





















The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is so enclosed by a topographic divide that direct surface runoff from precipitation normally would drain by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

#### NEW DOWNSTREAM ORDER OF LISTING GAGING STATIONS

Beginning with the series of reports for the water year ending September 30, 1951, the order of listing gaging-station records has been changed. In this report, in a downstream direction along the main stem all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indentation in the listing of gaging stations in the table of contents of this report represents one rank. This new downstream order and system of indentation show which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

The order of listing used before the publication of the 1951 report listed first all stations on the main stem from headwaters toward mouth, then all stations on the uppermost tributary to the main stem from the tributary's source to mouth, and then all stations from source to mouth of the uppermost tributary to the tributary.

#### EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of fluctuations. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge. Typical structures in use at gaging stations are shown in figure 1.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs, and by other methods), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying



**A. PEARL RIVER NEAR COLUMBIA, MISS.**



**B. LITTLE MANATEE RIVER NEAR WIMAUMA, FLA.**

**FIGURE 1.—GAGING-STATION STRUCTURES.**









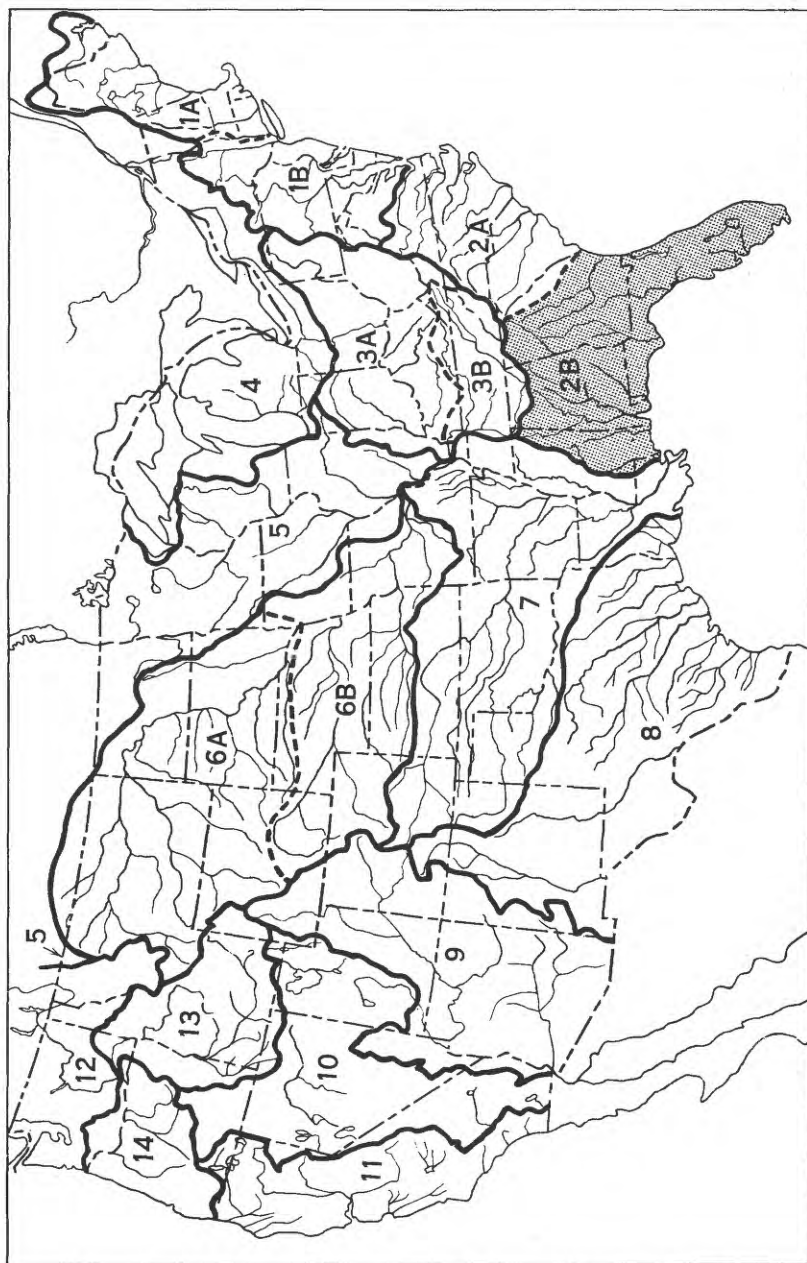


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface water supply. The area covered by this report is shaded.

Streamflow data for the years 1864-1901, in reports of the Geological Survey--Continued

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

Report	Character of data	Year
W 11.....	Gage heights.....	1896.
16th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge..	1895-96.
W 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of stream 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.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge.....	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.

