UNITED STATES DEPARTMENT OF THE INTERIOR

SURFACE WATER SUPPLY *of the* UNITED STATES 1928

PART VII

LOWER MISSISSIPPI RIVER BASIN

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 667

UNITED STATES DEPARTMENT OF THE INTERIOR
RAY LYMAN WILBUR, Secretary
GEOLOGICAL SURVEY
GEORGE OTIS SMITH, Director

Water-Supply Paper 667

SURFACE WATER SUPPLY *of the* UNITED STATES 1928

PART VII
LOWER MISSISSIPPI RIVER BASIN

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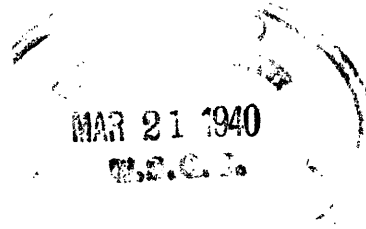
and C. E. ELLSWORTH
District Engineers

Prepared in cooperation with the States of
MISSOURI, ARKANSAS, COLORADO, KANSAS, and TEXAS



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SURFACE WATER SUPPLY OF LOWER MISSISSIPPI RIVER BASIN, 1928

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1928.

The data presented in these reports were collected by the United States Geological Survey under the following authority contained in the organic law (20 Stat. L., p. 394):

Provided, That this officer [the director] shall have the direction of the Geological Survey and the classification of public lands and examination of the geological structure, mineral resources, and products of the national domain.

The work was begun in 1888 in connection with special studies relating to irrigation. Since the fiscal year ending June 30, 1895, successive appropriation bills passed by Congress have carried the following items:

For gaging the streams and determining the water supply of the United States, and for the investigation of underground currents and artesian wells, and for the preparation of reports upon the best methods of utilizing the water resources.

Annual appropriations for the fiscal years ending June 30, 1895–1929

1895	$12,500.00	1918	$175,000.00
1896	24,500.00	1919	148,244.10
1897–1899	50,000.00	1920	175,000.00
1900	70,000.00	1921–1923	180,000.00
1901–2	100,000.00	1924–25	170,000.00
1903–1906	200.000.00	1926	165,000.00
1907	150,000.00	1927	151,000.00
1908–1910	100,000.00	1928	147,000.00
1911–1917	150,000.00	1929	270,500.00

In the execution of the work many private and State organizations have cooperated, either by furnishing data or by assisting in collecting data. Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 9.

Measurements of stream flow have been made at about 5,480 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1928, 1,830 gaging stations were being maintained by the Geological Survey and the cooperating organiza-

tions. Many miscellaneous discharge measurements were made at other points. In connection with this work data were also collected in regard to precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in water-supply papers from time to time.

DEFINITION OF TERMS

The volume of water flowing in a stream—the "run-off" or "discharge"—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, miner's inches, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, run-off in inches, and acre-feet. They may be defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

"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 flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

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

The following terms not in common use are here defined:

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

"Control," a term used to designate the natural section or stretch of the channel or artificial structure below the gage which determines the stage-discharge relation at the gage.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1927, and ending September 30, 1928. At the beginning of January in most parts of the United States much of the precipitation in the preceding three months is stored in the form of snow or ice, or in

ponds, lakes, and swamps, or as underground water, and this stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff or chain gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of

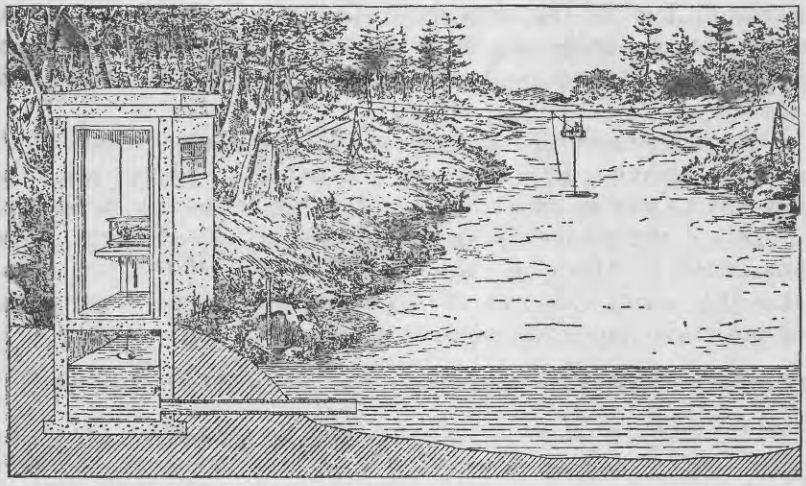

FIGURE 1.—Typical gaging station

discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

From the discharge measurements rating tables are prepared that give the discharge for any stage. The application of the daily gage heights to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is determined.

The data presented for each gaging station in the area covered by this report 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.

The description of the station gives, in addition to statements regarding location and type of gage, information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records. The

maximum discharge given under "Extremes" does not represent the crest discharge unless a water-stage recorder was in operation or unless a nonrecording gage was read at the time of the crest.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the daily gage height which may be a once daily reading or the mean of twice daily readings of a nonrecording gage, or the mean daily gage height obtained from a water-stage recorder graph.

At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by using the discharge integrator, an instrument for obtaining mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the maximum daily discharge and not the discharge when the water surface was at crest height. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns, which are defined on page 2.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanence of the stage-discharge relation and (2) on 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 records are accurate within 5 per cent; "good," within 10 per cent; "fair," within 15 per cent; and "poor," 20 per cent or more.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and run-off in inches may be subject to gross errors caused by the inclusion of large noncontributing districts in the measured drainage area, by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches.

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.

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

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow of streams and studies of the conditions affecting that flow, but it has comprised also investigation of such closely allied subjects as irrigation, water storage, water powers, underground waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the bulletins, professional papers, monographs, and annual reports.

The results of stream-flow measurements are now published annually in 12 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

PART I. North Atlantic slope basins (St. John River to York River).
II. South Atlantic slope and eastern Gulf of Mexico basins (James River to the Mississippi).
III. Ohio River Basin.
IV. St. Lawrence River Basin.
V. Upper Mississippi River and Hudson Bay Basins.
VI. Missouri River Basin.
VII. Lower Mississippi River Basin.
VIII. Western Gulf of Mexico basins.
IX. Colorado River Basin
X. The Great Basin.
XI. Pacific slope basins in California.
XII. North Pacific slope basins, in three parts:
A, Pacific slope basins in Washington and upper Columbia River Basin.
B, Snake River Basin.
C, Pacific slope basins in Oregon and lower Columbia River Basin.

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

Augusta, Me., Statehouse.
Boston, Mass., 2500 Customhouse.
Hartford, Conn., 60 Washington Street.
Albany, N. Y., 506 Broadway-Arcade Building.
Trenton, N. J., 710 Trenton Trust Building.
Charlottesville, Va., Brooks Museum, University of Virginia.
South Charleston, W. Va., Naval Ordnance Plant.
Asheville, N. C., 210 Post Office Building.
Columbia, S. C., 801 National Loan & Exchange Bank Building.
Ocala, Fla., Post Office Building.
Chattanooga, Tenn., 630 Power Building.
Tuscaloosa, Ala., Post Office Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Indianapolis, Ind., 315 Federal Building
Lansing, Mich., M9 State Office Building.
Chicago, Ill., 1503 Consumers Building.
Madison, Wis., 337N State Capitol.
St. Paul, Minn., 202 Old State Capitol.
Topeka, Kans., 23 Federal Building.
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.
Fort Smith, Ark., Post Office Building.
Austin, Tex., State Capitol.
Tucson, Ariz., 210 Post Office Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 313 Federal Building.
Idaho Falls, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Helena, Mont., 416 Power Block.
Tacoma, Wash., 406 Federal Building.
Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 751 South Figueroa Street, room 510.
Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,480 points in the United States, and the data obtained have been published in the reports tabulated below:

Stream-flow data in reports of the United States 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	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Descriptions, measurements, gage heights, and ratings	1893 to 1894.
16th A, pt. 2	Descriptive information only	
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.

Stream-flow data in reports of the United States Geological Survey—Continued

Report	Character of data	Year
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 and 1896.
W 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River and western United States.	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.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907 and 1908.
W 261 to 272	do	1909.
W 281 to 292	do	1910.
W 301 to 312	do	1911.
W 321 to 332	do	1912.
W 351 to 362	do	1913.
W 381 to 394	do	1914.
W 401 to 414	do	1915.
W 431 to 444	do	1916.
W 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919 and 1920.
W 521 to 534	do	1921.
W 541 to 554	do	1922.
W 561 to 574	do	1923.
W 581 to 594	do	1924.
W 601 to 614	do	1925.
W 621 to 634	do	1926.
W 641 to 654	do	1927.
W 661 to 674	do	1928.

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 in the same relative order as the regular gaging station. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface water supply published from 1899 to 1928. The data for any particular station will be found in the reports covering the years during which the station was maintained. For example, data from 1910 to 1920 for any station in the area covered by Part III are published in Water-Supply Papers 283, 303, 323, 353, 383, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

Numbers of water-supply papers containing results of stream measurements, 1899–1928

[For basins included see p. 5]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII-A	XII-B	XII-C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	38	38	38
1900 [g]	47, [h] 48	48	48, [i] 49	49	49	49, [j] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[k] 65, 66, 75	66, 75	[k] 65, 66, 75,	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[b] 82, 83	83	[l] 82, 83	[k] 83, 85	84	[k] 83, 84	84	85	85	85	85	85	85
1903	97	[b] 97, 98	98	97	[k] 98, 99, [m] 100	99	[k] 98, 99	99	100	100	100	100	100	100
1904	[n] 124, [o] 125, [p] 126	[p] 126, 127	128	129	[k] 128, 130	130, [q] 131	[k] 128, 131	132	133	133, [r] 134	134	135	135	135
1905	[n] 165, [o] 166, [p] 167	[p] 167, 168	169	170	171	172	[k] 169, 173	174	176, [s] 177	176, [r] 177	177	178	178	[t] 177, 178
1906	[n] 201, [o] 202, [p] 203	[p] 203, 204	205	206	207	208	[k] 205, 209	210	211, [s] 213	212, [r] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [r] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [r] 271	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

[a] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39. Monthly discharge for 1899 in Twenty-first Annual Report, Part IV.
[b] James River only.
[c] Gallatin River.
[d] Green and Gunnison Rivers and Grand River above junction with Gunnison.
[e] Mohave 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 Twenty-second Annual Report, Part IV.
[h] Wissahickon and Schuylkill Rivers to James River.
[i] Scioto River.
[j] Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.
[k] Tributaries of Mississippi from east.
[l] Lake Ontario and tributaries to St. Lawrence River proper.
[m] Hudson Bay only.
[n] New England rivers only.
[o] Hudson River to Delaware River, inclusive.
[p] Susquehanna River to Yadkin River, inclusive.
[q] Platte and Kansas Rivers.
[r] Great Basin in California, except Truckee and Carson River Basins.
[s] Below junction with Gila.
[t] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

In Missouri and at the station on White River at Beaver, Ark., the work was carried on in cooperation with the Missouri Bureau of Geology and Mines, through H. A. Buehler, State geologist. Financial assistance was also rendered by the Missouri Game and Fish Department, Little River Drainage District, Empire District Electric Co., Missouri Hydroelectric Power Co., Willis H. Meredith, and Springfield City Water Co.

In Arkansas the work was done in cooperation with the Arkansas Geological Survey, through Dr. G. C. Branner, State geologist. Financial assistance was also rendered by the Arkansas Power & Light Co.

In Kansas the work was done in cooperation with the Kansas Water Resources Division of the State Board of Agriculture, George S. Knapp, chief engineer. The Public Service Co. of Oklahoma furnished financial assistance for the station on Neosho River near Grove, Okla.

In Texas the work was done in cooperation with the State through the Board of Water Engineers, consisting of John A. Norris, chairman, C. S. Clark, and A. H. Dunlap, to whom special acknowledgments are due for the efficient and cordial manner in which they represented the State in the cooperative investigations. Valuable assistance was also rendered by the United States Weather Bureau, Oklahoma Power Co., and Chamber of Commerce, Electra, Tex.

DIVISION OF WORK

Data for stations in Missouri, Arkansas, and Oklahoma, except for the station on Kiamichi River near Belzoni, Okla., were collected and prepared for publication by H. C. Beckman, district engineer. He was asssisted by W. S. Frame and J. H. Gardiner, engineers, who had complete charge of the work in Arkansas and Oklahoma, and by V. L. Austin, A. L. Hill, C. H. Jennings, H. C. Bolon, R. D. Schmickle, and O. B. Johnson.

Data for stations in the Arkansas River Basin in Kansas were collected and prepared for publication under the direction of J. B. Spiegel, district engineer, assisted by Verne W. Stambaugh, R. H. Husted, and Maude Moon.

Data for stations in Colorado were collected and prepared for publication under the direction of Robert Follansbee, district engineer, assisted by P. V. Hodges, F. F. LeFever, H. P. Eisenhuth, and Nellie L. Esterly.

Data for stations in Texas and for the station on Kiamichi River near Belzoni, Okla., were collected and prepared for publication under the direction of C. E. Ellsworth, district engineer, assisted

by C. E. McCashin, Trigg Twichell, H. Pritchett, S. D. Breeding, Tate Dalrymple, A. C. Cook, N. C. Magnuson, Kate Casparis, A. B. Goodwin, C. A. Young, B. M. Pember, B. S. Odom, V. W. Rupp, P. H. Holland, and F. C. Ames.

The records were reviewed and manuscript assembled by P. R. Speer.

GAGING-STATION RECORDS

MERAMEC RIVER BASIN

MERAMEC RIVER NEAR STEELVILLE, MO.

LOCATION.—Chain gage in NE. ¼ sec. 21, T. 38 N., R. 4 W., 400 feet below St. Louis-San Francisco Railway bridge and 2½ miles north of Steelville. Zero of gage is 681.86 feet above mean sea level.

DRAINAGE AREA.—About 830 square miles.

RECORDS AVAILABLE.—December, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 30,300 second-feet June 10 (gage height, 17.90 feet); minimum, 161 second-feet September 29 and 30 (gage height, 0.80 foot).

1922–1928: Maximum discharge, 36,000 second-feet April 1, 1927 (gage height, 19.40 feet); minimum, 115 second-feet July 25 to August 1, 1926.

REMARKS.—Records good. Flow naturally regulated by large springs.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	620	368	5,300	e 405	368	322	498	810	489	1,020	246	264
2	1,100	368	2,110	368	368	368	442	650	466	1,020	246	246
3	653	392	1,430	322	368	e 402	442	680	466	758	264	246
4	526	416	1,430	322	392	e 435	688	489	538	688	264	246
5	442	368	870	322	653	469	7,060	620	1,770	620	526	213
6	392	556	758	322	832	442	15,900	592	3,700	526	322	213
7	688	1,020	722	322	1,100	392	7,500	538	1,340	498	282	201
8	e 654	5,960	688	322	1,180	392	2,540	512	1,100	e 470	264	178
9	620	3,900	e 593	302	e 972	392	1,770	512	11,700	442	302	167
10	556	1,600	498	345	e 764	368	1,430	512	27,100	392	322	189
11	e 993	1,260	442	322	556	416	1,180	466	2,620	368	282	189
12	1,430	1,260	469	322	587	416	1,020	445	1,860	392	264	189
13	1,260	945	e 9,000	322	587	392	950	445	4,300	392	230	189
14	795	870	8,840	322	587	392	950	424	7,060	392	213	189
15	587	832	3,500	322	587	416	845	445	1,940	e 357	213	189
16	498	832	1,940	322	498	498	745	424	1,520	322	213	183
17	442	795	1,430	322	498	620	680	512	1,430	302	213	178
18	368	795	1,100	322	469	1,100	680	538	1,260	302	282	175
19	368	795	795	442	442	1,680	620	489	1,770	322	498	175
20	345	758	688	1,100	416	1,860	564	538	2,790	345	322	172
21	322	620	620	795	368	1,600	950	512	5,300	282	302	172
22	302	e 583	556	688	392	e 1,270	4,200	564	2,280	302	282	167
23	282	e 545	526	e 742	392	945	4,500	3,700	2,450	282	282	167
24	264	e 507	e 498	795	368	870	2,450	1,180	1,680	264	1,100	167
25	246	469	469	1,020	368	832	1,600	880	1,430	264	688	167
26	246	442	416	722	345	795	1,260	745	1,260	264	653	167
27	246	416	442	688	322	722	1,340	e 660	1,020	264	620	167
28	246	392	469	526	322	653	1,260	e 574	2,110	264	416	164
29	246	368	498	469	368	556	950	489	1,430	264	368	161
30	302	4,700	469	498	------	620	950	512	1,260	264	322	161
31	322	------	442	416	------	556	------	489	------	264	282	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,430	246	528	0.636	0.73
November	5,960	368	1,100	1.33	1.48
December	9,000	416	1,550	1.87	2.16
January	1,100	302	478	.576	.66
February	1,180	322	533	.642	.69
March	1,860	322	684	.824	.95
April	15,900	442	2,200	2.65	2.96
May	3,700	424	676	.814	.94
June	27,100	466	3,180	3.83	4.27
July	1,020	264	416	.501	.58
August	1,100	213	358	.431	.50
September	264	161	188	.227	.25
The year	27,100	161	986	1.19	16.17

e Estimated.

MERAMEC RIVER NEAR SULLIVAN, MO.

LOCATION.—Chain gage in N. ½ SW. ¼ sec. 35, T. 40 N., R. 2 W., at Sappington highway bridge 6 miles southwest of Sullivan.

DRAINAGE AREA.—1,550 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 23,100 second-feet June 11 (gage height, 20.30 feet); minimum, 362 second-feet September 24–26 and 28.

1921–1928: Maximum discharge, 28,300 second-feet June 2, 1927 (gage height, 22.89 feet); minimum, 200 second-feet August 31, September 8 and 9, 1925.

Maximum stage known, 30.7 feet during August, 1915 (discharge, about 90,000 second-feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,170	499	10,900	930	930	760	1,170	1,720	1,290	2,790	815	710
2	1,290	660	6,530	815	870	815	1,050	1,600	1,170	2,050	760	660
3	1,980	815	3,300	815	815	815	990	1,470	1,230	1,920	710	635
4	1,920	930	2,580	815	870	930	930	1,350	2,310	1,720	710	610
5	1,290	815	1,980	870	1,230	990	8,190	1,290	6,640	1,600	760	520
6	1,050	710	1,720	710	1,790	990	19,200	1,230	5,150	1,470	930	499
7	1,170	660	1,600	760	1,980	930	17,100	1,170	3,970	1,410	870	520
8	2,050	9,950	1,530	710	2,310	870	5,550	1,110	3,300	1,290	930	499
9	1,920	7,230	1,410	710	2,180	930	3,970	1,050	13,800	1,230	990	499
10	1,290	3,790	1,290	710	1,790	930	2,860	1,050	20,300	1,170	760	438
11	1,050	2,440	1,170	710	1,600	930	2,510	990	18,600	1,110	760	438
12	1,410	2,240	1,170	660	1,470	870	2,240	930	4,850	1,050	760	438
13	2,050	1,920	1,410	660	1,290	870	1,980	930	8,070	1,230	760	438
14	1,660	1,790	13,500	660	1,290	815	1,790	870	9,090	1,170	660	418
15	1,290	2,180	8,550	660	1,410	870	1,660	870	5,050	1,110	660	418
16	1,170	4,650	4,250	635	1,350	930	1,530	870	3,380	1,050	635	418
17	930	3,790	3,000	635	1,230	1,110	1,470	1,110	3,080	930	685	418
18	815	2,440	2,180	635	1,110	1,530	1,410	1,050	2,510	870	660	399
19	760	1,920	1,920	710	1,050	2,180	1,350	1,050	3,460	815	1,350	399
20	710	1,660	1,600	1,790	990	2,790	1,350	2,050	5,870	930	1,170	380
21	660	1,410	1,410	2,050	930	3,380	1,470	1,790	9,800	1,050	1,410	380
22	610	1,290	1,290	1,860	870	2,510	4,950	1,660	6,200	930	1,050	380
23	588	1,170	1,230	1,350	870	2,050	8,810	4,350	4,150	815	870	380
24	565	1,110	1,170	1,410	815	1,960	5,450	3,460	3,540	760	1,050	362
25	542	1,050	1,050	1,530	760	1,660	3,970	2,050	2,860	760	1,660	362
26	520	930	1,050	1,600	760	1,530	2,650	1,600	2,440	760	1,410	362
27	520	870	930	1,410	760	1,410	2,510	1,350	2,180	815	1,290	380
28	499	870	930	1,230	760	1,290	2,310	1,170	6,640	710	1,290	362
29	499	815	990	1,170	710	1,050	2,050	1,050	7,230	710	990	380
30	499	4,750	1,050	1,050	-------	815	1,920	990	3,790	710	870	380
31	478	-------	1,050	990	-------	1,290	-------	1,230	-------	710	760	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,050	478	1,060	0.684	0.79
November	9,950	499	2,180	1.41	1.57
December	13,500	930	2,700	1.74	2.01
January	2,050	635	1,010	.652	.75
February	2,310	710	1,200	.774	.83
March	3,380	760	1,310	.845	.97
April	19,200	930	3,810	2.46	2.74
May	4,350	870	1,430	.923	1.06
June	20,300	1,170	5,730	3.70	4.13
July	2,790	710	1,150	.742	.86
August	1,660	635	935	.603	.70
September	710	362	449	.290	.32
The year	20,300	362	1,910	1.23	16.73

MERAMEC RIVER NEAR EUREKA, MO.

LOCATION.—Chain gage in SE. ¼ sec. 32, T. 44 N., R. 4 E., 2 miles east of Eureka. Zero of gage is 407.40 feet above mean sea level.

DRAINAGE AREA.—3,800 square miles.

RECORDS AVAILABLE.—August, 1903, to July, 1906; October, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 39,800 second-feet April 8 and 9 (gage height, 23.80 feet); minimum, 610 second-feet September 23–26.

1921–1928: Maximum discharge, 64,000 second-feet April 3, 1927 (gage height, 29.47 feet); minimum discharge, 320 second-feet September 28, 1922; minimum gage height, 0.52 foot September 2, 1925.

Maximum stage known, 39.2 feet August 22, 1915 (discharge, about 175,000 second-feet).

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,620	845	19,800	2,280	2,380	1,900	3,000	3,340	4,280	17,200	2,670	1,300
2	5,110	920	23,600	4,640	2,180	1,900	2,580	3,000	4,520	6,690	2,010	1,210
3	5,110	1,000	21,700	4,520	2,080	a 2,040	2,480	2,890	3,340	a 5,520	1,790	1,080
4	5,370	1,210	8,790	4,280	2,080	2,180	2,380	2,680	4,040	4,350	1,490	1,040
5	4,220	1,490	6,010	3,800	2,680	2,280	11,900	2,580	10,700	3,740	2,010	1,000
6	3,980	1,490	4,520	3,340	3,560	2,280	24,900	3,000	11,500	3,140	1,490	960
7	4,850	1,490	4,280	2,780	5,240	2,280	30,300	2,280	8,930	2,900	1,590	920
8	4,350	16,300	a 3,920	1,900	6,270	a 2,280	39,300	a 2,180	7,840	2,560	1,490	880
9	3,380	20,700	3,560	1,900	6,140	2,280	38,400	2,080	13,000	2,450	1,300	845
10	3,140	17,200	3,340	1,810	5,120	2,180	12,600	2,080	21,700	2,450	1,300	845
11	2,900	16,000	3,110	1,810	4,040	2,380	5,750	1,990	31,100	2,340	1,210	810
12	3,860	5,630	a 3,700	1,730	3,560	2,380	5,120	1,900	30,100	3,260	1,390	775
13	3,620	4,600	4,280	1,730	3,220	2,480	4,520	1,900	23,000	3,140	1,210	775
14	4,100	4,600	15,200	1,730	3,340	2,380	4,040	1,810	17,800	2,340	1,120	775
15	3,260	4,600	21,700	1,730	3,560	2,180	3,800	1,810	16,000	2,340	1,040	775
16	2,450	6,690	22,600	1,650	3,800	2,280	3,450	3,560	7,970	2,010	1,040	775
17	2,010	11,100	11,100	1,650	3,340	2,480	3,220	3,000	5,750	1,790	1,040	740
18	1,690	10,500	6,400	1,650	3,000	3,220	3,000	3,560	5,120	1,690	1,080	705
20	1,490	5,110	4,760	3,000	2,780	4,880	2,780	2,780	5,240	1,590	1,120	705
20	1,390	3,740	4,040	4,640	2,080	6,140	2,680	2,890	29,000	1,900	1,120	705
21	1,300	3,260	3,560	4,400	2,380	6,400	a 4,220	6,790	33,200	1,690	2,230	670
22	1,210	2,780	3,110	4,160	2,180	5,240	5,750	6,010	31,800	1,590	2,450	640
23	1,120	2,450	2,890	3,450	2,180	4,520	10,300	7,180	20,500	1,590	2,230	610
24	1,080	2,450	2,580	7,700	2,080	3,800	11,900	7,440	8,360	1,490	2,670	610
25	1,040	2,230	2,480	6,530	2,080	3,450	10,500	5,000	6,690	1,390	2,120	610
26	1,000	2,450	2,280	6,790	1,900	3,220	6,010	3,800	a 5,580	1,300	2,670	610
27	1,000	2,340	2,280	5,490	1,900	3,000	4,520	3,110	4,480	1,300	2,560	640
28	920	a 2,180	2,180	3,920	1,900	2,780	4,520	2,680	19,800	1,210	2,230	640
29	920	2,010	2,280	3,110	1,810	2,890	4,040	2,480	24,900	1,210	2,230	640
30	880	16,300	2,280	2,890	-------	3,800	3,800	2,280	27,800	a 1,450	1,690	640
31	a 862	-------	2,280	2,580	-------	3,340	-------	2,280	-------	1,690	1,490	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	5,370	862	2,620	0.689	0.79
November	20,700	845	5,790	1.52	1.70
December	23,600	2,160	7,250	1.91	2.20
January	7,700	1,650	3,340	.879	1.01
February	6,270	1,810	3,060	.805	.87
March	6,400	1,900	8,060	.805	.93
April	39,300	2,380	9,060	2.38	2.66
May	7,440	1,810	3,240	.853	.98
June	33,200	3,340	14,800	3.89	4.34
July	17,200	1,210	2,880	.758	.87
August	2,670	1,040	1,710	.450	.52
September	1,300	610	798	.210	.23
The year	39,300	610	4,780	1.26	17.11

a Interpolated.

MERAMEC SPRING NEAR ST. JAMES, MO.

LOCATION.—Staff gage in SE. ¼ sec. 1, T. 37 N., R. 6 W., 600 feet below outlet of spring and 6 miles southeast of St. James. Zero of gage is 774.59 feet above mean sea level.

RECORDS AVAILABIE.—March, 1903, to July, 1906; November 1921, to September, 1928.

EXTREMES.—Maximum discharge during year (estimated), 650 second-feet November 8, December 1, 14, and April 6; minimum, 116 second-feet September 26–30 (gage height, 1.12 feet).

1921–1928: Maximum discharge (estimated), 650 second-feet several days during 1927 and 1928; minimum, 69 second-feet September 25–27, 1926.

REMARKS.—Records good except for periods of backwater, November 8, December 1, 14, 15, April 5–7, and June 9, estimated, and other periods.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	132	140	*650	*150	142	129	*171	215	187	*176	137	140
2	*225	161	606	*143	140	134	*169	206	187	176	137	*140
3	184	167	454	137	140	134	*166	196	*187	170	137	*140
4	161	173	*350	134	137	*137	164	190	187	167	140	140
5	153	167	292	132	*160	140	*600	187	193	164	*170	132
6	148	*164	264	132	184	140	*650	*182	212	161	156	129
7	196	161	248	134	215	134	*600	178	209	161	145	129
8	248	*650	215	*133	244	134	494	178	196	*161	142	*128
9	*210	606	193	132	215	142	418	176	*600	161	142	*128
10	181	448	184	132	193	142	360	176	*450	156	148	127
11	170	372	*180	129	184	*144	306	164	297	156	142	127
12	292	322	176	134	*177	145	260	176	264	156	*140	124
13	260	*280	184	129	170	142	237	*174	297	*155	137	124
14	212	248	*650	129	173	134	237	*172	292	*154	137	124
15	190	283	*625	*126	167	129	*220	170	264	*153	134	124
16	*184	527	579	124	161	153	203	173	237	*153	134	*124
17	176	424	454	124	159	196	193	176	*233	*152	134	124
18	159	344	*410	129	150	*225	190	187	229	*151	134	121
19	156	278	383	167	*145	*300	178	181	225	150	*160	121
20	153	*258	241	209	140	*350	173	*181	212	145	148	121
21	148	237	222	184	137	*320	203	181	244	*145	145	119
22	150	209	209	*170	*138	297	*400	203	237	*145	140	119
23	*148	252	193	156	140	264	442	252	222	145	137	*119
24	145	*220	181	161	134	237	372	219	*209	145	212	119
25	145	196	*172	225	129	*235	302	199	196	145	190	119
26	145	190	164	212	*129	233	256	206	193	142	*180	116
27	148	*186	161	190	129	206	260	*200	184	142	170	116
28	145	181	167	173	129	199	273	193	181	142	159	116
29	145	176	167	*166	129	187	*240	181	176	*140	153	116
30	*142	233	164	159	-----	181	229	*181	*176	137	148	*116
31	140	-------	156	150	-------	173	-------	181	-------	137	142	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	292	140	174	May	252	164	188
November	650	140	275	June	600	176	239
December	650	156	300	July	176	137	152
January	225	124	152	August	212	134	149
February	244	129	158	September	140	116	118
March	350	129	188				
April	650	164	299	The year	650	116	199

* Estimated.

BOURBEUSE RIVER AT UNION, MO.

LOCATION.—Chain gage in SW. ¼ sec. 26, T. 43 N., R. 1 W., 800 feet above Flat Creek and 1 mile east of Union. Zero of gage is 491.93 feet above mean sea level.

DRAINAGE AREA.—767 square miles.

RECORDS AVAILABLE.—June, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 17,100 second-feet April 7 (gage height, 17.00 feet); minimum, 36 second-feet September 30 (gage height, 1.42 feet).

1921–1928: Maximum discharge, 22,500 second-feet April 3, 1927 (gage height, 19.10 feet); minimum discharge, 27 second-feet September 20, 1925; minimum gage height, 0.80 foot October 5 and 6, 1922.

