2.39	343,400
August	60,540	14,400	154	1,953	.726	.84	120,100
September	15,477	2,110	137	516	.192	.21	30,700
Water year 1939-40	986,624.9	33,600	4.5	2,696	1.00	13.65	1,957,000

Peak discharge.- May 19 (11:45 p.m.) 28,200 sec.-ft.; July 2 (2 p.m.) 37,500 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

161604-O U. S. GOVERNMENT PRINTING OFFICE 1936

Mountain Fork River near Eagletown, Okla.

Location.- Water-stage recorder, lat. 34°03', long. 94°37', in SW¼ sec. 7, T. 6 S., R. 26 E., 1 mile west of Eagletown and 8.7 miles above mouth. Datum of gage is 333.95 feet above mean sea level (Texas, Oklahoma & Eastern Railroad bench mark, levels by Corps of Engineers, U. S. Army). Prior to Aug. 3, 1940, wire-weight gage at same site and datum.

Drainage area.- 784 square miles.

Records available.- March 1924 to December 1925, October 1929 to September 1931, and October 1935 to September 1940.

Extremes.- Maximum discharge observed during year, 30,900 second-feet May 18 (gage height, 16.68 feet); no flow Oct. 2.

1924-25, 1929-31, 1935-40: Maximum discharge observed, 69,300 second-feet Jan. 24, 1938 (gage height, 25.00 feet), from rating curve extended above 28,000 second-feet; no flow at times.

Maximum stage known, 26.4 feet in August 1915, from information by local residents.

Remarks.- Records good. Gage read twice daily, prior to Aug. 3, 1940.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	9.7	599	297	116	574	405	3,560	1,360	11,410	190	155
2	.1	10	890	263	112	506	368	2,280	935	8,030	142	129
3	53	7.5	740	231	118	424	314	1,780	740	5,300	114	125
4	76	5.1	506	195	120	386	280	1,300	624	3,180	102	158
5	43	3.4	405	173	133	332	589	890	485	2,110	92	463
6	32	2.6	314	176	366	297	4,910	710	405	1,480	86	297
7	23	2.2	263	165	890	263	10,440	599	350	810	62	216
8	21	1.7	201	155	1,030	247	5,970	485	314	680	66	170
9	30	1.6	163	145	850	216	3,800	1,470	297	551	58	131
10	45	1.3	147	140	740	201	2,380	2,560	368	444	54	104
11	54	7.5	133	216	624	184	2,160	1,480	599	386	50	87
12	48	16	116	506	574	306	3,970	935	444	332	46	74
13	37	18	112	775	551	1,142	2,550	680	405	297	48	63
14	29	21	108	935	485	1,240	2,060	528	332	280	380	57
15	27	23	96	850	444	890	1,600	444	297	247	247	50
16	48	38	87	775	405	680	1,080	424	263	216	160	45
17	55	54	84	652	386	551	980	680	247	195	10,690	41
18	48	133	81	551	368	485	850	16,730	935	173	11,700	38
19	42	176	78	485	680	405	1,890	17,000	5,155	201	3,110	35
20	36	231	75	386	1,140	368	2,160	5,200	2,330	252	1,680	32
21	30	297	69	332	980	332	1,300	2,500	3,180	1,140	980	29
22	26	263	86	314	775	280	980	3,510	2,510	7,140	680	27
23	23	216	665	297	680	263	1,300	8,180	1,300	4,390	528	27
24	22	176	740	247	624	247	1,360	12,360	775	1,890	405	27
25	20	150	652	164	574	231	1,080	6,820	599	1,030	332	25
26	19	131	599	216	890	195	775	5,620	464	680	263	23
27	20	112	528	193	890	231	599	4,360	386	506	247	39
28	16	101	464	173	775	464	599	7,700	351	405	263	80
29	14	97	405	152	680	506	10,760	4,570	440	297	193	68
30	11	201	350	133	-	485	6,260	2,650	768	247	181	56
31	10	-	332	118	-	464	-	2,160	-	216	165	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	958.2	76	0.1	30.9	1,900
November	2,506.6	297	1.3	83.6	4,970
December	10,088	890	69	325	20,010
Calendar year 1939	407,363	41,800	.1	1,116	808,000
January	10,430	935	118	336	20,690
February	17,000	1,140	112	586	33,720
March	13,395	1,240	184	432	26,570
April	73,769	10,760	280	2,459	146,300
May	120,165	17,000	424	3,876	238,300
June	27,658	5,155	247	922	54,860
July	54,515	11,410	173	1,758	108,100
August	33,336	11,700	46	1,075	66,120
September	2,871	463	23	95.7	5,690
Water year 1939-40	366,691.8	17,000	.1	1,002	727,200

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1936—O-162000

Cossatot River near De Queen, Ark.

Location.- Water-stage recorder, lat. 34°03', long. 94°13', on south edge of SE¼ sec. 20, T. 8 S., R. 30 W., at highway bridge, just downstream from Hale Creek and 7 miles east of De Queen. Datum of gage is 335.60 feet above mean sea level (unadjusted).

Drainage area.- 361 square miles.

Records available.- January 1938 to September 1940.

Extremes.- Maximum discharge during year, 23,700 second-feet May 18 (gage height, 17.94 feet); minimum, 1.6 second-feet Oct. 1 (gage height, 1.78 feet).
1938-40: Maximum discharge, 36,300 second-feet Jan. 24, 1938, Apr. 16, 1939 (gage height, 19.70 feet); minimum, 1.6 second-feet Sept. 30, Oct. 1, 1939 (gage height, 1.78 feet).

Remarks.- Records good.

Cooperation.- Results of 25 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	15	78	108	54	186	125	1,800	475	7,140	103	73
2	2.9	18	261	96	52	160	117	1,100	353	6,200	90	72
3	21	18	194	85	52	142	110	720	276	5,290	79	73
4	19	15	144	77	55	125	104	498	218	1,640	72	60
5	13	13	113	70	59	112	100	380	177	980	65	51
6	10	13	95	66	82	102	783	308	149	580	57	44
7	8.4	13	81	66	214	93	5,550	245	127	403	52	40
8	7.4	15	70	f63	359	86	2,530	200	109	322	46	38
9	7.0	15	62	f61	317	80	1,360	317	106	256	42	35
10	10	20	55	60	290	75	830	585	265	203	46	30
11	119	27	51	85	272	71	1,420	445	371	163	45	28
12	124	34	46	278	263	71	2,690	333	281	133	55	24
13	80	37	43	335	259	84	1,480	256	200	112	90	22
14	59	56	40	321	239	132	980	202	147	101	77	20
15	45	66	38	460	207	170	660	167	115	98	62	19
16	36	64	35	375	183	156	475	146	378	92	53	18
17	29	64	34	297	175	142	385	147	800	78	585	17
18	25	74	32	f239	229	129	351	7,100	3,360	67	3,100	16
19	20	165	32	f186	512	120	1,230	8,290	2,530	144	858	15
20	17	194	30	f137	534	109	2,130	2,130	1,740	358	400	15
21	15	158	29	f119	415	99	1,280	1,190	1,520	1,930	282	15
22	13	118	30	f107	331	92	830	890	920	7,100	206	14
23	12	92	36	f98	270	88	1,010	1,030	534	3,780	157	14
24	11	76	105	f88	232	84	1,100	1,740	365	1,370	126	13
25	10	64	257	f78	276	77	745	1,980	272	720	103	13
26	9.6	55	205	f73	355	71	526	1,580	207	445	85	12
27	9.4	49	181	f64	308	72	412	1,400	159	322	76	12
28	8.9	44	178	f58	267	80	511	2,290	145	243	164	12
29	9.4	40	165	57	223	101	11,300	1,790	1,230	187	142	14
30	9.4	46	143	57	-	120	3,810	1,130	502	150	111	14
31	11	-	123	56	-	127	-	720	-	122	85	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	773	124	1.6	24.9	0.069	0.08	1,530
November	1,678	194	13	55.9	.155	.17	3,330
December	2,986	261	29	96.3	.267	.31	5,920
Calendar year 1939	192,791.5	16,200	1.6	528	1.46	19.86	382,400
January	4,320	460	56	139	.385	.45	8,570
February	7,084	534	52	244	.676	.73	14,050
March	3,356	186	71	108	.299	.35	6,660
April	44,934	11,300	100	1,498	4.15	4.63	89,130
May	41,109	8,290	146	1,326	3.67	4.24	81,540
June	18,031	3,360	106	601	1.66	1.86	35,760
July	42,929	8,200	67	1,385	3.84	4.42	85,150
August	7,514	3,100	42	242	.670	.77	14,900
September	843	73	12	28.1	.078	.09	1,670
Water year 1939-40	175,557	11,300	1.6	480	1.33	18.10	348,200

f Fragmentary gage-height record; discharge computed on basis of partly estimated gage-height.

Saline River near Dierks, Ark.

Location.- Water-stage recorder, lat. 34°06', long. 94°05', in W½ sec. 3, T. 8 S., R. 29 W., at bridge on U. S. Highway 70, 3¾ miles upstream from Holly Creek and 4 miles southwest of Dierks. Prior to Aug. 10, 1940, wire-weight gage at same site and datum.

Drainage area.- 122 square miles.

Records available.- May 1938 to September 1940.

Extremes.- Maximum discharge observed during year, 8,900 second-feet May 18 (gage height, 17.00 feet), from rating curve extended above 5,000 second-feet by logarithmic plotting; minimum discharge observed, 0.1 second-foot at times.

1938-40: Maximum discharge, 9,010 second-feet Apr. 16, 1939 (gage height, 17.10 feet, from reading at flood crest), from rating curve extended above 5,000 second-feet by logarithmic plotting; minimum discharge observed, that of 1940.

Maximum stage known, 21.9 feet sometime in 1920, from information by local resident.

Remarks.- Records fair except those for days of rapidly changing stage, which are poor. Gage read twice daily prior to Aug. 10, 1940.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	11	10	4.1	30	21	452	131	285	18	3.8
2	.1	.1	9.1	9.5	4.4	24	19	325	104	2,960	19	2.9
3	.1	.1	23	7.8	4.6	22	17	231	86	1,320	16	2.4
4	.1	.1	14	7.2	4.9	18	16	154	56	487	13	1.9
5	.1	.1	10	6.5	5.2	16	14	117	50	260	10	1.8
6	.1	.1	8.2	6.2	10	14	496	98	43	170	9.0	1.3
7	.1	.1	6.5	6.5	5e	13	1,120	73	34	131	8.6	1.9
8	.1	.1	5.9	5.9	59	12	394	44	30	98	6.7	1.9
9	.1	.1	4.6	5.9	49	11	280	195	38	75	6.7	1.3
10	.6	.2	4.1	6.5	50	9.5	186	154	72	60	5.9	.8
11	.2	.3	3.9	9.5	49	9.1	508	98	98	46	5.1	.6
12	.2	.6	3.7	28	48	12	447	74	73	38	5.1	.5
13	.1	.3	3.4	39	48	23	325	58	54	30	6.3	.4
14	.1	.2	3.2	33	40	30	222	48	37	26	6.7	.3
15	.1	.3	3	30	35	25	162	39	29	21	5.9	.3
16	.1	.3	2.8	25	28	23	131	36	146	15	5.1	.3
17	.1	.6	2.3	20	33	19	104	46	435	16	4.8	.3
18	.1	.6	2.3	18	36	18	98	3,870	1,190	12	5.1	.3
19	.1	.8	2.3	16	79	16	517	1,540	470	17	22	.3
20	.1	.6	2.2	11	73	14	390	602	375	311	18	.2
21	.1	.5	2.3	9.1	64	13	270	362	325	2,820	12	.2
22	.1	.5	2.5	7.5	49	12	186	260	250	605	8.2	.2
23	.1	.6	4.4	6.5	42	12	260	260	154	300	5.9	.2
24	.1	5.9	2.3	6.5	46	11	195	490	104	146	4.6	.2
25	.1	6.5	6.5	5.6	46	11	154	510	75	104	4.0	.2
26	.1	5.9	21	5.2	38	9.5	117	312	57	75	3.2	.1
27	.1	5.9	17	4.6	39	11	98	378	42	56	4.6	.1
28	.1	5.9	15	3.9	36	17	98	605	34	42	4.3	.1
29	.1	5.2	14	3.9	37	24	3,130	435	240	29	3.2	.1
30	.1	6.5	14	3.9	-	25	1,020	300	98	27	4.3	.1
31	.1	-	12	4.1	-	24	-	195	-	21	3.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	3.8	0.6	0.1	0.12	0.00098	0.001	7.5
November	49.1	6.5	.1	1.64	.013	.01	97
December	236.5	23	2.2	7.63	.063	.07	469
Calendar year 1939	64,108	5,660	.1	176	1.44	19.54	127,200
January	362.3	39	3.9	11.7	.0096	.11	719
February	1,115.2	79	4.1	38.5	.316	.34	2,210
March	528.1	30	9.1	17	.139	.16	1,050
April	10,995	3,130	14	366	3.00	3.35	21,810
May	12,358	3,870	36	399	3.27	3.77	24,510
June	4,930	1,190	29	164	1.34	1.50	9,780
July	10,603	2,960	12	342	2.80	3.23	21,030
August	255.1	22	3.2	8.23	.067	.08	506
September	25.0	3.e	.1	.83	.0068	.008	50
Water year 1939-40	41,461.1	3,870	.1	113	.926	12.63	82,240

400452 O - 41 - 21

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Sulphur River near Darden, Tex.

Location.- Water-stage recorder, lat. 33°15', long. 94°37', at bridge on U. S. Highway 67, 0.5 mile upstream from St. Louis Southwestern Railway bridge and 1 mile southwest of Darden, Bowie County. Datum of gage is 220.6 feet above mean sea level (general adjustment of 1929).

Drainage area.- 2,754 square miles.

Records available.- October 1923 to September 1940. U. S. Weather Bureau has collected gage-height records in this vicinity since 1909.

Average discharge.- 17 years, 1,916 second-feet.

Extremes.- Maximum discharge during year, 19,700 second-feet Apr. 11 (gage height, 27.23 feet); no flow Oct. 1 to Nov. 17, Nov. 22-29.
1923-40: Maximum discharge, 92,900 second-feet Jan. 25, 1938 (gage height, 34.9 feet, from floodmarks), from rating curve extended above 70,000 second-feet; no flow at times.

Remarks.- Records fair. Discharge computed using rate of change in stage as a factor. No diversions.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.2	9.2	1.0	68	1,680	2,850	13,500	2,430	h51	74
2		0	2.5	7.8	1.1	50	1,780	3,940	14,000	4,200	h36	283
3		0	1.4	6.2	1.2	37	1,740	6,340	12,500	4,450	h29	459
4		0	.6	5.4	2.5	29	1,240	8,500	9,900	5,100	h23	332
5		0	.4	4.6	2.8	25	980	8,250	8,250	9,370	hl7	183
6		0	.8	4.2	7.4	22	1,950	7,600	5,630	15,500	h13	135
7		0	1.1	4.0	12	19	3,520	5,820	3,640	14,000	h9.4	93
8		0	.9	3.8	14	16	4,090	3,800	2,180	10,300	h9.2	61
9		0	.8	4.0	19	15	4,200	2,730	1,470	9,000	f8.8	40
10		0	.8	8.4	23	13	10,500	1,860	1,450	7,600	8.6	28
11		0	1.7	10	28	12	19,100	1,710	1,350	5,640	8.0	21
12		0	2.8	10	68	58	18,500	2,150	800	3,580	7.2	16
13		0	3.2	9.8	102	358	14,500	2,570	724	2,250	7.0	13
14		0	3.2	9.4	116	220	10,700	2,940	784	1,320	6.6	17
15		0	3.0	8.4	120	117	6,750	2,390	846	1,200	5.8	20
16		0	2.8	7.2	110	64	7,400	1,240	902	1,810	5.4	17
17		0	2.3	6.2	204	38	6,260	730	1,760	2,120	5.6	13
18		.1	2.1	5.0	222	195	4,070	440	2,380	2,140	6.6	10
19		.1	1.7	3.6	199	255	2,800	405	3,440	1,540	5.4	8.4
20		.1	1.4	3.2	314	255	2,080	437	6,000	1,040	4.6	7.0
21		.1	1.2	2.6	690	222	1,270	708	9,000	2,440	5.0	6.2
22		0	7.6	3.0	701	158	962	1,820	10,300	2,500	6.0	5.6
23		0	127	3.0	760	110	1,500	2,270	8,250	2,640	5.6	5.0
24		0	96	2.8	620	75	1,430	2,820	5,090	2,670	6.6	5.0
25		0	65	2.8	400	50	1,810	3,380	3,220	1,940	6.4	4.8
26		0	33	2.5	243	37	2,150	4,750	1,960	f1,160	5.4	4.4
27		0	20	1.2	199	32	2,110	6,970	1,190	h620	6.8	4.2
28		0	13	1.1	130	34	1,500	9,600	826	h245	46	3.8
29		.1	9.0	1.1	93	41	2,080	10,700	830	hl75	44	20
30		.6	8.4	1.1	-	902	2,450	9,900	480	hl06	53	44
31		-	9.4	1.1	-	1,700	-	10,300	-	h69	58	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	1.1	.6	0	.04	2.2
December	426.3	127	.4	13.8	846
Calendar year 1939	522,163.0	19,700	0	1,431	1,036,000
January	152.7	10	1.1	4.93	303
February	5,403	760	1.0	186	10,720
March	5,227	1,700	12	169	10,370
April	143,102	19,100	962	4,770	283,800
May	129,920	10,700	405	4,191	257,700
June	132,652	14,000	480	4,422	263,100
July	119,155	15,500	69	3,844	236,300
August	510.0	58	4.6	16.5	1,010
September	1,933.4	459	3.8	64.4	3,830
Water year 1939-40	538,482.5	19,100	0	1,471	1,068,000

f Discharge computed on basis of partly estimated gage-height record.
h Discharge computed from graph based on once-daily readings.

Cypress Creek near Jefferson, Tex.

Location.- Water-stage recorder, lat. 32°45', long. 94°29', at Farrell Bridge, on Jefferson-Harleton Highway, 8 miles west of Jefferson, Marion County, and 14 miles upstream from Black Cypress Creek.

Drainage area.- 848 square miles.

Records available.- July 1924 to September 1940.

Average discharge.- 16 years, 545 second-feet.

Extremes.- Maximum discharge during year, 1,320 second-feet Apr. 17 and July 4 (gage height, 11.33 feet); no flow Oct. 1 to Nov. 9, Nov. 14.
1924-40: Maximum discharge, 26,100 second-feet May 20, 1930 (gage height, 25.37 feet, from floodmarks), from rating curve extended above 16,000 second-feet; no flow at times.

Remarks.- Records good except those for November, which are fair. No diversions.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	20	95	51	154	257	820	500	627	31	16
2		0	18	82	52	144	241	800	598	998	26	35
3		0	21	71	54	137	274	800	652	1,230	27	51
4		0	27	63	59	130	319	840	706	1,320	23	43
5		0	25	58	69	123	359	906	760	1,290	22	40
6		0	21	57	86	116	419	974	840	1,230	21	66
7		0	17	58	112	109	564	1,020	906	1,120	20	54
8		0	15	58	140	102	688	950	884	1,020	18	35
9		.2	14	61	168	98	760	717	744	906	f17	26
10		.4	16	64	209	95	760	406	470	840	f16	24
11		2.2	20	66	233	92	780	225	319	760	14	18
12		5.2	21	69	233	109	840	162	349	598	66	13
13		.1	20	73	217	144	950	137	444	334	75	9.8
14		2.3	19	75	209	151	1,100	123	516	172	41	7.7
15		.4	18	74	190	154	1,230	112	548	123	26	6.1
16		.4	17	73	176	148	1,290	109	516	102	24	4.9
17		.2	15	72	190	148	1,320	102	458	86	20	4.5
18		2.2	14	70	249	151	1,320	116	383	72	16	4.8
19		7.3	13	f65	283	154	1,260	212	292	63	14	5.1
20		11	13	f60	301	148	1,170	319	265	57	11	4.8
21		11	14	f58	310	137	1,050	359	319	66	10	4.5
22		9.4	21	f55	310	126	840	339	383	73	9.8	4.1
23		8.4	73	f54	310	116	652	249	395	58	10	4.1
24		7.1	126	b52	292	106	564	225	407	68	9.4	5.4
25		6.9	168	b49	265	98	580	249	407	165	7.9	5.5
26		9	193	46	225	92	580	292	419	233	6.8	6.4
27		10	190	f46	193	95	580	339	419	201	6.1	5.7
28		11	179	f46	176	130	598	383	419	121	6.8	7.3
29		11	165	46	162	182	742	407	472	72	7.3	6.8
30		14	151	47	-	274	800	383	472	50	8.6	5.4
31		-	109	50	-	292	-	419	-	39	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	0	0	0	0	0
November	129.7	14	0	4.32	257
December	1,753	193	13	56.5	3,480
Calendar year 1939	124,332.6	5,250	0	341	246,600
January	1,913	95	46	61.7	3,790
February	5,524	310	51	190	10,960
March	4,255	292	92	137	8,440
April	22,887	1,320	241	763	45,400
May	13,494	1,020	102	435	26,760
June	15,262	906	265	509	30,270
July	14,094	1,320	39	455	27,960
August	625.7	75	6.1	20.2	1,240
September	522.9	66	4.1	17.4	1,040
Water year 1939-40	80,460.3	1,320	0	220	159,600

b Stage-discharge relation affected by ice.
f Discharge computed on basis of partly estimated gage-height record.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Bayou Bodcau near Sarepta, La.

