

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.

WSP is used as an abbreviation for "Water-Supply Papers" in references to previously published reports.

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 was 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 indention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indention 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 determinations of peak discharge (such as slope-area or contracted-opening determinations, 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



A. LITTLE MANATEE RIVER NEAR WIMAUMA, FLA.



B. CARTECAY RIVER NEAR ELLIJAY, GA.

FIGURE 1.—GAGING-STATION STRUCTURES.

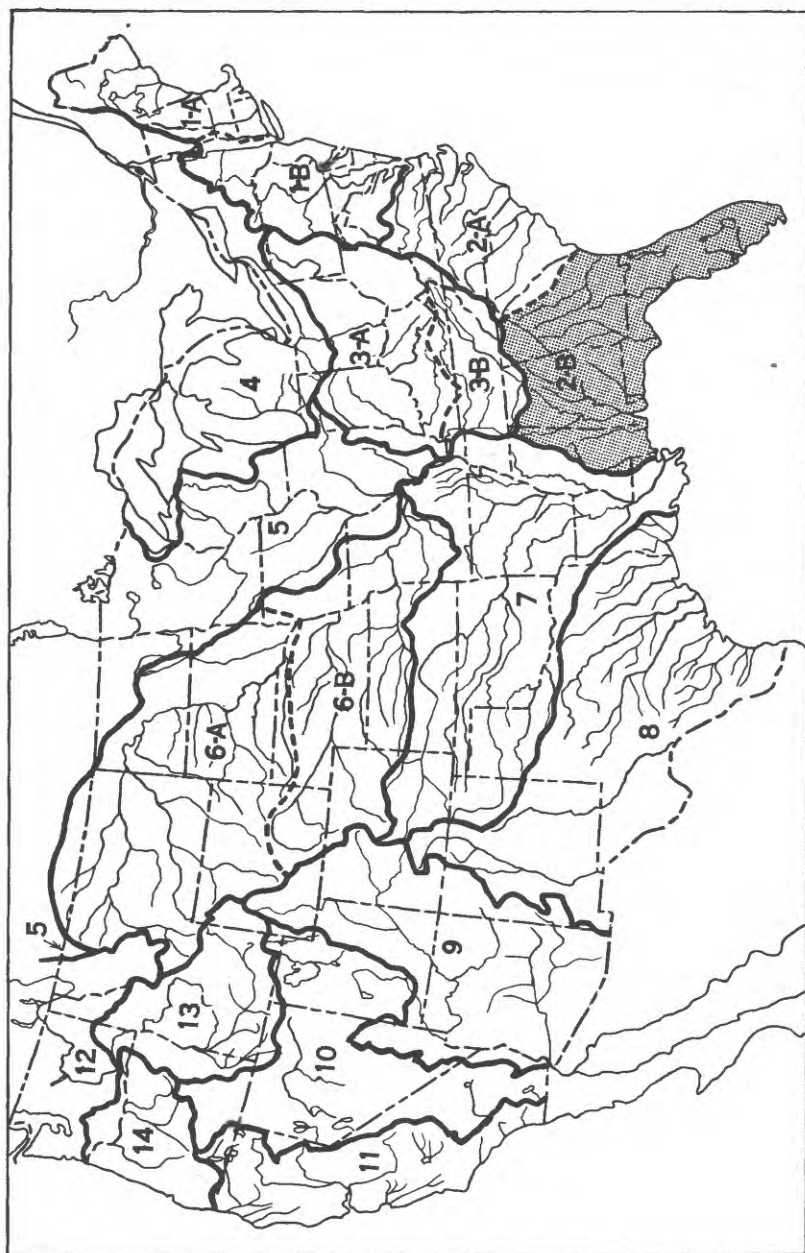


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

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. 2do.....	1884 to June 30, 1891.
13th A, pt. 3do.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-93.
B 131.....	Descriptions, measurements, gage heights, and ratings.....	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge.	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 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, 1899-1957

Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1899	36	1912	322	1925	602	1937	822	1949	1142
1900	48	1913	352	1926	622	1938	852	1950	1172
1901	65, 75	1914	382	1927	642	1939	872	1951	1204
1902	83	1915	402	1928	662	1940	892	1952	1234
1903	98	1916	432	1929	682	1941	922	1953	1274
1904	127	1917	452	1930	697	1942	952	1954	1334
1905	168	1918	472	1931	712	1943	972	1955	1384
1906	204	1919-20	502	1932	727	1944	1002	1956	1434
1907-8	242	1921	522	1933	742	1945	1032	1957	1504
1909	262	1922	542	1934	757	1946	1052		
1910	282	1923	562	1935	762	1947	1082		
1911	302	1924	582	1936	802	1948	1112		