Maximum stage known, 25.5 feet August 22, 1915 (discharge, about 50,000 second-feet.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,220	115	7,940	304	360	241	340	380	288	2,360	288	256
2	1,980	142	11,600	304	304	241	322	340	1,040	1,780	340	212
3	1,980	144	9,380	288	304	256	304	322	685	1,310	271	180
4	2,940	241	1,690	288	288	271	288	304	918	918	241	154
5	1,000	304	1,080	256	340	304	4,860	271	835	758	271	139
6	402	241	835	288	650	304	10,600	271	1,310	560	241	120
7	1,130	530	758	271	1,220	304	15,400	256	1,600	475	322	105
8	1,500	5,740	758	256	1,880	288	14,000	241	1,220	425	256	98
9	835	8,660	835	271	1,690	322	2,070	226	4,040	380	212	84
10	530	10,900	685	256	1,040	502	1,130	212	6,650	322	175	82
11	360	1,690	502	271	720	650	795	212	7,820	304	175	76
12	720	960	425	271	590	620	650	212	1,690	288	380	82
13	1,690	795	1,400	271	475	590	560	198	1,040	304	256	78
14	1,400	720	5,190	256	475	475	502	185	1,880	271	185	69
15	590	2,360	8,060	271	530	450	450	185	3,040	241	144	152
16	380	5,190	4,750	271	590	450	402	1,130	960	226	129	120
17	304	7,230	1,400	256	530	450	380	620	620	212	110	78
18	271	1,500	875	256	450	650	380	1,780	530	198	110	96
19	212	835	590	340	380	1,500	340	685	560	185	96	73
20	198	560	475	360	340	1,780	340	1,600	7,230	185	91	62
21	169	450	402	758	322	1,400	360	1,310	9,620	180	475	62
22	169	380	380	720	288	875	425	2,360	9,500	164	167	55
23	162	340	340	475	304	620	795	1,500	2,360	149	620	55
24	152	380	304	425	271	502	2,940	1,500	1,600	149	875	45
25	142	650	288	1,690	271	425	1,400	720	1,310	136	475	51
26	136	758	288	4,140	256	380	795	475	1,080	127	918	51
27	122	530	271	1,600	256	340	590	380	758	120	685	45
28	122	425	288	1,000	241	304	475	340	5,080	117	795	39
29	115	380	288	620	241	322	425	304	8,540	100	650	48
30	112	4,640	322	475	-------	304	425	271	11,400	100	402	36
31	117	-------	360	380	-------	304	-------	271	-------	110	340	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,940	112	683	0.890	1.03
November	10,900	115	1,930	2.52	2.81
December	11,600	271	2,020	2.63	3.03
January	4,140	256	577	.752	.87
February	1,880	241	538	.701	.76
March	1,780	241	530	.691	.80
April	15,400	288	2,090	2.72	3.04
May	2,360	185	615	.802	.93
June	11,400	288	3,170	4.13	4.61
July	2,360	100	424	.553	.64
August	918	91	345	.450	.52
September	256	36	93.4	.122	.14
The year	15,400	36	1,080	1.41	19.18

BIG RIVER AT BYRNESVILLE, MO.

LOCATION.—Chain gage in SE. ¼ sec. 12, T. 42 N., R. 3 E., 200 feet below dam and mill at Byrnesville.

DRAINAGE AREA.—892 square miles.

RECORDS AVAILABLE.—May, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 12,800 second-feet June 11 (gage height, 18.84 feet); minimum, 90 second-feet August 14 (gage height, 2.30 feet).

1922–1928: Maximum discharge, 21,900 second-feet (revised) April 2, 1927 (gage height, 22.63 feet); minimum, 64 second-feet October 1, 1922, and August 12, 1926.

Maximum stage known, 30.2 feet in August, 1915 (discharge, about 80,000 second-feet).

REMARKS.—Records good for discharges above 200 second-feet and fair for those below. Slight diurnal fluctuation during low stages caused by gristmills upstream.

Daily discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	980	184	8,600	454	596	557	936	805	1,310	2,280	892	234
2	1,750	213	9,400	348	520	596	762	720	1,480	1,750	378	213
3	1,120	269	2,160	306	486	762	678	678	936	1,360	423	203
4	848	363	1,480	348	520	848	762	596	1,920	1,160	306	193
5	596	306	1,160	393	892	848	3,330	557	3,050	980	378	184
6	423	281	1,070	378	1,480	762	8,800	520	1,920	848	294	184
7	762	520	936	423	1,860	678	10,900	486	1,530	762	269	175
8	848	8,500	980	423	2,040	637	4,100	454	2,160	678	281	166
9	637	3,120	805	423	1,530	596	2,040	423	6,500	637	234	166
10	454	1,480	720	393	1,210	596	1,530	423	11,100	596	224	158
11	378	1,210	678	378	1,020	557	1,260	393	10,200	557	193	158
12	936	1,210	678	378	892	520	1,120	378	2,280	557	175	158
13	848	1,120	2,340	378	848	520	980	363	5,170	980	128	158
14	637	848	8,100	363	848	520	936	363	8,500	557	128	158
15	486	1,310	11,100	363	1,310	486	848	363	3,190	520	166	158
16	378	2,640	2,910	333	1,530	596	762	454	1,860	454	158	158
17	320	1,920	1,800	333	1,120	762	678	557	1,420	378	203	150
18	269	1,210	1,310	348	936	1,120	637	557	1,360	348	257	158
19	246	936	1,070	281	848	1,360	596	454	1,980	333	333	150
20	234	762	936	2,980	720	1,920	557	1,070	10,900	306	269	128
21	213	678	805	1,800	678	1,920	1,120	2,910	11,600	294	486	136
22	203	557	762	1,160	596	1,530	4,270	1,860	9,820	281	1,360	128
23	203	520	678	936	596	1,210	4,720	3,780	2,700	269	936	128
24	193	486	637	1,530	596	1,020	3,260	1,750	2,280	246	678	128
25	203	454	596	1,980	596	892	1,860	1,120	1,800	234	678	121
26	193	423	520	1,480	557	848	1,360	892	1,420	224	678	121
27	193	393	486	1,120	520	762	1,160	720	1,210	224	557	136
28	184	378	520	892	520	678	1,070	596	7,300	213	520	128
29	175	378	520	678	520	980	1,020	557	10,600	203	454	143
30	184	4,810	557	678	-------	1,210	892	486	8,400	203	320	128
31	184	-------	557	596	-------	1,160	-------	486	-------	213	269	------

Monthly discharge, in second-feet, of Big River at Byrnesville, Mo., 1926–1928

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
1926–27					
October	4,720	246	1,020	1.14	1.31
November	2,160	320	1,060	1.19	1.33
December	1,020	281	524	.587	.68
January	5,440	363	1,880	2.29	2.43
February	2,580	454	1,150	1.11	1.34
March	7,800	423	1,800	2.02	2.33
April	20,000	1,070	6,190	6.94	7.74
May	11,800	720	2,620	2.94	3.39
June	10,900	348	1,910	2.14	2.39
July	393	193	266	.298	.34
August	1,020	150	260	.291	.34
September	281	114	148	.166	.19
The year	20,000	114	1,560	1.75	23.81
1927–28					
October	1,750	175	493	.553	.64
November	8,500	184	1,250	1.40	1.56
December	11,100	486	2,090	2.34	2.70
January	2,980	281	738	.827	.95
February	2,040	486	910	1.02	1.10
March	1,920	486	886	.993	1.14
April	10,900	557	2,100	2.35	2.62
May	3,780	363	831	.932	1.07
June	11,600	936	4,530	5.08	5.67
July	2,280	203	601	.674	.78
August	1,360	128	407	.456	.53
September	234	121	157	.176	.20
The year	11,600	121	1,240	1.39	18.96

NOTE.—Monthly discharge in the above table for the year ending Sept. 30, 1927, supersedes the record published in Water-Supply Paper 647 because of a revision of the high-water discharge for three days in April as follows: Apr. 1, 16,300 second-feet; Apr. 2, 20,000 second-feet; and Apr. 16, 14,000 second-feet.

HEADWATER DIVERSION CHANNEL BASIN

CASTOR RIVER AT ZALMA, MO.

LOCATION.—Chain gage in S. ½ sec. 29, T. 29 N., R. 9 E., in Zalma. Zero of gage is 350 feet above mean sea level.

DRAINAGE AREA.—395 square miles.

RECORDS AVAILABLE.—September, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 19,400 second-feet December 14 (gage height, 26.50 feet); minimum, 60 second-feet September 26, 27, 29, and 30 (gage height, 1.76 feet).

1921–1928: Maximum discharge, that of December 14, 1927; minimum, 30 second-feet August 31, 1924 (gage height, 1.10 feet).

Maximum stage known, 28.0 feet in August, 1915 (discharge, about 30,000 second-feet).

REMARKS.—Records fair. Discharge estimated October 31, December 10, March 14–17, 26, August 12, and September 25.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	270	100	210	365	365	498	240	498	210	1,920	124	196
2	168	100	210	255	333	429	240	446	196	1,670	155	182
3	175	100	196	365	301	413	240	397	225	970	136	182
4	162	100	182	225	285	381	240	365	3,240	828	118	130
5	136	100	182	210	285	365	240	381	2,150	594	365	130
6	118	182	168	225	285	333	196	333	1,510	498	349	124
7	130	100	182	225	317	317	6,190	301	574	413	301	112
8	155	574	182	225	349	301	2,830	270	654	381	317	106
9	130	946	162	225	349	365	2,760	240	2,400	898	413	100
10	130	574	160	196	333	397	784	240	6,980	634	397	100
11	118	446	210	196	317	365	784	225	4,290	365	365	95
12	463	397	240	196	301	365	634	210	2,620	317	285	90
13	142	381	4,900	196	270	365	516	196	5,050	301	225	90
14	155	333	17,000	182	317	350	516	175	9,300	270	155	84
15	130	333	9,500	182	413	350	429	168	5,050	240	124	79
16	124	1,410	6,980	175	534	500	365	155	2,270	225	118	79
17	118	1,230	4,600	175	480	700	349	155	1,640	210	136	79
18	100	806	1,510	196	446	806	333	168	5,050	196	168	74
19	106	614	1,160	240	413	806	301	175	8,040	196	142	69
20	84	429	874	1,210	333	784	317	148	4,110	301	136	64
21	84	446	614	1,020	365	806	3,980	148	13,000	240	168	69
22	100	397	463	718	349	674	6,890	301	9,500	196	196	64
23	84	365	413	574	381	594	4,600	614	6,800	168	285	62
24	84	317	397	516	1,640	516	2,270	480	6,890	148	381	62
25	84	301	333	874	994	480	1,460	301	2,930	142	210	61
26	95	270	317	828	634	440	3,550	270	1,800	130	365	60
27	90	255	270	674	614	397	1,040	255	1,490	130	255	60
28	95	240	285	534	554	365	806	196	3,430	118	240	62
29	90	225	381	463	516	381	554	182	6,400	124	225	60
30	95	210	365	429	-------	413	574	182	4,650	118	240	60
31	98	-------	333	397	-------	301	-------	182	-------	118	240	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	463	84	133	0.337	0.39
November	1,410	100	409	1.04	1.16
December	17,000	160	1,710	4.33	4.99
January	1,210	175	403	1.02	1.18
February	1,640	270	451	1.14	1.23
March	806	301	470	1.19	1.37
April	6,890	196	1,270	3.22	3.59
May	614	148	270	.684	.79
June	13,000	196	4,080	10.3	11.49
July	1,920	118	421	1.07	1.23
August	413	118	236	.597	.69
September	196	60	92.5	.234	.26
The year	17,000	60	824	2.09	28.37

ST. FRANCIS RIVER BASIN

ST. FRANCIS RIVER AT MARKED TREE, ARK.

LOCATION.—Staff gage in sec. 35, T. 11 N., R. 6 E., at Marked Tree.
RECORDS AVAILABLE.—September, 1927, to September, 1928.
EXTREMES.—Maximum stage during year, 18.3 feet July 5–10; minimum, 2.4 feet September 30, 1928.
REMARKS.—Daily discharge not determined. Gage-height record published by United States Weather Bureau.

Discharge measurements, 1927–28

Date	Gage height	Discharge	Date	Gage height	Discharge
1927	*Feet*	*Sec.-ft.*	1928—Con.	*Feet*	*Sec.-ft.*
Sept. 20	3.8	1,060	Apr. 12	9.63	2,650
			May 4	13.89	2,340
1928			June 21	15.20	2,950
Jan. 11	9.4	2,380	June 30	17.79	2,640
Mar. 8	8.43	2,570	Aug. 15	5.24	1,530

ST. FRANCIS RIVER FLOODWAY NEAR MARKED TREE, ARK.

LOCATION.—Staff gage in SE. ¼ sec. 10, T. 11 N., R. 6 E., at dam of Poinsett County Drainage District No. 7 near Marked Tree.

RECORDS AVAILABLE.—September, 1927, to September, 1928.

EXTREMES.—Maximum discharge during period, 21,400 second-feet July 5–9 (gage height, 31.2 feet); minimum, 385 second-feet September 27–29, 1927 (gage height, 15.2 feet).

REMARKS.—Records fair. Gage-height record furnished by Poinsett County Drainage District No. 7.

Daily and monthly discharge, in second-feet, 1927–28

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,640	450	1,380	4,800	7,360	5,250	4,110	4,320	10,500	3,760	20,200	6,140	1,400
2	3,060	530	1,700	4,800	7,360	5,250	4,110	4,250	10,700	3,550	20,600	5,700	1,400
3	2,120	685	1,880	4,640	7,180	5,160	4,180	4,180	10,700	3,410	20,900	5,250	1,400
4	1,880	910	1,940	4,480	7,000	5,160	4,250	4,110	11,000	3,480	21,200	4,800	1,590
5	1,650	1,180	1,940	4,250	6,840	5,070	4,320	3,970	11,000	3,480	21,400	4,400	1,840
6	1,430	1,380	1,940	4,110	6,540	4,980	4,400	4,110	11,000	3,410	21,400	4,040	2,120
7	1,280	1,480	1,940	3,830	6,540	4,890	4,480	4,320	11,000	3,480	21,400	3,690	2,230
8	1,130	1,820	2,060	3,690	6,400	4,890	4,480	4,400	10,700	3,760	21,400	3,280	2,120
9	1,080	1,940	2,060	3,410	6,260	4,800	4,480	4,480	10,500	4,180	21,400	2,820	1,900
10	1,040	2,060	2,060	3,060	6,020	4,640	4,480	4,890	10,200	4,560	20,900	2,400	1,740
11	995	2,180	2,000	2,920	5,800	4,640	4,400	5,250	10,000	4,980	20,600	2,060	1,590
12	910	2,580	2,060	2,710	5,610	4,560	4,400	5,520	9,560	5,250	20,400	1,790	1,440
13	870	2,990	2,060	2,580	5,430	4,480	4,400	5,700	9,120	5,700	19,900	1,540	1,360
14	830	3,270	2,060	2,120	5,160	4,480	4,400	5,900	8,500	6,540	19,600	1,400	1,220
15	685	3,270	2,060	2,380	4,980	4,480	4,400	6,020	7,900	7,540	18,900	1,310	1,100
16	620	3,270	2,250	2,320	4,720	4,480	4,400	6,140	7,360	8,700	18,400	1,220	1,000
17	560	3,270	2,320	2,320	4,560	4,480	4,320	6,400	6,840	10,000	17,900	1,140	930
18	500	3,410	2,380	2,380	4,400	4,480	4,250	6,540	6,400	11,200	17,400	1,140	840
19	450	3,270	2,510	2,510	4,400	4,320	4,180	6,840	5,900	12,200	16,700	1,140	785
20	425	3,130	2,710	2,780	4,400	4,250	4,180	7,180	5,610	13,100	16,000	1,140	735
21	405	2,920	3,340	2,920	4,400	4,180	4,250	7,720	5,250	14,100	15,300	1,100	685
22	425	2,710	3,620	3,270	4,480	4,110	4,250	7,900	5,160	14,600	14,300	1,140	660
23	425	2,440	3,830	3,550	4,720	4,040	4,250	8,300	4,980	15,800	13,600	1,140	660
24	425	2,180	4,180	3,970	4,890	3,970	4,250	8,700	4,720	16,500	12,600	1,140	620
25	405	2,000	4,320	4,560	4,980	3,900	4,320	9,120	4,560	17,400	11,900	1,140	580
26	405	1,820	4,480	5,250	5,070	3,830	4,320	9,780	4,480	18,200	11,000	1,180	560
27	385	1,940	4,640	5,700	5,160	3,830	4,400	10,000	4,400	18,600	10,000	1,180	560
28	385	1,280	4,720	6,400	5,160	3,900	4,400	10,200	4,320	19,200	9,120	1,220	502
29	385	1,130	4,800	6,840	5,160	4,040	4,400	10,500	4,180	19,600	8,300	1,260	530
30	425	950	4,890	7,000	5,250	-------	4,400	10,500	4,040	19,900	7,540	1,260	515
31	-------	870	-------	7,180	5,250	-------	4,400	-------	3,830	-------	6,840	1,310	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
1927				
September	3,060	385	941	56,000
1927–28				
October	3,140	450	2,040	125,000
November	4,890	1,380	2,800	167,000
December	7,180	2,120	3,960	243,000
January	7,360	4,400	5,530	340,000
February	5,250	3,830	4,500	259,000
March	4,480	4,110	4,330	266,000
April	10,500	3,970	6,570	391,000
May	11,000	3,830	7,560	465,000
June	19,900	3,410	9,870	587,000
July	21,400	6,840	16,700	1,030,000
August	6,140	1,100	2,240	138,000
September	2,230	502	1,150	68,400
The year	21,400	450	5,620	4,080,000

LITTLE RIVER DITCH NO. 81 NEAR KENNETT, MO.

LOCATION.—Chain gage in NE. ¼ sec. 4, T. 18 N., R. 10 E., at bridge on State highway No. 84, 4 miles east of Kennett. Zero of gage is 240 feet above mean sea level.

RECORDS AVAILABLE.—October, 1926, to September, 1928. September, 1921, to September, 1926, at Kirk, 1¼ miles upstream.

EXTREMES.—Maximum discharge during year, 2,710 second-feet June 30 and July 1 (gage height, 13.06 feet June 30); minimum, 87 second-feet September 27–30.

1926–1928: Maximum discharge, 2,760 second-feet April 21, 1927 (gage height, 15.11 feet); minimum discharge, 73 second-feet September 17 and 18, 1927; minimum gage height, 2.61 feet September 18, 1927.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	454	97	150	494	178	202	150	1,140	178	2,710	157	164
2	494	102	150	336	171	194	150	1,200	171	2,620	178	143
3	394	97	150	292	164	186	143	1,090	171	2,460	186	136
4	246	97	143	228	164	178	143	984	702	2,260	157	124
5	186	97	143	202	157	171	143	792	1,220	2,040	150	118
6	157	107	143	194	210	164	434	574	1,090	1,820	143	118
7	210	102	143	194	264	164	1,090	354	680	1,540	136	112
8	282	112	136	194	414	157	574	264	494	1,280	136	112
9	300	246	136	228	318	246	434	246	474	1,060	130	107
10	228	246	136	246	282	264	354	228	984	816	130	102
11	186	228	136	228	264	246	318	202	816	594	124	102
12	178	228	171	210	228	210	264	186	636	434	118	102
13	264	157	202	210	210	202	264	178	574	374	112	97
14	228	150	282	202	202	194	434	178	1,200	336	112	97
15	194	136	374	194	202	194	702	171	1,060	282	112	97
16	178	300	300	186	202	300	816	164	746	264	107	92
17	157	554	264	186	194	300	888	164	614	228	107	92
18	143	594	246	264	186	336	840	157	792	228	118	92
19	143	494	246	414	178	282	768	150	768	228	112	92
20	136	318	246	534	178	246	636	150	768	228	107	92
21	136	264	246	434	171	228	636	143	1,110	210	124	92
22	124	246	374	336	171	210	1,420	164	1,660	194	164	92
23	124	228	636	282	171	210	1,280	228	2,100	186	143	92
24	124	202	936	264	318	186	840	194	2,390	178	136	92
25	118	194	1,060	264	354	186	636	171	2,330	171	136	92
26	112	186	1,310	246	282	171	534	164	2,260	164	143	92
27	112	178	1,390	228	246	164	494	164	2,260	164	130	87
28	107	171	1,360	210	228	164	554	143	2,420	164	118	87
29	107	164	1,280	202	210	157	768	143	2,620	157	112	87
30	107	150	1,200	194	-------	157	984	136	2,710	150	112	87
31	102	-------	840	186	-------	150	-------	143	-------	143	150	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	494	102	194	May	1,200	136	334
November	594	97	215	June	2,710	171	1,200
December	1,390	136	469	July	2,710	143	764
January	534	186	260	August	186	107	132
February	414	157	225	September	164	87	103
March	336	150	207				
April	1,420	143	589	The year	2,710	87	390

LITTLE RIVER DITCH NO. 1 NEAR KENNETT, MO.

LOCATION.—Chain gage in NE. ¼ sec. 4, T. 18 N., R. 10 E., at bridge on State highway No. 84, 4 miles east of Kennett. Zero of gage is 240 feet above mean sea level.

RECORDS AVAILABLE.—October, 1926, to September, 1928. September, 1921, to September, 1926, at Kirk, 1¼ miles upstream.

EXTREMES.—Maximum discharge during year, 2,990 second-feet June 24 (gage height, 10.34 feet); minimum, 61 second-feet September 26–29 (gage height, 3.04 feet).

1926–1928: Maximum discharge, 7,520 second-feet April 25, 1927 (gage height, 16.56 feet); minimum discharge, that of September 26–29, 1928; minimum gage height, 2.69 feet September 21–27, 1927.

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	654	186	203	321	261	341	222	426	194	2,860	110	178
2	990	194	203	301	241	301	222	383	178	2,540	139	154
3	790	170	203	261	232	301	203	383	178	2,060	139	139
4	622	170	194	241	232	281	203	341	790	1,650	118	125
5	506	170	186	241	232	281	194	321	1,820	1,250	108	116
6	383	170	186	232	301	281	534	301	1,760	990	102	106
7	362	170	178	222	404	281	1,400	281	1,200	790	102	100
8	404	178	178	222	590	241	1,150	261	830	590	96	94
9	426	241	178	261	506	301	686	261	686	450	92	90
10	404	251	170	281	426	321	562	251	1,650	362	92	88
11	362	241	178	281	383	301	404	232	1,650	261	88	86
12	362	212	194	261	341	301	404	222	1,350	261	84	81
13	404	212	251	261	321	301	362	212	1,110	261	81	79
14	404	232	362	261	321	301	362	203	2,060	241	79	77
15	383	222	622	261	321	261	404	203	2,120	222	75	75
16	321	341	562	251	301	383	404	203	1,550	203	73	73
17	321	790	506	241	301	383	362	194	1,110	186	73	71
18	281	830	404	281	281	590	341	194	1,600	178	81	69
19	281	622	404	506	281	450	321	186	1,300	194	73	69
20	281	506	362	750	281	404	301	186	990	170	73	69
21	261	404	341	718	261	341	321	178	870	162	86	69
22	251	362	281	654	251	321	2,180	194	1,940	154	118	69
23	241	341	281	426	261	301	2,360	222	2,180	139	106	69
24	241	301	261	383	404	301	1,650	203	2,990	132	105	63
25	222	281	251	362	622	281	1,200	186	2,800	125	116	63
26	212	281	232	341	506	281	830	178	2,360	118	139	61
27	203	281	241	341	426	251	654	178	1,880	118	115	61
28	203	261	241	321	383	241	622	162	1,600	117	100	61
29	194	232	301	301	362	241	534	154	1,940	106	94	61
30	194	222	321	301	------	232	478	154	2,920	106	88	63
31	194	------	362	261	------	222	------	154	------	105	162	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	990	194	366	May	426	154	232
November	830	170	302	June	2,990	178	1,520
December	622	170	285	July	2,860	105	552
January	750	222	334	August	162	73	100
February	622	232	346	September	178	61	86.0
March	590	222	310				
April	2,360	194	662	The year	2,990	61	423

LITTLE RIVER DITCH NO. 66 NEAR KENNETT, MO.

LOCATION.—Chain gage in NE. ¼ sec. 4, T. 18 N., R. 10 E., at bridge on State highway No. 84, 4 miles east of Kennett. Zero of gage is 240 feet above mean sea level.

RECORDS AVAILABLE.—October, 1926, to September, 1928. September, 1921, to September, 1926, at Kirk, 1¼ miles upstream.

EXTREMES.—Maximum discharge during year, 2,680 second-feet June 24 (gage height, 14.95 feet); minimum discharge, 91 second-feet September 28–30; minimum gage height, 3.38 feet September 30.

1926–1928: Maximum discharge, 3,650 second-feet April 25, 1927 (gage height, 17.69 feet); minimum, that of September 28–30, 1928.

REMARKS.—Records good. Little River ditch No. 66–A is an auxiliary to ditch No. 66, the two ditches being separated by a low, narrow bank and interconnected by cut-offs. Above stage of 6.2 feet, part of the flow is carried by ditch No. 66–A, and above stage of 13 feet the two ditches in the vicinity of the gage unite to form one continuous body of water. For the purpose of determining the discharge of each ditch, the division between them is taken at top of the bank which separates them during low stages.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	811	214	319	527	383	527	319	629	229	2,420	229	383
2	1,060	214	304	479	351	495	304	561	274	2,390	289	415
3	830	214	304	447	351	479	304	544	274	2,350	289	351
4	629	200	289	682	335	463	304	479	511	2,260	289	304
5	527	200	289	612	335	415	304	447	1,400	2,060	259	259
6	447	200	289	367	399	399	383	399	1,740	1,740	244	229
7	415	200	289	335	463	383	1,500	383	1,660	1,350	304	214
8	479	200	289	335	736	367	1,740	351	1,530	1,080	259	200
9	792	319	274	367	887	399	1,430	351	1,430	963	244	186
10	682	463	274	367	700	463	1,120	335	1,710	849	229	172
11	527	383	274	383	612	479	830	335	1,880	736	214	165
12	479	367	319	367	544	463	682	304	1,820	595	200	151
13	561	399	447	367	479	431	595	289	1,680	527	186	151
14	754	479	682	367	463	415	544	289	1,940	511	172	144
15	629	415	1,500	367	447	383	595	274	2,190	495	165	144
16	495	463	1,610	351	447	561	578	259	2,030	463	158	130
17	415	963	1,610	367	447	754	544	259	1,820	415	151	124
18	367	1,180	1,550	383	415	1,020	495	259	1,680	383	165	117
19	335	963	1,550	544	415	830	479	259	1,630	367	151	110
20	319	754	1,220	830	415	682	431	259	1,790	351	186	110
21	304	629	982	1,060	383	578	479	259	1,850	367	229	110
22	289	561	700	849	367	527	1,660	304	2,160	351	229	104
23	289	511	578	629	367	479	2,030	319	2,290	335	431	104
24	274	479	479	579	544	447	1,970	319	2,680	304	415	104
25	259	431	447	527	1,120	431	1,850	289	2,600	274	335	104
26	244	399	399	612	1,060	399	1,710	274	2,490	259	319	98
27	244	399	367	544	811	383	1,310	259	2,420	244	289	98
28	229	383	367	495	664	367	1,020	244	2,320	244	244	91
29	229	367	431	447	595	351	849	244	2,260	229	214	91
30	214	351	447	431	------	351	736	229	2,460	214	200	91
31	214	------	612	399	------	335	------	244	------	214	274	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	1,060	214	463	May	629	229	331
November	1,180	200	443	June	2,680	229	1,760
December	1,610	274	629	July	2,420	214	817
January	1,060	335	497	August	431	151	244
February	1,120	335	536	September	415	91	168
March	1,020	335	486				
April	2,030	304	903	The year	2,680	91	604

LITTLE RIVER DITCH NO. 66-A NEAR KENNETT, MO.

LOCATION.—Chain gage in NE. ¼ sec. 4, T. 18 N., R. 10 E., at bridge on State highway No. 84, 4 miles east of Kennett. Zero of gage is 240 feet above mean sea level.

RECORDS AVAILABLE.—January, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 1,580 second-feet June 24 (gage height, 14.80 feet); no flow on many days during year.

1927–28: Maximum discharge, 2,340 second-feet April 25, 1927 (gage height, 17.52 feet); no flow on many days during period.

REMARKS.—Records good for discharge above 20 second-feet and poor below. See "Remarks" for Little River ditch No. 66.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
1	74	0	0	0	0	0	0	30	0	1,420
2	226	0	0	0	0	0	0	15	0	1,400
3	90	0	0	0	0	0	0	8	0	1,340
4	22	0	0	36	0	0	0	0	4	1,270
5	0	0	0	24	0	0	0	0	522	1,110
6	0	0	0	0	0	0	0	0	812	812
7	0	0	0	0	0	0	564	0	740	502
8	0	0	0	0	47	0	764	0	652	274
9	67	0	0	0	102	0	522	0	564	177
10	36	0	0	0	47	0	258	0	696	106
11	0	0	0	0	18	0	90	0	932	67
12	0	0	0	0	3	0	34	0	884	22
13	8	0	0	0	0	0	13	0	788	8
14	60	0	28	0	0	0	4	0	1,010	7
15	21	0	608	0	0	0	14	0	1,240	0
16	0	0	652	0	0	6	12	0	1,080	0
17	0	140	652	0	0	67	2	0	884	0
18	0	308	652	0	0	152	0	0	788	0
19	0	140	212	3	0	78	0	0	674	0
20	0	56	164	82	0	31	0	0	860	0
21	0	21	38	212	0	10	0	0	932	0
22	0	6	41	94	0	0	764	0	1,210	0
23	0	0	8	21	0	0	1,080	0	1,320	0
24	0	0	0	8	4	0	1,080	0	1,580	0
25	0	0	0	0	242	0	980	0	1,530	0
26	0	0	0	21	212	0	836	0	1,470	0
27	0	0	0	2	82	0	502	0	1,420	0
28	0	0	0	0	28	0	198	0	1,340	0
29	0	0	0	0	8	0	110	0	1,290	0
30	0	0	0	0	-------	0	60	0	1,420	0
31	0	-------	24	0	-------	0	-------	0	-------	0

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	226	0	19.5	April	1,080	0	263
November	308	0	22.4	May	30	0	1.71
December	652	0	99.3	June	1,580	4	888
January	212	0	16.2	July	1,420	7	275
February	242	0	27.3				
March	152	0	11.1	The year	1,580	0	134

NOTE.—No flow during August and September.

LITTLE RIVER DITCH NO. 251 NEAR KENNETT, MO.

LOCATION.—Chain gage in NW. ¼ sec. 3, T. 18 N., R. 10 E., at bridge on State highway No. 84, 4 miles east of Kennett. Zero of gage is 240 feet above mean sea level.

RECORDS AVAILABLE.—November, 1926, to September, 1928.

EXTREMES.—Maximum discharge during year, 4,780 second-feet June 24 (gage height, 14.95 feet); minimum discharge, 192 second-feet September 27–30; minimum gage height, 3.35 feet September 30.