Location.- Water-stage recorder, lat. 32°54', long. 93°29', in sec. 15, T. 22 N., R. 11 W., Louisiana meridian, at bridge on State Highway 70, 2 miles west of Sarepta and 9½ miles upstream from Caney Creek. Datum of gage is 173.76 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 515 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 12,600 second-feet July 6 (gage height, 22.16 feet); minimum discharge, 0.2 second-foot Oct. 22-24; minimum gage height, 2.14 feet Oct. 3-4.

1939-40: Maximum discharge, that of July 6, 1940 (gage height, 22.16 feet); minimum discharge, 0.1 second-foot Aug. 3-15, 1939; minimum gage height, 1.98 feet Aug. 10, 1939.

Maximum stage known (revised), about 25.0 feet in May 1930, from floodmark.

Remarks.- Records good except those below 10 second-feet which are fair. Water used by paper mill at Springhill is pumped from wells and discharged later as waste into the bayou about 8 miles above station. This discharge is not continuous but is stored in a reservoir and is released whenever flow of bayou is sufficient to dilute effluent from mill.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	0.5	14	93	41	231	376	1,500	896	1,840	121	58
2	.6	.6	58	66	33	201	388	1,500	826	6,860	106	44
3	.5	.6	111	57	30	176	400	1,410	695	10,200	83	33
4	.5	.6	119	56	29	163	376	1,210	552	8,670	69	25
5	.5	.6	111	57	30	163	317	974	448	9,710	63	20
6	.5	.7	78	57	36	167	322	764	412	12,100	58	16
7	.4	.7	43	58	42	163	526	604	412	11,600	50	13
8	.4	.7	24	58	50	158	656	474	424	8,870	56	13
9	.4	.7	17	55	73	145	1,020	412	424	6,340	106	17
10	.5	.9	14	53	140	125	1,380	424	424	4,790	129	17
11	.5	2.7	12	52	201	109	1,590	436	400	3,750	121	13
12	.5	10	12	50	236	106	1,620	412	340	3,000	106	7.0
13	.4	5.5	10	48	241	129	1,500	328	352	2,510	170	6.2
14	.4	1.0	9.0	52	273	121	1,320	208	388	2,070	328	5.0
15	.3	3.6	8.3	59	273	145	1,160	129	400	1,740	424	3.5
16	.3	9.2	8.3	64	251	172	1,020	95	400	1,470	424	2.6
17	.3	8.3	9.8	58	256	158	915	91	474	1,240	317	2.0
18	.3	8.3	12	54	278	137	878	117	591	1,020	221	1.6
19	.3	7.8	12	52	295	125	1,220	154	643	794	211	1.3
20	.3	5.9	12	55	317	133	2,270	176	656	565	221	1.3
21	.3	4.4	11	55	352	149	2,850	172	604	324	211	1.3
22	.2	3.4	17	58	376	167	2,850	141	565	191	172	1.1
23	.2	2.4	178	58	352	181	2,570	106	578	191	121	1.1
24	.2	1.4	265	58	306	181	2,270	82	565	172	85	1.1
25	.3	1.5	339	56	295	163	1,940	65	487	125	68	1.1
26	.3	1.9	352	52	267	133	1,660	59	424	99	68	1.0
27	.4	1.5	319	50	251	129	1,410	56	400	77	78	.8
28	.8	1.1	277	49	246	176	1,160	97	400	65	87	.5
29	.5	.8	216	48	246	250	1,260	352	448	68	84	.4
30	.5	3.5	166	48	-	352	1,440	643	448	95	77	.4
31	.5	-	127	47	-	388	-	843	-	121	70	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	12.9	0.8	0.2	0.42	0.00082	0.0009	26
November	90.8	10	.5	3.03	.0059	.007	180
December	2,961.4	352	8.3	95.5	.185	.21	5,870
Calendar year 1939	209,316.6	4,920	.1	573	1.11	15.11	415,100
January	1,733	93	47	55.9	.109	.13	3,440
February	5,816	376	29	201	.390	.42	11,540
March	5,296	388	106	171	.332	.38	10,500
April	38,664	2,850	317	1,289	2.50	2.79	76,690
May	14,034	1,500	56	453	.880	1.01	27,840
June	15,076	896	340	503	.977	1.09	29,900
July	100,867	12,100	65	3,254	6.32	7.28	200,100
August	4,505	424	50	145	.282	.33	8,940
September	308.3	58	.4	10.3	.020	.02	611
Water year 1939-40	189,364.4	12,100	.2	517	1.00	13.67	375,600

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604-0 U.S. GOVERNMENT PRINTING OFFICE · 1936

Bayou Dorcheat near Minden, La.

Location.- Water-stage recorder, lat. 32°36', long. 93°20', in SE¼ sec. 30, T. 19 N., R. 9 W., Louisiana meridian, at bridge on U. S. Highway 80, three-quarters of a mile upstream from Louisiana & Arkansas Railway bridge, 3 miles west of Minden, and 49.9 (revised) miles upstream from mouth. Datum of gage is 133.75 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Prior to Mar. 29, 1940, staff gage at same site and datum.

Drainage area.- 1,090 square miles (revised).

Records available.- July 1928 to September 1929 and October 1938 to September 1940 in reports of Geological Survey. October 1929 to September 1931 and December 1935 to September 1938 in reports of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge during year, 8,750 second-feet July 8 (gage height, 17.04 feet); minimum, 1 second-foot on many days in October; minimum gage height, 2.18 feet Sept. 28.

1928-29, 1938-40: Maximum discharge, 14,300 second-feet Feb. 5-7, 1939; minimum, 1 second-foot Aug. 19 and on many days in October 1939.

Maximum stage known, 22.95 feet May 21, 1930 (discharge, 63,000 second-feet, estimated).

Remarks.- Records good above 10 second-feet, poor below. Staff gage read twice daily, Oct. 1 to Mar. 28.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-27, Nov. 16 to Dec. 2, Sept. 2-30)

1.8	1	2.6	15	4.8	400	8.8	1,720	15.2	5,660
2.3	6	2.9	45	5.6	610	12.2	3,150	16.2	7,230
2.5	10	3.4	120	7.0	1,050	13.4	3,880	17.0	8,750

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	10	37	500	105	525	945	2,680	700	520	425	150
2	2	10	59	450	105	500	945	2,480	850	2,080	450	118
3	2	10	74	380	105	450	945	2,360	910	2,760	340	102
4	2	10	70	340	120	400	945	2,200	910	2,760	320	90
5	2	10	60	300	180	360	945	2,040	820	2,760	240	84
6	2	10	57	280	240	340	1,050	1,800	700	3,150	190	75
7	3	10	62	300	250	320	1,800	1,560	610	6,080	150	72
8	3	10	74	280	260	280	2,040	1,330	525	8,750	130	75
9	3	10	79	280	550	250	2,040	1,120	425	8,370	300	75
10	2	10	90	280	910	230	2,000	1,020	340	6,850	400	67
11	1	12	88	280	1,020	220	2,120	820	260	5,530	380	56
12	1	21	72	300	1,020	260	2,400	610	190	4,500	525	45
13	1	47	60	280	1,020	790	2,360	425	140	3,670	730	38
14	1	60	60	280	1,050	850	2,280	320	140	3,250	760	32
15	1	60	51	300	980	790	2,280	250	170	2,860	670	27
16	2	54	43	300	880	730	2,320	210	220	2,480	550	23
17	2	45	37	300	760	730	2,280	180	612	2,080	500	21
18	1	36	29	300	670	730	2,280	180	1,400	1,560	425	20
19	1	29	29	250	610	700	2,320	180	1,360	980	550	17
20	1	30	24	230	580	610	2,280	170	1,190	730	550	16
21	1	39	20	210	550	550	2,160	160	1,080	700	425	14
22	1	40	33	190	525	500	2,000	140	910	640	280	14
23	1	33	360	180	500	425	1,880	200	850	550	220	13
24	1	22	670	170	500	360	1,800	260	910	450	170	13
25	1	21	670	150	580	320	1,840	140	910	380	120	13
26	1	20	700	140	580	300	1,880	220	880	320	98	13
27	5	14	730	120	610	280	1,960	280	730	320	90	12
28	10	12	760	120	610	300	2,000	360	610	320	931	12
29	10	12	760	112	580	400	2,480	550	580	320	880	12
30	10	12	670	112	-	670	2,720	500	500	340	450	12
31	10	-	610	105	-	880	-	525	-	360	240	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	86	10	1	2.8	0.0026	0.003	171
November	719	60	10	24.0	.022	.02	1,430
December	7,138	760	20	230	.211	.24	14,160
Calendar year 1939	455,074	14,300	1	1,247	1.14	16.50	901,800
January	7,819	500	105	252	.231	.27	15,510
February	16,450	1,050	105	567	.520	.56	32,630
March	15,050	880	220	485	.445	.51	29,850
April	57,295	2,720	945	1,910	1.75	1.95	113,600
May	25,270	2,680	140	815	.748	.86	50,120
June	20,432	1,400	140	681	.625	.70	40,530
July	76,420	8,750	320	2,465	2.26	2.61	151,600
August	12,489	931	90	403	.370	.43	24,770
September	1,331	150	12	44.4	.041	.05	2,640
Water year 1939-40	240,499	8,750	1	657	.603	8.20	477,000

Note.- Stage-discharge relation affected by gravel digger working below station, Sept. 2-30; discharge determined from temporary curves through three discharge measurements.

Cypress Bayou near Keithville, La.

Location.- Water-stage recorder, lat. 32°18', long. 93°50', in SW¼ sec. 8, T. 15 N., R. 14 W., Louisiana meridian, at bridge on U. S. Highway 171 immediately downstream from Texas & Pacific Railroad bridge, 2 miles south of Keithville, and 6 miles upstream from confluence with Boggy Bayou. Datum of gage is 162.13 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army). Prior to Dec. 28, 1939, staff gage at same site and datum.

Drainage area.- 60 square miles (revised).

Records available.- November 1938 to September 1940.

Extremes.- Maximum discharge during year, 5,170 second-feet Dec. 23 (gage height, 10.80 feet); no flow for long periods.
1938-40: Maximum gage height observed, 11.5 feet Feb. 3, 1939 (discharge not determined); no flow for long periods.
Maximum stage known, 18.0 feet, from 1933 flood mark.

Remarks.- Records fair. Gage read twice daily Oct. 1 to Dec. 28.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 7

1.0	0	2.3	14	8.3	291	9.4	1,030
1.1	1	3.1	38	8.6	345	9.8	1,990
1.2	1	6.7	168	8.8	400	10.0	2,530
1.3	2	7.3	197	9.0	500	10.8	5,170
2.1	10	8.0	255	9.2	690		

Apr. 8 to Sept. 30

4.0	70	7.7	301
4.[illegible]	90	8.2	355
5.3	133		

Note.- Same as preceding table below 4.0 feet and above 8.3 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			1	8	7	14	21	135	10	36	0	5
2			10	8	6	12	11	38	7	14	0	3
3			9	7	6	10	9	16	5	8	3	2
4			3	28	92	9	8	9	4	6	0	2
5			2	160	351	8	7	8	2	5	0	2
6			3	77	1,540	8	109	6	2	4	0	1
7			1	213	511	8	2,190	6	1	3	0	1
8			0	183	115	7	488	5	1	3	0	1
9			0	72	1,500	6	58	4	1	3	6	0
10			0	40	1,090	6	29	5	2	3	9	0
11			0	32	236	6	20	5	31	2	5	0
12			0	29	87	22	22	4	18	2	2	0
13			0	27	58	482	18	3	6	5	1	0
14			0	39	39	113	12	3	4	72	0	0
15			0	56	30	31	9	2	3	36	0	0
16			0	27	38	19	8	2	3	10	0	0
17			0	15	573	13	8	2	25	5	0	0
18			0	11	579	10	18	2	160	3	89	0
19			0	9	150	10	54	2	113	3	416	0
20			0	8	72	9	50	3	26	66	42	0
21			0	6	45	8	24	2	10	20	6	0
22			6	6	32	7	11	2	5	6	2	0
23			2,530	6	25	7	8	54	4	3	1	0
24			1,280	6	25	7	7	142	3	2	0	0
25			101	6	73	6	6	26	3	1	0	0
26			144	6	42	6	5	7	2	1	0	0
27			204	6	29	6	5	6	2	0	0	0
28			63	6	25	6	7	22	36	0	36	0
29			30	6	18	8	1,690	687	1,230	0	213	0
30			16	7	-	50	1,010	189	597	0	170	0
31			10	7	-	48	-	25	-	0	13	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0
December	4,413	2,530	0	142	2.37	2.74	8,750
Calendar year 1939	22,117	5,460	0	60.6	1.01	14.08	43,860
January	1,117	213	6	36.0	.600	.69	2,220
February	7,394	1,540	6	255	4.25	4.58	14,670
March	962	482	6	31.0	.517	.60	1,910
April	5,922	2,190	5	197	3.28	3.67	11,750
May	1,422	687	2	45.9	.765	.88	2,820
June	2,316	1,230	1	77.2	1.29	1.44	4,590
July	322	72	0	10.4	.173	.20	639
August	1,014	416	0	32.7	.545	.63	2,010
September	17	5	0	.6	.0094	.01	34
Water year 1939-40	24,899	2,530	0	68.0	1.13	15.44	49,390

Boggy Bayou near Keithville, La.

Location.- Staff gage, lat. 32°23', long. 93°50', in SE¼ sec. 17, T. 16 N., R. 14 W., Louisiana meridian, at bridge on U. S. Highway 171, 3 miles north of Keithville and 5 miles upstream from confluence with Cypress Bayou. Datum of gage is 145.13 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 108 square miles (revised).

Records available.- December 1938 to September 1940.

Extremes.- Maximum discharge observed during year, 3,520 second-feet Dec. 23 (gage height, 17.63 feet); no flow on many days.
1938-40: Maximum gage height observed, 19.0 feet Feb. 3, 1939 (discharge not determined); no flow for long periods.
Maximum stage known, 26.7 feet from 1933 floodmark.

Remarks.- Records fair above 10 second-feet, poor below. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

9.0	0	10.6	21	15.2	335	16.5	1,120
9.2	1	10.7	25	15.4	380	16.6	1,240
9.4	2	11.0	40	15.6	450	16.S	1,600
10.0	S	13.8	211	15.8	560	17.6	3,520
10.5	18	15.0	310	16.3	930		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	23	17	8	21	52	320	10	46	0	7
2		0	73	14	S	17	23	112	6	8	10	3
3		0	21	10	7	15	11	27	4	5	12	2
4		0	S	32	52	13	9	14	3	4	9	13
5		0	5	184	249	11	8	10	2	3	5	9
6		0	3	184	810	10	92	7	2	2	2	3
7		0	2	249	735	9	1,970	6	2	2	1	2
8		0	2	283	335	8	789	5	2	2	1	1
9		0	2	184	930	8	225	5	2	2	9	1
10		0	2	106	1,240	7	76	5	2	2	21	1
11		0	2	67	500	7	43	5	10	2	10	1
12		0	2	49	233	41	58	4	27	4	4	0
13		3	2	43	130	1,180	52	4	7	94	3	0
14		6	2	76	76	532	21	3	4	18	2	0
15		5	2	100	43	160	16	2	2	4	2	0
16		3	2	64	61	67	13	2	2	2	1	0
17		2	2	27	522	32	11	2	2	2	1	0
18		2	2	17	850	21	21	2	58	1	1	0
19		2	2	16	380	17	130	2	136	1	14	0
20		3	2	13	204	16	118	2	76	5	49	0
21		3	2	8	106	13	49	2	14	7	7	0
22		2	17	S	67	11	18	2	6	4	2	0
23		2	2,390	S	40	10	12	4	4	2	1	0
24		2	1,840	9	61	9	9	5	3	1	1	0
25		2	500	9	154	8	7	8	2	1	1	0
26		1	335	9	118	7	7	6	2	1	0	0
27		1	380	S	73	7	6	6	2	0	0	0
28		1	225	8	46	7	55	30	2	0	4	0
29		1	88	7	32	9	1,810	184	21	0	197	0
30		10	25	8	-	32	1,170	190	112	0	225	0
31		-	19	9	-	67	-	43	-	0	76	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	0	0	0	0	0	0	0
November	51	10	0	1.7	.016	.02	101
December	5,982	2,390	2	193	1.79	2.06	11,870
Calendar year 1939	40,443	4,960	0	111	1.03	13.92	80,200
January	1,826	283	7	58.9	.545	.63	3,620
February	8,070	1,240	7	278	2.57	2.78	16,010
March	2,372	1,180	7	76.5	.708	.82	4,700
April	6,881	1,970	6	229	2.12	2.37	13,650
May	1,019	320	2	32.9	.305	.35	2,020
June	527	136	2	17.6	.163	.18	1,050
July	225	94	0	7.3	.068	.08	446
August	671	225	0	21.6	.200	.23	1,330
September	43	13	0	1.4	.013	.01	85
Water year 1939-40	27,667	2,390	0	75.6	.700	9.53	54,880

Black Lake Bayou near Castor, La.

Location.- Wire-weight gage, lat. 32°16', long. 93°13', in NW¼ sec. 20, T. 15 N., R. 8 W., Louisiana meridian, at bridge on State Highway 417, 1 mile downstream from Brookish Bayou, 3 miles northwest of Castor, and 7 miles southeast of Ringgold.

Drainage area.- 429 square miles.

Records available.- May to September 1940.

Extremes.- Maximum discharge during period, 2,620 second-feet June 16 (gage height, 9.71 feet); minimum discharge observed, 22 second-feet Sept. 14, 22; minimum gage height observed, 2.60 feet Sept. 14.

Remarks.- Records good. Gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	299	344	400	452
2								-	266	710	864	368
3								-	206	740	605	224
4								-	159	710	580	136
5								-	122	682	605	97
6								-	97	682	630	85
7								-	79	655	630	79
8								-	69	740	555	69
9								-	74	605	858	53
10								-	109	417	1,380	46
11								-	143	311	1,290	40
12								-	266	470	1,210	33
13								-	218	435	1,210	27
14								-	206	904	1,050	24
15								-	495	1,050	770	27
16								-	2,500	905	770	27
17								-	2,500	1,050	555	26
18								-	2,280	1,130	353	26
19								-	2,060	975	368	24
20								-	2,170	710	368	24
21								-	2,280	580	368	23
22								-	1,950	532	311	23
23								-	1,560	555	242	25
24								-	1,210	555	167	26
25								-	905	605	122	45
26								-	682	555	97	55
27								167	435	470	85	31
28								218	260	275	126	26
29								266	206	148	294	26
30								324	206	176	490	25
31								324	-	287	490	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October							
November							
December							
Calendar year							
January	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-
May 27-31	1,299	324	167	260	0.606	0.11	2,580
June	24,012	2,500	69	800	1.86	2.08	47,630
July	18,963	1,130	148	612	1.43	1.64	37,610
August	17,843	1,380	85	576	1.34	1.55	35,390
September	2,192	452	23	73.1	.170	.19	4,350
The period	-	-	-	-	-	-	127,600

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologic Survey

101604-O U.S. GOVERNMENT PRINTING OFFICE 1936

Ouachita River near Mountain Pine, Ark.

Location.- Water-stage recorder, lat. 34°36', long. 93°12', in NW¼NW¼ sec. 1, T. 2 S., R. 21 W., three-quarters of a mile downstream from Mill Creek, 2 miles downstream from Blakely Creek, and 4 miles northwest of Mountain Pine. Datum of gage is 404.29 feet above mean sea level (unadjusted).

Drainage area.- 1,100 square miles.

Records available.- June 1936 to September 1940.

Extremes.- Maximum discharge during year, 13,700 second-feet Apr. 29 (gage height, 13.36 feet); minimum, 45 second-feet Sept. 30 (gage height, 2.64 feet).
1936-40: Maximum discharge, 94,900 second-feet Apr. 17, 1939 (gage height, 34.54 feet); minimum, 11 second-feet Sept. 14, 1936 (gage height, 2.06 feet).
Maximum stage known, about 37 feet in May 1923 (discharge, 109,000 second-feet).