Reports on surface-water supply containing records from 1899 to date for drainage basins in this report are listed below. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained. Before 1951, records for the South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River basins were included with those for the South Atlantic slope and eastern Gulf of Mexico basins.

Numbers of water-supply papers containing results of stream measurements in the South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River, 1899-1951

Year	W.S.P.	Year	W.S.P.	Year	W.S.P.	Year	W.S.P.	Year	W.S.P.
1899	36	1911	302	1922	542	1932	727	1942	852
1900	48	1912	322	1923	562	1933	742	1943	872
1901	65,	1913	352	1924	582	1934	757	1944	1002
1902	83	1914	382	1925	602	1935	782	1945	1032
1903	98	1915	402	1926	622	1936	802	1946	1052
1904	127	1916	432	1927	642	1937	822	1947	1082
1905	168	1917	452	1928	662	1938	852	1948	1112
1906	204	1918	472	1929	682	1939	872	1949	1142
1907-8	242	1919-20	502	1930	697	1940	892	1950	1172
1909	262	1921	522	1931	712	1941	922	1951	1204
1910	282								

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

Each of the reports on the surface-water supply for the year 1939 (Water-Supply Paper 872 for the South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River) contains, for the area included in that report, a summary of yearly discharge at gaging stations at which 10 or more complete years of record had been collected. These summaries were reprinted separately.

Reports also have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which may have been revised), as well as some records not contained in the annual series of water-supply papers. The only such reports for any part of the area covered by this report are Water-Supply Paper 107, "Water powers of Alabama, with an appendix on stream measurements in Mississippi, 1895-1903" and Water-Supply Paper 197, "Water resources of Georgia, 1895-1905."

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

State reports containing compilations of records of discharge

State	Period	Report	Issued by
Alabama.....	1895-1915	Bull. 17, Water powers of Alabama.....	Geological Survey of Alabama
Do.....	1904-47	Special Report 20, Water Resources and Hydrology of southeastern Alabama.	Do.
Florida.....	1898-1946	Bull. 31, Springs of Florida.....	Florida Geological Survey.
Georgia.....	1895-1906	Bull. 16, Water powers of Georgia.....	Geological Survey of Georgia
Do.....	1907-19	Bull. 36, Water powers of Georgia.....	Do.
Louisiana.....	1903-38	Geol. Bull. 16, Surface water supply of Louisiana.	Department of Conservation.
Mississippi....	1900-1946	Bull. 68, Surface Waters of Mississippi....	Mississippi Geological Survey

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

Water-Supply Paper	Title
771.....	Floods in the United States, magnitude and frequency.
847.....	Maximum discharges at stream-measurement stations through September 1938.
1066.....	Floods of August 1940 in the southeastern States.
1227-A.....	Floods of March-April 1951 in Alabama and adjacent States.

## RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The table below contains a list of gaging stations for the area covered by this report, at which records of discharge were collected during the water year October 1950 to September 1951 by agencies other than the Geological Survey. The records of these stations are not contained in publications of the Geological Survey, nor have they been published elsewhere.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
Big Cedar Creek.....	Cave Springs, Ga.....	1948-51	Corps of Engineers.
Caloosahatchee River...	At Ortona Lock near Ortona, Fla.	1951	Do.
Chattahoochee River...	Eufaula, Ala.....	1938-51	United States Weather Bureau.
Do.....	Franklin, Ga.....	1945-51	Corps of Engineers.
Chiwappa River.....	Shannon, Miss.....	1949-51	Do.
Flint River.....	Newton, Ga.....	1938-45,	Do.
		1946-51a/	
Harney Pond Canal.....	At Lake Okeechobee, Fla.....	1951	Do.
Indian Prairie Canal...	Near Okeechobee, Fla.....	1951	Do.
Little Cedar Creek.....	Cave Springs, Ga.....	1948-51	Do.
Miami Canal.....	At Lake Okeechobee, Fla.....	1951	Do.
Nine Mile Canal.....	...do.....	1951	Do.
North New River and Hillsboro Canals.	...do.....	1951	Do.
Old Town Creek.....	Verona, Miss.....	1944-51b/	Do.
Sakatonchee Creek.....	Egypt, Miss.....	1949-51	Do.
Taylor Creek.....	Near Lake Okeechobee, Fla.....	1951	Do.
Tishomingo Creek.....	Saltillo, Miss.....	1949-51	Do.
Town Creek.....	Tupelo, Miss.....	1949-51	Do.
Uchee Creek.....	Fort Mitchell, Ala.....	1946-51	Do.
Uclatubba Creek.....	Saltillo, Miss.....	1949-51	Do.
Upatoi Creek.....	Fort Benning, Ga.....	1942-51c/	Do.
Valley Creek.....	Oak Grove, Ala.....	1946-51	Do.
Do.....	Bessemer, Ala.....	1946-51	Do.

