Perkins

Surface Water Supply of the United States 1955

Part 7. Lower Mississippi River Basin

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1391

Prepared in connection with the States of Arkansas, Colorado, Kansas, Kentucky, Louisiana, Mississippi, Missouri, New Mexico, Oklahoma, Tennessee, and Texas, and with other agencies

A, ARKANSAS RIVER AT LITTLE ROCK, ARK.

B, VERDIGRIS RIVER NEAR CLAREMORE, OKLA.

FIGURE 1.—GAGING-STATION STRUCTURES.

comparable records of discharge for other stations in the same or nearby basins. If the stage-discharge relation is affected by ice, this information is given in a note to the table. No mention is made of occasional days of ice effect if the degree of accuracy of daily records is not changed.

The data herein presented generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge and runoff of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the water year 1955 is shown on page IV for the purpose of finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, general remarks and notations of revisions of the previously published record. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "Location" for some stations, is that determined and used by the Corps of Engineers unless otherwise noted. Under "Records available" are given the periods for which there are published records generally equivalent to those at the present site. Under "Gage" are given the type of gage currently in use and the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is given under "Remarks."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual reports. In order to make it easier to find such revised records, a paragraph headed "Revisions (water years)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are concerned in the revision, that fact is brought out by notations after the year dates as

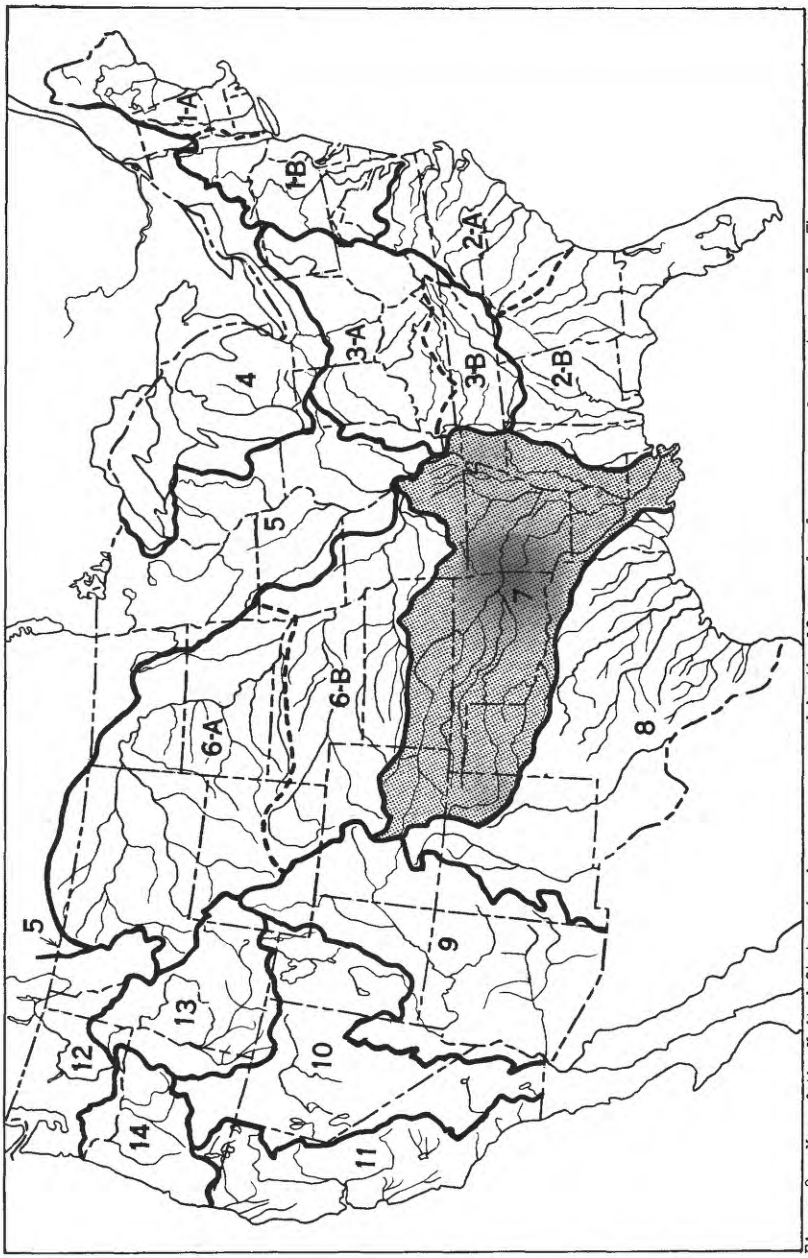

Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

2. South Atlantic slope and eastern Gulf of Mexico basins, in two volumes:
   A, South Atlantic slope basins, James River to Savannah River.
   B, South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River.
3. Ohio River basin, in two volumes:
   A, Ohio River basin except Cumberland and Tennessee River basins.
   B, Cumberland and Tennessee River basins.
4. St. Lawrence River basin.
5. Hudson Bay and upper Mississippi River basins.
6. Missouri River basin, in two volumes:
   A, Missouri River basin above Sioux City, Iowa.
   B, Missouri River basin below Sioux City, Iowa.
7. Lower Mississippi River basin.
8. Western Gulf of Mexico basins.
9. Colorado River basin.
10. The Great Basin.
11. Pacific slope basins in California.
12. Pacific slope basins in Washington and upper Columbia River basin.
13. Snake River basin.
14. Pacific slope basins in Oregon and lower Columbia River basin.