Remarks.- Records good.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Jan. 17)

Oct. 1 to Apr. 30						May 1 to Sept. 30					
2.6	40	4.0	450	7.0	3,140	2.6	40	4.0	396	7.0	2,920
2.8	69	4.5	730	8.0	4,490	2.8	66	4.4	589	8.0	4,280
3.0	110	5.0	1,070	10.0	7,250	3.0	100	5.0	956	10.0	7,260
3.3	188	5.5	1,480	12.0	10,800	3.3	164	5.5	1,320		
3.6	284	6.0	1,960	14.0	15,100	3.6	249	6.0	1,770		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84	63	174	270	171	565	321	6,210	1,020	256	237	147
2	95	61	166	244	166	505	306	3,580	805	367	303	162
3	80	61	155	231	166	460	288	2,360	656	454	340	185
4	66	61	150	218	171	422	270	1,670	547	516	272	157
5	66	63	180	203	171	387	257	1,280	463	644	207	154
6	67	61	206	188	206	357	1,140	1,020	409	496	187	142
7	66	61	194	191	295	333	8,580	824	367	388	185	121
8	61	61	177	182	427	314	6,930	673	328	325	159	111
9	58	66	166	177	549	295	4,230	661	325	282	157	102
10	88	71	155	185	554	284	2,520	756	355	246	325	89
11	124	82	150	234	543	270	3,670	856	2,460	218	317	82
12	99	90	144	244	538	267	3,950	738	1,680	190	300	74
13	75	92	132	247	599	281	3,010	573	793	201	256	71
14	64	90	132	333	622	288	2,180	486	547	196	243	68
15	66	88	132	404	582	306	1,660	436	449	177	215	65
16	101	88	132	511	522	345	1,350	388	388	167	201	62
17	99	88	127	532	554	341	1,150	367	363	190	212	58
18	88	95	124	460	1,850	317	1,000	380	328	167	196	55
19	82	110	120	400	2,760	295	2,940	526	317	169	1,170	52
20	77	115	117	341	2,290	277	4,490	1,460	632	212	1,210	52
21	71	115	110	310	1,660	264	3,670	1,170	2,660	282	750	51
22	66	155	108	281	1,270	264	2,460	818	1,170	568	531	50
23	63	215	134	260	1,000	260	2,120	585	956	3,650	400	47
24	58	194	155	234	867	260	3,270	922	696	3,460	317	47
25	55	177	174	221	808	274	2,290	1,370	526	1,280	266	48
26	56	163	215	203	756	291	1,620	3,180	418	812	224	50
27	66	150	317	194	762	329	1,350	2,720	355	584	198	50
28	66	139	337	194	688	374	1,230	2,240	321	440	204	48
29	67	132	314	191	622	374	9,130	3,120	340	351	182	46
30	66	132	310	182	-	361	11,400	1,920	282	289	157	46
31	64	-	295	177	-	349	-	1,360	-	240	142	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	2,304	124	55	74.3	0.068	0.08	4,570
November	3,139	215	61	105	.095	.11	6,230
December	5,502	337	108	177	.161	.19	10,910
Calendar year 1939	596,502	86,300	27	1,634	1.49	20.17	1,183,000
January	8,242	532	177	266	.242	.28	16,350
February	22,169	2,760	166	764	.695	.75	43,970
March	10,309	565	260	333	.303	.35	20,450
April	88,782	11,400	257	2,959	2.69	3.00	176,100
May	44,749	6,210	367	1,444	1.31	1.51	88,760
June	20,956	2,660	282	699	.635	.71	41,570
July	17,817	3,650	167	575	.523	.60	35,340
August	10,063	1,210	142	325	.295	.34	19,960
September	2,492	185	46	83.1	.076	.08	4,940
Water year 1939-40	236,524	11,400	46	646	.587	8.00	469,200

Peak discharge.- Apr. 29 (6 p.m.) 13,700 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Ouachita River near Malvern, Ark.

Location.- Water-stage recorder, lat. 34°23', long. 52°51', in NW¼ sec. 16, T. 4 S., R. 17 W., at Rockport Bridge, 2 miles northwest of Malvern and 6 miles downstream from Remmel Dam. Datum of gage is 227.83 feet above mean sea level (general adjustment of 1912).

Drainage area.- 1,570 square miles.

Records available.- March 1903 to April 1905, June 1922 to September 1924, March 1937 to September 1940. January 1925 to March 1937, at site at Remmel Dam, 6 miles upstream, published as Ouachita River at Remmel Dam, near Malvern, Ark.

Extremes.- Maximum discharge during year, 22,000 second-feet Apr. 30 (gage height, 15.82 feet); minimum, 86 second-feet, Nov. 24 (gage height, 0.88 foot); minimum daily, 134 second-feet, Jan. 23.

1903-5, 1922-24, 1937-40: Maximum discharge, 140,000 second-feet May 15, 1923 (gage height, 30.3 feet); minimum discharge observed, 40 second-feet Dec. 18-20, 1904.

Remarks.- Records good. Flow regulated by power plants above station.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

1.0	108	3.0	805	7.8	5,080
1.3	174	3.8	1,260	9.6	7,960
1.7	289	5.0	2,140	12.0	12,700
2.3	500	6.4	3,400	15.0	19,700

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	317	1,180	795	203	439	346	456	13,500	2,640	1,120	610	274
2	711	862	329	278	592	174	787	4,940	2,220	747	680	286
3	602	876	249	248	217	156	1,500	2,910	1,080	447	405	144
4	851	408	346	334	191	651	786	2,820	1,130	182	404	362
5	915	168	467	186	774	470	750	2,730	1,560	151	383	970
6	783	397	370	170	614	752	1,570	2,820	1,770	537	730	970
7	455	384	458	174	332	1,350	2,820	2,820	1,570	290	244	840
8	272	277	558	a160	197	813	2,730	2,820	913	569	229	307
9	762	696	231	a289	741	265	1,080	2,160	272	500	622	481
10	697	991	188	a719	175	162	1,370	1,220	824	275	494	653
11	644	335	319	a397	161	720	2,070	626	1,660	616	166	413
12	939	222	656	a173	203	1,270	2,910	421	3,400	279	414	574
13	721	443	332	189	477	1,120	2,820	703	2,730	259	502	462
14	360	796	330	182	249	1,200	2,550	1,140	2,730	145	365	255
15	159	509	410	174	623	332	2,910	1,100	1,390	560	181	140
16	312	1,080	343	230	630	175	2,910	1,200	436	362	357	329
17	577	1,370	355	196	678	181	2,910	1,570	1,300	278	265	378
18	718	868	647	313	446	564	2,910	1,660	997	509	213	731
19	693	391	694	156	732	541	2,910	1,240	1,060	170	172	1,240
20	533	910	434	218	688	778	2,520	975	1,120	185	214	1,530
21	474	614	480	179	406	623	2,020	1,530	2,250	200	386	843
22	237	391	438	177	178	404	2,910	1,890	2,280	578	518	347
23	255	190	365	134	216	271	2,820	2,900	586	961	768	833
24	936	145	261	309	190	582	2,520	2,660	1,750	3,980	306	597
25	577	152	140	314	174	165	2,820	2,240	899	3,520	179	276
26	535	155	232	263	563	267	2,820	794	637	1,830	789	334
27	1,020	288	554	264	572	947	2,730	4,080	475	556	801	635
28	964	231	525	224	403	1,020	2,640	3,720	508	467	610	265
29	237	405	216	167	338	969	6,040	2,910	421	451	677	164
30	730	619	243	527	-	676	18,400	3,500	280	814	741	190
31	761	-	273	714	-	244	-	2,820	-	741	326	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	18,747	1,020	159	605	37,180
November	16,353	1,370	145	545	32,440
December	12,238	795	140	395	24,270
Calendar year 1939	925,732	92,100	90	2,536	1,836,000
January	8,261	719	134	266	16,390
February	12,199	774	161	421	24,200
March	18,188	1,350	156	587	36,080
April	87,289	18,400	456	2,910	173,100
May	76,419	13,500	421	2,530	155,500
June	40,888	3,400	272	1,363	81,100
July	22,279	3,980	145	719	44,190
August	13,751	801	166	444	27,270
September	15,823	1,530	140	527	31,380
Water year 1939-40	344,435	18,400	134	941	683,100

a No gage-height record; discharge computed on basis of records for power plant at Remmel Dam, 6 miles upstream.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Ouachita River at Monroe, La.

Location.- Wire-weight gage, lat. 32°30', long. 92°07', in T. 18 N., R. 3 E., Louisiana meridian, at bridge on U. S. Highway 80 at Monroe, 0.4 mile upstream from Illinois Central Railroad bridge and 5½ miles upstream from lock and dam 4. Datum of gage is 31.46 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 15,400 square miles (revised).

Records available.- October 1938 to September 1940 in reports of Geological Survey. 1884 to 1891 (gage heights), 1892 to 1927 (gage heights and discharge observations), 1928-38 (daily discharges), in reports of Mississippi River Commission. Discharge observations 1929-38 in reports of Corps of Engineers, U. S. Army. Daily gage heights since June 1884 in reports of Weather Bureau.

Extremes.- Maximum discharge during year, 36,600 second-feet July 17 (from loop rating curve); maximum gage height, 29.1 feet July 18, 19; minimum discharge not determined (pool stage); minimum gage height observed, 13.1 feet Aug. 9.

1938-40: Maximum discharge, 60,800 second-feet Mar. 8-11, 1939 (from loop rating curve); maximum gage height, 41.3 feet Mar. 12-15, 1939; minimum discharge not determined (pool stage); minimum gage height observed, 13.08 feet June 22, 1939.

Maximum stage known, 49.7 feet Feb. 2, 3, 1932 (estimated discharge, 101,000 second-feet).

Remarks.- Records fair. Discharge not determined for stages below about 15 feet because of effect of lock and dam 4. Gage read once daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	12,900	28,300	14,300	15,000	25,600	-
2	-	-	-	-	-	-	12,000	27,000	14,400	15,600	24,800	-
3	-	-	-	-	-	-	12,200	26,700	14,600	18,400	24,100	-
4	-	-	-	-	-	-	11,700	26,200	14,600	20,600	22,800	-
5	-	-	-	-	-	-	10,500	25,900	14,600	21,700	20,800	-
6	-	-	-	-	-	-	6,500	25,900	14,500	23,000	18,100	-
7	-	-	†1,800	-	-	-	12,300	25,900	14,200	24,500	14,800	†1,810
8	-	-	-	-	-	-	13,800	25,900	-	25,900	11,400	-
9	-	†887	-	-	-	-	15,300	25,700	-	27,500	-	-
10	-	-	-	-	8,000	-	17,200	25,700	-	29,000	-	-
11	-	-	-	-	-	-	18,500	25,400	†8,430	30,100	-	-
12	-	-	-	-	-	-	21,100	25,000	-	30,800	-	-
13	†990	-	-	†2,890	-	-	22,000	24,600	-	31,500	†8,610	-
14	-	-	-	-	-	-	22,800	24,100	-	33,000	-	-
15	-	-	-	-	†12,900	13,700	23,800	23,400	-	34,800	-	-
16	-	-	-	-	-	15,700	24,300	22,700	-	36,000	-	†1,270
17	-	-	-	-	-	16,900	24,800	22,000	-	36,600	-	-
18	-	-	-	-	-	17,600	26,800	20,900	14,100	36,300	-	-
19	-	-	-	-	-	17,800	27,900	19,700	13,500	36,200	-	-
20	-	-	-	-	-	17,100	28,200	18,200	13,000	35,100	-	-
21	-	†1,440	-	-	14,000	14,800	28,400	16,400	12,200	34,500	-	-
22	-	-	-	-	15,700	-	28,600	14,600	14,300	34,000	†3,310	-
23	†870	-	-	-	15,700	-	28,700	13,700	16,500	32,600	-	-
24	-	-	-	†2,380	15,200	-	28,700	13,400	16,300	32,000	-	-
25	-	-	-	-	15,400	-	28,700	13,900	16,300	31,400	-	†1,230
26	-	-	-	-	14,200	-	28,700	14,500	16,100	30,900	†3,280	-
27	-	-	-	-	-	-	28,600	14,500	15,700	30,400	-	-
28	-	-	-	-	†11,200	12,000	28,500	14,500	12,700	30,100	-	-
29	-	-	-	-	-	-	28,700	14,200	12,200	29,700	-	-
30	-	-	†4,710	-	-	-	29,000	14,200	14,100	28,500	-	-
31	-	-	-	-	-	12,000	-	14,200	-	27,100	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October							
November							
December							
Calendar year							
January	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-
April	651,200	29,000	6,500	21,710	1.41	1.57	1,292,000
May	647,300	28,300	13,400	20,880	1.36	1.56	1,284,000
June	-	-	-	-	-	-	-
July	902,800	36,600	15,000	29,120	1.89	2.18	1,791,000
August 1-8	162,400	25,600	11,400	20,300	1.32	.39	322,100
September	-	-	-	-	-	-	-
Water year	-	-	-	-	-	-	-

†Discharge measurement.
Note.- Discharge determined from loop rating curves.

Little Missouri River near Murfreesboro, Ark.

Location.- Water-stage recorder, lat. 34°03', long. 93°43', in SE¼ sec. 13, T. 8 S., R. 26 W., 1¼ miles downstream from Muddy Fork, 2 miles southwest of Murfreesboro, and 4 miles upstream from Prairie Creek. Datum of gage is 324.28 feet above mean sea level (general adjustment of 1929).

Drainage area.- 380 square miles.

Records available.- October 1927 to September 1930, July 1937 to September 1940.

Extremes.- Maximum discharge during year, 16,800 second-feet May 18 (gage height, 13.49 feet); minimum, 4.5 second-feet Oct. 1 (gage height, 1.70 feet).
1927-30, 1937-40: Maximum discharge observed, 37,900 second-feet Jan. 24, 1938 (gage height, 17.50 feet), from rating curve extended above 20,000 second-feet; minimum discharge, 3.5 second-feet Sept. 28, 1939 (gage height, 1.64 feet).
Maximum stage known, about 21 feet in April 1927, from information furnished by Arkansas State Highway Department.

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	12	32	46	31	141	88	1,460	563	214	46	22
2	11	12	75	43	30	126	84	934	430	1,650	43	18
3	17	12	71	39	30	113	79	671	340	2,740	50	16
4	17	12	53	36	33	100	75	508	266	1,040	45	14
5	14	12	43	33	33	90	73	402	211	608	45	13
6	12	12	36	33	41	84	810	320	181	435	38	12
7	12	12	32	35	54	77	4,690	253	154	330	31	13
8	11	12	28	33	124	73	1,810	211	138	266	28	12
9	11	12	26	31	116	67	1,010	298	730	215	28	11
10	15	17	25	35	110	63	676	526	1,240	167	30	10
11	15	19	22	43	110	63	1,290	340	1,200	132	36	9.5
12	14	29	21	99	110	75	1,860	258	720	110	55	9.0
13	25	43	20	124	116	86	1,050	207	462	102	52	8.5
14	20	36	19	113	113	107	741	170	340	113	46	8.0
15	18	33	18	102	107	102	563	148	295	88	41	7.5
16	16	29	18	95	97	90	452	138	285	79	35	8.0
17	14	31	18	86	107	84	380	144	295	65	30	7.5
18	12	38	18	77	287	79	380	6,500	616	55	155	7.5
19	12	41	18	69	514	75	1,140	5,930	657	69	174	7.5
20	12	59	18	59	380	71	1,240	1,870	629	135	102	7.5
21	12	47	16	52	295	67	800	1,160	727	561	73	7.5
22	12	39	18	50	231	67	622	778	446	1,750	55	7.1
23	12	33	23	48	188	65	1,240	1,050	335	720	43	8.0
24	12	29	26	41	170	63	741	2,160	244	386	36	9.0
25	12	26	91	35	244	61	556	3,560	188	248	30	12
26	12	23	66	33	244	57	452	1,780	144	167	25	14
27	15	21	71	33	215	65	402	1,900	116	124	22	13
28	14	20	65	33	192	75	417	2,220	102	95	28	13
29	12	19	61	31	164	95	7,610	1,740	490	79	23	15
30	12	26	55	33	-	97	2,590	1,070	240	65	27	12
31	12	-	52	31	-	95	-	741	-	55	27	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October	421.0	25	6.0	13.6	0.036	0.04	835
November	766	59	12	25.5	.067	.07	1,520
December	1,177	91	16	38.0	.100	.12	2,330
Calendar year 1939	198,812.1	12,300	3.6	645	1.43	19.46	394,300
January	1,651	124	31	53.3	.140	.16	3,270
February	4,486	514	30	155	.408	.44	8,900
March	2,573	141	57	83.0	.218	.25	5,100
April	33,923	7,610	73	1,131	2.98	3.32	67,290
May	39,447	6,500	138	1,272	3.35	3.86	78,240
June	12,784	1,240	102	426	1.12	1.25	25,360
July	12,863	2,740	55	415	1.09	1.26	25,510
August	1,499	174	22	48.4	.127	.15	2,970
September	332.1	22	7.1	11.1	.029	.03	659
Water year 1939-40	111,922.1	7,610	6.0	306	.805	10.95	222,000

Peak discharge.- Apr. 29 (9:30 a.m.) 13,600 sec.-ft.; May 18 (7:30 p.m.) 16,800 sec.-ft.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604-O U.S. GOVERNMENT PRINTING OFFICE : 1936

Saline River near Rye, Ark.

Location.- Water-stage recorder, lat. 33°42', long. 92°02', on line between secs. 3 and 4, T. 12 S., R. 9 W., 4 miles southwest of Rye, 5 miles upstream from Hudgin Creek, and 12 miles upstream from former gaging station near Warren.

Drainage area.- 2,040 square miles.

Records available.- August 1937 to September 1940.

Extremes.- Maximum discharge during year, 9,040 second-feet July 3 (gage height, 20.91 feet); minimum, 17 second-feet Nov. 2, 3 (gage height, 4.14 feet).
1937-40: Maximum discharge, 42,300 second-feet Jan. 27, 1938 (gage height, 28.0 feet, from graph based on gage readings); minimum discharge observed, 9.8 second-feet Oct. 18, 1938 (gage height, 3.96 feet).
Maximum stage known, 30.5 feet in April 1927.

Remarks.- Records good.

Rating table, water year 1939-40, except for period of backwater from local inflow, July 2
(gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 11-30)

4.2	21	5.5	193	8.0	866	14.0	3,670
4.4	37	6.0	294	9.0	1,230	16.0	4,920
4.6	58	6.5	414	10.0	1,630	18.0	6,320
5.0	111	7.0	550	12.0	2,570	20.0	7,980

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	19	82	163	128	832	866	2,080	1,040	1,390	208	116
2	25	18	90	163	123	734	815	2,270	900	c4,330	195	123
3	26	17	90	161	126	655	702	2,470	734	8,770	208	188
4	22	18	86	161	134	580	580	2,720	580	7,610	328	191
5	20	16	98	152	136	522	494	2,820	466	5,880	480	225
6	24	16	120	144	139	466	466	2,880	388	3,910	364	218
7	35	19	132	139	152	427	934	2,880	340	2,040	264	177
8	38	20	129	128	165	388	1,680	2,860	292	1,270	204	161
9	32	20	134	122	285	352	1,860	2,670	264	849	188	136
10	28	25	136	117	550	328	2,220	1,810	245	625	184	112
11	27	36	128	118	522	305	2,670	1,040	227	494	182	96
12	29	52	117	118	550	508	3,610	766	206	414	218	89
13	32	75	111	118	625	1,900	3,970	625	193	1,010	193	80
14	30	64	103	132	670	2,320	3,970	550	210	2,370	222	75
15	27	50	96	153	655	1,900	3,790	508	494	2,990	294	69
16	24	48	93	170	610	1,510	3,670	466	625	2,170	388	65
17	23	55	89	169	610	1,190	3,550	414	550	640	364	62
18	22	59	83	218	1,010	934	3,610	364	466	522	376	57
19	20	69	80	235	1,510	734	3,730	328	401	610	388	55
20	21	80	78	233	1,550	595	3,610	294	352	1,510	294	54
21	21	73	76	f212	1,630	494	3,490	281	376	2,120	274	52
22	21	70	75	f193	1,760	427	3,490	292	718	2,120	440	51
23	21	79	96	f184	1,900	376	3,430	340	1,390	1,860	453	51
24	21	84	126	f182	2,080	340	3,320	466	1,900	1,680	328	51
25	21	80	150	f153	2,080	316	3,320	580	2,320	1,510	249	46
26	22	76	134	f136	1,810	292	3,160	610	2,620	1,080	206	46
27	24	71	128	f134	1,390	290	2,990	934	2,770	655	177	43
28	22	68	139	136	1,080	401	2,820	1,350	2,940	440	161	43
29	22	68	144	142	934	440	2,220	1,550	2,940	340	144	46
30	22	70	147	142	-	536	2,120	1,550	2,420	285	129	68
31	20	-	153	139	-	782	-	1,310	-	245	132	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	768	38	20	24.8	0.012	0.01	1,520
November	1,520	84	17	50.7	.025	.03	3,010
December	3,443	153	75	111	.054	.06	6,830
Calendar year 1939	1,252,524	30,600	17	3,432	1.68	22.82	2,484,000
January	4,887	235	117	158	.077	.09	9,690
February	24,914	2,080	123	859	.421	.45	49,420
March	21,874	2,320	290	706	.346	.40	43,390
April	76,957	3,970	466	2,565	1.26	1.40	152,600
May	40,098	2,880	281	1,293	.634	.73	79,530
June	29,367	2,940	193	979	.480	.54	58,250
July	61,739	8,770	245	1,992	.976	1.13	122,500
August	8,235	480	129	266	.130	.15	16,330
September	2,848	225	43	94.9	.047	.05	5,650
Water year 1939-40	276,650	8,770	17	756	.371	5.04	548,700

c Stage-discharge relation affected by backwater from local inflow; discharge from temporary curve based on two measurements.
f Fragmentary gage-height record; discharge computed on basis of partly estimated gage-height record.