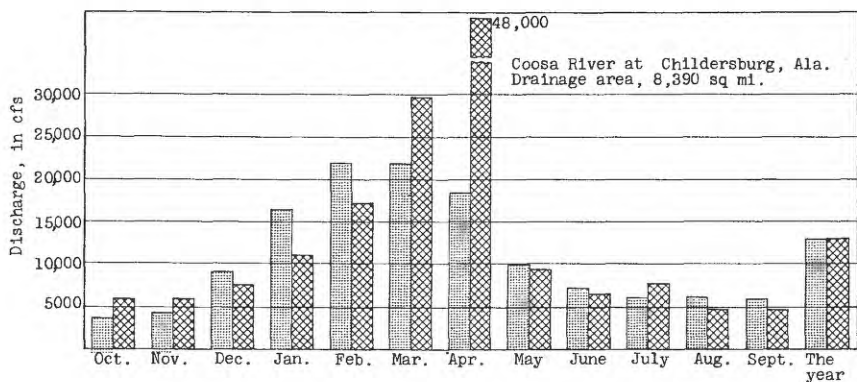
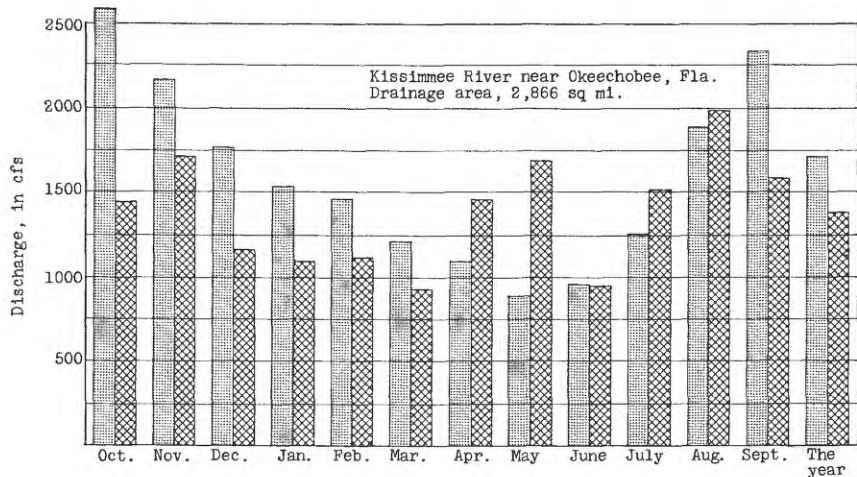
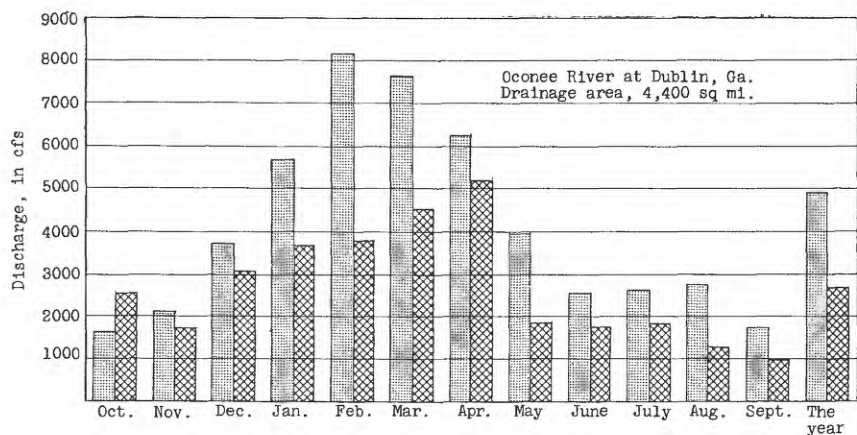
a/ Records prior to October 1947 published in reports of Geological Survey.

b/ Records prior to July 1947 published in reports of Geological Survey.

c/ Records prior to January 1946 published in reports of Geological Survey.

## HYDROLOGIC CONDITIONS

The water year 1951 was characterized by below normal runoff over most of the South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River, except for a narrow belt along the western boundary of this area where runoff was considerably above normal. There were no notable floods in the area covered by this report during the water year.



Median of monthly mean discharge for 25-year period 1921-45.  
Monthly mean discharge during water year 1951.

Figure 3.--Comparison of discharge at three key gaging stations during 1951 water year with median discharge for 25-year period.



































































































































































































































































































































































































































































































































































































































































