Water-supply papers and other publications of the Geological Survey containing data on the water resources of the United States may be purchased or consulted as follows:

1. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., who will, on application, furnish lists giving prices. A list of Geological Survey publications may also be obtained by applying to the Director, Geological Survey, Washington, D. C.

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 offices of the Water Resources Division of the Geological Survey. Addresses of the offices in the area covered by this report are given on page 2.

Early records of the flow of streams in the United States are published in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams.

Streamflow data for the years 1884-1901, in reports of the Geological Survey

(A = Annual Report; B = Bulletin)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information.....	1884 to September 1890.
12th A, pt. 2	....do.....	1884 to June 30, 1891.
13th A, pt. 3	....do.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-93.
B 131.....	Descriptions, measurements, gage height, and ratings.....	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge.	1895.
WSP 11.....	Gage heights.....	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge..	1895-96.
WSP 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
WSP 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1897.
WSP 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
WSP 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge.....	1898.
WSP 35 to 39.	Descriptions, measurements, gage heights, and ratings.....	1899.
21st A, pt. 4	Monthly discharge.....	1899.
WSP 47 to 52.	Descriptions, measurements, gage heights, and ratings.....	1900.
22d A, pt. 4.	Monthly discharge.....	1900.
WSP 65, 66...	Descriptions, measurements, gage heights, and ratings.....	1901.
WSP 75.....	Monthly discharge.....	1901.

Reports on surface-water supply containing records from 1899 to date for drainage basins in this report are listed on following page. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained.

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

Stream	Location	Period	Collected by
Mississippi River	Red River Landing, La.	1928-55	Corps of Engineers.
Do.	Tarbert Landing, Miss.	1936-47, 1949-55	Do.
Muddy Fork Creek	Murfreesboro, Ark.	1940-42, 1947-55	Do.
North Cascade Creek	At Cascade, Colo.	1935-55†	Colorado Springs Water Department,
North Catamount Creek	Near Green Mountain Falls, Colo.	1935-55†	Do.
Obion River	Bogota, Tenn.	1939-55	Corps of Engineers.
Obion River, North Fork	Martin, Tenn.	1939-55	Do.
Old River	Torras, La.	1928-55	Do.
Ouachita River	Arkadelphia, Ark.	1930-55	Do.
Do.	Camden, Ark.	1930-55†	Do.
Do.	Hot Springs, Ark.	1951-55	Do.
Panola-Quitman Floodway	Batesville, Miss.	1940-42, 1944-55	Do.
Quiver River	Doddsville, Miss.	1938-55	Do.
Sackett Creek	Near Pikes Peak, Colo.	1909-55†	Colorado Springs Water Department, Colo.
St. Francis Bay	Riverfront, Ark.	1933-55	Corps of Engineers.
St. Francis River	Lake City, Ark.	1933-55	Do.
Do.	Parkin, Ark.	1928-55	Do.
Do.	St. Francis, Ark.	1930-55	Do.
Do.	Wittsburg, Ark.	1950-55	Do.
Sheep Creek	Near Halfway, Colo.	1906-55*	Colorado Springs Water Department, Colo.
South Cascade Creek	At Cascade, Colo.	1935-55†	Do.
South Catamount Creek	Below reservoir near Green Mountain Falls, Colo.	1935-55	Do.
Do.	Near Green Mountain Falls, Colo.	1935-55	Do.
South Ruxton Creek	At Halfway, Colo.	1906-55†	Do.
Sutherland Creek	Near Manitou, Colo.	1918-55*	Do.
Tuscumbia River	Corinth, Miss.	1949-55	Corps of Engineers.
Tyronza River	Tyronza, Ark.	1949-55	Do.
West Beaver Creek	Near Victor, Colo.	1905-55†	Southern Colorado Power Co.
White River	Clarendon, Ark.	1928-55	Corps of Engineers.
Wolf River	Raleigh, Tenn.	1936-55	Do.
Yalobusha River	Whaley, Miss.	1938-55	Do.

* Records prior to 1931 are contained in water-supply papers published by the Geological Survey.
† Records prior to 1951 published in WSP 1311.
Note.--The Agricultural Research Service of the United States Department of Agriculture has collected records of runoff from 3 areas comprising 15 to 210 acres near Stillwater, Okla., beginning in 1951.