Bayou Bartholomew near Beekman, La.

Location.- Wire-weight gage, lat. 32°52', long. 91°52', in NW¼ sec. 28, T. 22 N., R. 6 E., Louisiana meridian, at bridge on State Highway 204, 4 miles south of Beekman, 7 miles north of Bastrop, and 49.2 miles upstream from mouth. Datum of gage is 70.688 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,645 square miles (revised).

Records available.- August 1928 to September 1929 and October 1938 to September 1940 in reports of Geological Survey. November 1929 to September 1931 in reports of Corps of Engineers, U. S. Army. Gage heights as follows: August 1928 to October 1931 (fragmentary), unpublished records in files of Corps of Engineers, U. S. Army. August 1932 to September 1938 in reports of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge observed during year, 8,570 second-feet July 16 (gage height, 23.83 feet); minimum observed, 107 second-feet Nov. 9 (gage height, 1.04 feet).

1928-29, 1938-40: Maximum discharge observed, that of July 16, 1940; maximum gage height, 24.79 feet Mar. 2, 3, 1939; minimum discharge not determined; minimum gage height, that of Nov. 9, 1939.

Maximum stage known, 26.75 feet Apr. 17, 1927, from floodmark (affected by Mississippi River crevasse flow).

Remarks.- Records fair. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 29 to July 2)

1.0	102	6.6	1,040	21.0	6,670
1.4	147	8.0	1,410	23.8	8,570
2.2	254	11.6	2,600		
4.4	632	18.0	5,100		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	135	112	117	270	160	1,090	1,980	4,510	632	524	3,450	225
2	117	112	117	266	160	1,040	1,910	4,430	542	614	3,380	225
3	117	112	117	270	154	1,000	1,820	4,350	471	1,500	3,220	225
4	123	112	117	270	154	980	1,720	4,270	420	2,310	3,050	225
5	123	112	117	254	199	960	1,560	4,190	369	3,150	2,810	225
6	123	107	117	239	352	940	1,500	4,110	352	3,950	2,560	225
7	123	107	117	239	403	920	2,600	3,990	318	4,550	2,310	225
8	123	107	117	225	403	902	3,410	3,830	318	5,150	2,110	225
9	123	107	117	225	560	884	3,600	3,680	302	5,560	1,980	212
10	123	107	112	212	758	866	3,640	3,530	286	5,760	1,880	199
11	123	107	117	199	830	830	3,790	3,340	286	5,860	1,690	199
12	123	112	117	199	884	830	4,230	3,150	254	5,810	1,440	199
13	117	123	117	212	960	902	4,550	2,960	225	6,080	1,180	186
14	117	129	112	225	1,040	960	4,310	2,810	225	7,110	1,020	186
15	117	123	112	225	1,110	940	4,190	2,600	225	8,260	884	186
16	117	129	117	225	1,150	1,000	4,110	2,420	212	8,570	776	199
17	117	123	117	225	1,240	1,150	4,070	2,210	225	8,260	704	199
18	117	123	117	225	1,380	1,320	4,710	2,010	225	7,900	614	199
19	117	[illegible]		225	1,470	1,470	5,190	1,850	225	7,500	542	199
20	117		123	[illegible]	1,440	1,620	5,420	1,660	254	7,170	488	186
21	[illegible]	123	123	212	1,410	1,750	5,560	1,470	596	6,860	437	186
22	[illegible]	123	129	212	1,380	1,850	5,610	1,290	722	6,610	386	173
23	[illegible]	117	154	225	1,350	1,880	5,510	1,180	740	6,310	352	173
24	117	117	173	239	1,350	1,880	5,280	1,180	884	5,760	335	160
25	117	117	166	239	1,410	1,910	5,060	1,150	980	5,380	318	160
26	117	117	225	225	1,380	1,910	4,840	1,260	1,040	5,150	302	147
27	112	117	254	199	1,320	1,910	4,630	1,290	1,020	4,750	286	141
28	112	117	254	186	1,240	1,880	4,430	1,180	902	4,390	270	141
29	112	117	254	186	1,150	1,850	4,390	1,040	722	4,110	254	141
30	112	117	254	173	-	1,910	4,430	902	614	3,870	239	147
31	112	-	270	160	-	2,010	-	758	-	3,640	225	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	3,669	135	112	118	0.072	0.08	7,280
November	3,492	129	107	116	.071	.08	6,930
December	4,607	270	112	149	.091	.10	9,140
Calendar year	-	-	-	-	-	-	-
January	6,931	286	160	224	.136	.16	13,750
February	26,797	1,470	154	924	.582	.61	53,150
March	41,344	2,010	830	1,334	.811	.93	82,000
April	118,050	5,610	1,500	3,935	2.39	2.67	234,100
May	78,600	4,510	758	2,535	1.54	1.78	155,900
June	14,586	1,040	212	486	.295	.33	28,930
July	162,418	8,570	524	5,239	3.18	3.67	322,200
August	39,472	3,450	225	1,273	.774	.89	78,290
September	5,718	225	141	191	.116	.13	11,340
Water year 1939-40	505,684	8,570	107	1,382	.840	11.43	1,003,000

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604-0 U.S. GOVERNMENT PRINTING OFFICE 1936

Cornie Bayou near Lillie, La.

Location.- Wire-weight gage, lat. 32°53', long. 92°39', in sec. 22, T. 22 N., R. 3 W., Louisiana meridian, at bridge on U. S. Highway 167, 2 miles upstream from Little Cornie Bayou and 3 miles south of Lillie.
Drainage area.- 475 square miles.
Records available.- June to September 1940.
Extremes.- Maximum discharge during period, 1,210 second-feet June 24 (gage height, 12.02 feet, from graph based on gage readings); minimum discharge observed, 19 second-feet July 31, Aug. 1, Sept. 26, 27; minimum gage height, 1.78 feet Aug. 1 and Sept. 27.
Remarks.- Records good. Gage read twice daily.

Discharge, in second-feet, 1940

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	-	322	25	106	11	58	631	285	54	21	781	96	39	26
2	-	484	46	96	12	71	472	322	50	22	910	86	41	24
3	-	866	33	86	13	86	393	312	43	23	1,020	91	40	22
4	-	1,160	35	96	14	101	294	258	41	24	1,090	101	101	24
5	-	1,190	31	86	15	96	225	175	39	25	761	96	96	22
6	-	1,160	54	81	16	127	195	144	37	26	437	71	86	19
7	-	1,090	71	66	17	175	181	101	33	27	233	52	81	20
8	64	1,070	81	66	18	352	162	81	30	28	162	35	138	43
9	43	999	175	64	19	460	133	64	28	29	225	31	133	41
10	56	866	285	61	20	631	101	43	26	30	267	25	116	39
										31	-	19	111	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
June 8-30	8,206	1,090	43	357	0.752	0.64	16,280
July	12,697	1,190	19	410	.863	.99	25,180
August	3,603	322	25	116	.244	.28	7,150
September	1,469	106	19	49.0	.103	.12	2,910
The period	-	-	-	-	-	-	51,520

Bayou Desiard at Monroe, La.

Location.- Wire-weight gage, lat. 32°33', long. 92°08', in sec. 13, T. 18 N., R. 3 E., Louisiana meridian, at city of Monroe pumping station, 100 feet east of east levee of Ouachita River and 1 mile north of Monroe. Datum of gage is at mean sea level (general adjustment of 1929, levels by city of Monroe).
Records available.- February 1939 to September 1940 (gage heights only).
Extremes.- Maximum gage height observed during year, 68.87 feet Apr. 30; minimum gage height observed, 65.11 feet Dec. 22.
1939-40: Maximum gage height observed, 69.00 feet Apr. 24, 1939; minimum gage height observed, that of Dec. 22, 1939.
Remarks.- Daily gage heights computed from twice-daily gage readings. Bayou Desiard, which is a source of water supply for city of Monroe, is a long narrow lake, formed by an old channel of Bayou Bartholomew. It is dammed off from Bayou Bartholomew at its north end by a levee and from Ouachita River on west end by a levee and flood gates.
Cooperation.- Gage-height record collected in cooperation with city of Monroe, La.

Gage height, in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65.72	65.32	65.26	66.17	66.26	67.82	67.48	68.72	68.21	68.06	67.93	67.40
2	65.70	65.30	65.27	66.18	66.25	67.79	67.44	68.64	68.16	68.04	67.90	67.38
3	65.69	65.28	65.25	66.18	66.24	67.76	67.41	68.61	68.15	68.22	67.85	67.32
4	65.72	65.28	65.24	66.20	66.33	67.72	67.40	68.59	68.12	68.24	67.85	67.35
5	65.70	65.28	65.24	66.31	66.54	67.67	67.40	68.58	68.08	68.28	67.84	67.34
6	65.63	65.24	65.23	66.30	66.77	67.64	67.38	68.57	68.04	68.35	67.83	67.32
7	65.62	65.22	65.23	66.36	66.80	67.61	67.81	68.56	68.07	68.42	67.80	67.30
8	65.60	65.21	65.21	66.36	66.88	67.54	67.80	68.54	67.98	68.47	67.84	67.28
9	65.59	65.20	65.20	66.36	67.20	67.50	67.82	68.49	67.80	68.50	67.88	67.26
10	65.61	65.21	65.19	66.36	67.42	67.48	67.88	68.42	67.93	68.50	67.92	67.24
11	65.63	65.20	65.18	66.36	67.50	67.46	67.84	66.40	67.93	68.49	67.92	67.23
12	65.62	65.24	65.17	66.37	67.58	67.42	67.23	68.38	67.90	68.48	67.92	67.22
13	65.60	65.73	65.18	66.37	67.66	67.25	67.22	68.36	67.88	68.49	67.90	67.19
14	65.67	65.39	65.18	66.37	67.69	67.74	67.40	68.31	67.84	68.48	67.90	67.18
16	65.55	65.38	65.18	66.37	67.74	67.73	68.28	68.26	67.84	68.46	67.88	67.16
16	65.54	65.38	65.16	66.37	67.76	67.72	68.32	68.24	67.85	68.46	67.87	67.16
17	65.50	65.38	65.16	66.38	67.78	67.80	68.31	68.18	67.88	68.44	67.82	67.16
18	65.48	65.36	65.15	66.36	67.86	67.81	68.84	68.14	67.94	68.45	67.77	67.16
19	65.42	65.34	65.14	66.37	67.89	67.81	68.76	68.11	67.91	68.48	67.75	67.16
20	65.44	65.34	61.12	66.36	67.85	67.81	68.61	68.03	67.90	68.40	67.71	67.15
21	65.43	65.33	65.12	66.32	67.85	67.80	68.60	68.00	67.92	68.34	67.67	67.13
22	65.42	65.32	65.11	66.31	67.86	67.78	68.59	67.98	67.94	68.31	67.62	67.12
23	65.40	65.32	65.38	66.31	67.86	67.74	68.59	68.27	67.93	68.28	67.60	67.12
24	65.40	65.31	65.57	66.31	67.88	67.70	68.50	68.30	67.92	68.24	67.56	67.18
26	65.39	65.30	65.60	66.31	67.90	67.68	68.60	68.24	67.90	68.18	67.54	67.15
26	65.39	65.29	66.01	66.32	67.89	67.62	68.70	68.25	67.89	68.12	67.52	67.14
27	65.40	65.26	66.04	66.31	67.88	67.55	68.56	68.24	67.86	68.08	67.51	67.14
28	65.36	65.26	66.08	66.30	67.88	67.53	68.54	68.24	67.86	68.03	67.50	67.14
29	65.33	65.23	66.12	66.28	67.84	67.50	68.64	68.26	68.08	67.96	67.46	67.19
30	65.28	65.24	66.11	66.28	-	67.50	68.87	68.24	68.09	67.94	67.44	67.13
31	65.27	-	66.17	66.27	-	67.52	-	68.23	-	67.96	67.42	-

Boeuf River near Girard, La.

Location.- Staff gage, lat. 32°29', long. 91°48', on line between sec. 1, T. 17 N., R. 6 E., and sec. 6, T. 17 N., R. 7 E., Louisiana meridian, at Illinois Central Railroad bridge, 200 feet downstream from bridge on U. S. Highway 80 and half a mile east of Girard. Datum of gage is 51.68 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Records available.- October 1938 to September 1940 in reports of Geological Survey. Daily gage heights as follows: 1886 to 1894 in reports of Weather Bureau, September 1925 to December 1931 (unpublished), in files of Corps of Engineers, U. S. Army; January 1932 to September 1938 in reports of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge observed during year, 2,580 second-feet Apr. 30 and May 1 (gage height, 15.0 feet); minimum, 30 second-feet Oct. 28 to Nov. 7; minimum gage height, 0.9 foot Dec. 10-22.

1938-40: Maximum discharge observed, that of Apr. 30 and May 1, 1940; minimum, that of Oct. 28 to Nov. 7, 1939; minimum gage height, that of Dec. 10-22, 1939.

Maximum stage known, 29.5 feet May 7, 1927 (affected by Mississippi River crevasse flow).

Remarks.- Records fair. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 28)

0.6	30	2.2	250	11.0	1,720
.8	53	5.4	744	15.0	2,580

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	30	41	584	150	1,200	600	2,560	430	490	1,700	164
2	53	30	41	536	136	1,130	584	2,430	400	520	1,530	164
3	41	30	41	490	136	1,080	600	2,270	385	942	1,420	164
4	41	30	41	475	178	1,010	648	2,120	370	1,180	1,260	150
5	41	30	41	460	265	942	696	1,960	340	1,320	1,130	150
6	41	30	41	460	536	857	744	1,860	310	1,400	1,030	150
7	41	30	41	475	557	776	1,180	1,760	280	1,700	942	150
8	41	41	41	490	1,040	712	1,480	1,640	250	1,900	857	136
9	41	41	41	505	1,180	632	1,720	1,530	220	2,010	824	136
10	41	41	41	505	1,280	568	1,800	1,390	206	2,030	776	136
11	41	41	41	490	1,350	520	1,840	1,250	206	2,030	744	122
12	41	53	41	475	1,400	490	2,100	1,130	192	2,050	696	122
13	41	41	41	460	1,420	680	2,180	1,010	178	2,140	648	108
14	41	53	41	445	1,460	857	2,210	891	178	2,210	584	108
15	41	53	41	430	1,480	959	2,230	792	178	2,230	536	108
16	41	53	41	400	1,490	1,040	2,250	696	178	2,230	475	108
17	41	53	41	385	1,510	1,110	2,250	616	206	2,230	430	94
18	41	53	41	370	1,590	1,160	2,320	552	206	2,230	385	94
19	41	53	41	355	1,620	1,210	2,340	490	250	2,230	340	80
20	41	53	41	340	1,620	1,230	2,340	430	235	2,230	310	80
21	41	53	41	310	1,590	1,230	2,320	400	220	2,250	280	80
22	41	53	41	295	1,550	1,210	2,270	370	192	2,270	265	80
23	41	53	80	295	1,510	1,180	2,230	616	164	2,290	235	80
24	41	53	136	265	1,480	1,110	2,210	776	164	2,290	220	94
25	41	53	235	250	1,440	1,040	2,180	760	150	2,290	206	94
26	41	53	385	235	1,420	959	2,160	696	150	2,250	206	94
27	41	53	505	220	1,370	857	2,120	632	150	2,230	192	94
28	30	41	648	192	1,320	776	2,070	584	178	2,160	192	80
29	30	41	712	178	1,260	712	2,180	552	295	2,100	192	80
30	30	41	680	164	-	680	2,540	520	460	2,010	178	80
31	30	-	632	164	-	632	-	475	-	1,860	178	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,251	53	30	40.4	2,480
November	1,333	53	30	44.4	2,640
December	4,915	712	41	159	9,750
Calendar year 1939	218,603	2,310	30	599	433,600
January	11,698	584	164	377	23,200
February	33,638	1,620	136	1,160	66,720
March	28,549	1,230	490	921	56,630
April	54,392	2,540	584	1,813	107,900
May	33,758	2,560	370	1,089	66,960
June	7,321	460	150	244	14,520
July	59,302	2,290	490	1,913	117,600
August	18,961	1,700	178	612	37,610
September	3,380	164	80	113	6,700
Water year 1939-40	258,498	2,560	30	706	512,700

U. S. GOVERNMENT PRINTING OFFICE 1936—O-182000

Bayou La Fourche near Crew Lake, La.

Location.- Staff gage, lat. 32°30', long. 91°55', in SW¼ sec. 36, T. 18 N., R. 5 E., Louisiana meridian, at bridge on U. S. Highway 80, 1.1 miles upstream from Illinois Central Railroad bridge and 2½ miles west of Crew Lake. Datum of gage is 56.12 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Records available.- December 1938 to September 1940.

Extremes.- Maximum discharge during year, 7,490 second-feet Apr. 13, 14 (gage height, 7.5 feet); minimum, 1 second-foot Oct. 6-8, 21-24 (gage height, 0.6 foot).
1938-40: Maximum discharge, that of Apr. 13, 14, 1940 (gage height, 7.5 feet); minimum, 1 second-foot on many days.
Maximum stage known, 9.30 feet in December 1931, from floodmark.

Remarks.- Records good above and poor below 50 second-feet. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)

0.6	1	2.7	94	4.6	630
.8	3	3.0	127	4.8	810
1.0	7	3.4	185	5.2	1,310
1.1	10	3.7	240	5.6	1,950
1.8	38	3.9	295	6.1	2,930
2.2	58	4.1	370	6.6	4,310
2.5	77	4.4	510	7.5	7,490

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	3	22	510	38	1,240	61	6,410	390	1,170	2,710	14
2	2	3	22	510	38	1,050	121	6,770	280	1,450	2,220	13
3	2	3	22	410	48	930	169	6,410	202	1,950	1,860	13
4	2	3	22	330	77	760	193	6,050	133	2,310	1,530	13
5	2	3	22	265	169	600	211	4,970	65	2,510	1,240	12
6	1	3	22	220	370	485	220	4,010	67	2,710	1,050	11
7	1	3	22	220	710	370	930	3,170	58	3,170	760	10
8	1	5	22	265	1,170	280	2,930	2,710	50	4,010	570	9
9	2	5	22	265	1,610	240	4,630	2,310	43	4,630	510	8
10	2	5	22	240	2,130	202	6,050	1,950	73	4,970	510	7
11	2	5	22	240	2,310	161	6,770	1,450	230	5,330	540	7
12	3	7	22	220	2,510	133	7,130	1,110	280	4,970	510	6
13	3	14	22	202	2,710	330	7,490	810	280	5,330	460	6
14	3	14	22	202	2,930	760	7,490	630	202	5,690	350	5
15	3	16	22	185	2,710	1,240	7,130	485	127	5,690	265	5
16	2	18	22	154	2,510	1,380	6,770	350	104	5,690	193	5
17	2	18	22	127	2,510	1,530	6,770	252	127	5,690	121	5
18	2	18	26	104	2,710	1,610	6,410	211	410	5,330	85	4
19	2	18	26	85	2,710	1,530	6,410	169	630	5,330	53	4
20	2	18	26	77	2,710	1,450	6,410	121	670	4,970	36	4
21	1	18	26	70	2,710	1,380	6,410	104	710	4,970	30	3
22	1	18	26	64	2,710	1,240	6,410	94	760	4,970	26	3
23	1	18	38	53	2,510	1,170	6,050	220	670	4,970	21	3
24	1	22	53	48	2,310	990	5,690	1,110	600	4,970	20	4
25	2	22	94	43	2,310	760	5,330	1,360	485	4,630	19	5
26	2	22	185	38	2,130	540	4,970	1,380	390	4,310	18	5
27	2	22	265	38	1,770	350	4,630	1,310	312	4,310	18	5
28	2	22	330	38	1,610	193	4,310	1,110	280	4,310	17	5
29	2	22	410	38	1,450	89	4,630	870	460	4,010	16	5
30	2	22	460	38	-	30	6,050	670	930	3,710	14	5
31	2	-	510	38	-	34	-	510	-	3,170	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	59	3	1	1.9	117
November	392	22	3	13.1	778
December	2,849	510	22	91.9	5,650
Calendar year 1939	303,964	4,870	1	833	603,500
January	5,337	510	38	172	10,590
February	52,190	2,930	38	1,800	103,500
March	23,057	1,610	30	744	45,730
April	138,775	7,490	61	4,626	275,300
May	59,106	6,770	94	1,907	117,200
June	10,038	930	43	335	19,910
July	131,230	5,690	1,170	4,233	260,300
August	15,786	2,710	14	509	31,310
September	204	14	3	6.8	405
Water year 1939-40	439,023	7,490	1	1,200	870,800

Tensas River at Tendal, La.