1926–1928: Maximum discharge, 6,510 second-feet April 24 and 25, 1927 (gage height, 17.67 feet); minimum discharge, 134 second-feet November 14, 1926; minimum gage height, 3.14 feet September 25–27, 1927.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	318	552	892	648	840	528	1,100	408	4,420	395	722
2	1,840	318	528	816	600	792	504	996	456	4,300	495	722
3	1,380	318	504	768	576	768	504	996	456	4,190	495	620
4	996	318	504	792	576	744	504	840	996	4,080	495	520
5	816	318	480	720	552	696	480	792	2,560	3,750	445	445
6	672	296	480	600	648	672	918	720	3,180	3,180	395	395
7	672	296	480	576	792	624	2,700	696	3,030	2,560	495	371
8	840	340	480	576	1,250	624	3,080	648	2,780	2,120	445	371
9	1,380	480	480	624	1,560	696	2,520	624	2,600	1,840	420	325
10	1,130	696	456	648	1,220	792	1,960	624	2,130	1,600	395	303
11	918	648	456	648	996	792	1,520	600	3,430	1,380	371	308
12	792	624	504	624	892	768	1,130	552	3,330	1,100	348	281
13	892	600	696	624	792	744	970	504	3,080	988	325	281
14	1,220	696	1,050	600	744	696	918	504	3,580	932	303	260
15	996	648	2,650	600	720	648	970	504	4,020	878	303	260
16	792	768	2,780	600	744	892	944	456	3,700	826	281	240
17	672	1,760	2,830	624	720	1,420	840	456	3,330	748	281	230
18	600	2,120	2,740	648	720	1,760	840	456	3,080	696	303	230
19	552	1,680	2,740	996	696	1,460	816	456	3,030	670	281	220
20	504	1,250	2,200	1,520	792	1,100	720	456	3,280	645	325	220
21	480	1,050	1,720	1,920	648	970	816	432	3,380	645	395	220
22	456	918	1,160	1,460	624	840	2,930	528	3,970	595	420	210
23	432	840	944	1,050	648	792	3,700	552	4,140	595	696	210
24	408	744	816	944	944	744	3,580	552	4,780	520	670	210
25	384	696	744	866	1,960	720	3,380	504	4,660	495	570	210
26	362	672	696	996	1,880	672	3,130	480	4,480	470	520	201
27	362	648	648	892	1,380	624	2,380	456	4,360	445	470	192
28	340	624	648	816	1,100	624	1,800	432	4,190	420	395	192
29	340	600	744	744	944	600	1,490	408	4,080	395	371	192
30	318	576	768	696	-------	552	1,280	408	4,420	371	348	192
31	318	-------	1,020	672	-------	552	-------	408	-------	371	495	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	1,840	318	750	May	1,100	408	585
November	2,120	296	729	June	4,780	408	3,200
December	2,830	456	1,080	July	4,420	371	1,490
January	1,920	576	824	August	696	281	418
February	1,960	552	909	September	722	192	312
March	1,760	552	813				
April	3,700	480	1,600	The year	4,780	192	1,060

LITTLE RIVER DITCH NO. 259 NEAR KENNETT, MO.

LOCATION.—Chain gage in NW. ¼ sec. 3, T. 18 N., R. 10 E., at bridge on State highway No. 84, 4 miles east of Kennett. Zero of gage is 240 feet above mean sea level.

RECORDS AVAILABLE.—November, 1926, to September, 1928.

EXTREMES.—Maximum discharge during year, 966 second-feet June 24 (gage height, 8.15 feet); minimum, 7 second-feet September 30 (gage height, 1.90 feet).

1926–1928: Maximum discharge, 4,140 second-feet April 29, 1927 (gage height, 15.57 feet); minimum, that of September 30, 1928.

REMARKS.—Records fair.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	52	72	94	86	106	72	114	42	380	22	33
2	118	49	72	82	82	94	72	109	43	328	21	30
3	106	52	68	79	79	90	68	94	43	284	20	26
4	90	49	68	76	79	90	65	94	224	260	20	23
5	82	49	65	72	79	90	65	85	284	236	18	21
6	79	40	65	68	86	86	520	77	224	212	17	19
7	148	40	65	65	128	79	586	77	177	177	17	19
8	260	43	58	68	158	79	380	73	155	144	17	19
9	212	82	58	94	148	236	236	65	166	124	17	18
10	168	55	58	94	128	200	188	65	344	99	15	17
11	138	52	62	90	118	168	155	61	284	85	15	17
12	128	49	68	90	106	158	144	61	272	69	15	16
13	118	49	72	86	102	128	144	50	260	61	12	15
14	118	49	94	82	110	128	119	46	770	53	12	14
15	110	52	138	82	102	110	119	46	722	50	11	14
16	98	86	128	79	98	148	109	45	480	46	10	11
17	90	272	128	79	98	212	104	44	344	40	10	10
18	86	224	123	168	86	178	99	44	460	37	15	8
19	102	178	118	312	86	148	94	38	344	37	11	8
20	82	158	110	284	86	128	104	41	260	35	10	8
21	79	138	98	212	79	118	212	38	99	33	18	8
22	76	128	86	168	79	106	542	57	460	30	16	8
23	72	114	79	138	79	102	440	94	842	28	19	8
24	68	106	72	128	138	98	284	77	966	26	20	8
25	68	102	72	128	138	98	260	65	698	23	17	8
26	65	98	68	128	128	90	260	61	460	23	16	8
27	65	94	65	110	118	90	200	53	328	22	15	8
28	58	94	65	110	110	86	155	46	284	22	13	8
29	58	86	98	102	106	86	144	43	284	19	13	8
30	55	82	94	94	------	86	124	39	420	18	12	7
31	52	------	102	90	------	72	------	39	------	17	25	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	260	52	102	May	114	38	62.6
November	272	40	90.7	June	966	42	358
December	138	58	83.5	July	380	17	97.4
January	312	65	146	August	25	10	15.8
February	158	79	104	September	33	7	14.2
March	236	72	119				
April	586	65	202	The year	966	7	113

BIG LAKE OUTLET NEAR MANILA, ARK.

LOCATION.—Chain gage in SE. ¼ sec. 9, T. 14 N., R. 9 E., 3½ miles southeast of Manila.

RECORDS AVAILABLE.—September, 1927, to September, 1928.

EXTREMES.—Maximum discharge during period, 15,700 second-feet July 5 (gage height, 19.7 feet); minimum, 593 second-feet September 30, 1928 (gage height, 4.45 feet).

REMARKS.—Records good. Gage heights missing February 1 to March 1, July 18–22; discharge estimated March 1, interpolated July 18–22. Gage-height record furnished by Mississippi County Drainage District No. 17.

Daily and monthly discharge, in second-feet, 1927–28

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	1,160	1,210	2,350	3,890	3,140	2,150	7,490	1,870	14,800	2,060	1,390
2	------	1,390	1,250	2,150	3,890	3,140	2,060	7,230	1,870	15,200	1,870	1,490
3	------	1,820	1,250	2,060	3,820	3,040	1,960	7,100	1,770	15,500	1,770	1,540
4	------	2,150	1,210	2,110	3,820	2,980	1,910	6,860	1,910	15,700	1,720	1,580
5	------	2,390	1,160	2,060	3,760	2,940	1,870	6,740	2,010	15,700	1,680	1,540
6	------	2,490	1,120	1,960	3,520	2,840	2,200	6,500	2,490	15,500	1,630	1,440
7	------	2,540	1,120	1,870	3,300	2,690	2,350	6,170	3,240	15,400	1,580	1,350
8	------	2,440	1,160	1,770	3,240	2,590	2,840	5,850	3,760	14,800	1,580	1,250
9	------	2,440	1,210	1,720	3,140	2,540	3,580	5,450	4,380	14,200	1,490	1,210
10	------	2,540	1,250	1,630	3,040	2,540	4,100	5,060	4,880	13,600	1,390	1,120
11	------	2,590	1,350	1,630	2,940	2,590	4,460	4,620	5,450	12,900	1,350	1,070
12	------	2,740	1,440	1,580	2,840	2,640	4,700	4,310	6,060	12,000	1,300	1,030
13	------	2,740	1,540	1,770	2,690	2,690	4,700	4,030	6,740	11,100	1,250	982
14	------	2,640	1,680	2,150	2,590	2,690	4,700	3,700	7,230	10,400	1,210	938
15	------	2,640	1,770	2,440	2,540	2,690	4,620	3,400	7,890	9,480	1,120	938
16	------	2,640	1,960	2,690	2,490	2,690	4,540	3,190	8,730	8,880	1,070	894
17	------	2,540	2,150	2,940	2,490	2,640	4,540	2,980	9,180	8,030	1,030	894
18	------	2,440	2,390	3,140	2,640	2,690	4,540	2,780	9,480	7,460	1,030	763
19	------	2,250	2,840	3,240	2,740	2,880	4,540	2,590	9,780	6,890	1,070	720
20	------	2,150	3,140	3,350	3,040	3,040	4,540	2,490	9,780	6,330	1,070	720
21	------	2,010	3,240	3,350	3,240	3,190	4,790	2,350	9,940	5,760	1,070	720
22	763	1,910	3,350	3,640	3,580	3,190	4,880	2,300	10,100	5,190	1,070	677
23	763	1,770	3,350	3,890	3,820	3,140	5,550	2,300	10,400	4,620	1,120	720
24	720	1,680	3,350	4,030	3,890	3,090	6,390	2,350	11,100	4,240	1,300	677
25	720	1,580	3,190	3,960	3,890	3,040	7,230	2,350	11,800	3,820	1,350	677
26	677	1,490	3,040	3,890	3,820	2,940	7,750	2,350	12,600	3,640	1,390	635
27	677	1,440	2,980	3,890	3,580	2,840	8,030	2,250	12,900	3,300	1,440	635
28	763	1,390	2,840	3,820	3,240	2,640	8,030	2,250	12,400	3,090	1,390	635
29	806	1,350	2,740	3,760	3,240	2,490	7,750	2,150	13,300	2,740	1,350	635
30	938	1,300	2,540	3,760	3,190	2,440	7,750	2,060	14,000	2,540	1,300	593
31	------	1,210	------	3,820	3,140	2,300	------	1,960	------	2,250	1,350	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
1927				
September 22–30	938	677	759	1,350
1927–28				
October	2,740	1,160	2,060	127,000
November	3,350	1,120	2,090	124,000
December	4,030	1,580	2,790	172,000
January	3,890	2,490	3,260	200,000
March	3,190	2,300	2,810	173,000
April	8,030	1,870	4,640	276,000
May	7,490	1,960	3,970	244,000
June	14,000	1,770	7,620	453,000
July	15,700	2,250	9,200	566,000
August	2,060	1,030	1,370	84,200
September	1,580	593	982	58,400

WHITE RIVER BASIN

WHITE RIVER AT BEAVER, ARK.

LOCATION.—Chain gage in sec. 20, T. 21 N., R. 26 W., at Missouri & North Arkansas Railroad bridge, a quarter of a mile east of Beaver. Zero of gage is 885.55 feet above mean sea level.

DRAINAGE AREA.—1,270 square miles.

RECORDS AVAILABLE.—July, 1909, to December, 1910; May, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, 48,900 second-feet December 15 (gage height, 30.60 feet); minimum, 121 second-feet September 30 (gage height, 2.88 feet).

1909–10, 1923–1928: Maximum discharge, 65,000 second-feet April 16, 1927 (gage height, 37.0 feet); minimum discharge, 33 second-feet September 10, 1925; minimum gage height, 1.55 feet (present datum) October 1–8, 1909.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,900	324	768	1,830	960	960	695	3,320	4,360	2,980	805	420
2	34,500	880	730	1,500	880	920	660	2,870	2,150	3,250	805	395
3	24,700	1,720	695	1,300	805	842	628	2,550	2,050	1,950	595	347
4	38,100	1,940	628	1,160	768	880	628	2,350	2,050	1,550	920	324
5	9,640	1,610	565	1,080	805	880	9,160	2,450	2,250	1,360	2,640	324
6	4,980	1,210	535	1,040	960	1,040	16,000	2,870	2,450	1,180	1,400	302
7	3,600	1,400	535	1,000	1,400	1,000	29,700	2,350	1,850	1,000	842	281
8	3,360	3,000	505	960	4,280	1,610	9,960	2,050	1,550	920	660	273
9	3,240	5,820	960	920	3,600	4,840	5,960	1,950	1,950	840	565	239
10	2,400	3,600	960	880	2,640	6,440	4,420	1,750	1,650	770	505	232
11	1,940	2,640	842	842	2,160	4,280	3,480	1,650	1,750	770	448	232
12	1,610	2,160	805	805	1,830	3,360	2,880	1,450	2,550	840	395	225
13	1,610	1,940	2,280	805	1,610	2,760	2,520	1,360	5,060	1,180	395	218
14	1,500	1,610	16,200	768	1,830	2,400	2,160	1,270	28,300	840	370	208
15	1,210	2,280	46,100	730	2,160	2,280	2,400	1,180	25,700	770	347	196
16	1,080	2,520	11,300	695	2,400	3,600	2,050	1,450	8,040	700	324	187
17	960	3,480	6,120	880	2,050	4,700	1,720	3,800	6,760	605	324	184
18	880	2,640	4,560	1,610	1,940	3,600	1,500	4,500	13,300	575	347	175
19	768	2,280	3,480	4,840	1,830	2,880	1,300	5,480	8,040	548	347	170
20	695	2,160	2,760	12,000	1,610	2,400	1,300	7,080	5,060	520	370	161
21	660	2,280	2,280	7,240	1,610	2,050	19,600	6,460	4,920	520	370	156
22	595	2,050	2,050	4,560	1,610	1,830	36,800	7,080	18,000	495	370	156
23	535	1,720	1,830	3,480	1,500	1,610	32,000	5,620	13,700	470	505	153
24	505	1,500	1,610	2,880	1,500	1,400	13,500	4,080	16,200	495	842	132
25	475	1,300	1,400	2,400	1,500	1,300	8,040	2,980	12,000	548	5,400	132
26	420	1,160	1,300	2,050	1,300	1,160	6,040	2,350	7,080	495	3,000	130
27	395	1,080	1,210	1,720	1,210	1,040	5,620	1,950	4,920	520	1,400	125
28	370	960	1,610	1,500	1,080	960	5,760	1,650	3,800	700	960	125
29	347	880	1,610	1,300	1,040	880	4,640	1,450	3,200	520	730	125
30	324	880	2,280	1,120	-------	805	3,800	1,270	4,080	445	595	121
31	324	-------	2,280	1,040	-------	730	-------	1,450	-------	470	505	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	38,100	324	5,120	4.03	4.65	315,000
November	5,820	324	1,970	1.55	1.73	117,000
December	46,100	505	3,900	3.07	3.54	240,000
January	12,000	695	2,090	1.65	1.90	129,000
February	4,280	768	1,690	1.33	1.43	97,200
March	6,440	730	2,110	1.66	1.91	130,000
April	36,800	628	7,830	6.17	6.88	466,000
May	7,080	1,180	2,910	2.29	2.64	179,000
June	28,300	1,550	7,160	5.64	6.29	426,000
July	2,980	445	898	.707	.82	55,200
August	5,400	324	906	.713	.82	55,700
September	420	121	215	.169	.19	12,800
The year	46,100	121	3,060	2.41	32.80	2,220,000

WHITE RIVER NEAR NEWPORT, ARK.

LOCATION.—Chain gage on line between secs. 16 and 17, T. 11 N., R. 3 W., on Missouri Pacific Railroad bridge, 2½ miles southwest of Newport.
DRAINAGE AREA.—19,800 square miles.
RECORDS AVAILABLE.—September, 1927, to September, 1928.
EXTREMES.—Maximum discharge during period, 163,000 second-feet June 25 (gage height, 32.8 feet); minimum, 7,600 second-feet September 30, 1928 (gage height, 4.80 feet).
Maximum stage known, 36.1 feet April, 1927.
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		26,900	9,990	18,500	49,800	26,200	21,200	22,400	80,600	28,200	92,600	14,200	20,100
2		40,400	9,800	17,200	47,500	25,300	21,500	21,200	76,200	25,300	90,200	13,800	18,800
3		57,100	9,990	15,300	44,800	23,000	20,700	19,800	72,600	24,600	89,500	13,000	17,000
4		71,200	10,200	15,500	40,800	21,000	19,800	18,000	69,000	34,200	86,200	12,800	14,900
5		83,800	9,800	16,000	36,400	20,100	19,600	19,300	66,200	52,800	82,100	12,800	13,000
6		91,800	9,800	15,800	32,500	19,000	19,300	47,500	63,800	59,000	78,100	12,800	11,800
7		93,400	9,800	15,500	27,500	19,000	19,000	73,900	60,600	61,000	73,900	12,600	11,200
8		88,100	11,600	14,600	25,300	19,300	18,800	93,400	57,500	61,000	69,800	12,800	11,200
9		78,100	12,600	14,000	24,300	19,300	19,600	110,000	54,400	59,000	66,600	14,900	10,600
10		70,300	31,100	14,000	24,000	20,700	20,100	117,000	51,300	59,000	63,000	15,800	9,990
11		64,600	39,300	14,400	21,800	21,500	22,400	105,000	47,900	68,200	59,800	15,100	10,200
12		57,100	37,800	14,000	20,100	21,800	25,900	92,600	44,100	74,400	56,300	14,900	9,990
13		49,400	35,700	14,900	19,000	21,800	29,500	83,800	39,600	77,600	55,100	13,800	9,610
14		41,500	31,500	41,500	18,200	21,800	31,100	77,600	34,200	91,800	54,000	13,000	9,420
15		36,700	28,200	77,600	17,200	21,500	30,100	73,000	29,800	158,000	51,300	12,600	9,800
16		32,200	38,200	99,000	16,500	21,200	29,200	68,200	26,200	160,000	47,900	12,600	12,000
17		27,800	41,500	104,000	16,200	22,100	30,100	63,800	23,000	145,000	45,600	12,600	12,800
18	10,400	24,300	49,400	105,000	29,200	22,700	32,500	60,200	24,300	136,000	41,500	11,800	11,000
19	10,200	21,200	53,600	103,000	38,200	23,000	37,500	56,700	23,000	136,000	36,400	11,400	9,610
20	9,800	18,800	52,800	91,800	37,800	23,000	39,300	54,400	22,700	123,000	31,100	11,400	8,860
21	9,420	16,200	48,200	83,800	45,600	22,700	40,000	54,400	27,200	114,000	27,200	11,400	8,680
22	9,420	14,200	43,000	76,600	48,600	22,400	39,300	77,600	31,800	110,000	24,000	12,400	8,320
23	9,420	14,900	34,600	71,200	50,100	21,800	37,800	101,000	47,100	126,000	21,500	11,600	8,320
24	9,040	13,000	32,800	66,200	51,300	21,500	35,700	138,000	57,900	155,000	20,100	12,200	8,140
25	9,040	13,000	29,500	62,200	49,000	21,800	32,800	155,000	61,800	163,000	19,000	13,600	8,140
26	8,680	12,400	26,500	59,000	45,200	22,700	31,100	148,000	61,800	148,000	17,200	22,400	7,960
27	9,420	11,400	24,300	54,400	41,500	23,700	29,200	123,000	59,000	128,000	16,700	24,600	7,960
28	9,990	11,400	22,400	50,500	37,800	24,000	27,200	102,000	52,800	111,000	16,200	25,600	7,600
29	9,800	11,000	21,000	52,800	34,200	23,000	26,200	90,200	44,500	100,000	15,500	27,800	7,600
30	10,200	10,600	19,800	51,300	31,500	-------	25,300	85,000	38,200	95,200	14,900	24,300	7,600
31	-------	10,200	-------	50,900	28,800	-------	23,000	-------	32,500	-------	14,400	20,700	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
1927						
September 18–30	10,400	8,680	9,600	0.485	0.23	248,000
1927–28						
October	93,400	10,200	39,100	1.97	2.27	2,400,000
November	53,600	9,800	27,800	1.40	1.56	1,650,000
December	105,000	14,000	48,400	2.44	2.81	2,980,000
January	51,300	16,200	33,900	1.71	1.97	2,080,000
February	26,200	19,000	22,000	1.11	1.20	1,270,000
March	40,000	18,800	27,600	1.39	1.60	1,700,000
April	155,000	18,000	78,400	3.96	4.42	4,670,000
May	80,600	22,700	47,800	2.41	2.78	2,940,000
June	163,000	24,600	96,100	4.85	5.41	5,720,000
July	92,600	14,400	47,700	2.41	2.78	2,930,000
August	27,800	11,400	15,200	.768	.89	935,000
September	20,100	7,600	10,700	.540	.60	637,000
The year	163,000	7,600	41,200	2.08	28.29	29,900,000

WHITE RIVER AT DE VALLS BLUFF, ARK.

LOCATION.—Staff gage in sec. 23, T. 2 N., R. 4 W., 1 mile northeast of De Valls Bluff and 27 miles above mouth of Cache River. Zero of gage is 152.67 feet above mean sea level.

DRAINAGE AREA.—23,500 square miles.

RECORDS AVAILABLE.—December, 1927, to September, 1928.

EXTREMES.—Maximum discharge during period, 140,000 second-feet June 28 and 29 (gage height, 28.5 feet); minimum, 8,080 second-feet September 30 (gage height, 7.8 feet).

Maximum stage known, 33.8 feet April 24, 1927.

REMARKS.—Records good. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1927–28

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	60,100	39,300	22,500	26,900	130,000	41,000	132,000	19,100	23,600
2	-------	56,600	38,000	22,200	25,400	129,000	41,000	126,000	18,100	23,100
3	-------	54,400	36,600	21,800	23,800	124,000	39,300	119,000	17,200	22,000
4	24,000	51,100	34,600	21,600	22,900	118,000	39,300	112,000	16,400	20,800
5	22,900	48,900	31,600	21,600	21,800	112,000	38,000	102,000	15,500	19,700
6	20,700	47,000	29,100	21,400	25,100	104,000	38,000	95,200	14,900	18,100
7	19,700	46,100	27,600	21,400	32,600	98,100	38,600	88,000	14,400	16,600
8	19,100	46,100	26,900	21,200	39,300	89,400	39,300	80,700	14,000	14,900
9	18,500	43,600	25,800	21,400	44,400	82,200	41,000	74,900	13,800	13,700
10	17,800	41,000	24,700	22,000	52,200	74,900	41,800	70,700	14,000	12,900
11	17,500	39,300	24,000	22,700	65,400	69,400	43,600	65,400	14,400	12,300
12	18,100	38,000	24,000	22,900	79,200	62,800	43,600	61,400	14,900	11,600
13	18,900	35,300	23,800	23,600	92,300	58,800	45,200	58,800	15,000	11,000
14	19,600	32,600	23,600	24,000	102,000	55,500	46,100	56,600	15,000	10,500
15	21,800	30,100	23,300	25,100	107,000	51,100	50,000	53,300	14,800	10,500
16	26,900	27,600	22,900	26,900	106,000	48,900	57,700	51,100	14,200	10,400
17	32,100	25,400	22,700	28,100	104,000	46,100	74,900	48,900	13,600	10,200
18	37,300	23,600	22,500	28,600	98,100	43,600	98,100	47,800	13,000	10,800
19	41,000	23,600	22,200	29,100	92,300	41,000	114,000	47,000	12,900	11,600
20	47,000	27,600	22,000	30,100	88,000	38,000	124,000	45,200	12,400	11,600
21	65,400	32,100	22,200	30,600	85,000	35,300	132,000	44,400	12,300	11,000
22	83,600	36,000	22,200	31,600	83,600	33,300	135,000	43,600	12,600	10,400
23	92,300	38,000	22,200	32,100	79,200	32,100	137,000	41,000	13,000	9,730
24	96,600	39,300	22,200	32,600	80,700	32,100	137,000	38,600	13,300	9,340
25	93,800	40,200	22,200	33,300	86,500	33,300	132,000	36,000	13,300	8,950
26	88,000	41,000	22,200	33,300	95,200	34,600	134,000	33,300	13,100	8,690
27	83,600	41,000	22,200	32,600	108,000	36,000	137,000	29,600	13,800	8,560
28	79,200	41,800	22,200	32,100	121,000	36,600	140,000	26,500	16,600	8,430
29	73,400	41,800	22,500	31,100	127,000	38,600	140,000	23,800	18,500	8,190
30	69,400	41,800	-------	29,600	130,000	39,300	137,000	21,800	19,900	8,080
31	64,100	41,800	-------	28,600	-------	40,200	-------	20,500	21,600	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
December 4–31	96,600	17,500	46,900	2.00	2.08	2,600,000
January	60,100	23,600	39,800	1.69	1.95	2,450,000
February	39,300	22,000	25,700	1.09	1.18	1,480,000
March	33,300	21,200	26,600	1.13	1.30	1,640,000
April	130,000	21,800	74,800	3.18	3.55	4,450,000
May	130,000	32,100	63,500	2.70	3.11	3,900,000
June	140,000	38,000	81,800	3.48	3.88	4,870,000
July	132,000	20,500	61,100	2.60	3.00	3,760,000
August	21,600	12,300	15,000	.638	.74	922,000
September	23,600	8,080	12,900	.549	.61	768,000
The period						26,800,000

JAMES RIVER NEAR BATTLEFIELD, MO.

LOCATION.—Staff gage near center of sec. 27, T. 28 N., R. 22 W., 1,500 feet above Inniman Branch and 2½ miles southeast of Battlefield. Zero of gage is about 1,175 feet above mean sea level.

DRAINAGE AREA.—306 square miles.

RECORDS AVAILABLE.—February, 1926, to September, 1928.

EXTREMES.—Maximum discharge during year, 16,200 second-feet June 9 (gage height, 15.80 feet); minimum, 32 second-feet September 30 (gage height, 1.50 feet).

1926–1928: Maximum discharge, that of June 9, 1928; minimum discharge that of September 30, 1928; minimum gage height, 1.15 feet August 14, 1926.

REMARKS.—Records good for discharges below 1,000 second-feet and fair for those above. Discharge interpolated July 7.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	383	99	1,150	254	172	129	196	591	345	1,420	102	137
2	1,780	131	621	224	150	123	183	489	393	1,260	99	125
3	1,660	123	578	209	150	119	172	457	425	855	97	116
4	621	110	535	196	139	121	161	425	1,720	675	97	109
5	472	105	416	183	135	133	7,670	345	1,310	630	521	99
6	802	99	350	172	161	150	11,600	299	855	489	284	92
7	1,200	157	317	161	299	150	2,600	284	591	441	224	91
8	1,310	157	287	161	161	150	1,540	269	1,200	393	196	80
9	756	416	246	161	345	172	1,050	239	16,200	345	150	77
10	664	350	233	150	254	209	810	224	5,750	299	150	71
11	535	273	210	150	239	254	720	209	1,780	284	139	63
12	556	222	198	139	224	254	556	196	1,200	254	133	60
13	452	187	535	137	239	254	489	196	4.450	239	129	58
14	400	176	6,220	135	425	224	425	183	1,660	224	117	57
15	317	5,600	1,910	129	329	224	345	183	1,200	209	172	56
16	273	2,670	855	123	314	393	329	172	950	196	150	54
17	233	2.040	810	135	284	720	314	172	1,720	172	133	52
18	210	1,200	591	314	269	1,200	284	183	1,660	161	114	49
19	210	621	457	299	254	1,050	269	161	1,100	150	107	47
20	176	434	409	269	239	900	299	150	1,780	150	100	45
21	166	383	345	239	224	765	2,380	129	1,200	139	91	43
22	157	383	329	224	209	556	6,060	1,370	1,100	254	675	42
23	148	317	314	224	209	489	4,320	900	1,910	172	183	39
24	140	273	299	224	183	425	1,780	765	2,310	139	284	38
25	131	259	284	224	183	393	1,200	630	1,720	150	329	38
26	131	233	254	309	161	377	1,100	489	1,420	139	409	37
27	123	210	224	209	161	345	1,910	393	1,100	139	329	36
28	115	198	239	196	150	299	1,150	345	6,700	133	284	34
29	112	187	329	196	137	254	900	299	8,180	123	209	33
30	109	452	284	183	------	224	720	269	1,600	117	183	32
31	102	------	284	183	------	209	------	299	------	104	161	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	1,780	102	466	1.52	1.75
November	5,600	99	602	1.97	2.20
December	6,220	198	649	2.12	2.44
January	314	123	194	.634	.73
February	425	135	221	.722	.78
March	1,200	119	363	1.19	1.37
April	11,600	161	1,720	5.62	6.27
May	1,370	129	365	1.19	1.37
June	16,200	345	2,450	8.01	8.94
July	1,420	104	337	1.10	1.16
August	675	91	205	.670	.77
September	137	32	63.7	.208	.23
The year	16,200	32	632	2.07	28.01

JAMES RIVER AT GALENA, MO.

LOCATION.—Chain gage in NW. ¼ sec. 7, T. 24 N., R. 23 W., at Galena, half a mile above Railey Creek. Zero of gage is 924.94 feet above mean sea level.
DRAINAGE AREA.—1,000 square miles.
RECORDS AVAILABLE.—October, 1921, to September, 1928.
EXTREMES.—Maximum discharge during year, 28,900 second-feet June 10 (gage height, 19.94 feet); minimum, 252 second-feet September 27–30.
1921–1928: Maximum discharge, 41,900 second-feet April 15, 1927 (gage height, 25.15 feet); minimum, 52 second-feet September 6, 7, 9, and 10, 1925 (gage height, 0.56 foot).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	365	365	2,020	895	615	565	715	2,020	1,030	7,480	590	665
2	4,840	425	2,280	830	615	565	665	1,780	1,310	4,960	590	590
3	9,580	405	1,940	770	590	540	665	1,540	1,380	3,520	565	540
4	4,480	385	1,620	770	590	565	665	1,460	3,060	2,760	665	515
5	2,860	405	1,460	715	590	540	7,640	1,310	3,520	2,280	1,700	492
6	2,190	385	1,310	715	590	565	21,700	1,170	2,560	1,940	1,240	470
7	2,760	425	1,240	665	615	565	12,600	1,100	2,100	1,780	960	448
8	4,960	715	1,030	665	715	510	5,080	1,030	1,860	1,620	770	448
9	3,520	1,460	960	665	1,030	565	3,640	960	8,920	1,460	665	405
10	2,560	1,540	895	665	960	590	2,760	895	24,000	1,310	665	405
11	2,100	1,240	895	615	895	615	2,280	830	5,920	1,170	665	385
12	2,020	1,030	830	615	830	615	1,940	770	4,960	1,100	590	385
13	2,190	830	1,940	590	830	665	1,780	715	9,760	1,030	540	365
14	1,700	770	10,800	590	830	615	1,540	715	7,960	960	515	345
15	1,460	11,600	6,360	590	830	715	1,380	715	4,240	895	540	345
16	1,240	8,440	3,640	565	895	1,030	1,240	665	3,170	895	590	325
17	1,030	4,360	2,660	590	895	1,780	1,100	715	3,520	830	540	325
18	895	3,170	2,100	615	830	2,280	1,030	770	7,800	770	565	325
19	830	2,560	1,860	665	770	2,860	895	770	4,720	770	515	325
20	715	2,280	1,620	770	770	2,560	1,100	770	7,000	715	492	305
21	665	1,940	1,380	830	715	2,100	2,020	715	12,800	665	470	305
22	615	1,780	1,240	830	715	1,780	6,840	2,100	6,360	770	1,760	305
23	565	1,620	1,170	770	665	1,540	1,050	7,800	5,640	895	1,940	288
24	515	1,380	1,030	770	665	1,380	5,780	3,280	6,840	715	1,940	288
25	492	1,170	960	770	665	1,240	3,760	2,100	5,220	715	2,190	288
26	470	1,030	895	770	615	1,170	3,060	1,620	3,760	615	1,860	288
27	448	960	830	715	615	1,030	3,880	1,380	3,060	615	1,540	252
28	425	895	895	715	590	960	3,760	1,170	3,060	615	1,240	252
29	405	830	960	665	590	830	2,960	1,030	22,100	590	1,030	252
30	385	895	1,030	665	-------	830	2,460	895	7,800	565	830	252
31	365	-------	960	665	-------	770	-------	830	-------	565	770	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	9,580	365	1,870	1.87	2.16
November	11,600	365	1,840	1.84	2.05
December	10,800	830	1,900	1.90	2.19
January	895	565	701	.701	.81
February	1,030	590	728	.728	.79
March	2,860	540	1,060	1.06	1.22
April	21,700	665	3,850	3.85	4.30
May	7,800	665	1,410	1.41	1.63
June	24,000	1,030	6,180	6.18	6.90
July	7,480	565	1,470	1.47	1.70
August	2,190	470	951	.951	1.10
September	665	252	373	.373	.42
The year	24,000	252	1,850	1.85	25.27

NORTH FORK OF WHITE RIVER AT TECUMSEH, MO.