HYDROLOGIC CONDITIONS

Streamflow during the 1955 water year varied widely over the area covered by this report. Drought conditions existed much of the time, but excessive runoff also occurred on many streams. Flow of Amite River in Louisiana was record-low for the month in March and June, but record-high in February and April; at Darlington the peak discharge of April 13 was reported as greater than a 50-year flood. Little River in Arkansas had a record-high runoff for October. Washita River in Oklahoma had a flow only 8 percent of the median in November and 17 percent of median in April; both were record-low for the respective months since collection of records was begun in 1928. An outstanding flood occurred on Arkansas River tributaries in southeastern Colorado in May. Peak discharges on the Purgatorie River were generally the highest known since 1904. Storage in John Martin Reservoir, which was empty on May 18 increased to 244,000 acre-ft on June 1. This same storm produced heavy runoff in Canadian River and tributaries in New Mexico. Storage in Conchas Reservoir increased 110,000 acre-ft in two days. For three key gaging stations in the area covered by this report, a comparison of monthly and yearly mean discharge during the 1955 water year with the median for the period 1921-45 is shown in figure 3 on the following page.

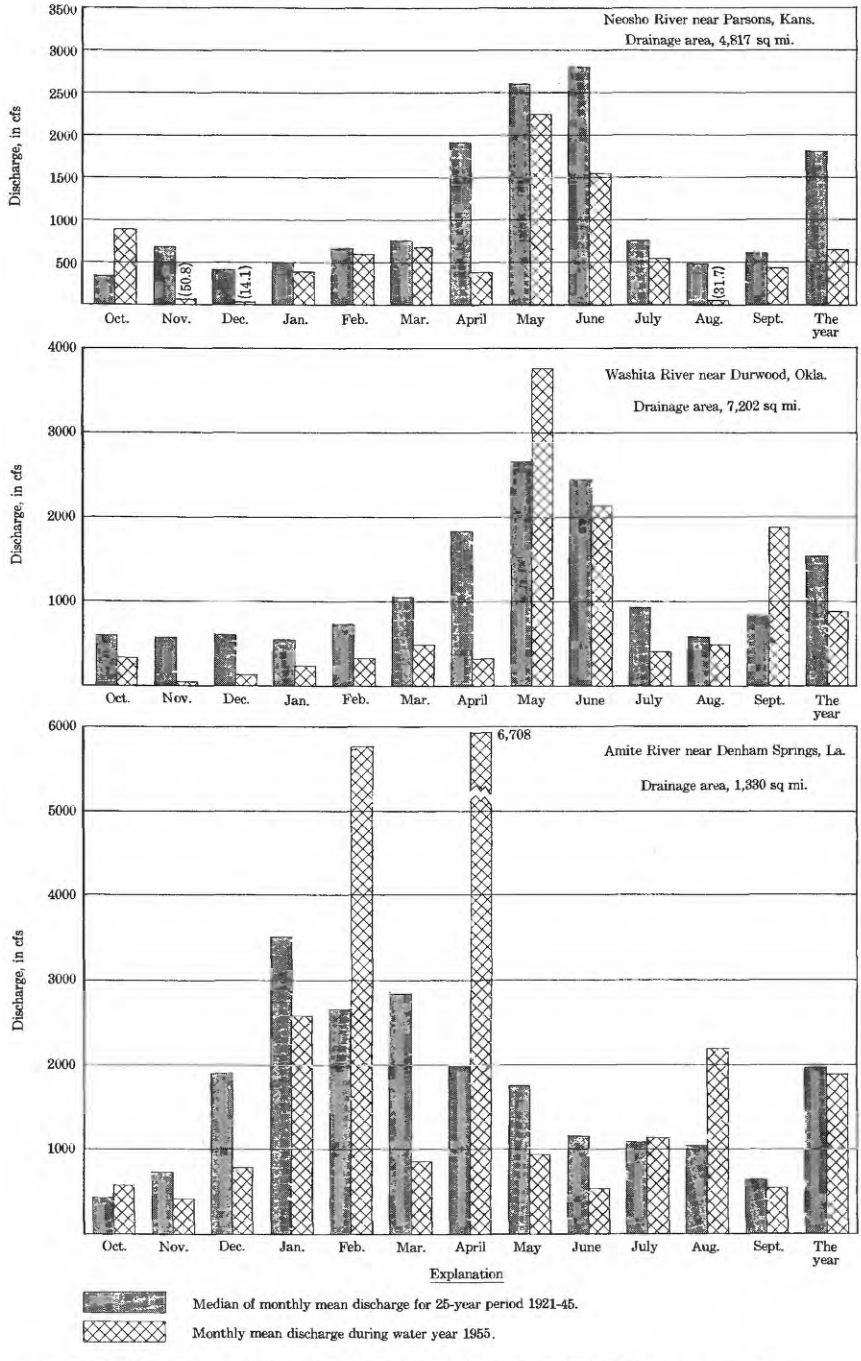

Figure 3. Comparison of discharge at three key gaging stations during 1955 water year with median discharge for 25-year period.