Location.- Staff gage, lat. 32°26', long. 91°22', in NW¼ sec. 29, T. 17 N., R. 11 E., Louisiana meridian, at logging railroad bridge 1,000 feet upstream from bridge on U. S. Highway 80 at Tendal and 3 miles east of Waverly. Datum of gage is 50.08 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Records available.- October 1938 to September 1940 in reports of Geological Survey. December 1935 to September 1938, in reports of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge observed during year, 2,440 second-feet July 15 (gage height, 19.56 feet); minimum, 5 second-feet on many days in October and November; minimum gage height, 6.1 feet on many days in October, November, and December.

1938-40: Maximum discharge observed, that of July 15, 1940; minimum discharge, 5 second-feet on many days in 1939 and 1940; minimum gage height observed, 6.0 feet Dec. 16, 17, 1938.

Maximum stage known, 34.02 feet May 15, 1927 (affected by Mississippi River crevasse flow).

Remarks.- Records fair. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Nov. 10, July 30 to Sept. 30)

6.0	5	8.2	226	15.8	1,458
6.3	20	10.0	470	17.8	1,910
7.2	112	12.4	848	19.6	2,440

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	10	15	178	29	635	369	2,140	356	239	515	54
2	15	10	15	156	34	620	369	2,320	291	265	440	52
3	15	10	15	112	40	440	343	2,230	213	763	395	49
4	15	10	15	112	80	369	317	2,080	167	1,090	425	47
5	15	10	10	123	278	304	395	1,880	128	1,170	395	42
6	15	10	10	123	831	252	470	1,710	112	1,170	356	45
7	15	10	10	145	967	213	575	1,500	96	1,560	317	48
8	10	5	10	189	831	178	665	1,360	90	1,960	239	52
9	10	5	10	189	899	156	650	1,220	90	2,140	213	50
10	10	5	10	189	1,040	134	590	1,090	85	1,990	189	49
11	10	15	10	167	1,070	123	605	950	75	1,960	178	45
12	10	15	10	145	1,020	189	916	814	75	1,990	167	40
13	5	30	10	123	950	356	1,090	695	75	2,080	156	40
14	5	30	10	106	1,050	485	1,100	545	96	2,230	156	37
15	5	30	10	96	1,140	620	1,040	440	128	2,410	140	37
16	5	30	10	85	1,040	780	899	356	189	2,380	140	35
17	5	30	10	75	1,050	682	814	304	178	2,260	134	34
18	5	30	10	70	1,220	797	882	265	123	2,110	123	32
19	5	30	10	60	1,360	695	1,170	213	106	1,960	112	32
20	5	20	10	50	1,360	605	1,340	178	112	2,020	106	30
21	5	15	10	40	1,280	515	1,340	156	123	1,940	101	30
22	5	15	10	39	1,170	455	1,240	g213	128	1,780	101	29
23	5	15	20	37	1,070	425	1,090	g382	134	1,600	90	29
24	5	15	50	31	967	343	967	g605	128	1,480	90	28
25	5	15	70	28	916	226	848	780	123	1,320	85	30
26	10	15	123	26	848	189	780	814	118	1,200	80	30
27	10	15	200	21	797	167	712	780	112	1,070	70	31
28	10	10	213	20	712	134	575	763	112	933	70	30
29	10	10	200	21	635	134	665	680	156	814	65	29
30	10	10	169	22	-	226	1,480	530	239	729	60	29
31	10	-	178	25	-	317	-	440	-	620	58	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	280	15	5	9.0	555
November	480	30	5	16.0	952
December	1,483	213	10	47.8	2,940
Calendar year 1939	103,485	1,650	5	284	205,300
January	2,803	189	20	90.4	5,560
February	24,684	1,360	29	851	48,960
March	11,964	882	123	386	23,730
April	24,296	1,480	317	810	48,190
May	28,433	2,320	156	917	56,400
June	4,158	356	75	139	8,250
July	47,233	2,410	239	1,524	93,690
August	5,766	515	58	186	11,440
September	1,145	54	28	38.2	2,270
Water year 1939-40	152,725	2,410	5	417	302,900

g Computed from graph based on gage readings.

Bayou Macon near Delhi, La.

Location.- Staff gage, lat. 32°27', long. 91°29', in SE¼ sec. 18, T. 17 N., R. 10 E., Louisiana meridian, at Illinois Central Railroad bridge, 150 feet downstream from U. S. Highway 80 and 1 mile east of Delhi. Datum of gage is 50.07 feet above mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Records available.- October 1938 to September 1940 in reports of Geological Survey. October 1935 to September 1938 in reports of Corps of Engineers, U. S. Army. Daily gage heights as follows: 1885 to 1899 in reports of Weather Bureau; September 1925 to December 1931, (unpublished), in files of Corps of Engineers, U. S. Army. January 1932 to September 1938 in files of Corps of Engineers, U. S. Army.

Extremes.- Maximum discharge observed during year, 3,350 second-feet July 14 (gage height, 19.05 feet); minimum observed, 63 second-feet Oct. 1-4 (gage height, 0.5 foot).

1938-40: Maximum discharge, 3,760 second-feet Feb. 28 to Mar. 2, 1939; maximum gage height observed, that of July 14, 1940; minimum discharge, 47 second-feet Sept. 28, 29, 1939; minimum gage height, 0.4 foot on many days in 1939.

Maximum stage known, 34.6 feet May 10-11, 1927 (affected by Mississippi River crevasse flow).

Remarks.- Records fair. Gage read twice daily.

Cooperation.- Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 3 to Dec. 22)

0.5	63	5.0	843	13.0	2,270
1.0	143	7.0	1,190	16.0	2,810
2.0	318	9.0	1,550	19.0	3,350
3.0	493	11.0	1,910		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	111	79	405	92	1,140	1,070	3,040	738	318	1,350	388
2	63	111	79	265	95	1,090	1,050	3,150	650	598	1,280	370
3	63	111	79	265	127	1,040	1,020	3,130	598	1,140	1,230	353
4	63	111	79	283	230	983	965	3,020	563	1,510	1,190	353
5	79	111	79	283	598	948	913	2,860	528	1,750	1,190	335
6	79	79	79	265	1,190	895	878	2,660	493	1,840	1,160	335
7	79	79	79	318	1,530	860	930	2,450	458	2,230	1,100	318
8	79	79	79	300	1,620	825	1,230	2,250	440	2,650	1,050	300
9	79	79	79	300	1,820	808	1,640	2,050	423	2,930	1,000	283
10	79	79	79	300	2,030	755	1,870	1,870	423	3,100	965	283
11	79	95	79	283	2,090	738	2,020	1,710	423	3,170	930	265
12	79	95	79	283	2,000	773	2,270	1,570	405	3,200	895	248
13	79	95	79	265	1,840	1,180	2,410	1,420	388	3,240	860	230
14	79	95	79	248	1,670	1,510	2,470	1,300	405	3,330	808	230
15	79	95	79	248	1,490	1,620	2,410	1,230	370	3,330	755	213
16	79	79	79	230	1,320	1,600	2,290	1,120	388	3,280	720	213
17	95	79	79	248	1,320	1,530	2,120	1,050	423	3,150	703	195
18	95	79	79	230	1,550	1,420	2,140	1,000	440	3,010	668	195
19	95	79	79	204	1,750	1,330	2,320	948	388	2,860	633	186
20	95	79	79	169	1,840	1,240	2,500	913	353	2,830	598	178
21	95	79	79	152	1,800	1,190	2,610	843	353	2,830	563	178
22	95	79	95	135	1,690	1,160	2,610	825	370	2,770	545	169
23	95	79	195	135	1,550	1,120	2,540	1,160	370	2,660	528	169
24	95	79	300	119	1,420	1,100	2,410	1,580	353	2,520	510	204
25	95	79	370	111	1,370	1,070	2,270	1,530	335	2,360	493	178
26	95	79	493	103	1,330	1,040	2,140	1,420	318	2,180	475	160
27	95	79	510	93	1,300	1,000	2,020	1,320	300	2,000	458	152
28	111	79	563	89	1,260	983	1,940	1,180	283	1,850	440	143
29	111	79	580	89	1,190	965	2,110	1,050	370	1,690	423	143
30	111	79	545	89	-	983	2,680	930	353	1,570	405	135
31	111	-	475	89	-	1,040	-	808	-	1,440	388	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,689	111	63	86.7	5,330
November	2,610	111	79	87.0	5,180
December	5,785	580	79	187	11,470
Calendar year 1939	354,916	3,760	47	972	703,000
January	6,596	405	89	213	13,080
February	39,112	2,090	92	1,349	77,580
March	33,936	1,620	738	1,095	67,310
April	57,846	2,680	878	1,928	114,700
May	51,387	3,150	808	1,658	101,900
June	12,702	738	283	423	25,190
July	73,336	3,330	318	2,366	145,500
August	24,313	1,350	388	784	48,220
September	7,102	388	135	237	14,090
Water year 1939-40	317,414	3,330	63	867	629,600

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Dugdemona River near Jonesboro, La.

Location.- Water-stage recorder, lat. 32°13', long. 92°48', in sec. 8, T. 14 N., R. 4 W., Louisiana meridian, at bridge on State Highway 13, 2 miles downstream from Potts and Big Creeks and 6 miles southwest of Jonesboro.

Drainage area.- 351 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 5,680 second-feet May 1 (gage height, 14.42 feet); minimum discharge, 3.9 second-feet Dec. 17, 18; minimum gage height, 3.10 feet Oct. 18.

1938-40: Maximum discharge, that of May 1, 1940; minimum, that of Dec. 17, 18, 1939; minimum gage height, 3.09 feet Sept. 21, 1939.

Remarks.- Records good. Water used by a paper mill at Hodge is pumped from wells and discharged into the stream about 7 miles above the station. This discharge is not continuous but is stored in a reservoir and is released whenever the river flow is sufficient to materially dilute this effluent.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	8.2	14	249	82	348	388	4,460	80	a140	72	42
2	8.1	7.9	12	170	87	291	418	4,910	64	a348	116	34
3	8.2	7.7	10	122	84	253	402	3,020	49	388	179	28
4	8.8	8.5	10	114	119	216	312	1,850	35	374	195	23
5	8.9	9.9	8.9	177	440	195	262	1,250	30	402	152	18
6	8.5	11	9.5	238	2,050	170	291	875	26	462	176	17
7	7.8	10	15	325	3,950	158	664	578	25	528	158	16
8	8.2	8.4	14	374	3,560	140	1,550	361	25	516	102	19
9	8.2	7.9	15	382	3,560	128	1,970	245	39	411	265	20
10	7.4	9.2	14	374	4,470	119	1,740	297	61	361	443	14
11	7.3	11	13	355	4,260	110	1,460	427	131	318	592	13
12	8.1	13	12	300	3,750	108	1,420	452	113	230	635	13
13	7.8	13	12	238	2,850	146	1,420	374	72	170	620	12
14	8.4	13	11	198	1,970	368	1,340	245	58	220	446	11
15	8.2	11	7.5	170	1,440	592	1,380	155	54	348	257	10
16	7.8	36	5.4	152	1,120	1,030	1,220	110	140	418	149	10
17	6.0	52	4.3	143	950	1,600	950	91	423	462	97	10
18	4.8	38	5.2	137	852	1,320	682	80	1,720	483	75	10
19	7.4	25	9.6	119	830	950	592	67	5,020	434	60	10
20	8.4	15	9.9	104	875	666	666	58	3,850	418	112	10
21	7.6	12	9.4	89	875	452	752	52	2,230	418	230	9.9
22	5.9	10	12	77	852	335	790	45	1,420	434	216	10
23	5.3	9.9	31	79	752	253	752	41	1,000	382	124	11
24	7.3	11	77	74	592	209	592	54	764	271	72	10
25	8.4	11	89	72	472	170	418	70	505	182	52	13
26	11	11	205	77	402	152	297	75	319	125	40	19
27	11	10	345	72	402	134	216	64	202	97	33	15
28	11	10	374	69	418	125	176	67	a134	72	30	13
29	10	10	374	74	388	128	367	97	a105	60	27	14
30	10	12	374	74	-	205	980	108	a105	58	24	11
31	8.8	-	340	77	-	323	-	94	-	62	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	252.4	11	4.8	8.14	501
November	422.6	52	7.7	14.1	838
December	2,442.7	374	4.3	78.8	4,850
Calendar year 1939	109,051.8	4,390	4.3	299	216,300
January	5,275	382	69	170	10,460
February	42,452	4,470	82	1,464	84,200
March	11,394	1,600	108	368	22,600
April	24,467	1,970	176	816	48,530
May	20,672	4,910	41	667	41,000
June	18,799	5,020	25	627	37,290
July	9,592	528	58	309	19,030
August	5,779	635	24	186	11,460
September	465.9	42	9.9	15.5	924
Water year 1939-40	142,013.6	5,020	4.3	388	281,700

a No gage-height record; discharge computed on basis of records for station near Winnfield.

Dugdemona River near Winnfield, La.

Location.- Wire-weight gage, lat. 31°58', long. 92°39', in sec. 34, T. 12 N., R. 3 W., Louisiana meridian, at bridge on U. S. Highway 167, 300 feet upstream from Chicago & Rock Island Railroad bridge, 4 miles north of Winnfield, and about 7 miles downstream from mouth of Big Creek.

Drainage area.- 659 square miles.

Records available.- April 1939 to September 1940.

Extremes.- Maximum discharge during year, 5,700 second-feet Feb. 11, 12; maximum gage height, 18.04 feet Feb. 11; minimum discharge observed, 4.3 second-feet Oct. 25; minimum gage height observed, 1.66 feet Oct. 1, 25.
1939-40: Maximum discharge, that of Feb. 11, 12, 1940; maximum gage height, that of Feb. 11, 1940; minimum discharge, that of Oct. 25, 1939; minimum gage height, 1.60 feet Aug. 19, Sept. 27-29, 1939.

Remarks.- Records good. Gage read twice daily. Water used by a paper mill at Hodge is pumped from wells and discharged into the stream about 30 miles above station. This discharge is not continuous but is stored in a reservoir and is released whenever the river flow is sufficient to materially dilute the effluent.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.9	9.0	11	432	123	838	524	2,370	110	723	c489	39
2	8.1	9.2	11	432	123	738	536	2,840	123	443	c1,090	34
3	8.1	9.0	12	421	123	652	512	2,930	123	317	c1,130	32
4	8.3	8.3	15	421	236	586	488	3,910	110	377	c1,110	36
5	8.1	7.7	18	432	554	536	512	4,180	91	465	785	41
6	8.1	7.5	22	465	1,040	488	c599	3,430	72	524	524	41
7	7.9	7.2	21	500	1,250	421	c1,370	2,670	58	524	327	36
8	7.7	6.8	21	524	1,490	357	2,230	2,230	44	536	337	32
9	7.7	6.1	18	536	2,880	298	3,220	1,790	39	548	c1,090	26
10	8.7	5.8	16	548	5,060	262	2,930	1,490	41	548	1,570	22
11	8.7	9.6	15	536	5,700	228	2,590	1,270	47	560	1,940	19
12	8.7	10	14	524	5,700	212	2,590	1,020	64	c638	1,840	18
13	8.5	10	13	512	5,380	388	2,750	802	107	c694	1,570	18
14	8.1	10	14	488	4,760	586	2,590	625	180	c1,040	1,300	17
15	7.9	9.6	14	476	4,180	548	2,370	500	289	c1,110	1,090	14
16	7.3	9.6	15	443	3,540	488	2,170	476	388	c980	917	13
17	6.8	11	14	399	3,220	465	1,940	454	c704	753	785	12
18	6.2	13	14	347	2,840	476	1,940	367	c1,220	638	694	12
19	5.8	14	13	280	2,670	512	2,170	236	c1,300	c666	548	11
20	5.1	14	13	228	2,370	c612	2,300	158	c1,400	c897	327	10
21	5.1	22	12	196	2,110	c857	2,230	130	1,840	c1,090	165	10
22	5.4	30	13	180	1,890	c1,070	1,990	97	3,320	c1,150	117	10
23	5.1	28	25	165	1,650	c1,150	1,690	104	3,540	c1,180	117	10
24	4.5	24	28	137	1,460	c1,150	1,400	91	3,020	c1,130	172	12
25	4.6	19	50	123	1,300	c1,020	1,200	76	2,440	c938	212	13
26	6.8	15	151	117	1,200	802	1,040	67	1,940	769	188	16
27	6.8	13	289	117	1,110	625	938	64	1,610	612	137	22
28	7.5	11	367	110	1,020	443	857	84	1,320	443	91	22
29	7.3	9.8	410	110	938	317	c1,020	123	1,180	271	67	19
30	7.5	9.8	432	117	-	357	1,650	110	1,000	188	55	18
31	8.3	-	432	117	-	465	-	104	-	220	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	222.6	8.7	4.5	7.18	442
November	369.0	30	5.8	12.3	732
December	2,513	432	11	81.1	4,980
Calendar year	-	-	-	-	-
January	10,433	548	110	337	20,690
February	65,917	5,700	123	2,272	130,700
March	17,947	1,150	212	579	35,600
April	50,346	3,220	488	1,678	99,860
May	34,800	4,180	64	1,123	69,020
June	27,720	3,540	39	924	54,980
July	20,972	1,180	188	677	41,600
August	20,828	1,940	44	672	41,310
September	635	41	10	21.2	1,260
Water year 1939-40	252,702.6	5,700	4.5	690	501,200

c Stage-discharge relation affected by variable slope; discharge determined from loop curves based on nine discharge measurements.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Bayou Castor near Grayson, La.

Location.- Wire-weight gage, lat. 32°05', long. 92°12', in sec. 30, T. 13 N., R. 3 E., Louisiana meridian, at bridge on State Highway 110, 6 miles upstream from mouth of Bayou Beaucoup and 6½ miles northwest of Grayson.

Drainage area.- 270 square miles.

Records available.- May to September 1940.

Extremes.- Maximum discharge during period, 475 second-feet June 24 (gage height, 8.93 feet); minimum, 1 second-foot Sept. 13-25, 30; minimum gage height, 1.08 feet Sept. 23.

Remarks.- Records good above and fair below 10 second-feet. Gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	84	50	26	4
2								-	79	31	22	3
3								-	55	31	14	3
4								-	35	74	14	3
5								-	23	79	25	3
6								-	15	74	17	3
7								-	11	99	59	5
8								-	9	140	104	4
9								-	7	146	146	3
10								-	7	140	200	2
11								-	9	119	158	2
12								-	14	104	114	2
13								-	17	99	124	1
14								-	49	84	152	1
15								-	84	89	176	1
16								-	104	124	200	1
17								-	124	152	219	1
18								-	152	170	212	1
19								-	158	182	150	1
20								-	170	164	64	1
21								-	188	104	19	1
22								-	269	55	10	1
23								20	415	62	8	1
24								19	475	104	6	1
25								16	430	134	6	1
26								13	351	146	5	6
27								14	269	158	5	5
28								31	182	124	5	3
29								59	129	59	4	2
30								74	89	22	4	2
31								79	-	22	4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off Inches	Run-off Acre-feet
October							
November							
December							
Calendar year							
January	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-
May 23-31	325	79	13	36.1	0.134	0.04	645
June	4,003	475	7	133	.493	.55	7,940
July	3,141	182	22	101	.374	.43	6,230
August	2,272	219	4	73.3	.271	.31	4,510
September	68	6	1	2.3	.0085	.009	135
The period	-	-	-	-	-	-	19,460

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604-O U.S. GOVERNMENT PRINTING OFFICE 1936

Bayou Funny Louis near Trout, La.