LOCATION.—Chain gage in sec. 16, T. 22 N., R. 12 W., at Tecumseh, half a mile below Bryant Creek.

DRAINAGE AREA.—1,180 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 53,000 second-feet June 13 (gage height, 24.00 feet); minimum, 760 second-feet September 19 and 22–30.

1921–1928: Maximum discharge, that of June 13, 1928; minimum, 363 second-feet September 5, 1925.

Maximum stage known, 31.6 feet in July, 1905.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,640	960	1,400	1,830	1,520	1,640	1,520	2,610	1,640	5,950	1,230	1,010
2	3,440	1,010	1,400	1,700	1,460	1,520	1,460	2,350	1,700	4,450	1,230	960
3	7,600	960	1,340	1,640	1,460	1,520	1,460	2,220	2,740	3,720	1,180	960
4	3,020	960	1,280	1,640	1,460	1,520	1,460	2,220	7,900	3,300	1,230	960
5	2,220	960	1,230	1,640	1,460	1,580	1,580	2,090	5,050	2,880	1,280	960
6	1,960	910	1,230	1,580	1,460	1,520	10,400	1,960	4,020	2,610	1,180	910
7	1,700	1,120	1,340	1,580	1,640	1,520	5,350	1,830	3,160	2,480	1,180	910
8	1,830	10,900	1,400	1,580	1,830	1,520	3,720	1,830	3,160	2,350	1,120	860
9	1,580	4,750	1,280	1,520	1,700	1,830	3,020	1,830	12,000	2,350	1,120	910
10	1,520	3,160	1,280	1,520	1,640	1,960	2,740	1,700	9,120	2,220	1,120	910
11	1,400	2,610	1,280	1,520	1,580	1,960	2,610	1,700	6,100	2,090	1,120	910
12	1,830	2,350	1,340	1,460	1,580	1,960	2,480	1,580	4,600	1,960	1,060	860
13	1,830	2,090	15,700	1,460	1,580	1,830	2,220	1,520	33,400	2,090	1,060	860
14	1,520	1,960	18,600	1,460	1,960	1,700	2,090	1,520	9,120	1,830	1,010	860
15	1,400	2,350	7,150	1,400	2,350	1,830	1,960	1,580	5,950	1,830	1,010	860
16	1,310	3,870	5,200	1,400	2,220	2,220	1,830	2,090	5,050	1,700	1,010	860
17	1,280	2,880	4,160	1,400	2,090	2,610	1,830	1,700	7,150	1,700	1,010	810
18	1,230	2,480	3,440	1,460	1,960	2,480	1,700	1,640	5,800	1,640	1,120	810
19	1,180	1,220	3,020	3,160	1,830	2,480	1,700	1,580	4,450	1,580	1,060	760
20	1,180	1,960	2,740	3,160	1,830	2,350	1,830	1,520	3,870	1,520	1,010	810
21	1,120	1,830	2,480	2,610	1,700	2,220	11,500	1,460	5,800	1,460	1,010	810
22	1,060	1,830	2,350	2,350	1,700	2,090	7,900	7,300	4,900	1,520	1,010	760
23	1,060	1,640	2,220	2,220	1,700	1,960	6,850	3,870	7,600	1,460	1,010	760
24	1,060	1,580	2,090	2,220	1,830	1,960	5,050	2,880	5,950	1,400	2,610	760
25	1,010	1,460	2,090	2,090	1,700	1,830	4,020	2,350	4,900	1,340	1,640	760
26	1,010	1,460	1,960	1,960	1,700	1,960	3,440	2,090	4,020	1,340	1,830	760
27	960	1,400	1,830	1,830	1,700	1,830	3,300	1,960	3,440	1,340	1,400	760
28	960	1,340	2,090	1,700	1,640	1,830	3,020	1,830	4,600	1,280	1,230	760
29	960	1,340	2,220	1,640	1,640	1,700	2,880	1,700	7,090	1,230	1,180	760
30	960	1,280	2,090	1,640	-------	1,640	2,740	1,580	5,050	1,130	1,120	760
31	960	-------	1,960	1,580	-------	1,580	-------	1,580	-------	1,230	1,010	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	7,600	960	1,670	1.42	1.64
November	10,900	910	2,190	1.86	2.08
December	18,600	1,230	3,200	2.71	3.12
January	3,160	1,400	1,800	1.53	1.76
February	2,350	1,460	1,720	1.46	1.58
March	2,610	1,520	1,880	1.59	1.83
April	11,500	1,460	3,460	2.93	3.27
May	7,300	1,460	2,120	1.80	2.08
June	33,400	1,640	6,310	5.35	5.97
July	5,950	1,230	2,100	1.78	2.05
August	2,610	1,010	1,210	1.03	1.19
September	1,010	760	847	.718	.80
The year	33,400	760	2,370	2.01	27.37

BLACK RIVER AT LEEPER, MO.

LOCATION.—Chain gage in SW. ¼ NE. ¼ sec. 27, T. 28 N., R. 3 E., at Missouri Southern Railway bridge at Leeper. Zero of gage is 423.97 feet above mean sea level.

DRAINAGE AREA.—957 square miles.

RECORDS AVAILABLE.—June, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 33,200 second-feet June 13 (gage height, 15.65 feet); minimum, 350 second-feet September 24–30.

1921–1928: Maximum discharge, 37,000 second-feet April 15, 1927 (gage height, 16.35 feet); minimum, 194 second-feet September 9–11, 1925.

Maximum stage known, 21.3 feet in August, 1915.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	570	430	570	880	880	880	880	1,270	615	5,800	710	466
2	570	447	1,410	820	820	880	820	1,200	615	2,040	615	466
3	570	447	1,340	765	820	880	820	1,060	660	1,880	615	466
4	615	447	1,130	710	765	880	820	1,000	820	1,560	570	466
5	615	447	820	660	765	820	940	1,000	765	1,410	710	447
6	570	430	765	660	765	820	8,880	880	880	1,200	660	447
7	525	447	710	660	880	820	7,960	880	820	1,130	615	447
8	525	1,270	710	660	1,060	820	3,050	880	940	1,060	570	430
9	525	1,720	710	660	1,000	820	2,130	820	9,360	1,560	570	412
10	548	1,410	660	660	940	820	1,800	820	18,700	1,270	570	412
11	548	1,270	710	660	940	820	1,560	765	4,600	1,000	525	412
12	548	1,060	710	660	940	765	1,410	765	3,050	940	505	412
13	548	1,000	7,080	660	940	765	1,200	710	20,600	880	505	412
14	548	880	22,600	660	940	765	1,060	710	10,900	880	485	396
15	548	1,640	6,640	615	2,220	765	1,000	710	5,400	820	485	396
16	525	1,800	3,360	615	2,040	940	940	710	3,360	765	466	380
17	505	1,880	2,530	615	1,640	1,000	880	660	3,050	765	466	380
18	485	1,880	2,040	660	1,480	1,340	820	660	8,880	660	710	380
19	485	1,480	1,800	1,000	1,340	1,270	820	660	5,000	660	548	380
20	466	1,060	1,560	3,200	1,130	1,640	880	660	6,200	820	525	365
21	466	1,000	1,340	2,130	1,000	1,640	5,000	615	16,600	765	505	365
22	466	880	1,130	1,720	1,000	1,560	7,960	765	7,320	765	505	365
23	447	820	1,000	1,410	1,060	1,480	6,200	880	6,640	660	505	365
24	447	1,410	1,000	1,410	1,130	1,270	3,360	765	4,240	615	548	350
25	447	710	880	1,410	1,130	1,200	3,530	710	2,910	615	548	350
26	447	660	820	1,340	1,060	1,130	1,960	660	2,220	570	880	380
27	447	615	820	1,340	1,000	1,060	1,960	660	1,720	570	765	350
28	430	615	880	1,270	940	1,000	1,640	615	4,060	548	660	380
29	430	570	880	1,130	880	940	1,480	615	5,800	548	615	350
30	430	570	880	1,000	------	880	1,410	615	5,600	525	548	350
31	430	------	880	940	------	880	------	615	------	525	525	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	615	430	507	0.530	0.61
November	1,880	430	976	1.02	1.14
December	22,600	570	2,210	2.31	2.65
January	3,200	615	1,020	1.07	1.23
February	2,220	765	1,090	1.14	1.23
March	1,640	765	1,020	1.07	1.23
April	8,880	820	2,440	2.55	2.84
May	1,270	615	785	.82	.94
June	20,600	615	5,410	5.65	6.30
July	5,800	525	1,090	1.14	1.31
August	880	466	582	.608	.70
September	466	350	397	.415	.46
The year	22,600	350	1,450	1.52	20.64

CURRENT RIVER AT VAN BUREN, MO.

LOCATION.—Chain gage in NE. ¼ NW. ¼ sec. 25, T. 27 N., R. 1 W., in Van Buren. Zero of gage is 445.79 feet above mean sea level.

DRAINAGE AREA.—1,640 square miles.

RECORDS AVAILABLE.—June, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 49,300 second-feet June 10 (gage height, 16.45 feet); minimum discharge, 1,270 second-feet September 25, 26, 28–30; minimum gage height, 1.96 feet October 24, 31, November 1, and 6.

1921–1928: Maximum discharge, that of June 10, 1928; minimum, 542 second-feet September 6, 8, 9, and 12, 1925.

Maximum stage known, 26.0 feet March 26, 1904.

REMARKS.—Records good. Discharge interpolated February 5 and 6.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,710	1,280	1,710	1,950	1,710	1,710	1,600	3,370	1,660	5,720	2,180	1,540
2	1,600	1,380	2,320	1,830	1,600	1,710	1,600	3,220	1,660	5,280	2,040	1,540
3	2,070	1,280	2,070	1,710	1,600	1,710	1,600	2,920	1,780	4,480	1,910	1,430
4	2,580	1,380	1,950	1,710	1,600	1,710	1,600	2,770	2,180	4,160	1,780	1,430
5	2,070	1,380	1,830	1,710	1,600	1,600	1,830	2,620	2,920	3,840	2,180	1,430
6	1,830	1,280	1,710	1,710	1,600	1,600	12,200	2,470	2,770	3,370	2,320	1,430
7	1,830	1,380	1,710	1,600	1,600	1,600	14,800	2,320	2,470	3,220	1,910	1,430
8	1,830	3,570	1,600	1,600	1,950	1,600	6,840	2,320	2,470	3,070	1,780	1,430
9	1,710	5,280	1,710	1,600	2,070	1,600	4,860	2,180	15,200	3,070	1,780	1,380
10	1,710	3,140	1,710	1,600	1,950	1,600	4,180	2,180	40,600	2,920	1,780	1,380
11	1,600	2,720	1,710	1,490	1,830	1,600	3,720	2,040	10,700	2,770	1,910	1,430
12	1,600	2,580	2,070	1,490	1,830	1,600	3,280	2,040	7,080	2,620	1,780	1,430
13	1,710	2,320	13,200	1,490	1,710	1,600	2,860	2,040	30,300	2,620	1,780	1,380
14	1,710	2,070	28,700	1,490	1,950	1,600	2,720	1,910	24,800	2,620	1,660	1,380
15	1,600	2,320	15,500	1,490	3,140	1,600	2,580	1,910	10,400	2,470	1,660	1,660
16	1,600	3,570	7,560	1,490	3,140	2,070	2,320	1,910	8,060	2,320	1,660	1,540
17	1,600	3,570	5,500	1,380	2,720	2,320	2,320	1,910	6,840	2,320	1,660	1,430
18	1,490	3,000	4,340	1,490	2,450	2,450	2,190	1,910	10,700	2,180	1,910	1,320
19	1,380	2,580	3,720	2,070	2,070	2,860	2,190	1,780	10,100	2,180	1,660	1,320
20	1,380	2,190	3,280	5,500	1,950	3,000	2,320	1,780	7,560	2,470	1,660	1,320
21	1,380	2,070	2,860	3,870	1,950	2,720	10,700	1,780	14,100	2,180	1,660	1,380
22	1,380	2,070	2,580	3,000	1,830	2,450	15,500	1,910	15,500	2,180	1,660	1,320
23	1,380	1,950	2,450	2,580	1,830	2,320	11,900	1,910	12,200	2,040	1,660	1,320
24	1,280	1,830	2,190	2,070	1,950	2,190	7,860	1,910	9,500	2,040	1,910	1,320
25	1,280	1,600	2,190	2,070	1,950	2,070	6,160	1,780	7,560	2,040	2,470	1,270
26	1,380	1,600	2,070	2,190	1,830	2,070	5,060	1,780	6,380	1,910	2,320	1,270
27	1,280	1,600	2,070	2,070	1,830	2,070	4,480	1,660	5,280	1,910	1,910	1,320
28	1,280	1,600	2,070	1,950	1,830	1,950	4,320	1,660	5,060	1,910	1,780	1,270
29	1,380	1,600	2,070	1,830	1,830	1,830	4,000	1,660	10,400	1,910	1,660	1,270
30	1,280	1,600	2,070	1,830	-------	1,710	3,680	1,540	6,600	1,780	1,660	1,270
31	1,280	-------	1,950	1,830	-------	1,710	-------	1,660	-------	1,780	1,660	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,580	1,280	1,590	0.970	1.12
November	5,280	1,280	2,190	1.34	1.50
December	28,700	1,600	4,140	2.52	2.90
January	5,500	1,380	1,990	1.21	1.40
February	3,140	1,600	1,960	1.20	1.29
March	3,000	1,600	1,940	1.18	1.36
April	15,500	1,600	5,040	3.07	3.42
May	3,370	1,540	2,090	1.27	1.46
June	40,600	1,660	9,760	5.95	6.64
July	5,720	1,780	2,750	1.68	1.94
August	2,470	1,660	1,850	1.13	1.30
September	1,660	1,270	1,390	.848	.95
The year	40,600	1,270	3,050	1.86	25.28

CURRENT RIVER AT DONIPHAN, MO.

LOCATION.—Chain gage in N. ½ sec. 27, T. 23 N., R. 2 E., three-fourths of a mile west of Doniphan. Zero of gage is 323.30 feet above mean sea level.

DRAINAGE AREA.—2,030 square miles.

RECORDS AVAILABLE.—June, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 43,000 second-feet June 14, (gage height, 15.98 feet); minimum, 1,810 second-feet September 22–30. 1921–1928: Maximum discharge, 48,000 second-feet April 15, 1927 (gage height, 17.30 feet); minimum, 1,020 second-feet August 27 to September 14, 1925.

Maximum stage known, 25.5 feet in August, 1915.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,640	1,810	2,260	3,170	2,900	3,170	2,900	5,100	2,640	8,500	2,770	2,260
2	2,640	1,920	3,310	3,170	2,900	3,170	2,770	4,620	2,640	8,500	3,170	2,140
3	2,640	1,920	3,170	3,030	2,770	3,030	2,770	4,470	3,310	6,840	3,030	2,140
4	3,170	1,920	3,030	2,900	2,770	3,030	2,900	4,170	4,780	6,300	2,770	2,140
5	3,170	1,810	2,770	2,900	2,770	3,030	3,030	4,020	5,760	5,580	2,770	2,030
6	3,030	1,810	2,640	2,770	2,770	2,900	14,500	3,870	4,470	5,100	2,900	2,030
7	2,640	1,810	2,640	2,640	2,900	2,900	17,600	3,730	4,170	4,780	3,030	2,030
8	2,380	2,510	2,640	2,640	3,170	2,770	12,600	3,590	3,730	4,480	2,770	2,030
9	2,380	4,780	2,640	2,770	3,450	2,770	8,500	3,450	6,840	4,470	2,640	2,030
10	2,380	5,760	2,510	2,770	3,450	3,030	6,660	3,450	25,500	4,320	2,510	2,030
11	2,260	4,310	2,510	2,640	3,170	2,900	5,760	3,450	40,800	4,020	2,510	1,920
12	2,260	3,730	2,510	2,640	3,170	2,900	5,420	3,450	12,800	3,870	2,510	1,920
13	2,260	2,260	3,030	2,510	3,170	2,900	5,100	3,170	13,500	3,730	2,510	1,920
14	2,380	2,030	33,400	2,510	3,170	2,900	4,780	3,030	43,000	3,590	2,380	1,920
15	2,380	2,030	35,000	2,510	3,730	2,900	4,320	2,900	26,200	3,590	2,380	2,510
16	2,140	2,030	15,700	2,510	3,310	3,170	4,020	2,900	12,100	3,450	2,380	2,260
17	2,140	4,170	9,500	2,380	4,470	3,730	3,870	3,030	9,720	3,310	2,260	2,030
18	2,030	4,780	7,920	2,510	4,320	4,320	3,730	2,900	9,100	3,030	2,380	1,920
19	2,030	4,020	6,480	2,900	3,730	4,780	3,590	3,030	13,300	3,170	2,640	1,920
20	2,030	3,870	5,580	4,320	3,590	4,620	3,590	2,900	11,500	3,170	2,510	1,920
21	2,030	3,590	5,100	6,660	3,310	4,470	10,800	3,030	10,800	3,310	2,380	1,920
22	1,920	3,170	4,620	5,940	3,310	4,320	16,000	3,450	18,200	3,170	2,260	1,810
23	1,920	2,900	4,320	4,320	3,170	4,020	20,000	3,170	20,400	3,030	2,260	1,810
24	1,920	2,770	4,020	4,170	3,590	3,870	14,000	3,170	14,500	2,900	2,380	1,810
25	1,920	2,640	3,730	4,020	3,730	3,730	9,720	3,030	12,100	2,900	3,030	1,810
26	1,920	2,510	3,590	3,870	3,590	3,730	8,900	2,900	10,600	2,900	3,310	1,810
27	1,810	2,510	3,310	3,870	3,450	3,590	6,660	2,770	8,100	2,900	2,900	1,810
28	1,810	2,380	3,170	3,450	3,310	3,450	6,120	2,770	7,200	3,590	2,770	1,810
29	1,810	2,380	3,590	3,310	3,310	3,310	5,760	2,640	7,740	2,770	2,510	1,810
30	1,810	2,260	3,450	3,170	-------	3,170	5,420	2,640	12,800	2,770	2,380	1,810
31	1,810	-------	3,310	3,030	-------	3,030	-------	2,640	-------	2,640	2,510	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	3,170	1,810	2,250	1.11	1.28
November	5,760	1,810	2,880	1.42	1.58
December	35,000	2,260	6,180	3.04	3.50
January	6,660	2,380	3,290	1.62	1.87
February	4,470	2,770	3,330	1.64	1.77
March	4,780	2,770	3,410	1.68	1.94
April	20,000	2,770	7,390	3.64	4.06
May	5,100	2,640	3,340	1.65	1.90
June	43,000	2,640	12,600	6.21	6.93
July	8,500	2,640	4,090	2.01	2.32
August	3,310	2,260	2,630	1.30	1.50
September	2,510	1,810	1,980	.975	1.09
The year	43,000	1,810	4,430	2.18	29.74

BIG SPRING NEAR VAN BUREN, MO.

LOCATION.—Vertical staff gage in sec. 6, T. 26 N., R. 1 E., 1,000 feet above mouth of Spring Branch and 4 miles southeast of Van Buren. Zero of gage is 429.8 feet above mean sea level.

RECORDS AVAILABLE.—January to June, 1922; April, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year (estimated), 1,100 second-feet during backwater from Current River in June; minimum, 407 second-feet November 5–7.

1922–1928: Maximum discharge, that of June, 1928; minimum, 268 second-feet September 17–24, 1926.

REMARKS.—Records fair; fragmentary on account of missing gage readings or backwater from Current River.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	492	415	452	e 586	505	543						534
2	646	413	537	556	492	537			556			534
3	627	410	521	e 551	473	530			574			521
4	632	410	498	e 545	e 473				602			508
5	543	407	486	540	e 473	518						514
6	518	e 407	473	524	e 473	505						502
7	498	e 407	462	e 518	540	498						502
8	495	e 600	459	e 511	570	492						489
9	492	e 800		e 504	556							e 492
10	489	e 750		498	550							495
11	479	e 620		492	546							495
12	479	e 590		489	e 540							495
13	482	e 560		486	e 530							495
14	476	e 530		492	594							489
15	468	e 500		e 490	e 650			560				527
16	462	e 600		489	e 650			e 560				e 520
17	457	e 750		e 470	e 626			e 560				514
18	449	e 650		e 500	e 603			e 556		780		502
19	444	e 580		e 600	e 580			e 556		754		502
20	441	550		e 750	556			556			521	489
21	441	540		e 730	543			540		754	534	482
22	436	524		e 710	e 543			534			553	476
23	433	505		e 690	e 543			556		706	546	e 473
24	431	489		e 675	656			556		671	546	470
25	428	479		666	e 630			540		650	e 632	470
26	426	476		e 675	e 610			524		632	e 623	470
27	423	465		e 640	594			540		632	598	470
28	420	462	636	e 605	570			524			574	465
29	420	459	656	e 570	553			524			553	465
30	420	457	646	540				540			540	e 465
31	418			524				556			540	

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	646	418	476	August	632	521	563
November	800	407	527	September	534	465	494
January	750	470	568				
February	656	473	559	The period		407	
May	560	524	546				

e Estimated.

ELEVEN POINT RIVER NEAR BARDLEY, MO.

LOCATION.—Chain gage in NW. ¼ sec. 20, T. 23 N., R. 2 W., at bridge on State highway No. 42, 7 miles southwest of Bardley.

RECORDS AVAILABLE.—October, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 20,100 second-feet June 13 (gage height, 15.60 feet); minimum, 675 second-feet September 30; minimum gage height, 2.56 feet November 6 and 7.

1921–1928: Maximum discharge, 27,800 second-feet April 14, 1927 (gage height, 18.74 feet); minimum, 210 second-feet September 6-11, 1925 (gage height, 1.06 feet).

Maximum stage known, 19.7 feet in August, 1915.

REMARKS.—Records good for discharges below 10,000 second-feet and fair for those above.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,230	785	845	1,370	1,100	1,230	1,160	1,580	965	2,960	1,120	900
2	1,100	785	845	1,300	1,100	1,160	1,100	1,510	965	2,460	1,040	835
3	1,580	785	785	1,300	1,030	1,160	1,100	1,440	1,080	2,160	1,040	835
4	1,300	785	785	1,230	1,030	1,160	1,100	1,440	1,160	1,980	1,040	835
5	1,100	785	785	1,230	1,030	1,160	1,160	1,370	1,440	1,800	1,120	835
6	1,100	785	785	1,230	1,100	1,100	9,600	1,370	1,280	1,810	1,120	802
7	1,030	785	845	1,230	1,230	1,100	5,800	1,300	1,160	1,730	1,040	802
8	1,030	785	785	1,160	1,160	1,100	2,860	1,300	1,160	1,650	1,040	802
9	1,030	1,650	785	1,160	1,160	1,160	2,240	1,300	2,860	1,650	970	770
10	1,030	1,370	785	1,160	1,160	1,160	2,000	1,230	3,660	1,570	1,040	770
11	965	1,160	785	1,160	1,160	1,160	1,860	1,230	2,320	1,570	1,040	770
12	965	1,100	785	1,160	1,100	1,160	1,790	1,160	1,800	1,490	970	770
13	965	1,030	12,100	1,160	1,160	1,160	1,650	1,160	12,500	1,490	970	770
14	905	1,030	18,700	1,100	1,160	1,160	1,650	1,160	6,300	1,420	970	770
15	905	1,030	11,600	1,100	1,160	1,160	1,510	1,100	3,660	1,420	900	900
16	905	1,100	2,960	1,100	1,160	1,230	1,440	1,100	2,860	1,420	900	802
17	845	1,100	2,500	1,100	1,160	1,370	1,440	1,100	3,060	1,340	900	770
18	845	1,030	2,080	1,100	1,160	1,440	1,370	1,030	2,860	1,260	900	770
19	845	1,030	1,930	1,300	1,160	1,440	1,370	1,030	2,460	1,420	970	738
20	845	965	1,790	1,440	1,100	1,370	1,370	1,030	2,160	1,260	900	738
21	845	965	1,720	1,370	1,100	1,300	7,280	1,030	3,880	1,260	900	738
22	845	965	1,650	1,300	1,100	1,300	4,720	1,160	4,120	1,260	900	705
23	845	965	1,580	1,300	1,230	1,230	2,960	1,160	5,080	1,340	900	705
24	845	965	1,510	1,230	1,440	1,230	2,410	1,100	4,360	1,260	1,040	705
25	845	905	1,440	1,230	1,370	1,230	2,000	1,030	3,260	1,260	1,040	705
26	845	905	1,440	1,230	1,300	1,230	1,860	1,030	2,860	1,190	900	705
27	785	905	1,370	1,160	1,300	1,440	1,790	1,030	2,460	1,120	900	705
28	785	905	1,440	1,160	1,300	1,440	1,720	1,030	2,260	1,120	900	705
29	785	845	1,510	1,160	1,230	1,300	1,650	965	3,560	1,120	900	705
30	785	845	1,510	1,160	-------	1,230	1,650	965	2,860	1,120	835	675
31	785	-------	1,440	1,100	-------	1,160	-------	965	-------	1,120	900	-------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	1,580	785	952	May	1,580	965	1,170
November	1,650	785	968	June	12,500	965	3,010
December	18,700	785	2,580	July	2,960	1,120	1,520
January	1,440	1,100	1,210	August	1,120	835	971
February	1,440	1,030	1,170	September	900	675	768
March	1,440	1,100	1,230				
April	9,600	1,100	2,390	The year	18,700	675	1,490

GREER SPRING AT GREER, MO.

LOCATION.—Vertical staff gage in SE. ¼ SW. ¼ sec. 36, T. 25 N., R. 4 W., 500 feet below lower outlet of spring and 1 mile north of Greer. Zero of gage is 539.0 feet above mean sea level.

RECORDS AVAILABLE.—August to December, 1904; November, 1921, to September, 1928.

EXTREMES.—Maximum discharge, 882 second-feet June 23 and 25 (gage height, 1.32 feet); minimum, 399 second-feet June 7; minimum gage height, 0.92 foot October 6, 8, September 27 and 29.

1921–1928: Maximum discharge, 903 second-feet May 26, 1927 (gage height, 1.43 feet); minimum, 151 second-feet August 19, 1925.

REMARKS.—Records fair. Gage read three times weekly; discharge interpolated for remaining days.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	437	490	588	735	580	437	588	596	457	719	464	564
2	427	494	588	700	564	447	648	580	457	612	457	552
3	417	497	588	705	558	457	648	564	437	608	447	540
4	414	497	624	709	552	462	648	564	417	604	437	533
5	411	497	660	714	546	447	648	564	411	600	447	525
6	408	497	683	714	540	444	667	552	405	594	457	518
7	408	497	705	714	533	440	686	540	399	588	464	518
8	408	504	728	700	525	437	700	548	428	576	470	518
9	418	511	763	686	518	437	714	556	457	564	477	508
10	427	518	798	677	508	437	723	564	522	556	477	497
11	430	518	798	669	497	442	733	576	588	548	477	497
12	434	518	798	660	497	447	742	588	596	540	487	497
13	437	518	821	648	497	450	763	588	604	552	497	497
14	442	518	845	636	490	454	784	588	612	564	511	508
15	447	525	868	636	484	457	791	576	624	552	526	518
16	447	533	854	630	477	462	798	564	636	540	540	518
17	447	540	840	624	477	467	789	552	675	533	576	518
18	450	552	805	618	477	457	779	546	714	525	612	518
19	454	564	770	612	477	447	770	540	751	518	612	518
20	457	552	770	612	477	444	756	524	789	508	612	518
21	457	540	770	612	470	440	742	507	826	497	620	502
22	457	540	770	600	464	437	728	482	854	497	628	487
23	457	552	756	588	457	437	714	457	882	497	636	482
24	457	564	742	596	457	437	705	450	882	490	636	477
25	454	564	742	604	457	447	695	444	882	484	636	470
26	450	564	742	612	457	457	686	437	873	477	624	464
27	447	564	751	624	457	464	667	437	863	477	612	457
28	462	564	761	636	450	470	648	437	854	477	604	457
29	477	572	770	624	444	477	630	444	840	477	596	457
30	482	580	770	612	------	503	612	450	826	477	588	457
31	487	------	770	596	------	529	------	457	------	470	576	------

Month	Maximum	Minimum	Mean	Month	Maximum	Minimum	Mean
October	487	408	442	May	596	437	525
November	580	490	531	June	882	399	652
December	868	588	750	July	719	470	539
January	735	596	648	August	636	437	542
February	580	444	496	September	564	457	503
March	529	437	454				
April	798	588	707	The year	882	399	566

LITTLE RED RIVER NEAR HEBER SPRINGS, ARK.

LOCATION.—Staff gage in NE. ¼ sec. 1, T. 10 N., R. 10 W., 4 miles northeast of Heber Springs.
DRAINAGE AREA.—1,160 square miles.
RECORDS AVAILABLE.—September, 1927, to September, 1928.
EXTREMES.—Maximum discharge during period, 88,800 second-feet April 6 (gage height, 42.35 feet); minimum, 24 second-feet September 30, 1928 (gage height, 3.07 feet).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	9,000	190	700	1,970	870	780	460	1,610	660	1,490	88	460
2	-------	3,040	200	580	1,610	780	740	430	1,430	580	1,220	86	550
3	-------	7,560	200	550	1,320	700	700	430	1,220	550	1,020	74	355
4	-------	4,990	200	520	1,170	620	660	430	1,120	700	820	70	265
5	-------	2,670	200	490	1,070	700	870	40,500	820	2,040	620	67	210
6	-------	1,670	200	460	870	935	1,270	81,000	740	1,730	550	58	180
7	-------	1,610	190	400	870	1,170	1,170	32,900	660	1,270	490	67	142
8	-------	3,040	550	355	1,670	1,850	1,170	8,120	580	870	430	82	124
9	-------	1,850	920	340	1,610	1,850	2,110	5,100	520	700	370	59	110
10	-------	1,370	780	490	1,490	1,550	1,970	3,730	460	1,270	328	51	98
11	-------	1,070	660	780	1,270	1,370	1,970	2,960	430	1,170	290	126	86
12	-------	1,120	780	1,910	1,170	1,220	1,610	2,460	400	920	265	138	78
13	-------	1,170	820	8,120	1,120	1,170	1,490	2,040	340	1,020	230	104	72
14	-------	970	780	40,000	1,070	1,220	1,320	2,250	315	7,700	240	78	66
15	140	780	2,670	14,300	1,070	1,320	1,170	1,730	290	11,400	220	76	62
16	126	660	20,800	6,870	1,020	1,370	1,970	1,490	290	6,090	230	62	82
17	114	550	6,220	4,660	1,370	1,270	2,810	1,320	290	4,880	210	56	136
18	102	490	3,930	3,280	8,260	1,220	2,600	1,170	315	14,300	200	47	100
19	93	430	2,960	2,600	26,500	1,170	2,110	1,070	340	5,100	200	68	104
20	80	385	2,600	2,110	9,000	1,070	1,850	920	520	3,120	220	1,120	82
21	72	355	2,180	1,730	5,700	920	1,670	7,700	550	3,640	230	580	72
22	67	328	1,910	1,430	4,030	870	1,430	31,000	1,490	5,580	220	400	64
23	63	315	1,370	1,320	3,200	970	1,270	14,900	3,930	12,400	210	355	56
24	60	290	1,490	1,220	2,670	1,070	1,170	7,420	2,460	12,600	278	302	50
25	57	265	1,270	1,070	2,320	1,170	1,070	4,990	1,670	5,340	210	1,490	42
26	55	242	1,170	870	2,000	1,070	870	3,460	1,170	4,440	170	1,320	37
27	1,120	230	1,070	700	1,670	1,020	870	2,810	780	3,830	154	700	32
28	1,550	220	920	780	1,430	870	780	2,390	620	2,390	160	490	28
29	870	210	820	2,390	1,270	870	780	1,970	520	2,110	122	328	27
30	4,230	200	740	3,040	1,170	-------	620	1,730	486	1,910	108	302	24
31	-------	200	-------	2,530	1,610	-------	550	-------	385	-------	94	586	-------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
1927						
September 15–30	4,230	55	550	0.474	0.28	17,500
1927–28						
October	9,000	200	1,530	1.32	1.52	94,100
November	20,800	190	1,960	1.69	1.89	117,000
December	40,000	340	3,440	2.97	3.42	212,000
January	26,500	870	2,990	2.58	2.97	184,000
February	1,850	620	1,110	.957	1.03	63,800
March	2,810	550	1,340	1.16	1.34	82,400
April	81,000	430	8,960	7.72	8.61	533,000
May	3,930	290	861	.742	.86	52,900
June	14,300	550	4,010	3.46	3.86	239,000
July	1,490	94	374	.322	.37	23,000
August	1,490	47	304	.262	.30	18,700
September	550	24	126	.109	.12	7,500
The year	81,000	24	2,240	1.93	26.29	1,630,000

CACHE RIVER AT PATTERSON, ARK.

LOCATION.—Staff gage in sec. 6, T. 7 N., R. 2 W., at Patterson. Zero of gage is 188.27 feet above mean sea level.

DRAINAGE AREA.—790 square miles.

RECORDS AVAILABLE.—February to September, 1928.

EXTREMES.—Maximum discharge during period, 12,100 second-feet June 27 and 28 (gage height, 11.8 feet); minimum, 124 second-feet September 30 (gage height, 3.6 feet).

Maximum stage known, 17.1 feet April, 1927, owing to White River levee break.

REMARKS.—Records fair. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1928

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,040	445	760	3,560	1,450	8,420	189	221
2	840	445	645	3,350	1,320	7,700	189	293
3	760	445	505	3,350	1,040	7,000	189	336
4	680	415	385	2,760	930	6,660	189	273
5	610	475	293	2,580	980	6,020	182	243
6	540	540	575	1,900	1,200	5,700	175	210
7	475	575	2,230	1,200	1,590	5,400	175	210
8	475	610	3,350	930	1,740	4,260	175	293
9	540	645	3,780	760	2,760	3,350	168	336
10	680	840	3,350	680	3,560	2,060	168	336
11	800	840	3,350	610	3,560	1,200	168	243
12	880	980	4,260	540	3,560	840	168	210
13	880	1,110	4,530	475	3,350	680	175	196
14	800	1,200	4,530	445	3,560	575	175	175
15	760	1,450	4,260	415	4,530	505	175	161
16	680	1,900	3,780	385	6,020	415	175	154
17	645	2,580	3,150	336	7,340	336	175	154
18	720	2,760	2,760	313	8,060	293	175	154
19	800	2,400	2,580	293	8,800	243	175	147
20	880	1,740	2,400	293	9,180	210	168	140
21	880	1,200	2,230	273	9,180	210	168	147
22	760	930	2,580	258	8,420	221	168	140
23	610	880	2,950	243	8,800	221	168	136
24	505	980	3,150	232	9,580	221	168	136
25	445	1,200	3,150	273	10,400	210	168	132
26	385	1,200	3,780	313	11,200	196	161	132
27	385	980	4,260	385	12,100	189	161	132
28	385	800	4,260	505	12,100	175	161	128
29	415	760	4,260	575	10,800	175	161	128
30	------	760	3,780	880	9,580	182	161	124
31	------	760	------	1,320	------	189	168	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
February	1,040	385	664	0.841	0.91	38,200
March	2,760	415	1,060	1.34	1.54	65,200
April	4,530	293	2,860	3.62	4.04	170,000
May	3,560	232	982	1.24	1.43	60,400
June	12,100	930	5,890	7.46	8.32	350,000
July	8,420	175	2,070	2.62	3.02	127,000
August	189	161	172	.218	.25	10,600
September	336	124	194	.246	.27	11,500
The period						833,000

ARKANSAS RIVER BASIN

ARKANSAS RIVER AT SYRACUSE, KANS.

LOCATION.—Water-stage recorder in NW. ¼ 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 November, 1905; April to July, 1906; June, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 10,350 second-feet June 4 (gage height, 4.65 feet); minimum, 8 second-feet September 23–30.

1902–1906, 1921–1928: Maximum stage about 9.75 feet on June 6, 1921 (discharge unknown; the determination of 45,000 second-feet published in previous reports is much too small). Minimum discharge, 2 second feet in August, 1926.

REMARKS.—Records fair. Practically entire low-water flow is diverted for irrigation upstream. Flow regulated by storage in number of reservoirs in Colorado.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	83	120		e 200	130	94	60	345	3,380	50	9
2	116	83	128		e 200	118	94	59	2,180	2,360	44	34
3	114	85	134		153	118	91	104	5,660	1,530	44	56
4	114	90	126		153	118	85	116	6,570	1,030	39	43
5	116	90	124	e 210	161	124	95	118	6,960	674	48	32
6	111	90	132		141	118	107	124	e 6,000	505	63	28
7	108	91	132		128	111	111	134	e 4,250	394	50	22
8	108	91	e 133	220	126	111	104	124	e 2,800	337	65	17
9	106	94	e 133	268	124	e 106	101	116	1,780	305	56	13
10		92	134	298	118	e 106	98	120	1,510	279	43	
11	e 100	92	134	292	120	106	92	146	2,950	253	34	
12		88	139	286	122	104	88	3,170	6,810	361	30	
13		88	156	279	118	104	87	3,280	5,550	292		
14		91	174	235		116	87	3,530	4,890	260		
15	90	94	210	205		124	87	2,920	e 4,040	226		
					e 200						e 20	e 11
16	88	97	215			120	85	2,860	e 3,100	e 167		
17	85	97	215			128	85	2,920	e 2,630	e 129		
18	84	98			235	146	80	1,960	e 2,120	e 122		
19	84	98			210	161	74	1,780	e 1,680	e 74	13	
20	83	98			187	177	71	1,580	e 1,400	e 59	13	
21	84	98			168	171	87	1,150	e 1,210	e 48	12	
22	84	98				158	82	998	e 1,010	e 39	11	9
23	84	97			e 200	139	79	793	926	34	10	8
24	84	103		e 200		132	76	685	849	34	9	8
25	85	106	e 210		220	122	73	608	641	44	9	8
26	85	101			215	114	64	630	545	69	9	8
27	85	111			184	104	63	515	439	92	9	8
28	84	122			146	100	62	485	361	89	9	8
29	84	124			132	98	62	457	321	82	9	8
30	84	118			------	98	62	412	872	72	9	8
31	83	------			------	97	------	385	------	59	9	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	118	83	95.2	5,850
November	124	83	96.9	5,770
December	----------	120	177	10,900
January	298	----------	218	13,400
February	235	118	171	9,340
March	177	97	122	7,500
April	111	62	84.2	5,010
May	3,530	59	1,040	64,000
June	6,960	321	2,680	159,000
July	3,380	34	432	26,600
August	65	9	26.4	1,620
September	56	8	15.3	910
The year	6,960	8	428	310,000

e Estimated.

ARKANSAS RIVER AT GARDEN CITY, KANS.

LOCATION.—Water-stage recorder in NW. ¼ sec. 19, T. 24 S., R. 32 W., at highway bridge, half a mile south of Garden City.

DRAINAGE AREA.—28,800 square miles.

RECORDS AVAILABLE.—June, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 15,000 second-feet June 4 (gage height, 7.30 feet); no flow September 5–30.

1922–1928: Maximum discharge, 19,500 second-feet June 18, 1923 (gage height, 7.86 feet); no flow during several periods.

REMARKS.—Records fair. Discharge estimated December 7–9, 11–13, 15–31, January 1 and 2. Flow is regulated by diversion and storage of water for irrigation in western Kansas and eastern Colorado.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	12	28	30	38	21	37	19	197	1,840	67	1
2	10	12	31	50	34	19	37	20	171	2,200	78	1
3	9	12	34	95	30	22	37	78	3,730	1,470	139	1
4	8	12	35	52	24	26	36	118	6,420	1,000	175	1
5	8	13	35	61	20	25	44	49	7,960	665	143	0
6	7	12	37	67	32	24	57	36	7,180	380	73	0
7	7	14		147	23	18	63	33	5,130	340	32	0
8	6	15	25	155	18	15	61	28	3,610	279	16	0
9	6	19		202	19	12	59	27	2,510	124	15	0
10	6	19	16	272	20	10	52	20	2,150	100	14	0
11	6	18		237	21	9	44	43	2,260	90	13	0
12	6	14	20	92	23	9	40	110	5,850	192	12	0
13	6	14		80	27	9	38	3,030	5,440	121	11	0
14	6	14	22	78	25	8	34	4,010	3,490	143	10	0
15	7	18		57	46	8	32	2,200	2,370	100	9	0
16	7	19		54	35	8	30	2,450	1,880	90	7	0
17	7	22		37	36	8	29	2,230	1,680	82	8	0
18	8	23		38	97	100	28	1,930	1,130	72	9	0
19	8	23		33	147	135	24	1,880	970	69	8	0
20	9	23		48	143	107	25	1,720	1,310	80	5	0
21	9	23		57	50	75	34	1,080	940	78	3	0
22	9	24	20	92	34	65	38	715	836	75	3	0
23	9	24		244	42	48	32	628	1,240	65	2	0
24	9	24		151	42	38	28	742	1,000	90	2	0
25	9	24		118	48	33	27	665	653	219	1	0
26	9	24		155	80	28	26	567	532	147	1	0
27	10	25		159	82	28	26	544	475	100	1	0
28	11	25		175	71	26	23	510	1,000	100	1	0
29	12	26		155	26	26	19	340	567	75	1	0
30	13	27		37	------	25	17	272	486	75	1	0
31	12	------		65	------	33	------	237	------	69	1	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	13	6	8.36	514
November	27	12	19.1	1,140
December	37	----------	23.0	1,410
January	272	30	106	6,520
February	147	18	46.0	2,650
March	135	8	32.8	2,020
April	63	17	35.9	2,140
May	4,010	19	849	52,200
June	7,960	171	2,440	145,000
July	2,200	65	340	20,900
August	175	1	27.8	1,710
September	1	0	.133	8
The year	7,960	0	326	236,000

ARKANSAS RIVER AT LARNED, KANS.

LOCATION.—Water-stage recorder in NE. ¼ sec. 5, T. 22 S., R. 16 W., at highway bridge half a mile above Pawnee River and half a mile south of Larned.
DRAINAGE AREA.—34,900 square miles.
RECORDS AVAILABLE.—June, 1922, to September, 1928.
EXTREMES.—Maximum discharge during year, 11,200 second-feet June 5 (gage height, 8.45 feet); no flow September 10–30.
1922–1928: Maximum discharge, 14,300 second-feet August 25, 1923 (gage height, 9.5 feet); no flow during several periods.
REMARKS.—Records poor. Large portion of flow diverted for irrigation in western Kansas and eastern Colorado.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			38		114			94	561	538	98	4
2			42		105			89	505	574	91	3
3			47		87			92	526	620	117	3
4			31	a 32	85			96	816	1,690	108	2
5			29		78			96	5,670	1,280	95	5
6			30		87		a 90	94	6,330	964	86	4
7		a 50		35	108			96	6,770	907	95	3
8				46	92			102	5,450	874	126	2
9				70	78			102	4,540	830	108	1
10				94	78			98	3,500	785	81	0
11				146	72			109	2,460	713	66	0
12				170	78		98	128	2,080	626	54	0
13				163	92		95	135	3,170	532	42	0
14		41		149	92		89	148	5,250	467	35	0
15		a 41		112	87		92	1,620	3,240	392	27	0
16	a 50	a 41		94	76	a 90	90	2,650	2,570	344	24	0
17		41		85	69		90	2,140	2,300	275	27	0
18		42		82	68		88	2,320	2,140	190	23	0
19		41	a 32	72	82		84	2,000	1,870	156	24	0
20		44		60	82		86	1,660	1,350	174	23	0
21		46		57	80		90	1,630	964	190	17	0
22		42		48	82		126	1,600	928	194	12	0
23		40					166	1,380	710	152	9	0
24		43					166	1,090	650	126	7	0
25		47		a 75			141	880	844	129	6	0
26		46			a 90		128	784	1,220	114	4	0
27		46					122	800	892	105	3	0
28		44		108			117	752	798	103	7	0
29		40		146			109	705	630	105	3	0
30		37		146			100	660	670	100	3	0
31				127				631		86	3	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October			50.0	3,070
November			45.7	2,720
December			32.8	2,020
January	170		83.1	5,110
February	114		86.3	4,960
March			90.0	5,530
April	166		102.	6,070
May	2,650	89	799.	49,100
June	6,770	505	2,310	137,000
July	1,690	86	462	28,400
August	126	3	45.9	2,820
September	5	0	.90	53
The year	6,770	0	341	247,000

a Estimated.

ARKANSAS RIVER NEAR WICHITA, KANS.

LOCATION.—Water-stage recorder on line between secs. 7 and 18, T. 27 S., R. 1 E., 1½ miles above Little Arkansas River and 2 miles northwest of Wichita.
DRAINAGE AREA.—40,300 square miles.
RECORDS AVAILABLE.—June, 1921 to September, 1928.
EXTREMES.—Maximum discharge during year, 5,550 second-feet June 17 (gage height, 12.00 feet); minimum, 114 second-feet September 22, 29, and 30.
1921–1928: Maximum discharge, 12,000 second-feet August 18, 1927; no flow at times.
REMARKS.—Records fair. Most of low-water flow is diverted for irrigation in western Kansas and eastern Colorado.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		331	331		502	469	a 475	355		2,580	720	239
2		a 319	a 308		502	a 469	382	331		2,000	a 950	a 222
3		307	286	a 300	a 518	469	331	a 350	a 810	1,660	1,180	a 205
4		a 307			535	a 454	382	a 380		a 1,600	1,330	188
5	a 850	307	a 250	382	a 552	439	760	a 470	720	a 1,600	1,280	197
6		a 286		a 442	570	469	1,330	a 800	680	2,420	985	197
7		265	150	502	a 606	439	895	a 470	4,890	1,880	a 1,780	a 175
8	720	a 276		439	a 643	439	a 785	a 440	4,470	1,880	2,580	172
9	680	286		a 495	680	409	680	a 350	a 4,260	1,770	2,130	166
10	a 661	a 286		a 550	680	409	a 625	a 350	4,060	1,770	1,440	166
11	642	286		a 605	642	a 396	570	a 300	3,280	1,880	1,130	160
12	642	a 286		a 550	a 624	382	535	a 350	3,100	1,880	895	163
13	a 606	286		502	605	a 382	535	a 380	2,750	1,880	760	144
14	570			502	605	382	502	a 380	2,420	1,660	642	a 147
15	570			a 550	605	469	a 455	a 400	5,110	1,230	570	150
16	a 570			605			409	a 430	4,890	1,030	502	147
17	570			a 605	a 550	a 520	382	439	5,550	a 1,160	502	141
18	502		a 280	605			382	1,770	4,260	1,280	469	
19	469	a 286		a 570		570	355	a 1,700	3,470	940	382	a 129
20	a 454			a 535	502	760	355	a 1,620	3,100	850	355	
21	439			502	502	805	382	1,550	2,920	760	331	117
22	439			a 455	a 485	805		a 1,550	3,100	680	307	114
23	409			409	469	720	a 382	a 1,400	2,580	850	331	a 116
24	a 396	286		a 409	439	720		a 1,300	2,420	1,440	307	117
25	382	a 286		409	469	a 700	382	a 1,200	2,130	1,230	307	117
26	409	286		a 391	a 439	680	469	1,180	2,000	1,080	265	119
27	409			a 373	409	a 642	502		2,130	940	a 260	a 117
28	a 424	a 310		355	409	605	439		2,130	805	254	a 116
29	439		350		409	570	a 400	a 1,040	1,880	720	286	114
30	439		a 300	a 350	------	a 536	355		1,880	720	265	a 114
31	a 385	------	163		------	502	------		------	720	254	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	----------	----------	586	36,000
November	----------	----------	293	17,400
December	----------	----------	275	16,900
January	605	----------	451	27,700
February	680	409	538	30,900
March	805	382	537	33,000
April	1,330	331	507	30,200
May	1,770	300	821	50,500
June	5,550	680	2,700	161,000
July	2,580	680	1,380	84,800
August	2,580	254	766	47,100
September	239	114	151	8,980
The year	5,550	114	750	544,000

a Estimated or interpolated.

ARKANSAS RIVER AT ARKANSAS CITY, KANS.

LOCATION.—Chain gage in NW. ¼ sec. 25, T. 34 S., R. 3 E., at Chestnut Avenue highway bridge, half a mile west of Arkansas City and 8 miles below Ninnescah River.

DRAINAGE AREA.—44,700 square miles.

RECORDS AVAILABLE.—September, 1902, to July, 1906; September, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 19,900 second-feet June 18 (gage height, 16.49 feet); minimum, 206 second-feet September 24 (gage height, 6.79 feet).

1902–1906, 1921–1928: Maximum stage, 25.46 feet June 11, 1923 (discharge not determined); minimum discharge, 12 second-feet in March and April, 1923, owing to diversion in power canal of Kansas Gas & Electric Co.

REMARKS.—Records good. Discharge interpolated April 22, May 13, 30, August 5, 12, 19, 26, September 2, 9, 16, 23, and 30. Diversions in western Kansas and eastern Colorado for irrigation take large part of the natural flow.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,820	860	730	640	730	825	1,000	1,350	1,280	6,400	1,210	490
2	5,020	860	700	550	730	825	930	1,210	1,510	5,580	1,140	480
3	5,200	860	700	520	730	860	860	1,210	2,200	5,020	1,700	465
4	3,400	860	700	520	760	825	860	1,210	2,500	4,020	1,430	465
5	2,060	860	700	520	760	825	930	1,350	2,350	3,250	1,430	465
6	1,700	860	730	580	790	825	1,930	1,600	2,060	2,650	1,430	465
7	1,510	860	730	700	930	790	11,000	1,700	2,060	2,800	1,350	465
8	1,430	825	700	760	930	825	7,040	1,430	4,840	3,100	1,210	440
9	1,350	790	700	760	930	790	4,840	1,350	10,500	3,100	1,810	430
10	1,280	790	670	730	1,000	790	3,400	1,210	14,000	3,400	1,930	415
11	1,210	790	670	790	1,000	790	2,350	1,140	11,600	3,550	1,510	390
12	1,140	790	670	930	1,000	760	1,930	1,070	7,260	3,550	1,320	365
13	1,140	790	640	1,000	1,000	760	1,700	1,100	9,720	3,550	1,140	340
14	1,070	790	670	860	1,000	730	1,600	1,140	4,020	3,250	1,070	365
15	1,070	790	670	860	1,000	760	1,430	1,210	3,250	2,500	1,000	340
16	1,000	790	700	860	1,000	860	1,350	1,210	5,200	2,060	860	330
17	930	790	580	825	1,000	1,070	1,350	1,700	15,400	1,600	860	315
18	1,000	790	550	825	1,000	1,350	1,280	1,810	19,500	1,510	825	315
19	930	760	550	860	1,000	1,510	1,280	2,500	18,700	1,600	795	270
20	930	760	520	860	930	1,510	1,210	2,500	13,700	860	760	270
21	930	760	520	825	860	1,600	1,210	2,350	8,700	1,430	730	290
22	860	760	610	825	860	1,510	1,460	2,200	6,820	1,350	700	250
23	860	760	640	790	860	1,430	1,700	1,930	6,190	1,600	670	232
24	860	730	670	730	860	1,350	1,930	1,810	5,390	1,430	670	206
25	825	730	670	790	825	1,280	1,810	1,700	5,390	1,350	640	210
26	825	730	700	760	825	1,210	1,510	1,600	5,200	1,600	610	234
27	825	730	700	760	790	1,140	1,430	1,430	4,340	1,430	580	230
28	825	730	760	730	825	1,140	2,060	1,350	5,980	1,280	610	230
29	825	700	825	700	825	1,070	1,700	1,280	6,820	1,210	550	230
30	825	700	860	700	------	1,000	1,510	1,240	5,980	1,700	580	230
31	825	------	825	700	------	1,000	------	1,210	------	1,30 1,4	550	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	6,820	825	1,600	98,400
November	860	700	786	46,800
December	860	520	679	41,800
January	1,000	520	750	46,100
February	1,000	730	888	51,100
March	1,600	730	1,030	63,300
April	11,000	860	2,150	128,000
May	2,500	1,070	1,520	93,500
June	19,500	1,280	7,080	421,000
July	6,400	860	2,550	157,000
August	1,930	550	1,020	62,700
September	490	206	341	20,300
The year	19,500	206	1,690	1,230,000

ARKANSAS RIVER AT VAN BUREN, ARK.

LOCATION.—Chain gage in sec. 24, T. 9 N., R. 32 W., at Van Buren, 1½ miles below Lee Creek. Zero of gage is 372.67 feet above mean sea level.
RECORDS AVAILABLE.—October, 1927, to September, 1928.
EXTREMES.—Maximum discharge during year, 243,000 second-feet October 5 (gage height, 25.2 feet); minimum, 3,780 second-feet September 29 (gage height, 6.7 feet).
Maximum stage known, 35.0 feet April, 1927.
REMARKS.—Records fair. Discharge estimated October 1 and 2.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100,000	15,700	8,140	36,100	9,100	10,000	12,100	82,500	16,300	95,500	22,700	11,600
2	150,000	13,300	7,660	26,600	8,620	10,100	11,600	70,000	15,700	99,600	32,800	11,100
3	206,000	13,300	18,700	17,500	8,140	9,600	10,600	59,200	15,700	94,200	37,200	11,600
4	235,000	11,600	18,700	12,100	7,660	9,600	10,600	55,600	71,200	85,100	27,600	10,100
5	241,000	10,600	13,900	9,600	10,100	9,600	14,500	50,800	74,800	74,800	38,300	9,600
6	209,000	10,100	11,100	9,600	11,100	9,600	101,000	42,700	79,900	62,800	156,000	9,100
7	163,000	9,600	9,600	9,600	21,300	9,600	136,000	37,200	76,000	54,400	171,000	9,100
8	129,000	11,600	8,620	10,100	35,000	9,100	151,000	32,800	66,400	46,000	110,000	8,620
9	117,000	12,700	7,660	9,600	68,800	12,700	131,000	28,600	67,600	38,300	56,800	7,660
10	117,000	11,600	7,660	10,100	70,000	18,700	94,200	24,100	62,800	33,900	36,100	7,200
11	111,000	11,600	7,200	10,600	55,600	22,700	67,600	22,000	66,400	28,600	29,600	6,740
12	102,000	10,600	7,200	9,600	40,500	26,600	56,800	21,300	96,800	25,700	25,700	6,300
13	83,800	10,600	62,800	10,600	25,700	21,300	46,000	19,300	166,000	29,600	22,000	7,200
14	72,400	10,600	89,000	11,100	20,600	17,500	37,200	18,700	184,000	33,900	18,700	8,620
15	56,800	12,700	78,600	10,600	19,300	14,500	35,000	18,100	198,000	35,000	17,500	7,660
16	43,800	19,900	81,200	10,100	25,700	15,700	27,600	18,700	179,000	36,100	18,700	7,200
17	30,600	31,700	74,800	9,600	28,600	23,400	22,700	20,600	152,000	79,900	17,500	6,740
18	25,700	49,600	58,000	18,700	25,700	47,200	20,600	25,700	124,000	68,800	15,700	6,300
19	21,300	43,800	33,900	54,400	24,900	73,600	20,600	66,400	114,000	54,400	13,900	5,860
20	18,700	31,700	18,100	70,000	22,000	76,000	18,700	116,000	122,000	42,700	15,700	5,420
21	17,500	24,100	14,500	59,200	19,300	70,000	49,600	137,000	158,000	31,700	25,700	5,000
22	16,300	19,900	12,700	43,800	17,500	62,800	146,000	120,000	179,000	24,100	19,900	5,000
23	15,100	17,500	11,600	25,700	15,100	58,000	206,000	90,200	202,000	20,600	15,700	4,580
24	13,900	15,100	10,600	19,900	14,500	41,600	206,000	54,400	235,000	19,300	17,500	4,580
25	13,900	12,700	9,600	17,700	13,200	30,600	209,000	46,000	226,000	20,600	26,600	5,000
26	12,700	11,600	9,100	15,100	12,700	24,100	183,000	40,500	209,000	22,700	24,900	4,580
27	12,100	10,600	8,620	13,300	12,100	20,600	153,000	32,800	175,000	22,000	29,600	4,180
28	11,600	9,600	9,600	12,100	11,600	18,100	140,000	26,600	126,000	22,700	23,400	4,180
29	11,600	9,100	13,900	11,600	11,100	16,300	128,000	22,700	101,000	25,700	17,500	3,780
30	11,100	8,620	16,300	10,600	-------	15,100	107,000	20,600	91,600	22,700	14,500	4,180
31	11,100	-------	24,100	10,100	-------	13,900	-------	18,100	-------	22,700	12,700	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	241,000	11,100	76,800	4,720,000
November	49,600	8,620	16,400	976,000
December	89,000	7,200	24,600	1,510,000
January	70,000	9,600	19,500	1,200,000
February	70,000	7,660	23,000	1,320,000
March	76,000	9,100	26,400	1,620,000
April	209,000	10,600	85,500	5,090,000
May	137,000	18,100	46,400	2,850,000
June	235,000	15,700	122,000	7,260,000
July	99,600	19,300	44,300	2,720,000
August	171,000	12,700	35,900	2,210,000
September	11,600	3,780	6,960	414,000
The year	241,000	3,780	43,900	31,900,000

ARKANSAS RIVER AT LITTLE ROCK, ARK.

LOCATION.—Staff gage in sec. 3, T. 1 N., R. 12 W., in Little Rock. Zero of gage is 223.39 feet above mean sea level.

RECORDS AVAILABLE.—September, 1927, to September, 1928.

EXTREMES.—Maximum discharge during period, 220,000 second-feet October 7 (gage height, 20.9 feet); minimum, 5,340 second-feet September 28–30 (gage height, 0.1 foot).

Maximum stages known, 34.6 feet June, 1833; 33.0 feet April 20, 1927.