Location.- Wire-weight gage, lat. 31°43', long. 92°13', in sec. 36, T. 9 N., R. 2 E., Louisiana meridian, at bridge on U. S. Highway 84, 3 miles northwest of Trout and about 12 miles upstream from mouth.

Drainage area.- 93.5 square miles.

Records available.- April 1939 to September 1940.

Extremes.- Maximum discharge during year, 1,870 second-feet Apr. 30 (gage height, 15.99 feet, from graph based on gage readings); minimum, 0.1 second-foot Oct. 1 to 25; minimum gage height, 1.23 feet Oct. 1, 5-10, 19, 20.
1939-40: Maximum discharge, that of Apr. 30, 1940; minimum, 0.1 second-foot at times in 1939 and 1940; minimum gage height, 1.19 feet Sept. 22, 23, 1939.

Remarks.- Records fair above and poor below 1 second-foot. Gage read twice daily.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 24 and Mar. 13-17)

1.2	0.1	2.0	5.5	5.0	124
1.3	.3	2.2	8.5	6.5	236
1.4	.6	2.5	14	8.5	410
1.5	1.0	3.0	26	10.0	578
1.6	1.5	3.4	37	11.0	733
1.7	2.2	3.8	54	13.0	1,140
1.8	3.1	4.4	86	15.6	1,760

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.7	0.6	28	59	37	108	1,580	4.8	346	56	1.4
2	.1	.6	.6	22	41	34	41	762	3.2	295	69	1.3
3	.1	.5	.7	18	41	30	28	109	2.7	945	41	1.3
4	.1	.4	.7	16	829	26	206	69	2.7	716	24	1.3
5	.1	.3	.7	26	1,540	24	905	49	2.4	236	22	1.2
6	.1	.3	.7	50	1,760	21	985	37	2.0	98	20	1.2
7	.1	.3	.6	391	1,480	18	1,580	28	1.9	135	23	1.1
8	.1	.3	.6	295	1,020	18	1,420	22	2.1	217	41	1.1
9	.1	.3	.6	160	450	17	620	27	2.2	607	168	1.0
10	.1	.3	.5	86	364	14	124	160	3.1	626	482	1.0
11	.1	.4	.5	54	269	13	583	110	27	261	220	.8
12	.1	.6	.5	34	175	13	1,610	34	23	286	102	.8
13	.1	.6	.9	30	98	467	1,320	19	13	286	37	.6
14	.1	.6	1.2	27	74	665	736	14	18	1,370	24	.6
15	.1	.6	.9	24	54	346	236	13	49	1,300	16	.6
16	.1	.5	1.1	20	54	131	78	9.2	90	807	12	.6
17	.1	.5	1.4	18	377	69	49	7.9	364	278	8.3	.6
18	.1	.6	1.4	16	945	37	337	6.6	807	84	6.2	.6
19	.1	.6	1.6	14	751	31	665	5.6	294	152	5.4	.6
20	.1	.6	1.6	12	382	31	440	5.1	74	482	4.6	.6
21	.1	.6	1.8	9.2	158	28	179	4.7	45	286	3.8	.6
22	.1	.6	1.8	8.7	86	26	74	4.3	104	142	3.1	.6
23	.1	.6	530	9.6	59	24	45	6.2	197	54	2.9	.9
24	.1	.6	925	9.9	49	21	31	10	69	31	2.7	61
25	20	.6	565	10	129	21	28	7.1	86	22	2.6	69
26	41	.6	558	10	124	19	25	5.5	92	14	2.4	49
27	24	.6	751	11	74	17	22	4.5	32	12	2.1	17
28	13	.6	275	12	59	14	20	5.2	17	10	1.9	7.9
29	7.1	.6	108	14	45	17	320	7.2	34	9.2	1.8	5.2
30	4.0	.6	54	36	-	86	1,660	6.6	252	9.2	1.6	3.1
31	1.7	-	34	69	-	182	-	5.8	-	24	1.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off	
						Inches	Acre-feet
October	113.2	41	0.1	3.65	0.039	0.05	225
November	15.6	.7	.3	.52	.0056	.006	31
December	3,821.0	925	.5	123	1.32	1.52	7,580
Calendar year	-	-	-	-	-	-	-
January	1,540.4	391	8.7	49.7	.532	.61	3,060
February	11,546	1,760	41	398	4.26	4.59	22,900
March	2,497	665	13	80.6	.861	.99	4,950
April	14,476	1,660	20	483	5.17	5.76	28,710
May	3,133.5	1,580	4.3	101	1.08	1.25	6,220
June	2,714.1	807	1.9	90.5	.968	1.08	5,380
July	10,339.4	1,370	9.2	334	3.57	4.11	20,510
August	1,407.9	482	1.5	45.4	.486	.56	2,790
September	232.6	69	.6	7.75	.083	.09	461
Water year 1939-40	51,836.7	1,760	.1	142	1.52	20.62	102,800

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

101604 - O U. S. GOVERNMENT PRINTING OFFICE 1936

Tangipahoa River at Robert, La.

Location.- Water-stage recorder, lat. 30°30', long. 90°22', in sec. 25, T. 6 S., R. 8 E., St. Helena meridian, at bridge on U. S. Highway 190, 1 mile west of Robert, 6 miles east of Hammond, and 2 miles downstream from Chappepeela Creek. Prior to Nov. 25, 1939, wire-weight gage at same site and datum.

Drainage area.- 646 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 7,690 second-feet May 2 (gage height, 15.44 feet); minimum discharge observed, 264 second-feet on several days in October 1939; minimum gage height observed, 2.95 feet Oct. 25.

1939-40: Maximum discharge, that of May 2, 1940 (gage height, 15.44 feet); minimum discharge observed, that on several days in October 1939; minimum gage height observed, that of Oct. 25, 1939.

Maximum stage known, 27.1 feet in 1921 from floodmark.

Remarks.- Records good. Gage read twice daily, Oct. 1 to Nov. 25.

Rating tables, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used May 5 to June 15)

Oct. 1 to Feb. 5		Feb. 6 to Sept. 30			
3.0	264	3.3	335	13.2	4,430
3.5	357	4.5	646	14.3	5,600
4.2	532	8.1	1,721	15.1	6,970
6.0	1,095	10.0	2,430	15.4	7,690
		11.9	3,440		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	379	297	297	346	357	844	4,250	5,370	370	1,020	688	394
2	357	297	297	346	357	758	3,460	7,690	358	873	632	407
3	336	297	297	336	346	688	1,860	5,910	358	1,440	604	394
4	316	297	297	346	336	646	1,200	2,900	346	3,080	646	407
5	316	297	297	336	469	604	902	1,590	358	4,000	618	407
6	316	297	297	346	1,440	564	786	1,110	346	4,430	591	394
7	316	297	297	357	1,440	537	1,200	873	358	5,210	618	382
8	297	297	288	357	1,230	523	2,890	758	358	4,900	873	382
9	297	297	288	368	1,340	497	3,770	674	358	3,770	844	370
10	279	297	288	357	3,840	484	2,310	618	358	3,260	931	370
11	279	297	288	346	3,140	471	1,500	577	370	3,260	1,440	370
12	264	279	288	357	2,300	471	1,890	550	394	4,620	1,690	358
13	264	279	288	368	1,500	497	2,430	510	672	6,570	1,170	346
14	264	279	288	490	1,020	758	2,300	497	1,080	4,400	902	346
15	264	297	279	477	786	902	1,590	471	1,380	3,130	730	346
16	264	279	279	518	730	902	1,170	458	3,500	2,380	618	335
17	279	297	279	477	2,190	786	931	445	3,500	1,720	564	335
18	279	297	279	414	3,840	660	1,170	419	2,190	1,560	523	335
19	279	297	279	390	4,250	550	1,720	419	1,290	1,690	497	335
20	279	297	288	379	4,000	510	1,920	407	902	1,890	484	346
21	279	297	288	368	2,890	497	1,750	394	1,230	2,060	471	370
22	279	297	288	368	1,790	471	1,500	394	1,620	1,520	458	370
23	279	297	288	402	1,230	458	1,110	382	1,380	1,080	432	370
24	264	297	297	402	989	445	873	382	815	902	432	445
25	264	297	346	402	1,200	445	786	382	688	902	419	510
26	297	297	402	379	1,380	432	786	382	730	758	419	688
27	336	288	390	368	1,380	419	815	370	591	688	419	604
28	379	297	451	357	1,140	419	730	370	537	646	407	484
29	336	297	464	346	960	600	844	370	674	618	445	432
30	316	297	390	346	-	2,570	2,720	370	1,050	660	419	407
31	297	-	368	357	-	3,750	-	370	-	786	419	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	9,250	379	264	298	0.461	0.53
November	8,829	297	279	294	.455	.51
December	9,750	464	279	315	.488	.56
Calendar year 1939	252,888	5,830	264	693	1.07	14.56
January	11,806	518	336	381	.590	.68
February	47,870	4,250	336	1,651	2.56	2.76
March	23,158	3,750	419	747	1.16	1.33
April	51,183	4,250	730	1,706	2.64	2.95
May	36,412	7,690	370	1,175	1.82	2.10
June	28,161	3,500	346	939	1.45	1.62
July	73,823	6,570	618	2,381	3.69	4.25
August	20,403	1,690	407	658	1.02	1.17
September	12,039	688	335	401	.621	.69
Water year 1939-40	332,684	7,690	264	909	1.41	19.15

Amite River near Denham Springs, La.

Location.- Water-stage recorder, lat. 30°28', long. 90°59', in sec. 2, T. 7 S., R. 2 E., St. Helena meridian, at bridge on U. S. Highway 190, 1,000 feet downstream from Comite River, 3 miles southwest of Denham Springs, and 15 miles east of Baton Rouge. Datum of gage is 0.37 foot below mean sea level (general adjustment of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.- 1,330 square miles.

Records available.- September 1938 to September 1940.

Extremes.- Maximum discharge during year, 16,000 second-feet July 7 (gage height, 23.09 feet); minimum, 289 second-feet Oct. 23, 24, 25; minimum gage height, 4.60 feet Oct. 25.

1938-40: Maximum discharge, that of July 7, 1940; minimum, 279 second-feet Nov. 18, 1938 (gage height, 4.56 feet).

Remarks.- Records good.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	453	332	332	523	509	1,240	11,000	7,900	417	1,330	2,040	563
2	453	332	332	467	523	1,080	c11,300	11,600	403	1,100	2,320	548
3	425	320	332	439	509	928	c7,170	14,500	389	1,890	1,620	791
4	385	320	332	425	509	840	c3,140	c9,620	389	4,040	1,330	1,700
5	358	309	332	412	623	774	c1,750	c3,780	376	6,320	1,210	1,530
6	345	309	332	398	1,390	727	1,370	c2,060	389	10,300	1,210	986
7	332	309	320	412	2,700	682	2,180	c1,480	445	15,400	1,860	707
8	332	309	320	425	3,660	652	3,870	1,290	417	15,100	4,890	610
9	332	320	320	453	3,300	623	3,260	1,140	389	13,100	7,800	563
10	320	309	320	467	3,050	609	2,130	1,020	431	11,400	11,000	548
11	320	320	320	439	4,090	594	1,490	914	488	10,700	14,300	518
12	320	320	332	439	3,720	580	2,460	843	642	11,400	c12,300	488
13	320	320	332	609	2,320	1,160	4,460	791	757	c11,900	c7,680	473
14	309	320	320	965	1,520	1,640	4,970	723	878	c10,200	c4,300	459
15	309	320	320	1,080	1,160	2,320	3,320	674	1,810	c8,200	c2,420	445
16	309	332	320	874	1,040	2,180	1,860	642	7,800	c5,450	c1,620	445
17	299	371	332	727	3,050	1,440	1,330	610	13,100	c3,320	c1,350	431
18	299	358	332	652	5,430	1,040	1,570	579	c10,200	c2,400	1,210	431
19	299	345	345	565	6,880	857	4,160	563	c6,350	c2,070	1,060	417
20	299	332	345	523	c6,480	758	7,120	533	c3,640	2,000	950	417
21	299	332	358	495	c4,280	697	c7,150	518	c2,150	2,900	878	431
22	299	320	371	481	c2,440	652	c5,190	503	c1,480	3,000	825	431
23	299	320	371	594	c1,620	623	c2,880	488	1,210	2,180	791	445
24	299	320	371	652	1,360	594	c1,700	473	986	1,570	740	518
25	309	320	425	594	2,450	565	1,370	473	1,020	1,370	707	2,020
26	371	320	667	565	3,610	551	1,330	459	914	1,170	674	3,820
27	439	309	1,000	523	3,000	537	1,370	445	87e	1,020	642	2,500
28	467	320	1,120	495	2,090	523	1,170	445	774	950	626	1,120
29	439	309	1,040	481	1,560	594	1,170	503	950	878	626	791
30	398	320	774	467	-	2,990	3,990	518	1,860	825	610	642
31	371	-	609	481	-	7,210	-	445	-	1,100	579	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	10,808	467	299	349	0.262	0.30
November	9,697	371	309	323	.243	.27
December	13,676	1,120	320	441	.332	.38
Calendar year 1939	459,396	11,900	299	1,259	.947	12.85
January	17,122	1,080	398	552	.415	.48
February	74,873	6,880	509	2,582	1.94	2.09
March	36,260	7,210	523	1,170	.880	1.01
April	107,230	11,300	1,170	3,574	2.69	3.00
May	66,532	14,500	445	2,146	1.61	1.86
June	61,932	13,100	376	2,064	1.55	1.73
July	164,583	15,400	825	5,309	3.99	4.60
August	90,168	14,300	579	2,909	2.19	2.52
September	25,788	3,820	417	860	.647	.72
Water year 1939-40	678,669	15,400	299	1,854	1.39	18.96

c Backwater from return of overbank storage; discharge determined from backwater curves defined by 16 discharge measurements.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

Atchafalaya River at Krotz Springs, La.

Location.- Water-stage recorder, lat. 30°32', long. 91°44', in T. 6 S., R. 7 E., Louisiana meridian, at highway bridge on State Highway 7, half a mile north of Krotz Springs, 10 miles upstream from mouth of Bayou Courtableau, and 42 miles downstream from confluence of Red River and Old River (head of Atchafalaya River). Datum of gage is at mean Gulf level (datum of Corps of Engineers, U. S. Army; levels by Corps of Engineers, U. S. Army).

Records available.- October 1934 to September 1940.

Extremes.- Maximum discharge during year, 268,000 second-feet May 11 (gage height, 29.0 feet); minimum, 17,400 second-feet Nov. 4; minimum gage height, 2.28 feet Nov. 5.

1934-40: Maximum discharge, 443,000 second-feet Feb. 28, 1937 (gage height, 37.80 feet), discharge measurement; minimum, that of Nov. 4, 1939; minimum gage height, that of Nov. 5, 1939.

Maximum stage known, 38.5 feet above mean Gulf level May 15, 1927, at Missouri Pacific Railroad bridge half a mile downstream.

Remarks.- Records excellent.

Gage height at 8 a.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.62	2.50	3.33	6.26	4.67	19.12	18.18	26.89	16.73	16.19	14.03	11.82
2	3.42	2.58	3.45	6.25	4.26	19.47	17.62	27.28	16.62	15.84	13.48	11.23
3	3.43	2.50	3.32	6.21	3.75	19.62	17.05	27.61	16.58	15.64	12.90	10.64
4	3.48	2.36	3.21	6.18	3.41	19.61	16.54	27.76	16.58	15.74	12.68	9.96
5	3.48	2.29	3.14	6.18	3.57	19.42	16.57	27.90	16.56	16.30	12.29	9.34
6	3.52	2.45	3.10	6.06	4.82	19.15	16.88	28.10	16.55	17.12	11.98	8.91
7	3.49	2.81	3.06	5.93	6.43	18.70	16.74	28.30	16.51	17.83	12.02	8.63
8	3.42	3.05	3.02	5.73	7.24	18.15	16.76	28.50	16.44	18.34	11.60	8.48
9	3.51	3.33	3.02	5.48	7.82	17.62	16.98	28.67	16.38	18.50	12.24	8.47
10	3.48	3.65	3.12	5.33	7.83	17.17	17.24	28.89	16.46	18.66	11.92	8.60
11	3.31	3.81	3.19	5.20	7.97	16.82	17.58	28.95	16.32	18.76	11.68	8.87
12	3.18	3.85	3.19	5.10	8.20	16.68	18.69	28.98	16.16	18.89	11.35	9.12
13	3.01	3.80	3.17	4.85	8.40	16.87	20.13	29.00	16.06	19.09	11.07	9.44
14	2.91	3.68	3.00	4.67	8.46	17.55	21.20	28.98	15.93	19.21	10.84	9.96
15	2.80	3.77	3.00	4.36	8.44	18.37	22.01	28.65	15.98	19.17	10.67	10.32
16	2.80	3.88	3.03	4.12	8.50	19.16	22.59	28.69	16.01	18.97	10.56	10.28
17	2.85	4.05	3.03	4.11	8.89	19.83	23.02	28.35	16.01	18.25	10.42	9.91
18	2.90	3.87	3.09	4.19	9.07	20.37	23.52	27.94	16.30	18.54	10.20	9.30
19	2.98	3.89	3.29	4.28	9.34	20.72	23.89	27.24	16.54	18.34	9.92	8.62
20	3.10	3.74	3.39	4.19	9.69	21.00	24.25	26.39	16.63	18.04	9.47	8.00
21	3.20	3.47	3.43	4.21	10.42	21.23	24.35	25.21	16.59	17.67	9.04	7.52
22	3.22	3.26	3.47	4.23	11.43	21.40	24.40	23.93	16.60	17.22	8.70	7.11
23	3.10	3.27	3.67	4.27	12.58	21.51	24.38	22.63	16.61	16.67	8.40	6.73
24	3.11	3.22	4.09	4.33	13.74	21.46	24.38	21.37	16.71	16.16	8.25	6.81
25	3.25	3.16	4.48	4.33	14.89	21.30	24.43	20.24	16.88	15.72	8.40	6.47
26	3.58	3.00	5.13	4.40	16.02	20.90	24.59	19.20	16.87	15.47	9.28	5.98
27	3.52	2.90	5.67	4.53	16.99	20.48	24.80	18.41	16.82	15.33	10.49	5.53
28	3.41	2.89	6.14	4.72	17.86	20.00	25.12	17.86	16.68	15.23	11.48	5.19
29	3.00	2.97	6.28	4.83	18.58	19.42	25.59	17.50	16.49	15.03	12.05	4.95
30	3.02	3.10	6.30	4.86	-	19.16	26.19	17.19	16.47	14.77	12.31	4.73
31	2.71	-	6.26	4.82	-	18.70	-	16.94	-	14.43	12.24	-