REMARKS.—Records fair. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1927–28

Day	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	19,800	14,900	16,500	31,800	21,300	18,800	21,300	131,000	25,200	110,000	26,400	25,200
2	-------	80,000	15,300	15,300	35,400	19,300	17,800	19,800	114,000	22,900	95,900	27,000	21,300
3	-------	114,000	15,300	14,900	50,200	18,300	17,000	18,800	92,600	20,800	81,000	24,000	19,800
4	-------	159,000	17,400	14,500	47,500	17,400	16,500	17,000	76,000	19,300	92,600	24,600	15,300
5	-------	190,000	18,300	13,800	37,600	17,400	15,700	18,300	65,000	19,300	89,300	32,500	14,900
6	-------	218,000	17,000	18,800	27,700	16,100	16,100	42,400	60,300	56,500	77,000	35,400	14,500
7	-------	220,000	17,000	24,000	22,400	17,000	16,100	143,000	55,600	74,000	72,000	50,200	13,500
8	-------	202,000	16,500	21,300	20,800	20,800	16,100	167,000	48,400	78,000	61,200	128,000	12,800
9	-------	171,000	16,100	19,800	20,300	30,400	16,500	171,000	42,400	77,000	52,900	132,000	11,700
10	-------	145,000	14,900	18,800	21,300	44,100	17,400	175,000	38,400	70,000	45,800	99,200	11,700
11	-------	126,000	14,900	17,000	21,800	71,000	18,800	152,000	33,900	70,000	40,000	68,000	11,400
12	-------	120,000	17,000	16,500	20,800	78,000	22,400	130,000	30,400	69,000	34,600	45,800	11,000
13	-------	115,000	17,000	15,700	19,300	71,000	29,000	108,000	25,800	69,000	31,100	35,400	9,960
14	-------	108,000	15,300	79,000	19,300	58,400	84,600	94,800	24,600	139,000	29,700	29,000	8,940
15	-------	94,800	16,100	194,000	18,800	47,500	35,400	83,000	17,800	190,000	30,400	25,800	8,600
16	27,000	84,000	19,800	151,000	18,800	38,400	31,100	71,000	17,000	192,000	32,500	23,400	8,260
17	24,600	71,000	26,400	122,000	18,800	32,500	29,000	64,100	24,600	180,000	33,900	20,300	9,620
18	20,300	64,100	29,700	110,000	19,300	31,800	27,000	54,700	27,700	167,000	36,100	18,800	9,280
19	17,800	41,600	31,300	101,000	31,800	39,200	27,700	45,800	28,400	151,000	59,400	19,800	8,940
20	15,700	35,400	52,000	87,100	58,400	39,200	45,800	38,400	29,700	130,000	71,000	20,300	8,940
21	14,500	31,100	58,400	70,000	88,200	38,400	76,000	37,600	77,000	119,000	60,300	19,800	7,920
22	13,800	25,800	50,200	50,200	97,000	34,600	81,000	53,800	119,000	131,000	49,300	17,400	7,260
23	12,800	22,900	39,200	36,100	88,200	31,100	78,000	140,000	126,000	162,000	39,200	17,400	6,930
24	12,400	19,800	32,500	28,400	73,000	28,400	71,000	182,000	108,000	184,000	31,800	25,200	6,600
25	12,000	19,800	28,400	25,200	59,400	25,200	64,100	207,000	86,000	202,000	25,800	26,400	5,960
26	11,700	19,800	25,200	21,800	47,500	24,000	56,500	211,000	66,000	213,000	22,400	38,400	5,960
27	11,000	19,800	21,800	20,300	39,200	21,800	46,600	200,000	53,800	213,000	22,900	33,200	5,650
28	11,700	18,800	20,300	19,800	33,900	21,300	38,400	180,000	36,600	194,000	23,900	31,800	5,340
29	12,800	17,000	18,800	19,300	27,700	20,300	31,800	160,000	40,000	167,000	24,600	30,400	5,340
30	14,900	15,300	17,400	24,600	24,600	-------	27,700	146,000	33,900	136,000	24,000	31,100	5,340
31	-------	15,300	-------	33,200	22,400	-------	24,000	-------	28,400	-------	24,600	28,400	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
1927				
September 16–30	27,000	11,000	15,500	461,000
1927–28				
October	220,000	15,300	84,000	5,160,000
November	58,400	14,900	23,800	1,420,000
December	194,000	13,800	45,800	2,820,000
January	97,000	18,800	37,500	2,310,000
February	78,000	16,100	33,600	1,930,000
March	81,000	15,700	34,300	2,110,000
April	211,000	17,000	105,000	6,250,000
May	131,000	17,000	57,000	3,500,000
June	213,000	19,300	118,000	7,020,000
July	110,000	22,400	49,200	3,030,000
August	132,000	17,400	38,200	2,350,000
September	25,200	5,340	10,600	631,000
The year	220,000	5,340	53,100	38,500,000

GRAPE CREEK NEAR WESTCLIFFE, COLO.

LOCATION.—Water-stage recorder in sec. 30, T. 21 S., R. 72 W., at concrete weir, 1 mile above high-water line of DeWeese-Dye Reservoir and 3 miles northwest of Westcliffe.

DRAINAGE AREA.—346 square miles.

RECORDS AVAILABLE.—December, 1924, to June, 1928 (discontinued).

EXTREMES.—Maximum discharge during period, 437 second-feet June 4 (gage height, 2.58 feet); minimum probably occurred during winter.

1924–1928: Maximum discharge, that of June 4, 1928; minimum, 2.4 second-feet June 19, 1925.

REMARKS.—Records good except those for period of ice effect, November 27 to March 20, which were estimated on basis of current-meter measurements and temperature records and are fair. Discharge estimated April 9–13. No diversions above station. Discharge measurements furnished by State engineer, and gage-height record furnished by Southern Colorado Power Co.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	136	31					33	27	348
2	77	26					22	37	326
3	62	24				18	16	77	348
4	57	25					16	127	394
5	52	25					16	122	302
6	47	25					25	61	161
7	47	25					31	48	126
8	52	23				20	48	51	130
9	51	23	a 18				50	65	110
10	46	21					54	115	121
11	41	19			a 19		55	279	140
12	37	20					54	285	114
13	35	22		a 20		30	52	153	89
14	36	21					51	138	63
15	37	20					44	190	45
16	36	25					35	100	26
17	35	21					29	76	24
18	33	21				50	26	76	24
19	32	23					22	82	26
20	31	24					22	86	29
21	29	22				108	28	260	26
22	28	20				85	29	163	21
23	28	20				56	27	130	19
24	27	21				48	25	144	20
25	26	21				45	25	160	25
26	27	20				40	29	169	27
27	26	20				34	33	192	28
28	27	20				28	29	246	23
29	41	20				26	26	288	18
30	35	20				26	25	323	15
31	32					35		355	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	136	26	42.1	2,590
November	31	19	22.3	1,330
December			18	1,110
January			19	1,170
February			19	1,090
March			36.2	2,230
April	55	16	32.6	1,940
May	355	27	149	9,160
June	394	15	106	6,310
The period				26,900

a Current-meter measurement.

WEST BEAVER CREEK NEAR VICTOR, COLO.

LOCATION.—In sec. 30, T. 16 S., R. 68 W., at Skaguay power station of Southern Colorado Power Co., 7 miles southeast of Victor and 2 miles above East Beaver Creek.

DRAINAGE AREA.—66 square miles.

RECORDS AVAILABLE.—January, 1905, to September, 1928.

REMARKS.—Discharge is sum of flow through power house and seepage below dam, corrected for gain or loss in storage in reservoir 3½ miles above plant. Diversions above station for municipal supply of Victor and 1,840 acre-feet for Colorado Springs; below station, 126 second-feet from Beaver Creek and 4,760 acre-feet from reservoir. Records are furnished by Southern Colorado Power Co.

Monthly discharge, in second-feet, 1927–28

Month	Mean	Run-off in acre-feet	Month	Mean	Run-off in acre-feet
October	18.0	1,110	May	12.4	762
November	18.6	1,110	June	34.4	2,050
December	17.8	1,090	July	21.7	1,330
January	16.6	1,020	August	19.8	1,220
February	14.3	822	September	18.6	1,110
March	10.7	658			
April	10.7	637	The year	17.8	12,900

BOEHMER CREEK NEAR PIKES PEAK, COLO.

LOCATION.—In NW. ¼ sec. 32, T. 14 S., R. 68 W., 3½ miles south of Pikes Peak and above Little Beaver and Sackett Creeks. Altitude of station, 11,000 feet.

DRAINAGE AREA.—7.2 square miles, about 75 per cent of which is above timber line. It includes the area of West Beaver Creek above intake of Strickler Tunnel.

RECORDS AVAILABLE.—October, 1909, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on weir. Flow regulated by three reservoirs having an aggregate capacity of 1,400 acre-feet. Water diverted above station for municipal supply of Victor is measured and added to flow over Boehmer Creek weir to show total run-off. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	4.64	2.07	3.05	0.424	0.49	188
November	2.07	2.07	2.07	.288	.32	123
December	2.07	1.70	1.97	.274	.32	121
January	1.70	.92	1.40	.194	.22	86.1
February	.92	.82	.913	.127	.14	52.5
March	.92	.82	.823	.114	.13	50.6
April	3.81	.92	1.02	.142	.16	60.7
May	34.2	3.81	6.45	.896	1.03	397
June	34.2	9.33	16.9	2.35	2.62	1,010
July	9.33	6.62	7.96	1.11	1.28	489
August	7.01	3.97	5.20	.722	.83	320
September	3.97	2.61	3.24	.450	.50	193
The year	34.2	.82	4.25	.590	8.04	3,090

LITTLE BEAVER CREEK NEAR PIKES PEAK, COLO.

LOCATION.—In NW. ¼ NW. ¼ sec. 32, T. 14 S., R. 68 W., just above mouth of creek and 3½ miles south of Pikes Peak. Little Beaver Creek enters Boehmer Creek from west 0.3 mile above reservoir No. 4. Altitude of station, 11,000 feet.

DRAINAGE AREA.—1.0 square mile, about 25 per cent of which is above timber line; remainder sparsely timbered.

RECORDS AVAILABLE.—October, 1909, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on weir. No diversions above station. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	0.60	0.29	0.396	0.396	0.46	24.3
November	.29	.22	.246	.246	.27	14.6
December	.22	.16	.197	.197	.23	12.1
January	.16	.05	.124	.124	.14	7.6
February	.06	.04	.050	.050	.05	2.8
March	.06	.06	.060	.060	.07	3.7
April	.45	.07	.083	.083	.09	4.9
May	2.64	.46	.979	.979	1.13	60.2
June	2.34	1.28	1.56	1.56	1.74	92.8
July	1.28	.54	.920	.920	1.06	56.6
August	.63	.40	.492	.492	.57	30.2
September	.45	.25	.313	.313	.35	18.6
The year	2.64	.04	.452	.452	6.16	329

SACKETT CREEK NEAR PIKES PEAK, COLO.

LOCATION.—In SE. ¼ NW. ¼ sec. 32, T. 14 S., R. 68 W., just above mouth of creek and 4 miles southeast of Pikes Peak. Sackett Creek enters Boehmer Creek from north a short distance above Reservoir No. 4. Altitude of station, 11,000 feet.

DRAINAGE AREA.—0.65 square mile, about 30 per cent of which is above timber line; remainder sparsely timbered.

RECORDS AVAILABLE.—October, 1909, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on weir. No diversions above station. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	0.25	0.12	0.186	0.286	0.33	11.4
November	.07	.01	.038	.058	.06	2.3
December	.01	.01	.010	.015	.02	.6
January	0	0	0	0	0	0
February	0	0	0	0	0	0
March	.01	0	.004	.006	.01	.2
April	.82	.01	.141	.217	.24	8.4
May	2.96	.82	1.02	1.57	1.81	62.7
June	2.96	.82	1.96	3.02	3.37	117
July	.93	.36	.615	.946	1.09	37.8
August	.45	.16	.275	.423	.49	16.9
September	.16	.10	.128	.197	.22	7.6
The year	2.96	0	.364	.560	7.64	265

LION CREEK NEAR HALFWAY, COLO.

LOCATION.—In NE. ¼ sec. 15, T. 14 S., R. 68 W., at mouth of creek, half a mile southwest of Halfway. Lion Creek enters Ruxton Creek from west. Altitude of station, 9,250 feet.

DRAINAGE AREA.—2.0 square miles, about 30 per cent of which is above timber line; remainder sparsely timbered. It includes all area above The Crater apparently tributary to Sheep Creek.

RECORDS AVAILABLE.—April, 1908, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on weir. No diversions above station. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1.52	1.17	1.33	0.665	0.77	81.8
November	1.17	.91	1.08	.540	.60	64.3
December	.91	.67	.815	.408	.47	50.1
January	.67	.61	.656	.328	.38	40.3
February	.67	.46	.570	.285	.31	32.8
March	1.52	.41	.646	.323	.37	39.7
April	1.24	.67	.933	.466	.52	55.5
May	3.50	1.03	1.80	.900	1.04	111
June	2.07	.97	1.58	.790	.88	94.0
July	2.57	1.10	1.79	.895	1.03	110
August	2.67	1.90	2.19	1.10	1.27	135
September	1.90	1.45	1.66	.830	.93	98.8
The year	3.50	.41	1.26	.630	8.57	913

SHEEP CREEK NEAR HALFWAY, COLO.

LOCATION.—In SW. ¼ sec. 11, T. 14 S., R. 68 W., quarter of a mile west of Halfway and a short distance above mouth. Sheep Creek enters Ruxton Creek from west a short distance above Halfway. Altitude of station, 9,100 feet.

DRAINAGE AREA.—0.73 square mile, practically all of which is below timber line, but sparsely timbered. It does not include any area above The Crater as this is most probably tributary to Lion Creek.

RECORDS AVAILABLE.—April, 1908, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on weir. No diversions above station. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	0.79	0.36	0.515	0.705	0.82	31.7
November	.36	.23	.318	.436	.49	18.9
December	.23	.20	.226	.309	.36	13.9
January	.20	.16	.188	.258	.30	11.6
February	.16	.13	.142	.194	.21	8.2
March	.46	.13	.193	.264	.30	11.9
April	.41	.23	.303	.415	.46	18.0
May	3.31	.46	1.45	1.99	2.29	89.2
June	1.90	.67	.977	1.34	1.50	58.1
July	1.60	.61	.993	1.36	1.57	61.1
August	1.60	.73	1.07	1.47	1.70	65.8
September	.79	.41	.528	.723	.81	31.4
The year	3.31	.13	.578	.792	10.81	420

SOUTH RUXTON CREEK AT HALFWAY, COLO.

LOCATION.—In SW. ¼ sec. 11, T. 14 S., R. 68 W., just above hydroelectric intake at Halfway and a short distance above mouth. South Ruxton Creek enters Ruxton Creek from south of Halfway. Altitude of station, 9,000 feet.

DRAINAGE AREA.—3.95 square miles, practically all of which is below timber line and heavily timbered.

RECORDS AVAILABLE.—June, 1906, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on two weirs. The main weir is a third of a mile above mouth of creek and a short distance above hydroelectric intake; capacity is 4.63 second-feet. The second weir is halfway between main weir and mouth of creek and measures inflow chiefly from springs below intake and a small amount of seepage. At all times, except during high water, capacity of intake is sufficient to take entire flow passing main weir, and flow at two weirs is combined to give total run-off of the basin During the high water excess passing intake and recorded at the lower weir does not represent increased flow between weirs and is discarded. In its place is used a constant quantity based on inflow and seepage at other times. No diversions above station. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1.60	1.17	1.48	0.375	0.43	91.0
November	1.24	1.03	1.13	.288	.32	67.2
December	1.03	.91	.935	.237	.27	57.5
January	.91	.73	.819	.207	.24	50.4
February	.85	.61	.749	.190	.20	43.1
March	1.24	.46	.724	.183	.21	44.5
April	1.30	.79	1.03	.261	29	61.3
May	10.5	1.30	4.06	1.03	1.19	250
June	10.1	3.60	5.51	1.39	1.55	328
July	3.31	2.75	2.97	.752	.87	183
August	3.60	2.38	3.08	.780	.90	189
September	2.38	1.45	1.83	.463	.52	109
The year	10.5	.46	2.03	.514	6.99	1,470

CABIN CREEK NEAR HALFWAY, COLO.

LOCATION.—In SW. ¼ NW. ¼ sec. 11, T. 14 S., R. 68 W., just above hydroelectric intake, three-eighths of a mile north of Halfway. Cabin Creek enters Ruxton Creek half a mile below Halfway. Altitude of station, about 9,000 feet.

DRAINAGE AREA.—2.4 square miles, about 15 per cent of which is above timber line; remainder sparsely timbered.

RECORDS AVAILABLE.—October, 1906, to September, 1928.

REMARKS.—Discharge computed by Francis formula from depths on weir. Main weir is about a third of a mile above mouth of creek and just above hydroelectric intake. Second weir is 50 feet above mouth of creek and measures flow from springs and small tributaries entering below intake. Except during high water measured flow at weirs is combined to give run-off from basin. During high water, record from lower weir is disregarded and inflow estimated. No diversions above station. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2.10	1.30	1.70	0.708	0.82	105
November	1.30	.97	1.14	.475	.53	67.8
December	.97	.66	.799	.333	.38	49.1
January	.56	.32	.435	.181	.21	26.7
February	.46	.41	.443	.185	.20	25.5
March	1.38	.36	.693	.289	.33	42.6
April	1.30	.85	1.10	.458	.51	65.5
May	7.67	1.52	3.93	1.64	1.89	242
June	7.29	2.93	4.24	1.77	1.98	252
July	4.31	2.84	3.41	1.42	1.64	210
August	4.31	2.48	3.55	1.48	1.71	218
September	2.57	1.30	1.73	.721	.80	103
The year	7.67	.32	1.94	.808	11.00	1,410

SUTHERLAND CREEK NEAR MANITOU, COLO.

LOCATION.—In SW. ¼ sec. 9, T. 14 S., R. 67 W., 1½ miles southeast of Manitou and 1 mile above mouth. Altitude of station, 6,600 feet.

DRAINAGE AREA.—4.4 square miles, practically all of which is below timber line.

RECORDS AVAILABLE.—January, 1918, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on weir. No diversions above station. Monthly discharges computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	1.03	0.46	0.657	0.149	0.17	40.4
November	.56	.36	.477	.108	.12	28.4
December	.56	.36	.454	.103	.12	27.9
January	.46	.36	.412	.094	.11	25.3
February	.46	.36	.388	.088	.09	22.3
March	.79	.36	.520	.118	.14	32.0
April	.97	.61	.724	.165	.18	43.1
May	7.54	1.30	3.74	.850	.98	230
June	5.51	1.75	3.23	.734	.82	192
July	2.93	1.10	1.71	.389	.45	105
August	2.10	.97	1.41	.321	.37	86.7
September	.85	.67	.718	.163	.18	42.7
The year	7.54	.36	1.21	.275	3.73	876

BEAR CREEK NEAR COLORADO SPRINGS, COLO.

LOCATION.—In NE. ¼ sec. 21, T. 14 S., R. 67 W., 3½ miles west of Colorado Springs and a short distance below Hunters Run. Altitude of station, 6,615 feet.

DRAINAGE AREA.—6.9 square miles, practically all of which is below timber line.

RECORDS AVAILABLE.—March, 1918, to September, 1928.

REMARKS.—Discharge is computed by Francis formula from depths on weir. No diversions above station. Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2.38	1.45	1.73	0.251	0.29	106
November	1.45	.61	1.24	.180	.20	73.8
December	.91	.51	.713	.103	.12	43.8
January	.67	.36	.551	.080	.09	33.9
February	.51	.41	.467	.068	.07	26.9
March	1.60	.46	.905	.131	.15	55.6
April	1.60	1.10	1.25	.181	.20	74.4
May	8.45	1.17	4.91	.712	.82	302
June	6.56	3.31	4.69	.680	.76	279
July	4.95	2.10	2.94	.426	.49	181
August	3.70	1.60	2.24	.324	.37	138
September	1.63	1.17	1.33	.193	.22	79.1
The year	8.45	.36	1.92	.278	3.78	1,390

PAWNEE RIVER NEAR LARNED, KANS.

LOCATION.—Water-stage recorder in sec. 33, T. 21 S., R. 18 W., at Moffet Dam, 11½ miles west of Larned, Pawnee County.

DRAINAGE AREA.—About 2,300 square miles.

RECORDS AVAILABLE.—November, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 690 second-feet June 12 (gage height, 9.1 feet); minimum, 2 second-feet several days in August and September.

1924–1928: Maximum discharge, 2,150 second-feet April 4, 1925 (gage height, 17.95 feet); no flow May 5–7 and July 16, 1926.

REMARKS.—Records fair. Discharge estimated January 16 to February 13, May 29 to June 11, and June 24 to July 17. Small diversions by pumping from river for irrigating adjacent lands. Moffet Dam impounds water within river banks.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	7	16	7		8	12	13			3	3
2	22	7	15	8		8	13	10			3	2
3	20	8	15	7		8	14	14			3	3
4	20	9	15	8		8	14	15			2	5
5	20	9	12	8		8	15	16		340	3	4
6	19	9	11	8		8	15	15	20		2	4
7	17	9	14	9	14	8	12	18			2	4
8	16	9	15	10		7	14	20			2	4
9	14	9	15	12		7	15	21			2	2
10	12	9	14	13		8	15	23			2	3
11	11	9	14	16		7	12	23			2	3
12	9	8	15	15		7	11	23	572		2	5
13	9	8	14	15		7	12	22	513	55	2	7
14	8	9	14	15	13	7	9	25	236		2	5
15	7	9	12	15	12	7	9	25	114		2	4
16	7	9	9		12	8	9	35	88		2	4
17	7	9	9		11	9	10	36	92		3	4
18	7	9	10		10	8	11	38	90	57	3	3
19	7	8	12		10	8	10	59	103	44	2	4
20	7	9	13		9	9	10	44	105	50	2	4
21	7	8	13		10	8	10	41	108	504	2	4
22	5	8	13		12	8	10	37	104	176	3	5
23	6	10	14		10	8	10	30	108	82	4	4
24	6	14	12	15	10	9	9	26		60	3	4
25	5	15	10		12	9	10	26		51	3	2
26	5	15	10		11	9	12	22	100	46	2	4
27	6	17	10		10	8	16	21		32	2	5
28	16	18	8		9	8	14	20		18	3	4
29	9	18	8		9	8	17			8	3	5
30	7	18	8			8	22	20		7	3	5
31	8		7			10				3	3	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	22	5	11.0	676
November	18	7	10.4	619
December	16	7	12.2	750
January		7	13.1	806
February			12.1	696
March	10	7	8.00	492
April	22	9	12.4	738
May	59	10	25.1	1,540
June	572		105	6,250
July	504	3	140	8,610
August	4	2	2.48	152
September	7	2	3.97	236
The year	572	2	29.8	21,600

LITTLE ARKANSAS RIVER AT VALLEY CENTER, KANS.

LOCATION.—Chain gage in SW. ¼ sec. 1, T. 26 S., R. 1 W., at highway bridge, half a mile west of Goodrich station on the Arkansas Valley Interurban Railroad and 1 mile south of Valley Center.

DRAINAGE AREA.—1,340 square miles.

RECORDS AVAILABLE.—June, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 4,020 second-feet April 7 (gage height, 11.40 feet); minimum 38 second-feet September 22–30 (gage height, 0.90 foot).

1922–1928: Maximum discharge, 10,500 second-feet June 10, 1923 (gage height, 18.02 feet); minimum, 4 second-feet December 17, 1922.

REMARKS.—Records good. Discharge interpolated January 1–5.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	66	60		52	56	56	111	72	1,780	95	50
2	175	63	60		52	56	56	100	95	1,330	111	54
3	175	63	60	50	52	56	56	95	297	950	106	50
4	162	63	60		56	56	70	95	449	605	90	50
5	162	63	60		56	56	74	700	386	297	86	50
6	175	63	60	52	63	56	3,460	449	582	203	90	50
7	188	60	60	52	66	56	4,020	218	725	162	90	47
8	120	60	60	52	74	56	2,100	156	605	156	90	47
9	74	60	60	56	70	56	950	123	775	1,420	90	47
10	66	60	56	60	66	56	605	106	950	1,330	90	44
11	66	60	56	60	78	56	449	95	775	1,510	76	44
12	66	60	56	60	70	56	313	90	492	1,690	72	44
13	66	60	56	60	70	52	265	123	297	750	64	44
14	66	60	60	60	70	49	203	106	189	366	64	44
15	66	60	60	56	66	66	175	100	514	233	60	44
16	66	60	56	56	66	87	149	149	470	203	60	44
17	66	60	56	56	63	132	136	203	1,880	162	57	44
18	66	60	56	56	63	150	123	218	1,780	149	57	44
19	66	60	46	52	63	248	111	162	1,420	136	57	44
20	66	60	52	52	60	202	111	117	1,510	123	57	44
21	66	60	52	52	56	150	100	106	1,420	130	57	41
22	66	[illegible]	52	52	60	126	111	90	536	111	57	38
23	66	60	52	52	56	105	123	81	492	106	57	38
24	63	60	52	52	56	92	123	76	449	100	54	38
25	63	60	56	52	56	82	123	72	1,460	100	50	38
26	63	60	56	52	56	74	142	68	582	95	50	38
27	63	60	56	49	56	70	428	64	407	95	50	38
28	63	60	60	52	56	63	218	64	297	95	50	38
29	63	60	60	52	56	63	149	64	249	90	50	38
30	66	60	60	52	------	60	123	60	265	90	50	38
31	66	------	49	52	------	60	------	60	------	90	50	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	188	63	88.6	5,450
November	66	60	60.7	3,610
December	60	46	56.6	3,480
January	60	49	53.5	3,290
February	78	52	61.5	3,540
March	248	49	83.9	5,160
April	4,020	56	504	30,000
May	700	60	139	8,550
June	1,880	72	681	40,500
July	1,780	90	473	29,100
August	111	50	68.9	4,240
September	54	38	43.7	2,600
The year	4,020	38	192	140,000

WALNUT RIVER AT WINFIELD, KANS.

LOCATION.—Chain gage in NE. ¼ sec. 33, T. 32 S., R. 4 E., at concrete highway bridge 1 mile south of Winfield and 1 mile above Black Creek.

DRAINAGE AREA.—1,860 square miles.

RECORDS AVAILABLE.—November, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 30,000 second-feet June 19 (gage height, 32.37 feet); minimum, 14 second-feet September 27 (gage height, 3.25 feet).

1921–1928: Maximum discharge, about 76,000 second-feet June 10, 1923 (gage height, 38.7 feet); minimum, 0.5 second-foot September 8, 1925.

REMARKS.—Records good. No diversions above gage. Discharge estimated because of ice December 7–14.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,550	297	261	211	140	189	335	478	335	4,750	415	98
2	10,600	297	261	195	149	158	335	457	1,660	5,660	395	85
3	7,830	279	211	189	149	164	297	415	1,660	1,660	375	66
4	1,830	279	221	195	120	164	316	499	3,560	950	395	106
5	1,100	279	227	201	112	158	585	1,830	3,860	810	355	90
6	855	297	221	189	195	158	1,830	375	1,880	765	355	90
7	765	279	204	195	201	198	2,980	457	1,000	675	316	98
8	675	279	187	221	457	167	2,100	436	675	675	316	85
9	585	279	170	227	415	161	810	375	11,400	855	316	80
10	585	279	170	221	355	173	585	355	12,400	1,150	355	80
11	520	297	170	227	335	137	499	335	14,300	855	316	66
12	478	279	170	221	244	123	457	316	3,560	720	297	66
13	457	279	175	221	227	143	436	297	1,720	1,050	279	58
14	415	297	180	221	227	152	720	297	7,760	720	244	47
15	395	499	186	201	244	244	675	297	4,340	1,050	244	47
16	395	499	208	221	297	1,560	478	279	5,590	950	227	70
17	395	375	208	180	355	3,620	375	375	16,100	630	195	52
18	375	316	170	180	279	2,980	375	520	23,900	585	195	52
19	355	297	195	189	244	3,860	335	585	25,500	1,250	214	47
20	355	297	201	195	224	2,490	355	1,150	19,900	1,560	214	52
21	375	297	176	189	205	1,450	335	457	19,800	1,000	180	34
22	355	297	195	158	198	1,250	765	520	5,310	1,350	173	27
23	355	279	186	195	205	765	2,100	297	6,150	3,560	167	27
24	355	297	195	164	198	630	1,150	297	2,660	950	167	20
25	335	316	170	170	192	585	675	244	4,470	900	167	20
26	316	297	208	164	192	499	541	221	2,160	585	152	20
27	316	297	217	134	192	499	1,400	227	1,100	541	134	17
28	297	279	208	149	183	415	2,660	201	2,220	585	134	19
29	316	244	261	106	161	375	810	201	1,300	630	123	19
30	316	261	261	134	----	297	585	195	1,400	541	106	20
31	297	-------	227	149	-------	335	-------	297	--------	457	106	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	10,600	297	1,300	79,900
November	499	244	305	18,100
December	261	170	203	12,500
January	227	106	187	11,500
February	457	112	239	13,300
March	3,860	123	777	47,800
April	2,980	297	863	51,400
May	1,830	195	429	26,400
June	25,500	335	6,920	412,000
July	5,660	457	1,240	76,200
August	415	106	246	15,100
September	106	17	55.3	3,290
The year	25,500	17	1,060	767,000

VERDIGRIS RIVER AT INDEPENDENCE, KANS.

LOCATION.—Chain gage in NE. ¼ sec. 31, T. 32 S., R. 16 E., at highway bridge 1 mile east of Independence, and 2½ miles below Elk River.

DRAINAGE AREA.—2,800 square miles.

RECORDS AVAILABLE.—November, 1921, to September, 1928; fragmentary records of stage from April to September, 1904.

EXTREMES.—Maximum discharge during year, 124,000 second-feet October 3 (gage height, 46.04 feet); minimum, 36 second-feet September 28 (gage height, 1.46 feet).

1921–1928: Maximum discharge, that of October 3, 1927; minimum, 0.1 second-foot August 11, 1926 (gage height, 0.42 foot).

REMARKS.—Records good. Discharge estimated because of ice January 3–5, 7–14. No diversions above station.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,840	300	600	775	288	540	360	1,720	345	1,150	420	225
2	27,300	275	540	510	300	510	360	950	1,670	4,470	360	225
3	115,000	212	360	495	288	360	345	670	1,070	2,710	450	225
4	98,700	288	360	480	300	360	345	600	2,760	2,600	510	238
5	30,600	262	315	465	420	330	810	705	2,220	980	330	295
6	18,000	225	275	450	390	288	3,220	1,200	1,670	705	300	225
7	3,280	345	262		3,980	275	2,490	990	1,520	635	360	260
8	1,570	300	175		4,610	570	1,830	775	3,770	570	360	200
9	1,380	315	122		3,400	396	1,110	670	17,600	450	420	225
10	1,280	300	200		1,520	330	990	635	24,900	480	360	188
11	1,030	275	225	500	1,280	480	635	510	22,700	990	238	175
12	810	275	670		990	450	510	510	17,600	1,030	212	140
13	845	300	390		2,050	390	880	480	5,520	950	250	118
14	990	288	360		1,620	450	950	480	3,280	845	225	114
15	950	275	345	570	3,910	2,270	915	450	5,240	600	188	90
16	845	275	315	540	3,160	4,540	775	480	2,820	570	225	94
17	740	300	300	480	2,160	14,800	670	880	17,800	510	200	114
18	600	330	315	880	1,830	15,900	570	990	25,100	480	225	118
19	670	540	300	510	1,070	11,000	880	740	25,100	420	225	200
20	540	600	345	480	775	6,920	2,980	480	27,500	510	275	175
21	600	420	315	450	740	3,700	3,580	450	27,900	450	330	140
22	540	360	262	510	880	2,100	6,500	540	12,700	360	225	122
23	540	420	238	480	880	1,200	6,640	480	7,130	705	162	118
24	480	390	225	540	845	810	3,580	510	6,780	600	212	106
25	480	360	212	480	810	510	1,780	450	3,640	510	250	49
26	480	345	200	450	740	360	1,280	420	3,280	540	225	44
27	450	315	250	420	670	330	990	262	2,760	570	225	40
28	450	315	5,240	390	740	360	950	250	2,660	540	188	36
29	390	300	2,760	450	600	420	3,280	250	1,570	420	175	42
30	420	645	1,240	300	------	480	2,980	200	1,470	450	200	50
31	360	------	845	288	------	330	------	238	------	420	212	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	115,000	360	10,300	633,000
November	645	212	338	20,100
December	5,240	122	599	36,800
January	775	288	497	30,600
February	4,610	288	1,420	81,700
March	15,900	275	2,310	142,000
April	6,640	345	1,770	105,000
May	1,720	200	612	37,600
June	27,900	345	9,340	556,000
July	4,470	360	875	53,800
August	510	175	275	16,900
September	238	36	142	8,450
The year	115,000	36	2,370	1,720,000

NEOSHO RIVER NEAR IOLA, KANS.

LOCATION.—Water-stage recorder in NE. ¼ sec. 9, T. 25 S., R. 18 E., 2½ miles south and 1½ miles west of Iola and half a mile below Elm Creek.

DRAINAGE AREA.—3,800 square miles.

RECORDS AVAILABLE.—October, 1917, to September, 1928. August, 1895, to November, 1903, at city water and power dam 4 miles upstream.

EXTREMES.—Maximum discharge during year, 34,400 second-feet October 3 (gage height, 30.0 feet); minimum, 89 second-feet September 28 (gage height, 3.00 feet).

1895–1903, 1917–1928: Maximum discharge, 46,000 second-feet September 13, 1926 (gage height, 33.2 feet); no flow on several days in September and October, 1897.

REMARKS.—Records good except for estimated periods, October 24 to November 2, November 10, 11, December 2–9, 13, 14, 16–24, June 2–8, and July 2–4, for which they are fair. Low-water flow regulated by dams.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,000	300	276	328	206	500	490	1,480	9,060	3,650	1,480	365
2	29,100	297		308	215	460	465	1,130	16,700	3,450	1,720	440
3	31,200	293		248	221	430	455	990	19,300	5,410	1,440	426
4	14,600	282		230	227	426	490	955	22,300	4,640	955	347
5	3,550	265		248	230	406	1,520	1,100	20,100	2,250	1,020	305
6	2,080	258	265	176	1,960	370	1,600	1,160	14,300	1,280	2,700	322
7	1,320	230		240	7,720	370	3,250	1,200	7,960	1,020	1,880	266
8	1,060	265		495	2,300	378	6,760	1,440	4,750	885	990	259
9	885	265		735	1,240	378	6,880	1,130	13,700	801	794	255
10	734	263	230	595	1,280	383	4,750	885	8,320	990	3,250	252
11	685	260	230	520	955	383	2,610	767	4,310	1,520	4,530	259
12	607	258	230	485	780	383	1,640	697	4,860	3,760	2,880	266
13	584	265	230	430	1,100	392	1,880	643	3,350	7,120	1,520	266
14	535	293	230	407	2,160	370	2,520	619	2,790	9,060	885	266
15	510	545	230	356	1,440	850	1,920	619	3,150	7,120	703	259
16	515	855		340	990	4,310	1,400	679	2,250	2,040	595	339
17	470	461		320	885	4,090	1,160	655	12,700	1,680	651	1,280
18	440	368		304	715	3,250	990	601	20,700	2,040	535	1,280
19	421	340		304	595	2,520	920	562	19,500	1,360	530	540
20	406	308	200	293	545	2,000	836	535	15,600	955	1,060	347
21	392	293		269	535	1,640	780	510	10,400	829	780	305
22	374	282		230	515	1,320	1,400	637	4,310	850	540	278
23	330	290		234	515	1,100	1,440	655	2,970	2,040	480	214
24		282		240	515	955	1,160	490	2,970	1,720	435	191
25		276	203	251	490	850	1,060	430	2,790	1,020	378	162
26		276	194	234	480	780	1,100	397	2,700	728	352	162
27	320	279	206	212	485	685	4,090	370	2,250	578	339	145
28		276	735	215	525	625	3,650	360	1,760	515	313	96
29		251	520	230	535	590	3,870	330	1,400	490	301	101
30		258	430	218	-------	540	2,520	313	1,200	490	326	108
31		-------	352	206	-------	515	-------	365	--------	510	370	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	31,200	----------	3,400	209,000
November	855	251	314	18,700
December	735	----------	265	16,300
January	735	176	319	19,600
February	7,720	206	1,050	60,400
March	4,310	370	1,040	64,000
April	6,880	455	2,120	126,000
May	1,480	318	733	45,100
June	22,300	1,200	8,620	513,000
July	9,060	490	2,280	140,000
August	4,530	301	1,120	68,900
September	1,280	96	337	20,100
The year	31,200	96	1,790	1,300,000

NEOSHO RIVER NEAR PARSONS, KANS.

LOCATION.—Chain gage in NW. ¼ sec. 22, T. 31 S., R. 21 E., at Parsons-Pittsburg highway bridge, 500 feet above St. Louis-San Francisco Railroad bridge and 10 miles east of Parsons.

DRAINAGE AREA.—4,860 square miles.

RECORDS AVAILABLE.—October, 1921, to September, 1928.

EXTREMES.—Maximum discharge during year, 39,700 second-feet October 6 (gage height, 26.26 feet); minimum, 175 second-feet September 25–30.

1921–1928: Maximum discharge, 47,800 second-feet April 22, 1927 (gage height, 27.45 feet); minimum, 17 second-feet (revised determination) December 3, 1921 (gage height, 1.12 feet).

REMARKS.—Records good. No diversions above station.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,010	460	380	695	340	740	745	3,340	12,900	5,500	595	900
2	21,200	420	380	595	340	740	745	2,780	23,400	5,200	2,140	695
3	24,600	420	380	595	320	695	695	1,920	23,900	5,100	1,850	460
4	27,100	420	380	545	300	630	645	1,330	23,900	6,340	1,330	420
5	30,600	420	380	500	420	630	645	1,270	23,400	5,600	1,150	380
6	38,600	420	360	500	3,420	630	3,820	1,270	22,600	2,300	1,210	380
7	35,900	420	360	460	12,700	630	3,660	1,330	22,400	1,300	2,220	340
8	12,600	420	360	970	12,000	580	4,000	1,390	14,700	1,270	1,780	300
9	3,580	400	360	1,460	5,100	580	7,000	1,270	17,400	1,150	1,150	265
10	1,580	400	340	1,650	2,230	558	7,720	1,150	22,100	1,040	1,030	250
11	1,460	400	340	1,650	1,760	535	3,910	1,030	19,600	1,520	2,860	250
12	1,210	380	320	1,650	1,560	535	3,100	1,090	16,400	2,220	3,660	265
13	1,090	380	320	1,150	1,560	535	3,180	970	10,600	4,540	3,100	265
14	1,090	380	595	855	4,000	512	4,000	970	5,200	7,120	1,270	265
15	1,030	1,990	595	745	4,000	1,820	3,500	910	4,000	9,640	745	250
16	970	2,060	400	695	2,160	6,560	3,340	855	4,720	8,680	695	250
17	970	1,850	380	645	1,380	11,000	3,180	910	17,200	4,180	645	250
18	745	1,460	380	645	1,320	11,900	3,020	1,030	27,100	2,220	595	695
19	1,210	800	320	645	1,320	7,720	2,460	910	27,400	1,780	595	1,210
20	645	460	265	645	1,320	4,540	1,390	800	27,700	2,060	595	1,090
21	645	460	265	695	1,260	3,100	1,150	800	26,900	1,520	545	970
22	595	460	282	695	1,020	2,320	4,900	800	24,600	1,150	545	910
23	595	460	300	460	850	1,850	5,660	800	12,500	970	595	440
24	545	440	282	400	850	1,650	3,020	800	6,010	1,850	595	205
25	545	400	300	380	795	1,390	2,220	745	4,720	2,700	480	175
26	500	440	420	360	795	1,150	1,520	695	3,820	2,220	400	175
27	480	440	2,940	340	795	1,150	3,420	645	3,580	2,140	340	175
28	460	440	3,500	360	740	1,030	5,300	595	3,660	2,060	340	175
29	460	400	1,920	380	740	1,030	4,720	595	3,660	1,650	340	175
30	460	380	1,580	360	-------	910	3,910	545	3,910	910	340	175
31	460	-------	1,150	360	-------	855	-------	595	-------	695	340	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	38,600	460	7,000	430,000
November	2,060	380	623	37,100
December	3,500	265	662	40,700
January	1,650	340	714	43,900
February	12,700	300	2,260	136,000
March	11,900	512	2,210	136,000
April	7,720	645	3,220	192,000
May	3,340	545	1,100	67,600
June	27,700	3,580	15,300	910,000
July	9,640	695	3,120	192,000
August	3,660	340	1,100	67,600
September	1,210	175	422	25,100
The year	38,600	175	3,130	2,270,000

NEOSHO RIVER NEAR GROVE, OKLA.

LOCATION.—Chain gage in SE. ¼ sec. 27, T. 25 N., R. 23 E., 3½ miles northwest of Grove and 3 miles below Spring Branch.

RECORDS AVAILABLE.—February, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 89,500 second-feet June 22 (gage height, 25.87 feet); minimum, 840 second-feet September 30 (gage height, 1.06 feet).

1925–1928: Maximum discharge, 133,000 second-feet April 15, 1927 (gage height, 34.6 feet); minimum, 250 second-feet September, 1925.

REMARKS.—Records good. Slight regulation at low stages by power plants upstream.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,920	1,750	13,600	6,090	2,110	2,500	3,220	11,800	35,100	24,800	9,960	2,780
2	32,700	1,990	8,960	4,020	1,990	2,500	3,220	10,200	60,600	23,400	4,550	2,780
3	69,600	1,750	5,890	3,370	1,870	2,780	2,640	8,250	40,100	16,800	3,690	2,920
4	56,400	1,870	4,920	3,370	1,990	2,640	2,640	7,130	33,900	12,800	52,300	2,500
5	88,800	2,500	3,530	3,690	2,370	1,870	3,070	6,290	33,100	13,100	57,800	2,110
6	32,300	1,530	3,370	3,220	4,550	2,500	21,500	5,690	31,600	11,500	28,600	2,110
7	84,700	1,990	3,690	3,530	30,800	2,240	23,100	5,300	29,700	8,720	13,600	2,240
8	40,100	2,500	8,690	3,370	29,000	2,370	13,900	5,300	27,500	6,920	10,700	2,240
9	38,400	2,500	2,500	3,220	24,100	3,070	10,200	4,920	34,300	5,890	11,200	1,870
10	29,300	3,070	2,500	4,020	13,400	2,500	11,500	4,020	56,900	5,490	8,250	2,110
11	8,960	2,780	2,370	3,850	6,920	3,220	11,200	5,110	59,700	5,300	6,500	2,240
12	6,090	3,220	2,370	4,020	5,110	2,920	9,960	3,850	49,500	10,500	5,890	2,110
13	6,090	2,370	2,920	3,690	4,920	2,920	8,020	3,370	43,100	10,500	8,960	1,750
14	5,490	2,240	7,790	3,370	5,690	3,070	7,130	3,220	42,300	9,710	7,350	1,750
15	4,730	3,690	11,500	3,070	7,350	3,220	6,710	3,530	25,400	11,000	5,490	1,420
16	4,190	12,600	8,480	3,070	9,210	13,600	7,350	3,070	20,800	13,900	4,730	1,530
17	3,530	13,600	6,710	3,070	7,350	27,200	6,090	3,690	37,600	13,100	7,790	1,530
18	3,690	8,480	5,690	2,920	5,490	27,500	5,110	4,730	65,800	7,570	4,370	1,530
19	3,370	6,290	4,550	4,370	5,110	25,400	4,190	5,490	76,400	5,110	5,490	1,320
20	3,070	5,490	3,370	4,020	4,190	19,600	4,370	6,090	76,800	5,300	4,550	1,640
21	2,920	4,370	3,690	4,370	3,370	12,600	5,490	4,370	86,500	4,920	4,370	2,240
22	2,780	4,190	3,530	3,370	3,690	8,960	18,900	5,490	88,500	4,550	3,690	1,870
23	2,640	3,370	3,070	2,920	3,530	7,570	52,700	6,290	88,000	5,490	7,570	1,320
24	2,640	3,370	2,920	2,920	3,530	6,500	42,200	5,490	70,600	4,020	6,500	1,270
25	2,500	3,220	3,070	2,920	3,220	5,490	20,800	4,730	58,300	3,530	5,300	1,320
26	2,370	3,070	2,640	2,500	3,370	4,550	15,600	4,020	24,800	6,290	6,710	1,270
27	1,990	2,640	2,780	3,690	2,500	4,920	22,100	4,190	16,200	4,370	5,110	1,180
28	2,370	2,240	3,850	2,500	2,370	3,850	21,200	2,780	14,200	3,690	4,370	1,040
29	1,750	2,500	15,300	2,370	2,780	3,850	16,800	2,780	23,200	4,190	3,690	1,220
30	2,110	4,550	14,800	1,990	-------	3,850	13,900	2,640	20,500	3,220	3,370	920
31	1,640	-------	9,460	1,750	-------	3,070	-------	2,240	-------	13,400	3,070	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	69,600	1,640	14,600	898,000
November	13,600	1,530	3,860	230,000
December	15,300	2,370	5,600	344,000
January	6,090	1,750	3,380	208,000
February	30,800	1,870	6,960	400,000
March	27,500	1,870	7,060	434,000
April	52,700	2,640	13,200	786,000
May	11,800	2,240	5,030	309,000
June	88,500	14,200	45,900	2,730,000
July	24,800	3,220	9,000	553,000
August	57,800	3,070	10,200	627,000
September	2,920	920	1,800	107,000
The year	88,500	920	10,500	7,630,000

COTTONWOOD RIVER AT ELMDALE, KANS.

LOCATION.—Chain gage in NW. ¼ sec. 26, T. 19 S., R. 7 E., at highway bridge a quarter of a mile above Middle Creek and 1 mile east of Elmdale.

DRAINAGE AREA.—1,040 square miles.

RECORDS AVAILABLE.—May, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 7,650 second-feet June 17 (gage height, 25.51 feet); minimum, 29 second-feet September 30 (gage height, 3.55 feet).

1922–1928: Maximum discharge, 14,800 second-feet June 11, 1923 (gage height, 35.5 feet); minimum, 1 second-foot July 9, 1926.

REMARKS.—Records good. Discharge estimated because of ice December 8, 30, 31, and January 1–14. No diversions above station.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	195	113	121		65	108	160	579	1,680	4,430	244	81
2	1,530	113	129		57	96	160	492	1,220	3,600	325	81
3	945	113	129		57	96	160	433	920	1,960	743	72
4	636	113	129		57	76	160	608	1,200	1,020	365	72
5	365	121	144		57	76	1,140	743	2,450	608	184	72
6	203	126	129		119	67	5,080	691	2,680	382	167	81
7	167	126	88		795	56	4,200	579	1,340	240	116	92
8	167	126	85	60	400	96	1,560	521	845	302	4,390	92
9	167	126	81		219	135	795	492	3,280	433	2,350	81
10	151	126	116		132	151	691	433	1,360	636	1,120	79
11	141	126	116		119	151	664	463	1,120	1,620	608	72
12	132	126	103		119	151	636	325	845	1,440	223	72
13	132	113	116		219	151	579	365	664	769	116	72
14	126	113	116		148	135	521	345	492	579	96	65
15	119	113	103	65	148	276	492	227	400	492	96	72
16	119	113	116	70	132	1,680	463	280	345	325	94	72
17	119	113	116	75	119	970	433	195	6,490	433	85	72
18	119	113	116	81	132	945	433	188	3,600	325	83	63
19	119	113	116	81	106	717	400	258	1,680	227	83	63
20	113	113	116	81	106	550	400	235	995	170	83	72
21	106	113	116	81	94	463	433	195	895	154	83	72
22	103	113	88	81	94	400	492	181	608	154	74	72
23	96	113	58	77	94	382	550	160	664	181	77	63
24	96	113	56	77	90	302	521	148	1,120	181	77	52
25	101	113	56	72	83	266	521	160	1,220	160	74	44
26	103	113	56	63	83	244	2,060	144	795	138	74	42
27	106	113	48	56	74	223	2,780	135	743	129	74	36
28	110	113	92	48	74	203	1,040	126	691	119	94	39
29	116	113	92	56	90	184	920	116	636	129	124	42
30	116	113	70	56	------	170	717	116	521	1,220	90	29
31	116	------	50	56	------	167	------	116	------	345	83	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	1,530	96	224	13,800
November	126	113	116	6,900
December	144	48	99	6,090
January	81	48	65	4,000
February	795	57	141	8,110
March	1,680	56	312	19,200
April	5,080	160	972	57,800
May	743	116	324	19,900
June	6,490	345	1,380	82,100
July	4,430	119	740	45,500
August	4,390	74	403	24,800
September	92	29	66	3,930
The year	6,490	29	403	292,000

SPRING RIVER NEAR WACO, MO.

LOCATION.—Chain gage on line between SE. ¼ sec. 7 and NE. ¼ sec. 18, T. 29 N., R. 33 W., at highway bridge 1½ miles east of Waco. Zero of gage is 835.25 feet above mean sea level.

DRAINAGE AREA.—1,160 square miles.

RECORDS AVAILABLE.—April, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 19,800 second-feet, June 10 (gage height, 20.80 feet); minimum, 161 second-feet September 28 (gage height, 1.94 feet).

1924–1928: Maximum discharge, 57,400 second-feet August 17, 1927 (gage height, 28.6 feet); minimum, 22 second-feet September 8, 1925 (gage height, 0.90 foot).

REMARKS.—Records good. Flow slightly regulated by gristmills when discharge is less than 150 second-feet.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	680	320	3,500	835	338	356	452	1,190	1,520	5,450	1,310	356
2	12,900	303	2,820	1,870	320	338	452	1,070	1,660	3,500	605	338
3	10,300	320	1,310	1,730	303	320	452	730	950	2,980	303	320
4	6,450	320	835	1,660	338	320	412	630	558	1,660	3,950	320
5	2,180	286	730	1,310	393	338	1,190	835	835	1,190	6,850	303
6	1,130	286	680	835	7,150	338	2,900	780	730	1,010	3,320	303
7	5,850	303	630	605	6,850	338	2,020	730	605	950	1,870	286
8	4,310	338	580	680	4,950	338	1,310	680	558	890	2,180	270
9	2,500	452	558	680	1,660	374	950	605	9,680	835	1,590	270
10	1,190	432	492	630	890	374	780	580	17,800	780	1,070	254
11	950	412	452	558	730	320	730	558	12,700	3,140	835	254
12	835	374	492	535	680	338	680	492	7,480	3,060	630	254
13	835	432	835	514	680	303	630	492	3,950	1,800	580	238
14	780	412	2,260	492	890	303	630	472	2,100	890	535	222
15	730	1,070	2,340	432	950	1,380	630	472	1,250	730	492	238
16	630	2,740	1,250	412	730	3,860	605	730	1,590	680	472	207
17	558	1,940	890	412	605	4,760	535	950	9,460	630	432	207
18	558	1,380	730	452	514	4,400	514	1,070	12,800	605	492	207
19	514	1,310	630	630	472	3,320	472	730	11,700	558	514	201
20	492	680	580	680	432	2,180	472	630	9,130	535	432	195
21	452	630	320	535	432	1,380	2,180	558	13,700	514	393	201
22	432	535	514	432	412	1,070	4,400	492	16,600	605	1,190	181
23	412	514	492	535	412	950	8,690	730	6,450	492	2,100	181
24	393	492	472	535	432	835	4,400	630	5,650	492	1,450	184
25	374	472	452	432	412	730	2,980	492	3,320	472	1,010	184
26	356	452	432	393	393	730	2,820	452	2,740	472	730	190
27	338	412	452	374	374	630	4,580	432	1,870	432	535	175
28	338	412	3,950	356	374	580	3,410	412	1,520	432	452	170
29	320	393	3,500	338	374	558	1,800	393	2,500	374	412	172
30	320	3,590	2,180	338	-------	535	1,450	374	4,220	835	412	167
31	320	-------	1,070	338	-------	492	-------	374	---------	1,520	393	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	12,900	320	1,880	1.62	1.87
November	3,590	286	734	.633	.71
December	3,950	320	1,180	1.02	1.18
January	1,870	338	663	.572	.66
February	7,150	303	1,150	.991	1.07
March	4,760	303	1,070	.922	1.06
April	8,690	412	1,780	1.53	1.71
May	1,190	374	638	.550	.63
June	17,800	558	5,520	4.76	5.31
July	5,450	374	1,240	1.07	1.23
August	6,850	303	1,210	1.04	1.20
September	356	167	235	.203	.23
The year	17,800	167	1,440	1.24	16.86

SHOAL CREEK NEAR JOPLIN, MO.

LOCATION.—Indicating float gage in S. ½ sec. 28, T. 27 N., R. 33 W., at Grand Falls hydroelectric plant of Empire District Electric Co., 4 miles south of Joplin.

DRAINAGE AREA.—458 square miles.

RECORDS AVAILABLE.—April, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, 15,100 second-feet June 10 (gage height, 13.83 feet); minimum, 22 second-feet for many short periods when plant was shut down.

1924–1928: Maximum discharge, that of June 10, 1928; minimum, 13 second-feet for many short periods during 1924 and 1925 when plant was shut down.

REMARKS.—Records good for discharges below 7,000 second-feet and fair for those above. Flow during low and medium stages completely regulated by hydroelectric plant.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	358	391	736	502	225	314	362	906	4,290	2,020	730	533
2	1,090	356	566	502	285	287	365	833	4,830	1,440	633	499
3	2,040	367	513	477	303	300	350	767	1,860	1,260	777	466
4	1,020	342	466	475	364	315	348	725	1,180	1,110	8,490	463
5	753	339	466	416	353	272	396	665	1,160	1,010	7,710	427
6	658	324	445	484	346	280	572	624	1,020	900	2,210	427
7	841	335	426	427	326	252	843	595	898	866	1,580	427
8	866	341	396	403	331	285	614	583	833	858	1,420	427
9	691	396	396	382	329	291	583	559	4,240	802	1,120	415
10	633	396	396	396	303	252	541	539	8,100	769	1,080	404
11	609	396	319	370	330	256	541	537	1,920	922	940	396
12	605	379	405	367	290	274	513	502	1,530	849	852	374
13	583	354	482	367	364	246	481	474	1,490	771	804	391
14	552	338	1,080	372	330	257	463	466	1,280	678	756	354
15	513	522	960	363	339	324	442	466	1,070	664	704	350
16	464	1,960	837	342	337	377	396	466	1,210	624	666	379
17	427	835	742	381	340	601	396	486	1,500	609	633	335
18	357	657	652	365	285	714	341	468	7,990	574	624	339
19	433	624	610	337	356	714	361	460	5,900	539	834	309
20	396	579	554	350	338	690	376	486	2,670	539	717	286
21	396	539	525	363	341	647	427	418	8,170	539	571	336
22	396	524	476	353	322	624	879	530	3,290	813	754	294
23	396	502	466	339	321	624	2,020	779	2,730	690	847	326
24	310	473	442	353	323	624	1,700	552	2,270	566	752	274
25	312	448	427	336	300	591	1,230	505	1,980	580	811	311
26	366	424	406	336	312	551	1,200	476	1,560	544	776	294
27	366	347	401	337	292	475	1,470	430	1,360	539	736	299
28	366	399	510	337	293	396	1,260	399	3,530	564	647	273
29	324	396	576	333	316	396	1,110	396	2,530	493	595	291
30	432	508	539	312	------	372	980	370	1,770	1,080	576	257
31	282	------	525	309	------	359	------	425	------	1,010	539	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off in inches
October	2,040	282	575	1.26	1.45
November	1,960	324	493	1.08	1.20
December	1,080	319	540	1.18	1.36
January	502	309	380	.830	.96
February	364	285	320	.699	.75
March	714	246	418	.912	1.05
April	2,020	341	719	1.57	1.75
May	906	370	545	1.19	1.37
June	8,170	833	2,810	6.14	6.85
July	2,020	493	814	1.78	2.05
August	8,490	539	1,320	2.88	3.32
September	601	257	365	.797	.89
The year	8,490	246	773	1.69	23.00

RED RIVER BASIN

RED RIVER NEAR DENISON, TEX.

LOCATION.—Chain gage on Denison-Colbert toll bridge, half a mile below Missouri, Kansas & Texas Railway bridge and 4½ miles northeast of Denison, Grayson County.

DRAINAGE AREA.—39,400 square miles.

RECORDS AVAILABLE.—October, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, about 123,000 second-feet May 19 (gage height, about 15.85 feet); minimum, 536 second-feet September 29 and 30 (gage height, 1.17 feet).

1923–1928: Maximum discharge, 132,000 second-feet October 17, 1923 (gage height, 19.4 feet); minimum, 315 second-feet March 5, 6, 15, 16, and 20, 1926.

REMARKS.—Records fair. No diversions.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,500	1,270	1,000	1,900	1,360	1,900	1,180	5,410	4,160	23,200	11,200	1,460
2	13,400	1,270	920	1,560	1,360	1,780	1,180	4,550	3,970	17,100	9,940	1,460
3	9,540	1,270	920	1,460	1,360	1,670	1,040	4,160	3,790	11,600	8,080	1,460
4	7,170	1,270	920	1,360	1,360	1,670	1,090	5,640	11,000	7,460	5,870	1,360
5	7,820	1,360	920	1,460	3,700	1,560	2,020	10,900	11,500	5,640	4,970	1,270
6	13,900	1,460	960	1,460	6,620	1,560	8,120	6,970	14,400	4,550	4,760	1,090
7	15,400	1,270	960	1,460	8,420	1,560	11,600	5,870	10,900	4,160	3,970	1,040
8	15,900	1,180	920	1,460	6,890	1,460	9,940	5,190	6,890	4,160	3,610	1,000
9	15,900	1,270	880	1,360	5,190	1,460	8,780	3,970	7,460	5,190	4,350	1,000
10	15,400	1,270	880	1,270	2,950	1,460	9,540	3,270	10,900	5,190	3,970	1,000
11	12,000	1,180	960	1,360	2,390	1,460	8,780	2,950	8,630	6,890	3,970	960
12	8,420	1,090	1,140	1,270	2,260	1,560	5,640	2,800	9,410	6,890	2,950	920
13	5,870	1,090	11,300	1,360	2,260	1,460	3,110	2,660	21,700	6,890	2,520	840
14	4,550	1,090	11,600	1,270	2,520	1,560	2,660	2,520	17,700	7,170	2,520	920
15	4,160	1,270	7,720	1,270	2,800	1,670	2,390	4,160	12,900	4,550	1,270	1,180
16	3,440	1,460	2,860	1,360	2,520	1,670	2,260	3,970	9,160	3,790	1,270	1,000
17	2,800	1,270	1,900	1,360	2,390	1,780	2,020	3,870	34,400	3,970	1,270	840
18	2,520	1,180	1,560	1,980	2,390	1,780	1,780	86,400	46,400	4,550	1,670	760
19	2,260	1,180	1,460	7,600	2,390	1,780	1,670	108,000	31,600	4,760	1,270	690
20	2,140	1,360	1,360	6,890	2,660	1,900	1,670	85,800	15,700	4,970	1,270	655
21	2,020	1,670	1,180	5,640	2,390	2,140	6,760	45,000	23,700	4,550	1,180	620
22	1,900	2,020	1,140	3,790	2,260	2,140	17,700	35,200	29,100	4,550	1,180	655
23	1,670	1,900	1,140	3,110	2,020	2,390	12,500	21,000	30,000	4,550	1,180	620
24	1,560	1,670	1,140	2,660	2,020	2,520	8,780	17,700	33,000	3,790	1,180	585
25	1,560	1,360	1,140	2,390	1,900	2,260	7,760	17,700	33,000	3,440	1,180	585
26	1,560	1,180	1,090	2,140	2,020	1,900	5,610	12,000	29,100	7,920	1,180	585
27	1,460	1,140	1,530	1,900	2,020	1,670	16,600	9,540	34,100	22,400	1,140	550
28	1,360	1,040	6,820	1,670	2,020	1,460	12,500	8,080	29,100	14,400	1,140	543
29	1,270	960	10,800	1,560	1,900	1,270	8,420	7,170	30,000	12,900	1,140	536
30	1,270	920	6,480	1,560	-------	1,270	6,110	5,190	28,200	16,500	1,270	536
31	1,270	-------	2,520	1,460	-------	1,270	--------	4,550	--------	13,400	1,180	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	15,900	1,270	6,190	381,000
November	2,020	920	1,300	77,400
December	11,600	880	2,780	171,000
January	7,600	1,270	2,200	135,000
February	8,420	1,360	2,840	163,000
March	2,520	1,270	1,710	105,000
April	17,700	1,040	6,310	375,000
May	108,000	2,520	17,500	1,080,000
June	46,400	3,790	19,700	1,170,000
July	23,200	3,440	8,100	498,000
August	11,200	1,140	3,020	186,000
September	1,460	536	891	53,000
The year	108,000	536	6,050	4,390,000

RED RIVER AT GARLAND CITY, ARK.

LOCATION.—Chain gage in SE. ¼ sec. 17, T. 14 S., R. 25 W., on St. Louis Southwestern Railway bridge at Garland City.

RECORDS AVAILABLE.—October, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 78,900 second-feet May 24 (gage height, 25.8 feet); minimum, 1,720 second-feet December 10 (gage height, 5.8 feet).