UNITED STATES DEPARTMENT OF THE INTERIOR
Geologi l Survey

Discharge, in second-feet, of Atchafalaya River at Krotz Springs, La., water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23,800	17,900	22,200	40,600	31,000	141,000	123,000	239,000	113,000	106,000	89,500	71,700
2	23,800	18,400	22,700	40,600	28,200	144,000	117,000	248,000	113,000	101,000	84,900	66,800
3	23,800	18,400	22,200	40,600	25,400	146,000	111,000	246,000	113,000	101,000	80,400	63,600
4	23,800	17,900	21,600	40,000	24,900	145,000	110,000	245,000	113,000	106,000	79,000	59,200
5	23,800	17,900	21,600	40,000	27,700	141,000	114,000	245,000	113,000	115,000	76,000	56,100
6	23,800	19,000	21,600	39,500	35,500	136,000	115,000	248,000	113,000	122,000	73,800	53,700
7	23,200	21,100	21,100	38,300	44,100	132,000	115,000	253,000	113,000	129,000	73,800	52,400
8	22,700	22,200	20,500	36,600	47,000	127,000	115,000	258,000	112,000	132,000	70,200	53,000
9	22,200	23,200	21,100	34,900	48,800	121,000	117,000	261,000	111,000	134,000	68,800	54,300
10	22,700	24,900	21,100	33,800	50,000	116,000	120,000	264,000	111,000	135,000	68,200	55,500
11	22,700	26,000	21,600	32,700	51,200	113,000	125,000	266,000	109,000	135,000	66,800	57,300
12	22,200	26,600	21,600	32,100	53,700	113,000	137,000	266,000	107,000	136,000	64,900	59,800
13	21,600	26,000	21,600	30,500	54,900	118,000	152,000	263,000	106,000	137,000	61,100	62,300
14	21,100	24,900	21,100	29,900	54,900	125,000	166,000	263,000	106,000	137,000	57,300	66,200
15	20,000	24,400	21,100	28,800	54,900	133,000	175,000	261,000	107,000	137,000	58,000	68,800
16	19,500	24,900	21,600	28,200	54,900	141,000	182,000	258,000	107,000	135,000	57,300	68,200
17	19,000	26,000	21,600	28,200	54,900	149,000	188,000	250,000	108,000	133,000	56,700	63,600
18	18,400	24,900	21,600	29,900	56,700	155,000	193,000	240,000	111,000	131,000	55,500	57,300
19	18,400	24,900	22,700	30,500	59,200	159,000	197,000	230,000	113,000	128,000	53,700	53,700
20	18,400	23,200	23,200	29,900	63,600	161,000	199,000	217,000	113,000	124,000	51,200	50,000
21	20,000	22,200	23,800	29,900	68,800	162,000	202,000	202,000	113,000	121,000	49,400	46,500
22	20,500	21,600	23,800	29,900	76,000	163,000	203,000	186,000	113,000	117,000	47,600	44,100
23	20,000	21,100	26,000	29,900	84,900	163,000	202,000	170,000	113,000	112,000	46,500	41,800
24	19,500	20,500	28,800	29,900	94,100	162,000	202,000	155,000	114,000	107,000	46,500	40,600
25	20,000	20,500	31,600	29,900	104,000	159,000	202,000	139,000	114,000	104,000	50,600	39,500
26	21,600	20,000	36,100	30,500	114,000	156,000	203,000	127,000	113,000	101,000	57,300	37,200
27	21,600	19,500	38,900	31,600	124,000	151,000	204,000	117,000	112,000	100,000	65,600	35,500
28	21,100	19,500	40,600	32,100	132,000	146,000	206,000	116,000	112,000	99,600	71,700	33,800
29	19,500	20,500	41,200	32,700	139,000	139,000	212,000	113,000	112,000	98,800	76,700	32,700
30	19,500	21,100	40,600	32,700	-	134,000	225,000	113,000	111,000	96,500	78,200	31,600
31	18,400	-	40,600	32,100	-	129,000	-	113,000	-	92,600	75,300	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October	656,600	23,800	18,400	21,180	1,302,000
November	659,200	26,600	17,900	21,970	1,308,000
December	805,400	41,200	20,500	25,980	1,597,000
Calendar year 1939	50,497,800	369,000	17,900	138,400	100,200,000
January	1,026,800	40,600	28,200	33,120	2,037,000
February	1,858,300	139,000	24,900	64,080	3,686,000
March	4,380,000	163,000	113,000	141,300	8,688,000
April	4,932,000	225,000	110,000	164,400	9,782,000
May	6,572,000	266,000	113,000	212,000	13,040,000
June	3,339,000	114,000	106,000	111,300	6,623,000
July	3,663,500	137,000	92,600	118,200	7,266,000
August	2,012,500	89,500	46,500	64,920	3,992,000
September	1,576,800	71,700	31,600	52,560	3,128,000
Water year 1939-40	31,482,100	266,000	17,900	86,020	62,450,000

Bayou Cocodrie near Clearwater, La.

Location.- Water-stage recorder, lat. 31°00', long. 92°23', in sec. 4, T. 1 S., R. 1 E., Louisiana meridian, just below bridge on State Highway 26, eeven-eighths of a mile downstream from Rock Island Railroad bridge, 1½ miles east of Clearwater, 4 miles south of Meeker, and 5 miles downstream from Hurricane Creek. Datum of gage is 40.00 feet above mean Gulf level (datum of Corps of Engineers, U. S. Army). Prior to Mar. 29, 1940, staff gage at same site and datum; prior to Dec. 31, 1939, staff gage just above bridge at datum 40.00 feet lower.

Drainage area.- 227 square miles (supersedes figure for former station published as "near Meeker", which was at same site).

Records available.- May 1922 to January 1925 (published as Bayou Cocodrie near Meeker, La.) and October 1937 to September 1940.

Extremes.- Maximum discharge during year, 2,000 second-feet Aug. 11 (gage height, 18.41 feet); minimum discharge, 61 second-feet Dec. 4; minimum gage height, 5.4 feet, present datum, Oct. 1-9, 17-25.

1922-25, 1937-40: Maximum gage height observed, 21.50 feet, former site, present datum, Apr. 9, 1938 (discharge not determined, figure previously published probably too low); negative flow Nov. 13-15, 1922, probably caused by heavy rains in basin below station.

Remarks.- Records good except those for period October to December which are fair. Staff gage read twice daily, Oct. 1 to Mar. 28.

Cooperation.- Gage heights Oct. 1 to Dec. 31 and results of 7 discharge measurements furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	388	67	444	158	428	452	663	133	754	412	713
2	94	356	64	428	158	404	452	683	125	733	404	693
3	94	332	62	412	158	380	444	673	120	723	396	673
4	94	289	61	396	164	356	428	663	116	723	460	644
5	94	261	67	388	206	340	412	644	114	723	524	625
6	94	226	71	364	317	324	404	625	110	713	573	607
7	94	194	76	356	420	310	428	607	108	703	598	590
8	94	170	83	348	468	289	436	581	108	683	693	573
9	94	148	83	340	476	268	444	565	118	873	1,260	556
10	100	138	85	332	476	240	436	548	240	654	1,830	532
11	106	120	87	332	460	219	428	532	364	654	1,730	516
12	106	110	87	317	452	194	412	508	412	654	1,450	500
13	102	102	87	303	444	182	404	492	420	673	1,290	476
14	102	100	87	289	428	164	388	476	420	683	1,180	460
15	98	98	87	268	420	153	372	460	420	683	1,130	444
16	96	96	87	254	412	148	356	444	428	673	1,100	428
17	94	98	87	226	436	138	340	428	565	654	1,070	412
18	94	96	87	206	492	133	396	412	870	644	1,050	396
19	94	96	92	194	524	133	476	388	957	625	1,010	372
20	94	94	94	176	540	128	540	372	957	607	990	348
21	94	89	92	164	540	123	565	348	946	590	968	324
22	94	87	94	158	524	120	565	324	924	573	935	303
23	94	85	102	148	516	116	556	310	902	556	913	296
24	94	81	112	148	508	116	548	296	881	540	892	428
25	106	80	123	148	492	114	540	275	870	524	870	436
26	219	78	254	148	484	112	524	254	838	508	838	436
27	332	76	388	143	468	112	516	226	817	492	817	436
28	420	71	460	143	460	133	500	194	796	468	796	420
29	428	70	460	148	444	188	532	176	786	452	775	404
30	420	68	468	148	-	324	607	158	765	436	754	380
31	412	-	460	153	-	420	-	143	-	428	733	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	4,645	428	94	150	0.661	0.76
November	4,297	388	68	143	.630	.70
December	4,614	468	61	149	.656	.76
Calendar year 1939	106,355	717	61	291	1.28	17.43
January	8,022	444	143	259	1.14	1.31
February	12,045	540	158	415	1.83	1.97
March	6,809	428	112	220	.969	1.12
April	13,901	607	340	463	2.04	2.28
May	13,468	683	143	434	1.91	2.21
June	15,630	957	108	521	2.30	2.56
July	19,199	754	428	619	2.73	3.15
August	28,441	1,830	396	917	4.04	4.66
September	14,421	713	296	481	2.12	2.36
Water year 1939-40	145,492	1,830	61	398	1.75	23.84

In addition to the records of stream flow obtained at gaging stations in the lower Mississippi River Basin and reported in the preceding pages, measurements of flow were made at other points, as shown in the following table:

Miscellaneous discharge measurements in the lower Mississippi River Basin during the water year October 1939 to September 1940

Date	Stream	Tributary to-	Locality	Discharge (sec.-ft.)
		Meramec River Basin		
Sept. 1	Meramec Spring....	Meramec River.....	Sec. 1, T. 37 N., R. 6 W., 6 miles southeast of St. James, Mo.	99.1
1	....do.....	....do.....	....do.....	95.6
		St. Francis River Basin		
Oct. 16	St. Francis River.	Mississippi River..	Wappapello, Mo., at dam site.....	173
		White River Basin		
Dec. 4	Keener Spring.....	Black River.....	Sec. 9, T. 26 N., R. 5 E., 1 mile southwest of Keener, Mo., and 6 miles south of Williamsville, Mo.	18.8
Nov. 30	Cave Spring.....	Current River.....	Sec. 28, T. 31 N., R. 5 W., 9 miles southeast of Cedar Grove, Mo.	25.4
June 18	King Bee Spring...	Little Black River.	SE¼SE¼ sec. 19, T. 24 N., R. 4 E., 3 miles northeast of Flatwoods, Mo.	3.29
		Arkansas River Basin		
Sept. 4	Ranch Creek.....	Arkansas River.....	SE¼SE¼ sec. 25, T. 21 N., R. 6 E., 2 miles northwest of Hallet, Okla.	*32,400
4	Polecat Creek.....	....do.....	SE¼NE¼ sec. 19, T. 18 N., R. 12 E., 1½ miles northeast of Sapulpa, Okla.	†51,600
4	Lagoon Creek.....	Cimarron River.....	SW¼SE¼ sec. 5, T. 19 N., R. 7 E., 2 miles southwest of Jennings, Okla.	‡43,600
Feb. 6	Canadian River**..	Arkansas River.....	NW¼ sec. 12, T. 18 N., R. 17 W., at bridge on State Highway 14, 1 mile north of Taloga, Okla.	290
14	....do.....	....do.....	....do.....	115
21	....do.....	....do.....	....do.....	235
29	....do.....	....do.....	....do.....	98.9
Mar. 7	....do.....	....do.....	....do.....	.47
June 3	....do.....	....do.....	....do.....	805
12	....do.....	....do.....	....do.....	72.2
18	....do.....	....do.....	....do.....	56.0
July 5	....do.....	....do.....	....do.....	8.05
Aug. 16	....do.....	....do.....	....do.....	954
22	....do.....	....do.....	....do.....	724
May 7	North Canadian River.	Canadian River.....	SW¼NE¼ sec. 31, T. 12 N., R. 2 W., 500 feet upstream from outlet of sewage treatment plant and ¾ mile east of Oklahoma City, Okla.	7.24
June 25	Roman Nose Spring.	North Canadian River.	NE¼SE¼ sec. 23, T. 17 N., R. 12 W., in Roman Nose State Park, near Watonga, Okla.	.49

*By contracted-opening method. Drainage area, 17.1 square miles.
†By slope-area method. Drainage area, 325 square miles.
‡By slope-area method. Drainage area, 47.0 square miles.
**In addition to the measurements made of discharge, observations of no flow were made on the following days: Feb. 12, 19, 27; Nov. 3, 9, 17, 30; Dec. 7, 14, 20, 28; Jan. 5, 10, 24, 29; Mar. 16, 19, 25; Apr. 4, 11, 19, 25, 30; May 9, 15; June 26; July 9, 16, 24, 30; Aug. 6, 29; Sept. 10. Results of discharge measurements and observations of no flow furnished by Corps of Engineers, U. S. Army.

INDEX

Page

Abbeville, Miss., Bagley Creek near.... 257
Accuracy of field data and computed results..... 3
Acre-foot, definition of..... 1
Agencies other than Geological Survey, records collected by..... 9-11
Aguilar, Colo., Apishapa River near.... 128
Alamo, Tenn., Middle Fork of Forked Deer River near..... 37
Alexandria, La., Red River at..... 287
Altoona, Kans., Verdigris River near..159-160
Alva, Okla., Salt Fork of Arkansas River near..... 144
Amarillo, Tex., Canadian River near.... 194
Amazon canal near Hartland, Kans..... 134
Amite River near Denham Springs, La.... 339
Annapolis, Mo., Black River near..... 68-69
Apishapa River near Aguilar, Colo..... 128
Archer City, Tex., Little Wichita River near..... 295
Ardmore, Okla., Caddo Creek near.....301-304
Arkabutla, Miss., Coldwater River near. 263
Arkansas River at Arkansas City, Kans.. 111
  at Caddoa, Colo..... 104
  at Canon City, Colo..... 98
  at Dardanelle, Ark..... 116
  at Garden City, Kans..... 108
  at Granite, Colo..... 96
  at Holly, Colo..... 106
  at La Junta, Colo..... 103
  at Lamar, Colo..... 105
  at Larned, Kans..... 109
  at Little Rock, Ark..... 117
  at Portland, Colo..... 99
  at Ralston, Okla..... 112
  at Salida, Colo..... 97
  at Syracuse, Kans..... 107
  at Tulsa, Okla..... 113
  at Van Buren, Ark..... 115
  at Wichita, Kans..... 110
  near Avondale, Colo..... 101
  near Muskogee, Okla..... 114
  near Nepesta, Colo..... 102
  near Pueblo, Colo..... 100
  Salt Fork of, at Tonkawa, Okla..... 146
    near Alva, Okla..... 144
    near Jet, Okla..... 145
Arkansas River Basin, Ark.-Colo.-Kans.-Mo.-N. Mex.-Okla.-Tex., discharge measurements in..... 343
  gaging-station records in.....96-245
Arthur City, Tex., Red River at..... 281
Atchafalaya River at Krotz Springs, La.....340-341
Avondale, Colo., Arkansas River near... 101

Badito, Colo., Huerfano River at..... 125
Bagley Creek near Abbeville, Miss..... 257
Bardley, Mo., Eleven Point River near.. 86
Batesville, Ark., White River at..... 56
Baton Rouge, La., Mississippi River near..... 21
Bayou Bartholomew near Beekman, La..... 328
Bayou Bodcau near Sarepta, La..... 318
Bayou Castor near Grayson, La..... 336
Bayou Cocodrie near Clearwater, La..... 342
Bayou de Chien near Clinton, Ky..... 29
Bayou Desiard at Monroe, La..... 329
Bayou Dorcheat near Minden, La..... 319
Bayou Funny Louis near Trout, La..... 337
Bayou La Fourche near Crew Lake, La.... 331
Bayou Macon near Delhi, La..... 333
Bayou Meto near Stuttgart, Ark..... 244
Beaver, Ark., White River at..... 51
Beaver, Okla., North Canadian River at. 216
Beekman, La., Bayou Bartholomew near... 328
Beggs, Okla., Deep Fork near.....227-228
Belzoni, Okla., Kiamichi River near.... 310
Berryville, Ark., Kings River near..... 62
Big Black River at Pickens, Miss..... 269
  near Bovina, Miss..... 270

Page

Big Black River Basin, Miss., gaging-station records in.....269-270
Big River at Byrnesville, Mo..... 27
Big Spring near Van Buren, Mo..... 83
Black Lake Bayou near Castor, La..... 322
Black River at Black Rock, Ark..... 76
  at Leeper, Mo..... 70
  at Pocahontas, Ark..... 75
  at Poplar Bluff, Mo..... 71-72
  near Annapolis, Mo..... 68-69
  near Corning, Ark..... 73-74
Black Rock, Ark., Black River at..... 76
Blackwell, Okla., Chikaskia River near. 148
Blue Mountain, Ark., Petit Jean Creek near.....238-239
Blue River near Blue, Okla.....305-308
Boeuf River near Girard, La..... 330
Boggy Bayou near Keithville, La..... 321
Boise City, Okla., Cimarron River near. 149
Bolivar, Tenn., Hatchie River at..... 38
Bourbeuse River at Union, Mo..... 26
Bovina, Miss., Big Black River near.... 270
Bradford, Tenn., Rutherford Fork of Obion River near..... 33
Brice, Tex., Prairie Dog Town Fork of Red River near.....275-276
Buffalo River near Rush, Ark..... 65
  near St. Joe, Ark..... 64
Byrnesville, Mo., Big River at..... 27

Cache Creek near Walters, Okla..... 293
Caddo Creek near Ardmore, Okla.....301-304
Caddoa, Colo., Arkansas River at..... 104
Calico Rock, Ark., White River at..... 55
Calvin, Okla., Canadian River at.....198-199
Canadian River at Calvin, Okla.. 198-199
  at Logan, N. Mex..... 193
  discharge measurements of..... 343
  near Amarillo, Tex..... 194
  near Canadian, Tex..... 195
  near Newcastle, Okla.....196-197
  near Roy, N. Mex..... 191
  near Sanchez, N. Mex..... 192
  near Taylor Springs, N. Mex..... 190
  near Whitefield, Okla..... 200
Cane Creek (White River Basin) at Harviell, Mo..... 77
Cane Creek (Yazoo River Basin) near New Albany, Miss.....252-253
Caney River near Hulah, Okla..... 165
Canon City, Colo., Arkansas River at... 98
Canton, Okla., North Canadian River at. 219
Canyon, Tex., Prairie Dog Town Fork of Red River near..... 274
Cape Girardeau, Mo., Mississippi River at..... 15-16
Carnegie, Okla., Washita River at..... 297
Castor, La., Black Lake Bayou near..... 322
Castor River at Zalma, Mo..... 30
Cauthron, Ark., Poteau River at.....230-231
Cave Spring, Mo., discharge measurement of..... 343
Chestnut Bluff, Tenn., South Fork of Forked Deer River at..... 36
Chikaskia River near Blackwell, Okla... 148
Choteau, Okla., Neosho River near..... 178
Cienegulla Creek near Eagle Nest, N. Mex..... 202
Cimarron, N. Mex., Rayado River near... 207
Cimarron River at Mannford, Okla.....155-156
  at Oilton, Okla..... 154
  at Perkins, Okla.....152-153
  at Springer, N. Mex..... 204
  at Ute Park, N. Mex..... 203
  near Boise City, Okla..... 149
  near Guthrie, Okla..... 151
  near Waynoka, Okla..... 150
Claremore, Okla., Verdigris River near. 164
Clear Creek near Oxford, Miss..... 258
Clear Creek Reservoir..... 118

Page
Clearwater, La., Bayou Cocodrie near..... 342
Clinton, Ky., Bayou de Chien near..... 29
Clinton, Okla., Washita River near..... 296
Coffeeville, Miss., Skuna River near... 267
Colbert, Okla., Red River near..... 280
Coldwater River at Savage, Miss..... 264
near Arkabutla, Miss..... 263
near Coldwater, Miss..... 262
Colmor intake canal near Ocate, N. Mex. 209
Commerce, Okla., Neosho River near....174-175
Computations, accuracy of results of... 3
Conchas River at Variadero, N. Mex..... 214
Control, definition of..... 1
Cooperation, record of..... 11-12
Cornie Bayou near Lillie, La..... 329
Corning, Ark., Black River near..... 73-74
Cossatot River near De Queen, Ark..... 314
Cotton Plant, Miss., Lukesasper Creek at..... 253
Cottonwood River at Cottonwood Falls, Kans..... 180
Council Creek near Stillwater, Okla.... 157
Council Grove, Kans., Neosho River at.170-171
Courtland, Miss., Long Creek at..... 261
Coushatta, La., Red River at.....285-286
Cow Creek near Lyons, Kans..... 140
Coyote River near Golondrinas, N. Mex.. 213
Coyville, Kans., Verdigris River near.. 158
Crew Lake, La., Bayou La Fourche near.. 331
Crooked Creek near Humphrey, Ark..... 245
Crowell, Tex., Pease River near..... 292
Cucharas River near La Veta, Colo..... 127
Current River at Doniphan, Mo..... 81
at Van Buren, Mo..... 79-80
near Eminence, Mo..... 78
Cypress Bayou near Keithville, La..... 320
Cypress Creek (Red River Basin) near Jefferson, Tex..... 317
Cypress Creek (Yozoo River Basin) near Etta, Miss..... 254

Danville, Ark., Petit Jean Creek at.... 240
Dardanelle, Ark., Arkansas River at.... 116
Darden, Tex., Sulphur River near..... 316
Data, accuracy of..... 3
explanation of..... 1-3
Dawson, N. Mex., Vermejo River near.... 201
De Queen, Ark., Cossatot River near.... 314
De Valls Bluff, Ark., White River at... 60
Deep Fork near Beggs, Okla.....227-228
near Dewar, Okla..... 229
Delhi, La., Bayou Macon near..... 333
Denham Springs, La., Amite River near.. 339
Dewar, Okla., Deep Fork near..... 229
Dierks, Ark., Saline River near..... 315
Doloroso, Miss., Homochitto River near. 273
Doniphan, Mo., Current River at..... 81
Dugdemona River near Jonesboro, La..... 334
near Winnfield, La..... 335
Durwood, Okla., Washita River near..... 300