Maximum stage known, 35.4 feet April, 1927.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,440	2,820	3,400	21,000	8,900	8,500	6,190	68,400	17,400	46,200	23,000	3,750
2	3,010	2,820	3,400	24,400	8,900	7,710	5,620	60,300	15,800	41,300	21,300	4,670
3	3,010	3,010	2,820	21,000	7,710	9,300	5,240	52,400	14,900	36,500	20,800	5,050
4	3,010	3,600	2,820	14,200	6,570	6,760	5,050	42,700	16,200	31,100	19,100	4,670
5	7,200	3,200	2,630	11,700	6,570	6,950	4,860	35,100	20,000	26,400	16,200	4,490
6	22,000	3,800	1,900	10,700	5,810	7,710	4,480	26,400	22,000	22,000	14,900	3,750
7	26,000	3,600	1,900	6,760	8,700	7,710	21,600	20,000	21,000	18,600	15,300	3,390
8	18,200	3,200	1,900	9,300	8,700	7,330	62,400	17,900	19,700	15,800	15,100	3,750
9	18,200	3,010	1,900	9,100	10,700	6,950	70,600	19,100	22,700	14,000	14,700	4,490
10	17,700	3,010	1,720	11,300	16,000	7,330	75,500	19,700	27,300	12,700	13,600	4,110
11	21,600	2,820	3,400	12,500	24,400	9,700	75,000	16,900	28,100	11,700	13,400	4,110
12	21,600	2,630	3,600	12,500	26,400	10,500	75,500	15,100	29,300	11,300	10,900	3,750
13	20,100	2,630	3,400	11,700	23,000	10,500	69,400	13,600	30,700	10,700	9,500	3,570
14	18,500	2,630	5,680	10,500	18,400	10,100	63,000	12,300	37,900	10,500	8,700	3,210
15	16,000	2,630	8,990	9,300	14,700	9,100	55,000	11,100	40,800	10,300	8,100	2,850
16	14,500	2,820	13,800	8,700	12,500	8,700	47,700	10,700	49,300	10,300	7,900	2,850
17	11,800	2,820	32,900	8,100	11,500	7,710	42,200	11,900	56,500	11,900	7,710	2,670
18	10,400	2,630	56,500	7,710	10,700	10,300	35,600	24,800	59,700	12,500	7,330	2,670
19	8,990	10,600	56,500	7,330	9,700	12,700	28,900	35,100	61,900	13,600	6,380	2,320
20	8,080	9,910	64,000	7,140	9,300	15,100	21,300	35,600	64,600	13,600	6,000	2,490
21	7,200	7,420	76,600	12,700	9,700	13,000	16,900	61,900	66,700	11,900	5,620	2,320
22	6,980	6,760	60,300	16,000	9,700	10,900	15,300	71,600	61,300	11,500	5,430	2,320
23	6,320	4,630	28,500	21,300	9,700	9,900	20,200	76,100	50,800	10,700	5,050	2,320
24	5,260	4,630	20,200	26,800	11,900	9,300	45,700	78,900	51,300	10,300	5,050	2,150
25	4,630	4,420	15,100	24,800	12,500	8,500	64,600	71,100	58,100	9,900	5,620	2,150
26	4,210	3,800	9,500	21,000	12,500	7,520	73,300	67,800	63,500	9,700	5,620	1,980
27	4,000	3,800	9,500	17,600	10,900	7,140	76,100	57,600	67,800	9,700	5,430	1,980
28	3,600	3,800	8,900	13,800	10,300	6,950	75,000	48,200	63,500	9,500	4,860	1,980
29	3,200	3,400	8,900	11,700	9,360	6,760	72,800	37,900	57,100	11,500	4,480	1,980
30	3,010	3,400	8,300	10,700	-------	6,570	73,800	28,300	51,300	14,000	4,290	1,980
31	2,820	-------	9,900	9,300	-------	6,380	-------	21,300	-------	22,000	4,110	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	26,000	2,440	10,400	640,000
November	10,600	2,630	4,010	239,000
December	76,600	1,720	17,100	1,050,000
January	26,800	6,760	13,600	836,000
February	26,400	5,810	11,900	684,000
March	15,100	6,380	8,830	543,000
April	76,100	4,480	43,600	2,590,000
May	78,900	10,700	37,700	2,320,000
June	67,800	14,900	41,600	2,480,000
July	46,200	9,500	16,500	1,010,000
August	23,000	4,110	10,200	627,000
September	5,050	1,980	3,120	186,000
The year	78,900	1,720	18,200	13,200,000

RED RIVER AT SHREVEPORT, LA.

LOCATION.—Chain gage in sec. 30, T. 18 S., R. 13 W., at Shreveport, half a mile below Cross Bayou. Zero of gage is 130.99 feet above mean sea level.
RECORDS AVAILABLE.—July to September, 1928.
EXTREMES.—Maximum discharge during period, 25,800 second-feet August 2 (gage height, 14.88 feet); minimum, 2,200 second-feet September 30 (gage height, 4.18 feet).

Maximum stages known, 45.9 feet August, 1849; 37.4 feet April 29 and 30, 1927.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	22,500	3,780	11	14,400	3,540	21	5,760	2,470
2	25,800	3,540	12	12,800	3,540	22	5,240	2,400
3	25,400	3,660	13	11,500	3,300	23	4,760	2,400
4	24,200	3,660	14	10,400	3,090	24	4,600	2,400
5	22,500	3,660	15	9,080	2,990	25	4,460	2,470
6	19,400	3,540	16	8,420	2,890	26	4,760	2,400
7	17,500	3,300	17	7,800	2,800	27	5,080	2,330
8	17,200	3,190	18	7,200	2,710	28	4,600	2,260
9	17,500	3,190	19	6,480	2,550	29	4,320	2,260
10	16,400	3,420	20	6,300	2,550	30	3,900	2,200
						31	3,780	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
August	25,800	3,780	11,400	701,000
September	3,780	2,200	2,950	176,000
The period				877,000

PEASE RIVER NEAR CROWELL, TEX.

LOCATION.—Chain gage on Quanah-Crowell highway bridge 1 mile below mouth of Devils Creek and 8 miles north of Crowell, Foard County.
DRAINAGE AREA.—2,940 square miles.
RECORDS AVAILABLE.—January, 1924, to September, 1928.
EXTREMES.—Maximum discharge during year not determined; maximum gage height, 6.10 feet May 16; no flow for several periods.

1924–1928: Maximum discharge not determined; maximum gage height, 9.92 feet October 3, 1926; no flow for several periods.

REMARKS.—Yearly record poor. Daily and monthly records not sufficiently accurate for publication. No diversions. Total run-off for year, 45,300 acre-feet.

KIAMICHI RIVER NEAR BELZONI, OKLA.

LOCATION.—Chain gage at Antlers-Rattan highway bridge 1¾ miles northwest of Belzoni, Pushmataha County, and 6 miles below Cedar Creek.
DRAINAGE AREA.—1,420 square miles.
RECORDS AVAILABLE.—December, 1925, to September, 1928.
EXTREMES.—Maximum discharge during year, about 61,400 second-feet December 14 (gage height, 41.24 feet); minimum, 5.0 second-feet September 24 (gage height, 3.71 feet).
1925–1928: Maximum discharge, that of December 14, 1927; minimum, that of September 24, 1928.
REMARKS.—Records fair. Small diversion by city of Antlers above gage. No regulation.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	162	87	1,180	420	261	224	1,380	328	460	159	20
2	3,010	202	80	886	364	261	213	1,230	440	382	149	15
3	6,900	136	72	700	346	246	196	1,080	586	328	134	12
4	3,890	109	66	564	328	230	4,270	1,030	1,080	276	117	114
5	1,382	80	66	520	382	246	23,800	1,380	1,220	246	115	82
6	700	87	70	480	608	261	52,000	1,640	995	219	568	62
7	2,950	134	68	480	2,670	276	38,800	1,180	746	180	195	39
8	3,380	117	70	608	4,030	276	23,400	886	480	169	47	22
9	1,430	104	80	654	2,450	1,030	5,980	746	480	159	62	20
10	886	93	70	586	1,540	364	2,390	654	4,160	139	54	20
11	542	74	78	542	1,230	310	1,750	564	7,680	126	47	16
12	631	56	465	480	1,030	310	1,430	500	3,970	117	33	14
13	654	70	26,100	440	982	292	1,180	460	12,300	106	22	13
14	420	56	58,300	382	982	276	1,030	420	22,000	100	28	12
15	310	66	50,300	364	934	346	886	1,150	30,200	102	28	11
16	261	310	24,400	261	792	631	838	2,730	19,300	149	22	39
17	205	261	4,260	310	700	542	746	2,330	3,340	394	20	39
18	182	188	1,700	1,080	631	700	654	10,200	1,800	1,690	19	18
19	144	156	1,280	2,890	564	654	564	12,700	1,330	798	52	11
20	126	276	982	3,730	542	564	586	10,300	982	460	28	9.4
21	115	246	838	2,500	500	500	11,400	6,120	886	310	30	7.0
22	106	202	746	1,640	460	460	30,800	3,290	886	246	25	7.0
23	98	182	654	1,230	440	420	34,700	2,220	5,420	205	20	6.0
24	93	166	586	982	420	400	24,300	1,330	5,140	199	21	5.8
25	80	142	520	886	382	364	5,300	1,030	2,220	142	18	6.6
26	64	134	460	792	346	328	2,610	838	1,280	194	18	8.8
27	64	115	420	654	328	310	3,790	654	886	142	18	10
28	57	113	3,090	542	292	276	4,090	564	792	117	15	10
29	54	104	4,040	520	292	261	2,610	500	700	436	12	8.8
30	49	93	2,610	460	-------	230	1,900	420	564	230	12	7.9
31	47	-------	1,800	420	-------	222	-------	364	-------	216	68	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	6,900	14	930	57,200
November	310	56	141	8,390
December	58,300	66	5,950	366,000
January	3,730	261	896	55,100
February	4,030	292	862	49,600
March	1,030	222	382	23,500
April	52,000	196	9,410	560,000
May	12,700	364	2,250	138,000
June	30,200	328	4,410	262,000
July	1,690	100	292	18,000
August	568	12	69.5	4,270
September	114	5.8	22.2	1,320
The year	58,300	5.8	2,130	1,540,000

LITTLE RIVER NEAR WILTON, ARK.

LOCATION.—Chain gage in NW. ¼ sec. 30, T. 11 S., R. 29 W., 3 miles north of Wilton, 200 feet below Cossatot River.

RECORDS AVAILABLE.—August to September, 1928.

EXTREMES.—Maximum discharge during period, 3,580 second-feet August 6 (gage height, 6.17 feet); minimum, 35 second-feet September 30 (gage height, 1.85 feet).

Maximum stage known, 30.2 feet August, 1915.

REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	------	165	11	720	90	21	270	49
2	2,380	206	12	600	85	22	284	49
3	1,890	222	13	560	75	23	270	46
4	1,420	165	14	478	71	24	216	40
5	1,980	144	15	440	73	25	206	43
6	3,480	140	16	361	78	26	206	40
7	2,780	124	17	340	69	27	183	40
8	1,700	100	18	252	61	28	222	40
9	1,140	98	19	258	59	29	174	38
10	885	98	20	234	52	30	162	37
						31	158	------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
August	3,480	158	808	48,100
September	222	37	86.6	5,150
The period	------	------	------	53,200

SULPHUR RIVER NEAR DARDEN, TEX.

LOCATION.—Staff gage on St. Louis Southwestern Railway bridge 1 mile south of Darden, Bowie County.

DRAINAGE AREA.—2,750 square miles.

RECORDS AVAILABLE.—October, 1923, to September, 1928.

EXTREMES.—Maximum discharge during year, about 36,500 second-feet June 29 (gage height, about 29.0 feet); minimum, 0.9 second-foot September 11–30 (gage height, 0.7 foot).

1923–1928: Maximum discharge, that of June 29, 1928; minimum, 0.2 second-foot September 1–13, 1924 (gage height, 0.10 foot).

REMARKS.—Records poor. No diversions. Gage-height record furnished by United States Weather Bureau.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	87	52	804	120	4,090	97	7,580	138	17,300	1,330	14
2	40	62	44	804	102	3,390	87	6,890	166	12,500	1,350	11
3	202	40	40	732	87	2,430	77	6,300	616	8,780	1,330	11
4	612	28	32	628	87	1,740	77	5,940	1,390	8,180	992	8.0
5	1,030	24	28	490	87	1,170	108	5,620	1,680	3,450	612	8.0
6	1,560	20	24	324	87	466	705	4,690	1,910	2,340	334	5.8
7	1,830	48	20	336	145	271	1,930	2,890	2,100	1,560	201	5.8
8	2,170	180	57	992	145	208	2,520	2,080	2,170	1,190	132	4.1
9	2,460	138	57	1,540	145	223	3,640	1,310	2,130	660	87	2.5
10	2,650	120	77	1,620	138	247	11,700	660	1,810	255	96	2.5
11	2,860	77	102	1,640	187	418	16,800	364	1,580	173	315	.9
12	2,960	48	705	1,600	354	916	15,800	215	1,090	334	279	.9
13	2,920	32	2,180	1,270	374	1,030	13,400	166	732	644	145	.9
14	2,500	28	2,780	897	324	768	11,300	145	660	897	145	.9
15	2,170	93	3,330	556	271	528	9,460	535	1,090	859	114	.9
16	1,640	840	4,090	374	231	840	7,350	2,470	1,230	660	102	.9
17	1,230	992	4,580	297	215	1,410	5,460	3,010	1,050	442	77	.9
18	1,030	954	4,800	239	187	1,960	4,280	4,000	696	297	52	.9
19	644	822	4,180	215	159	2,320	2,860	4,910	354	215	40	.9
20	334	1,110	2,960	215	152	2,650	2,170	6,300	215	166	32	.9
21	159	1,130	2,150	247	173	2,720	1,790	7,880	145	126	24	.9
22	120	1,010	1,470	271	760	2,190	2,260	8,180	120	108	17	.9
23	87	840	804	288	1,720	1,600	2,600	7,880	108	87	17	.9
24	72	612	385	297	2,060	1,210	3,110	7,120	286	72	14	.9
25	62	385	215	297	2,370	897	4,000	5,460	1,310	62	11	.9
26	40	255	138	279	2,700	514	5,040	4,000	2,190	87	20	.9
27	32	159	126	255	3,060	263	6,480	2,580	6,410	77	36	.9
28	28	120	138	215	3,520	173	7,880	1,740	30,700	77	28	.9
29	24	77	364	173	3,820	159	8,780	935	33,600	166	20	.9
30	32	57	696	145	-------	138	8,780	385	25,400	535	17	.9
31	108	-------	768	132	-------	126	--------	194	-------	1,190	14	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	2,960	11	1,020	62,700
November	1,130	20	346	20,600
December	4,800	20	1,210	74,400
January	1,640	132	586	36,000
February	3,820	87	820	47,200
March	4,090	126	1,200	73,800
April	16,800	77	5,350	318,000
May	8,180	145	3,630	223,000
June	33,600	108	4,100	244,000
July	17,300	62	2,050	126,000
August	1,350	11	258	15,900
September	14	.9	3.02	180
The year	33,600	.9	1,710	1,240,000

CYPRESS CREEK NEAR JEFFERSON, TEX.

LOCATION.—Staff gage at Farrell Bridge on Jefferson–Harlenton highway, 8 miles west of Jefferson, Marion County, and 14 miles above Black Cypress Creek.

DRAINAGE AREA.—848 square miles.

RECORDS AVAILABLE.—July, 1924, to September, 1928.

EXTREMES.—Maximum discharge during year, about 8,060 second-feet June 28, (gage height, 18.1 feet); minimum, 5.1 second-feet September 23–25 (gage height, 0.99 foot).

1924–1928: Maximum discharge, that of June 28, 1928; no flow for several periods.

REMARKS.—Monthly records fair. Records of daily discharge not sufficiently accurate for publication. No diversions.

Monthly discharge, in second-feet, 1927–28

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October	789	27	314	19,300
November	640	46	187	11,100
December	1,070	83	428	26,300
January	897	236	471	29,000
February	1,010	206	401	23,100
March	1,210	206	583	35,900
April	1,930	141	780	46,400
May	7,290	141	1,730	106,000
June	6,820	158	1,310	78,000
July	3,940	50	612	37,600
August	916	19	218	13,400
September	30	5.1	12.7	756
The year	7,290	5.1	588	427,000

BAYOU DORCHEAT NEAR MINDEN, LA.

LOCATION.—Staff gage in T. 19 N., R. 9 W., 3 miles west of Minden.

RECORDS AVAILABLE.—July to September, 1928.

EXTREMES.—Maximum discharge during period, 1,020 second-feet July 31 (gage height, 6.32 feet); minimum, 2 second-feet September 14, 15, and 27–30 (gage height, 0.80 foot).

REMARKS.—Records good. Discharge interpolated August 5–13.

Daily and monthly discharge, in second-feet, 1928

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		966	18	11		179	8	21		24	3
2		820	22	12		136	7	22		18	7
3		652	25	13		93	6	23		18	6
4		480	28	14		51	4	24		16	6
5		437	38	15		44	3	25		12	5
6		394	34	16		38	4	26		11	4
7		351	24	17		32	6	27		10	3
8		308	18	18		27	9	28		12	2
9		265	12	19		24	10	29	868	20	2
10		222	10	20		27	9	30	992	16	2
								31	1,020	14	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
August	966	10	184	11,300
September	38	2	11.3	672
The period				12,000

OUACHITA RIVER NEAR HOT SPRINGS, ARK.

LOCATION.—Chain gage in SW. ¼ sec. 29, T. 3 S., R. 19 W., 5 miles south of Hot Springs and 1 mile above Hot Springs Creek. Zero of gage is 304.8 feet above mean sea level.

DRAINAGE AREA.—1,420 square miles.

RECORDS AVAILABLE.—June, 1922, to September, 1928.

EXTREMES.—Maximum discharge during year, 59,000 second-feet April 6 (gage height, 27.36 feet); minimum, less than 40 second-feet September 30.

1922–1928: Maximum discharge, 143,000 second-feet May 16, 1923 (gage height, 43.9 feet); minimum, that of September 30, 1928.

REMARKS.—Records good. Discharge estimated September 22–30.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	198	96	315	890	560	665	440	1,350	271	630	1,720	292
2	232	595	275	775	529	595	440	1,170	284	529	1,260	498
3	850	1,720	254	700	529	560	413	1,090	440	440	970	440
4	775	1,260	221	630	498	560	469	930	1,720	386	775	292
5	700	930	176	560	560	630	1,260	890	4,040	338	630	250
6	665	529	135	560	665	630	51,400	812	1,620	284	890	176
7	2,470	440	176	812	812	630	31,100	775	1,440	263	890	119
8	1,170	413	135	2,580	812	630	6,170	738	1,170	232	630	87
9	850	560	98	2,580	700	2,140	4,300	630	1,090	221	529	67
10	812	413	80	2,360	665	1,920	3,150	560	1,260	214	469	94
11	738	292	498	1,820	630	1,530	2,470	498	1,920	192	386	198
12	595	413	4,300	1,530	1,260	1,440	2,030	469	2,690	195	315	198
13	338	338	4,880	1,260	1,170	1,260	1,720	440	4,440	292	284	98
14	288	315	6,880	1,010	1,090	1,090	2,140	440	7,060	232	243	76
15	258	8,890	6,000	970	1,010	1,260	2,030	469	6,880	263	221	72
16	221	6,170	4,040	930	970	1,720	1,920	498	3,390	362	214	72
17	195	3,270	2,580	850	850	1,920	1,440	665	2,470	1,260	188	67
18	176	2,140	1,530	775	775	2,030	1,260	1,010	1,820	3,650	176	65
19	164	1,440	1,620	1,350	738	1,620	1,170	970	1,350	1,920	498	63
20	155	1,090	1,350	3,270	738	1,440	1,090	1,530	1,090	1,090	338	62
21	146	1,010	1,090	2,800	738	1,260	10,000	1,920	4,040	812	236	58
22	135	930	970	2,030	775	1,090	30,100	1,720	3,650	630	258	
23	130	850	890	1,720	970	970	22,200	1,260	5,510	775	630	
24	124	738	738	1,620	970	930	7,630	930	6,340	812	338	
25	119	630	630	1,440	930	850	4,440	738	2,800	1,530	292	
26	114	560	560	1,170	850	775	3,150	595	1,820	2,030	630	40
27	103	498	529	1,090	775	700	2,580	498	1,350	1,530	440	
28	94	440	1,170	1,010	738	630	2,140	440	1,090	2,250	469	
29	89	413	1,440	890	700	595	1,920	386	930	2,360	560	
30	76	386	1,260	775	------	560	1,530	338	775	3,520	440	
31	83	------	1,090	665	------	498	------	292	------	2,690	386	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
October	2,470	76	421	0.296	0.34	25,900
November	8,890	96	1,260	.887	.99	75,000
December	6,880	80	1,480	1.04	1.20	91,000
January	3,270	560	1,340	.944	1.09	82,400
February	1,260	498	793	.558	.60	45,600
March	2,140	498	1,070	.754	.87	65,800
April	51,400	413	6,740	4.75	5.30	401,000
May	1,920	292	808	.569	.66	49,700
June	7,060	271	2,490	1.75	1.95	148,000
July	3,650	192	1,030	.725	.84	63,300
August	1,720	176	526	.370	.43	32,300
September	498	------	123	.087	.10	7,320
The year	51,400	------	1,500	1.06	14.37	1,090,000

OUACHITA RIVER AT REMMEL DAM, NEAR MALVERN, ARK.

LOCATION.—Water-stage recorder in SW. ¼ NW. ¼ sec. 36, T. 3 S., R. 18 W., 700 feet below Remmel Dam and 9 miles northwest of Malvern. Zero of gage is 247.94 feet above mean sea level.

DRAINAGE AREA.—1,540 square miles.

RECORDS AVAILABLE.—January, 1925, to September, 1928.

EXTREMES.—Maximum discharge during year, 60,000 second-feet April 6 (gage height, 24.43 feet); minimum, 28 second-feet September 24 (gage height, 1.71 feet).

1925–1928: Maximum discharge, about 138,000 second-feet April 21, 1927 (gage height, 35.7 feet); minimum, 15 second-feet September 12 and 13, 1925 (gage height, 1.52 feet).

Maximum stage known, 36.3 feet May 16, 1923 (discharge, about 140,000 second-feet).

REMARKS.—Records good. No record obtained October 1 to January 19.

Daily and monthly discharge, in second-feet, 1928

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	675	784	586	2,640	221	269	2,930	328
2	------	763	564	603	2,050	323	532	2,230	101
3	------	643	440	450	430	151	278	1,030	479
4	------	769	787	1,110	945	1,120	409	981	353
5	------	760	446	1,860	722	2,530	564	180	303
6	------	830	577	48,900	556	2,900	563	1,180	204
7	------	1,040	396	37,700	1,430	1,950	528	1,230	250
8	------	1,540	1,030	8,630	1,220	1,330	591	1,580	222
9	------	2,110	2,620	5,260	657	1,920	592	1,120	137
10	------	2,140	2,410	3,600	503	2,380	792	224	174
11	------	1,980	1,600	3,140	562	2,770	605	162	231
12	------	1,610	1,450	2,760	578	3,570	183	678	503
13	------	2,150	1,630	2,420	464	3,290	222	127	331
14	------	1,260	1,470	2,620	762	5,950	231	490	387
15	------	1,640	2,010	2,350	555	7,550	227	637	320
16	------	1,050	2,060	2,310	229	4,200	182	504	162
17	------	763	1,670	1,910	342	2,790	559	286	123
18	------	584	953	1,950	451	2,840	2,580	311	153
19	------	614	2,370	2,330	1,190	2,750	2,590	215	135
20	2,360	697	2,430	2,000	1,400	1,200	949	208	140
21	2,770	883	1,930	9,090	1,960	2,360	1,160	162	138
22	2,470	1,350	2,020	28,800	2,400	3,680	339	145	105
23	2,340	1,060	1,120	24,700	1,800	6,070	1,190	104	132
24	2,700	874	1,060	8,430	981	6,890	383	106	130
25	2,410	758	776	5,390	734	3,300	1,300	132	91
26	2,050	862	984	3,760	571	2,880	1,660	137	124
27	1,320	1,270	1,050	3,220	650	2,760	2,740	232	211
28	1,380	990	772	2,780	148	2,260	2,750	523	138
29	988	1,140	661	2,610	736	1,140	2,420	726	140
30	526	------	509	2,540	468	293	4,100	631	138
31	896	------	428	------	353	------	3,580	395	------

Month	Maximum	Minimum	Mean	Per square mile	Run-off	
					Inches	Acre-feet
January 20–31	2,770	526	1,850	1.20	0.54	44,000
February	2,150	584	1,130	.734	.79	65,000
March	2,620	396	1,260	.818	.94	77,500
April	48,900	450	7,460	4.84	5.40	444,000
May	2,640	148	919	.597	.69	56,500
June	7,550	151	2,780	1.81	2.02	165,000
July	4,100	182	1,130	.734	.85	69,500
August	2,930	104	632	.410	.47	38,900
September	503	91	213	.138	.15	12,700
The period						973,000

OUACHITA RIVER NEAR CAMDEN, ARK.

LOCATION.—Staff gage in E. ½ sec. 10, T. 13 S., R. 17 W., 2 miles north of Camden, 5 miles below Ecore Fabre Creek and 20 miles below Little Missouri River.
DRAINAGE AREA.—5,390 square miles.
RECORDS AVAILABLE.—August to September, 1928.
EXTREMES.—Maximum discharge during period, 4,430 second-feet August 9; minimum, 240 second-feet September 27 (gage height, 0.18 foot).
REMARKS.—Records good. Discharge interpolated September 1.

Daily and monthly discharge, in second-feet, 1928

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		1,500	11	2,720	412	21	630	315
2		1,550	12	1,880	378	22	630	285
3		1,440	13	1,140	315	23	675	270
4		1,090	14	720	448	24	585	285
5		720	15	675	585	25	585	300
6		900	16	585	545	26	585	258
7		720	17	585	585	27	545	240
8		585	18	545	485	28	465	245
9	4,430	585	19	585	378	29	585	242
10	3,270	505	20	585	345	30	1,140	270
						31	1,440	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
August 9–31	4,430	465	1,110	50,600
September	1,500	242	559	33,300
The period				83,900

LITTLE MISSOURI RIVER NEAR MURFREESBORO, ARK.

LOCATION.—Chain gage in SE. ¼ sec. 13, T. 8 S., R. 26 W., 2 miles southwest of Murfreesboro and 1 mile below Muddy Creek. Zero of gage is 323.70 feet above mean sea level.

DRAINAGE AREA.—380 square miles.

RECORDS AVAILABLE.—October, 1927, to September, 1928.

EXTREMES.—Maximum discharge during year, 8,740 second-feet April 21 (gage height, 7.75 feet); minimum, 5 second-feet September 27–30 (gage height, 1.70 feet).

REMARKS.—Records fair. Discharge interpolated for Sundays when gage was not read; no record obtained November 12 to December 31, January 1–4, and 6–17.

Daily and monthly discharge, in second-feet, 1927–28

Day	Oct.	Nov.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-------	73	-------	136	224	98	284	43	58	160	73
2	51	86	-------	120	205	89	263	43	43	144	45
3	269	53	-------	114	224	89	224	336	43	89	17
4	192	55	-------	120	229	114	234	630	26	84	17
5	59	53	317	212	234	710	263	400	26	637	17
6	26	43	-------	305	205	7,490	196	263	40	1,190	11
7	66	71	-------	1,080	160	2,370	128	178	29	680	9
8	53	152	-------	750	178	1,540	117	128	26	425	11
9	104	34	-------	560	630	1,030	114	340	22	178	12
10	89	117	-------	458	525	750	108	450	19	178	12
11	160	305	-------	363	400	630	98	560	24	108	9
12	51	-------	-------	363	363	490	89	880	24	76	9
13	51	-------	-------	363	253	388	89	710	24	43	9
14	51	-------	-------	305	243	363	89	1,420	24	43	8
15	57	-------	-------	284	253	334	84	750	3,400	43	8
16	36	-------	-------	243	790	305	136	560	6,770	40	7
17	34	-------	-------	234	595	295	215	432	1,080	38	7
18	34	-------	413	224	490	284	169	305	1,030	36	7
19	24	-------	425	201	363	253	114	187	490	54	8
20	23	-------	425	178	375	205	204	160	263	73	8
21	23	-------	425	178	253	8,740	295	140	205	40	8
22	22	-------	490	425	243	5,560	317	258	160	22	7
23	24	-------	490	525	243	2,370	196	205	114	22	7
24	22	-------	351	425	243	1,360	144	200	790	22	7
25	19	-------	340	413	220	930	95	196	229	19	6
26	20	-------	340	388	196	710	84	120	239	26	7
27	16	-------	196	363	160	670	72	108	490	33	5
28	36	-------	215	305	152	490	59	63	490	28	5
29	13	-------	178	274	144	420	59	63	542	22	5
30	20	-------	160	-------	114	351	47	73	595	19	5
31	68	-------	140	-------	108	-------	43	-------	328	15	-------

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October 2–31	269	13	57.1	3,400
November 1–11	305	34	94.7	2,070
January 18–31	490	140	328	9,110
February	1,080	114	342	19,700
March	790	108	291	17,900
April	8,740	89	1,310	78,000
May	317	43	149	9,160
June	1,420	43	340	20,200
July	6,770	19	569	35,000
August	1,190	15	146	9,000
September	73	5	12.3	732

SALINE RIVER NEAR WARREN, ARK.

LOCATION.—Chain gage in SW. ¼ sec. 15, T. 13 S., R. 9 W., 3½ miles southeast of Warren and 3 miles below Cypress Creek.
DRAINAGE AREA.—2,490 square miles.
RECORDS AVAILABLE.—August to September, 1928.
EXTREMES.—Maximum discharge during period, 900 second-feet September 6 (gage height, 4.48 feet); minimum 43 second-feet September 30 (gage height, 1.54 feet).
Maximum stage known, 28.0 feet April 27, 1927.
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		655	11		168	21	106	77
2		620	12	225	146	22	102	69
3		392	13	200	128	23	150	59
4		585	14	200	124	24	300	54
5		830	15	195	120	25	300	62
6		900	16	172	115	26	270	60
7		725	17	165	102	27	315	59
8		480	18	150	92	28	285	49
9		392	19	132	77	29	240	48
10		212	20	113	77	30	240	46
						31	360	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
August 12-31	360	102	211	8,370
September	900	46	251	14,900
The period				23,300

BAYOU BARTHOLOMEW NEAR BEEKMAN, LA.

LOCATION.—Chain gage in T. 22 N., R. 6 E., 4 miles south of Beekman and 4 miles above Cypress River.
RECORDS AVAILABLE.—August to September, 1928.
EXTREMES.—Maximum discharge during period, 432 second-feet August 13 (gage height, 3.49 feet); minimum, 186 second-feet September 9 and 10 (gage height, 1.74 feet).
REMARKS.—Records good.

Daily and monthly discharge, in second-feet, 1928

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1		221	11		197	21	258	209
2		221	12		197	22	245	221
3		221	13		209	23	233	221
4		221	14	417	221	24	245	221
5		221	15	372	221	25	233	221
6		209	16	342	209	26	221	221
7		197	17	313	209	27	221	221
8		197	18	313	209	28	221	221
9		186	19	285	209	29	221	197
10		197	20	271	209	30	221	197
						31	209	

Month	Maximum	Minimum	Mean	Run-off in acre-feet
August	417	209	269	9,600
September	221	186	211	12,600
The period				22,200

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages, measurements of flow were made at a number of other points, as shown by the following table:

Miscellaneous discharge measurements in the lower Mississippi River drainage basin during the year ending September 30, 1928

Date	Stream	Tributary to—	Locality	Gage height	Discharge
				Feet	*Sec.-feet*
June 23	Midco Spring	Davis Creek	In sec. 22, T. 27 N., R. 2 W., Midco, Mo.		2.7
July 24	Arkansas River	Mississippi River	Oxford, Kans		1,110
24	do	do	do		1,000
Apr. 22	North Sulphur River floodway.	Sulphur River	Paris-Cooper highway bridge 10 miles northeast of Cooper, Hopkins County, Tex.		2,330
26	do	do	do		67.9
May 25	do	do	do		*.02

* Estimated.

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