Eagle Nest, N. Mex., Cieneguilla Creek near..... 202
Moreno Creek at..... 206
Six Mile Creek near..... 205
Eagletown, Okla., Mountain Fork River near..... 313
Eddiceton, Miss., Homochitto River at.271-272
El Reno, Okla., North Canadian River near..... 220
Eleven Point River near Bardley, Mo.... 86
near Elevenpoint, Ark..... 87
Elk River near Tiff City, Mo..... 187
Elm Fork. See Red River, Elm Fork of North Fork of.
Eminence, Mo., Current River near..... 78
Jacks Fork at..... 82
Enid, Miss., Yocona River near..... 260
Estelline, Tex., Prairie Dog Town Fork of Red River near..... 277
Etta, Miss., Cypress Creek near..... 254
Tallahatchie River at..... 247
Eureka, Mo., Meramec River near..... 25
Evening Shade, Ark., Strawberry River near..... 89-90

Fall River at Fredonia, Kans.....168-169
near Fall River, Kans.....166-167

Page
Fairdealing, Mo., Little Black River near..... 84
Farmers ditch near Garden City, Kans... 137
Farris, Okla., Muddy Boggy Creek near..... 309
Fayetteville, Ark., West Fork of White River near..... 61
Fisk, Mo., St. Francis River at..... 42
Flippin, Ark., White River near..... 54
Flood reports by Geological Survey..... 9
Forked Deer River, Middle Fork of, near Alamo, Tenn..... 37
South Fork of, at Chestnut Bluff, Tenn..... 36
at Jackson, Tenn..... 35
Forsyth, Mo., White River at..... 53
Fountain Creek near Fountain, Colo..... 121
Fourche La Fave River near Gravelly, Ark.....241-242
near Nimrod, Ark..... 243
Fredonia, Kans., Fall River at.....168-169
Frog Bayou near Mountainburg, Ark..... 234

Gainesville, Tex., Red River near..... 279
Galena, Mo., James River at..... 63
Garden City, Kans., Arkansas River at.. 108
Farmers ditch near..... 137
Garden City canal near..... 138
Garden City canal near Garden City, Kans..... 138
Garland, Ark., Red River at..... 283
Girard, La., Boeuf River near..... 330
Golondrinas, N. Mex., Coyote River near 213
Mora River near..... 211
Gore, Okla., Illinois River near..... 189
Grand Lake at Langley, Okla..... 176
Granite, Colo., Arkansas River at..... 96
Granite, Okla., North Fork of Red River near..... 289
Grape Creek near Westcliffe, Colo..... 120
Gravelly, Ark., Fourche La Fave River near.....241-242
Grayson, La., Bayou Castor near..... 336
Graysport, Miss., Yalobusha River at... 265
Great Eastern canal at Lakin, Kans..... 136
Greenfield, Tenn., South Fork of Obion River near..... 31
Greenwood, Miss., Yazoo River at..... 251
Greer Spring at Greer, Mo..... 88
Grenada, Miss., Yalobusha River at..... 266
Guthrie, Okla., Cimarron River near.... 151
Guymon, Okla., North Canadian River near..... 215

Hartland, Kans., Amazon canal near..... 134
South Side ditch near..... 135
Harviell, Mo., Cane Creek at..... 77
Hatchie River at Bolivar, Tenn..... 38
near Stanton, Tenn..... 39
Hatchie River Basin, Tenn., gaging-station records in..... 38-39
Headrick, Okla., North Fork of Red River near..... 290
Heber Springs, Ark., Little Red River near..... 92
Henderson, Ark., North Fork River near. 67
Higbee, Colo., Purgatoire River near... 130
Holly, Colo., Arkansas River at..... 106
Wild Horse Creek at..... 132
Holly drain near Holly, Colo..... 133
Homochitto River at Eddiceton, Miss...271-272
near Doloroso, Miss..... 273
Homochitto River Basin, Miss., gaging-station records in.....271-273
Horatio, Ark., Little River near..... 312
Hudson Creek near Oxford, Miss..... 259
Huerfano River at Badito, Colo..... 125
near Redwing, Colo..... 124
near Undercliffe, Colo..... 126
Hulah, Okla., Caney River near..... 165
Humphrey, Ark., Crooked Creek near..... 245

Idabel, Okla., Little River near..... 311
Illinois River near Gore, Okla..... 189
near Tahlequah, Okla..... 188
Imboden, Ark., Spring River at..... 85
Independence, Kans., Verdigris River at 161
Index, Ark., Red River at..... 282
Iola, Kans., Neosho River near..... 172

Page
Jacks Fork at Eminence, Mo..... 82
Jackson, Tenn., South Fork of Forked Deer River at..... 35
James River at Galena, Mo..... 63
Jefferson, Tex., Cypress Creek near.... 317
Jet, Okla., Salt Fork of Arkansas River near..... 145
Jonesboro, La., Dugdemona River near... 334
Joplin, Mo., Shoal Creek near..... 186
Turkey Creek at..... 185

Kaener Spring, Mo., discharge measurement of..... 343
Keithville, La., Boggy Bayou near..... 321
Cypress Bayou near..... 320
Kennett, Mo., Little River ditches 1, 66,66-A, 81, 251, 259 near.... 46-60
Kiamichi River near Belzoni, Okla..... 310
King Bee Spring, Mo., discharge measurement of..... 343
Kings River near Berryville, Ark..... 62
Kiowa, Kans., Medicine Lodge River near 147
Knotz Springs, La., Atchafalaya River at.....340-341

La Cueva, N. Mex., Mora River at..... 210
La Junta, Colo., Arkansas River at..... 103
La Veta, Colo., Cucharas River near.... 127
Lagoon Creek, Okla., discharge measurement of..... 343
Lagrue Bayou near Stuttgart, Ark..... 95
Lake Overholser near Oklahoma City, Okla..... 221
Larkin, Kans., Great Eastern canal at... 136
Lamar, Colo., Arkansas River at..... 105
Lambert, Miss., Tallahatchie River near 249
Langley, Okla., Grand Lake at..... 176
Neosho River near..... 177
Larned, Kans., Arkansas River at..... 109
Pawnee River near..... 139
Las Animas, Colo., Purgatoire River near..... 131
Leeper, Mo., Black River at..... 70
Lenapah, Okla., Verdigris River near..162-163
Lightning Creek near McClune, Kans....181-182
Lillie, La., Cornie Bayou near..... 329
Lipscomb, Tex., Wolf Creek at..... 224
Little Arkansas River at Valley Center, Kans..... 141
Little Black River near Fairdealing, Mo..... 84
Little Missouri River near Murfreesboro, Ark..... 326
Little Red River near Heber Springs, Ark..... 92
Middle Fork of, at Shirley, Ark..... 93-94
Little River ditch 1 near Kennett, Mo.. 46
Little River ditch 66 near Kennett, Mo. 47
Little River ditch 66-A near Kennett, Mo..... 48
Little River ditch 81 near Kennett, Mo. 45
Little River ditch 251 near Kennett, Mo..... 49
Little River ditch 259 near Kennett, Mo..... 50
Little River near Horatio, Ark..... 312
near Idabel, Okla..... 311
Little Rock, Ark., Arkansas River at... 117
Little Wichita River near Archer City, Tex..... 295
Logan, N. Mex., Canadian River at..... 193
Long Creek at Courtland, Miss..... 261
Lovelaceville, Ky., Mayfield Creek at.. 28
Lukesasper Creek at Cotton Plant, Miss. 253
Lyons, Kans., Cow Creek near..... 140

McClune, Kans., Lightning Creek near..181-182
Malvern, Ark., Ouachita River near..... 324
Mangum, Okla., Elm Fork of North Fork of Red River near..... 291
Salt Fork of Red River at..... 288
Mannford, Okla., Cimarron River at....155-156
Marked Tree, Ark., St. Francis River at 43
St. Francis River floodway near..... 44
Mayfield Creek at Lovelaceville, Ky.... 28
Medicine Lodge River near Kiowa, Kans.. 147
Memphis, Tenn., Mississippi River at... 17-18
Meramec River at Robertsville, Mo..... 24

Page
Meramec River near Eureka, Mo..... 25
near Steelville, Mo..... 23
Meramec River Basin, Mo., discharge measurements in..... 343
gaging-station records in..... 23-27
Meramec Spring, Mo., discharge measurements of..... 343
Miami, N. Mex., Rayado River near..... 208
Minden, La., Bayou Dorcheat near..... 319
Mississippi River at Cape Girardeau, Mo..... 15-16
at Memphis, Tenn..... 17-18
at St. Louis, Mo..... 13-14
near Baton Rouge, La..... 21
near New Orleans, La..... 22
near Vicksburg, Miss..... 19-20
Mississippi River Delta, La., gaging-station records in.....336-342
Mississippi River main stem, La.-Miss.-Mo.-Tenn., gaging-station records on..... 13-22
Monroe, La., Bayou Desiard at..... 329
Ouachita River at..... 325
Monument Creek at Pikeview, Colo..... 122
Mora River at La Cueva, N. Mex..... 210
near Golondrinas, N. Mex..... 211
near Shoemaker, N. Mex..... 212
Moreno Creek at Eagle Nest, N. Mex..... 206
Mountain Fork River near Eagletown, Okla..... 313
Mountain Pine, Ark., Ouachita River near..... 323
Mountainburg, Ark., Frog Bayou near.... 234
Muddy Boggy Creek near Farris, Okla.... 309
Mulberry River near Mulberry, Ark.....235-237
Murfreesboro, Ark., Little Missouri River near..... 326
Muskogee, Okla., Arkansas River near... 114

Neosho River at Council Grove, Kans...170-171
near Choteau, Okla..... 178
near Commerce, Okla.....174-175
near Iola, Kans..... 172
near Langley, Okla..... 177
near Parsons, Kans..... 173
near Wagoner, Okla..... 179
Nepesta, Colo., Arkansas River near.... 102
New Albany, Miss., Cane Creek near....252-253
Upper Tallahatchie River near..... 246
New Orleans, La., Mississippi River near..... 22
Newcastle, Okla., Canadian River near.196-197
Newport, Ark., White River at..... 57-59
Nimrod, Ark., Fourche La Fave River near..... 243
Ninnescah River near Peck, Kans..... 142
North Canadian River at Beaver, Okla... 216
at Canton, Okla..... 219
at Woodward, Okla..... 218
discharge measurement of..... 343
near El Reno, Okla..... 220
near Guymon, Okla..... 215
near Oklahoma City, Okla..... 222
near Supply, Okla..... 217
near Wetumpka, Okla..... 223
North Fork of White River. See North Fork River.
North Fork River at Tecumseh, Mo..... 66
near Henderson, Ark..... 67
North Tippah Creek near Ripley, Miss... 255

Obion River at Obion, Tenn..... 32
North Fork of, near Union City, Tenn. 34
Rutherford Fork of, near Bradford, Tenn..... 33
South Fork of, near Greenfield, Tenn. 31
Obion River Basin, Tenn., gaging-station records in..... 31-37
Ocate, N. Mex., Colmor intake canal near..... 209
Oilton, Okla., Cimarron River at..... 154
Oklahoma City, Okla., Lake Overholser near..... 221
North Canadian River near..... 222
Ouachita River at Monroe, La..... 325
near Malvern, Ark..... 324
near Mountain Pine, Ark..... 323
Oxford, Miss., Clear Creek near..... 258
Hudson Creek near..... 259

Page
Parsons, Kans., Neosho River near..... 173
Patterson, Mo., St. Francis River near. 41
Pauls Valley, Okla., Washita River near 299
Pawnee River near Larned, Kans..... 139
Pease River near Crowell, Tex..... 292
Peck, Kans., Ninescah River near..... 142
Perkins, Okla., Cimarron River at.....152-153
Petit Jean Creek at Danville, Ark..... 240
near Blue Mountain, Ark.....238-239
Pickens, Miss., Big Black River at..... 269
Pikeview, Colo., Monument Creek at..... 122
Pocahontas, Ark., Black River at..... 75
Polecat Creek, Okla., discharge
measurement of..... 343
Poplar Bluff, Mo., Black River at..... 71-72
Portland, Colo., Arkansas River at..... 99
Poteau River at Cauthron, Ark.....230-231
at Poteau, Okla..... 233
near Wister, Okla..... 232
Potts Creek near Potts Camp, Miss..... 256
Poughkeepsie, Ark., Strawberry River
near..... 91
Prairie Dog Town Fork. See Red River,
Prairie Dog Town Fork of.
Publications on stream flow by
Geological Survey..... 4-7
by State agencies..... 7-8
Pueblo, Colo., Arkansas River near..... 100
Purgatoire River at Trinidad, Colo..... 129
near Higbee, Colo..... 130
near Las Animas, Colo..... 131

Quapaw, Okla., Spring River near.....184-185

Ralston, Okla., Arkansas River at..... 112
Ranch Creek, Okla., discharge
measurement of..... 343
Rayado River near Cimarron, N. Mex..... 207
near Miami, N. Mex..... 208
Red River at Alexandria, La..... 287
at Arthur City, Tex..... 281
at Coushatta, La.....285-286
at Garland, Ark..... 283
at Index, Ark..... 282
at Shreveport, La..... 284
near Colbert, Okla..... 280
near Gainesville, Tex..... 279
near Terral, Okla..... 278
North Fork of, Elm Fork of, near
Mangum, Okla..... 291
near Granite, Okla..... 289
near Headrick, Okla..... 290
Prairie Dog Town Fork of, near
Brice, Tex.....275-276
near Canyon, Tex..... 274
near Estelline, Tex..... 277
Salt Fork of, at Mangum, Okla..... 288
Red River Basin, Ark.-La.-Okla.-Tex.,
gaging-station records in.....274-337
Redwing, Colo., Huerfano River near.... 124
Reeds Spring, Mo., White River near.... 52
Ripley, Miss., North Tippah Creek near. 255
Robert, La., Tangipahoa River at..... 338
Robertsville, Mo., Meramec River at.... 24
Roman Nose Spring, Okla., discharge
measurement of..... 343
Rossville, Tenn., Wolf River at..... 40
Roy, N. Mex., Canadian River near..... 191
Run-off in inches, definition of..... 1
Rush, Ark., Buffalo River near..... 65
Rutherford Fork. See Obion River,
Rutherford Fork of.
Rye, Ark., Saline River near..... 327

St. Charles River at San Isabel, Colo.. 123
St. Francis River at Fisk, Mo..... 42
at Marked Tree, Ark..... 43
discharge measurement of..... 343
near Patterson, Mo..... 41
St. Francis River Basin, Ark.-Mo., dis-
charge measurement in..... 343
gaging-station records in..... 41-50
St. Francis River floodway near
Marked Tree, Ark..... 44
St. Joe, Ark., Buffalo River near..... 64
St. Louis, Mo., Mississippi River at... 13-14
Salida, Colo., Arkansas River at..... 97
South Arkansas River near..... 119

Page
Saline River (tributary to Little
River) near Dierks, Ark..... 315
Saline River (tributary to Ouachita
River) near Rye, Ark..... 327
Salt Fork. See Arkansas River,
Salt Fork of.
San Isabel, Colo., St. Charles River at 123
Sanchez, N. Mex., Canadian River near.. 192
Sardis, Miss., Tallahatchie River near. 248
Sarepta, La., Bayou Bodcau near..... 318
Savage, Miss., Coldwater River at..... 264
Second-feet per square mile,
definition of..... 1
Second-foot, definition of..... 1
Second-foot-day, definition of..... 1
Shattuck, Okla., Wolf Creek near..... 225
Shirley, Ark., Middle Fork of Little
Red River at..... 93-94
Shoal Creek near Joplin, Mo..... 186
Shoemaker, N. Mex., Mora River near.... 212
Shreveport, La., Red River at..... 284
Six Mile Creek near Eagle Nest, N. Mex. 205
Skuna River near Coffeeville, Miss..... 267
South Arkansas River near Salida, Colo. 119
South Side ditch near Hartland, Kans... 135
Spring River (Arkansas River Basin)
near Quapaw, Okla.....184-185
near Waco, Mo..... 183
Spring River (White River Basin) at
Imboden, Ark..... 85
Springer, N. Mex., Cimarron River at... 204
Stage-discharge relation, definition of 1
Stanton, Tenn., Hatchie River near..... 39
Steelville, Mo., Meramec River near.... 23
Stillwater, Okla., Council Creek near.. 157
Strawberry River near Evening Shade,
Ark..... 89-90
near Poughkeepsie, Ark..... 91
Stuttgart, Ark., Bayou Meto near..... 244
Lagrue Bayou near..... 95
Sugar Loaf Reservoir, Colo..... 118
Sulphur River near Darden, Tex..... 316
Sunflower River at Sunflower, Miss..... 268
Supply, Okla., North Canadian River
near..... 217
Wolf Creek near..... 226
Swan Lake, Miss., Tallahatchie River at 250
Syracuse, Kans., Arkansas River at..... 107

Tabler, Okla., Washita River near..... 298
Tahlequah, Okla., Illinois River near.. 188
Tallahatchie River at Etta, Miss..... 247
at Swan Lake, Miss..... 250
near Lambert, Miss..... 249
near Sardis, Miss..... 248
Tangipahoa River at Robert, La..... 338
Taylor Springs, N. Mex., Canadian
River near..... 190
Tecumseh, Mo., North Fork River at..... 66
Tendal, La., Tensas River at..... 332
Tensas River at Tendal, La..... 332
Terms, definition of..... 1
Terral, Okla., Red River near..... 278
Tiff City, Mo., Elk River near..... 187
Tonkawa, Okla., Salt Fork of
Arkansas River at..... 146
Trinidad, Colo., Purgatoire River at... 129
Trout, La., Bayou Funny Louis near..... 337
Tulsa, Okla., Arkansas River at..... 113
Turkey Creek at Joplin, Mo..... 185
Turquoise Lake. See Sugar Loaf
Reservoir.
Twin Lakes Reservoir..... 118

Undercliffe, Colo., Huerfano River near 126
Union, Mo., Bourbeuse River at..... 26
Union City, Tenn., North Fork of
Obion River near..... 34
Upper Arkansas River Basin, Colo.,
reservoirs in..... 118
Upper Tallahatchie River near New
Albany, Miss..... 246
Ute Park, N. Mex., Cimarron River at... 203

Valley Center, Kans., Little Arkansas
at..... 141
Van Buren, Ark., Arkansas River at..... 115
Van Buren, Mo., Big Spring near..... 83

Page
Van Buren, Mo., Current River at..... 79-80
Variadero, N. Mex., Conchas River at... 214
Verdigris River at Independence, Kans.. 161
near Altoona, Kans.....159-160
near Claremore, Okla..... 164
near Coyville, Kans..... 158
near Lenapah, Okla.....162-163
Vermejo River near Dawson, N. Mex..... 201
Vicksburg, Miss., Mississippi River near..... 19-20

Waco, Mo., Spring River near..... 183
Wagoner, Okla., Neosho River near..... 179
Walnut River at Winfield, Kans..... 143
Walters, Okla., Cache Creek near..... 293
Washita River at Carnegie, Okla..... 297
near Clinton, Okla..... 296
near Durwood, Okla..... 300
near Pauls Valley, Okla..... 299
near Tabler, Okla..... 298
Waynoka, Okla., Cimarron River near.... 150
Westcliffe, Colo., Grape Creek near.... 120
Wetumpka, Okla., North Canadian River near..... 223
White River at Batesville, Ark..... 56
at Beaver, Ark..... 51
at Calico Rock, Ark..... 55
at De Valls Bluff, Ark..... 60
at Forsyth, Mo..... 53
at Newport, Ark..... 57-59
White River near Flippin, Ark..... 54
near Reeds Spring, Mo..... 52
West Fork of, near Fayetteville, Ark. 61
White River Basin, Ark.-Mo., discharge measurements in..... 343
gaging-station records in..... 51-95
Whitefield, Okla., Canadian River near. 200
Wichita, Kans., Arkansas River at..... 110
Wichita River at Wichita Falls, Tex.... 294
Wild Horse Creek at Holly, Colo..... 132
Winfield, Kans., Walnut River at..... 143
Winnfield, La., Dugdemona River near... 335
Wister, Okla., Poteau River near..... 232
Wolf Creek at Lipscomb, Tex..... 224
near Shattuck, Okla..... 225
near Supply, Okla..... 226
Wolf River at Rossville, Tenn..... 40
Woodward, Okla., North Canadian River at..... 218
Work, division of..... 12
scope of..... 1

Yacona River near Enid, Miss..... 260
Yalobusha River at Grenada, Miss..... 266
at Graysport, Miss..... 265
Yazoo River at Greenwood, Miss..... 251
Yazoo River Basin, Miss., gaging-station records in.....246-268

Zalma, Mo., Castor River at..... 30

The use of the subjoined mailing label to return this report will be official business, and no postage stamps will be required

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OFFICIAL BUSINESS

This label can be used only for returning official publications. The address must not be changed.

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

GEOLOGICAL SURVEY,

WASHINGTON, D. C.