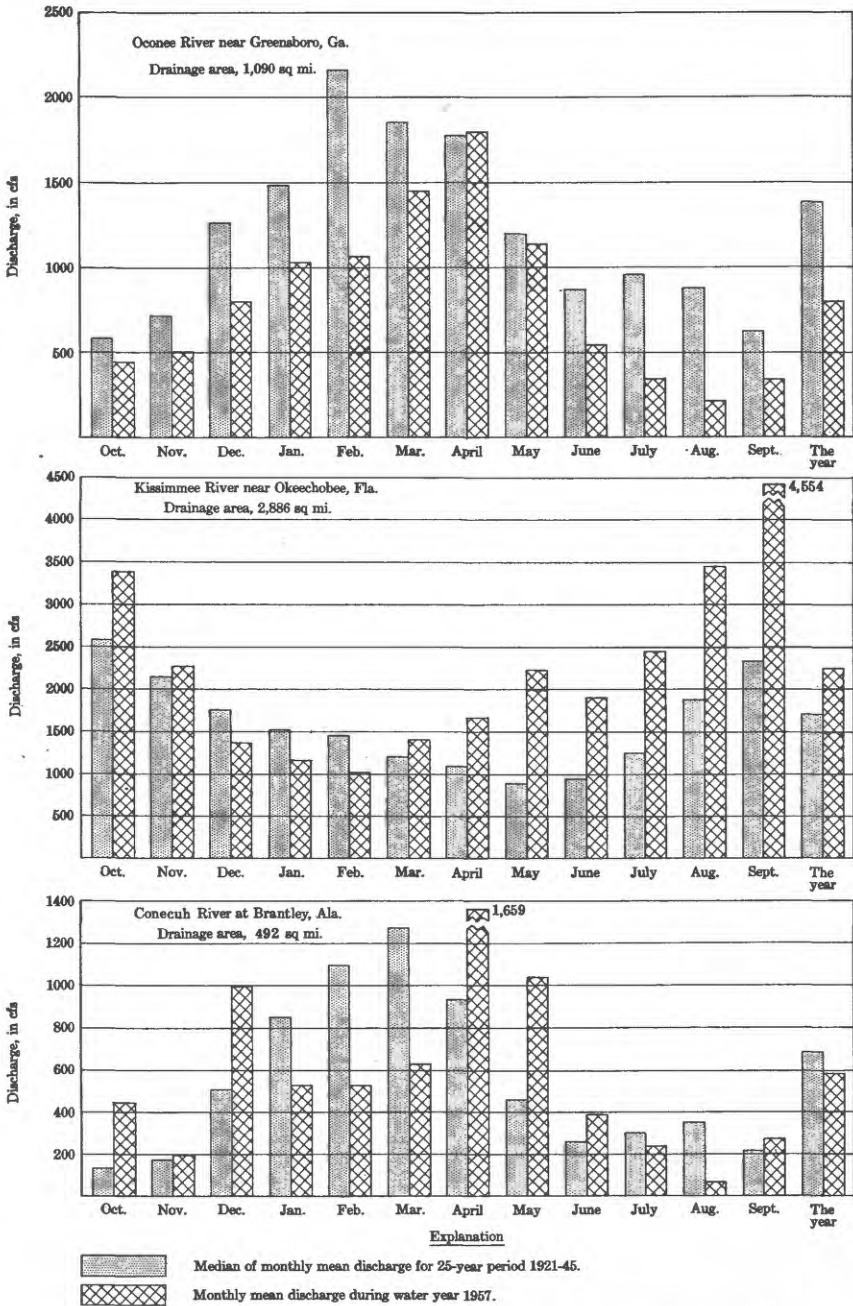


Figure 3. Comparison of discharge at three key gaging stations during 1957 water year with median discharge for 25-year period.

OGEECHEE RIVER BASIN

Ogeechee River at Scarboro, Ga.

Location.--Lat 32°42'40", long 81°52'45", on left bank 15 ft downstream from highway bridge at Scarboro, Jenkins County, $\frac{3}{4}$ miles downstream from Sculls Creek, $\frac{6}{7}$ miles upstream from Horse Creek, and $\frac{7}{8}$ miles southeast of Millen.

Drainage area.--1,940 sq mi, approximately.

Records available.--April 1937 to September 1957.

Gage.--Water-stage recorder. Datum of gage is 111.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1936 (levels by Corps of Engineers). Prior to Dec. 18, 1941, staff gage at same site and datum.

Average discharge.--20 years, 1,548 cfs.

Extremes.--Maximum discharge during year, 3,220 cfs Apr. 6 (gage height, 7.74 ft); minimum daily, 180 cfs Aug. 15-18.

1937-57: Maximum discharge, 24,600 cfs Aug. 17, 1940, Mar. 27, 1944 (gage height, 12.8 ft); minimum daily, 120 cfs Sept. 5-10, 1954.

Maximum stage known, 17.0 ft in October 1929, from information by local residents.

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

Rating table, water year 1956-57 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 10-26, Feb. 15 to Mar. 12)

-0.2	180	6.0	1,580
3.0	670	7.0	2,170
5.0	1,200	8.0	3,740

Discharge, in cubic feet per second, water year October 1956 to September 1957

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	496	440	380	1,160	930	780	2,370	755	1,230	710	630	410
2	537	425	395	1,200	980	780	2,370	755	1,340	690	670	330
3	592	410	410	1,260	1,040	805	2,370	830	1,490	732	670	280
4	630	395	440	1,260	1,130	830	2,560	955	1,620	830	630	250
5	670	380	455	1,340	1,200	*905	2,860	1,200	1,620	1,010	592	220
6	710	380	470	1,340	1,300	980	3,120	1,410	1,450	1,200	502	210
7	755	358	470	1,340	1,370	1,100	3,120	1,580	1,300	1,370	395	200
8	780	358	470	1,260	1,450	1,160	2,770	1,680	1,230	1,530	316	190
9	732	351	470	1,130	1,450	1,230	2,490	1,720	1,300	1,530	281	200
10	650	344	455	1,010	1,490	1,340	2,490	1,720	1,490	1,370	253	220
11	611	344	455	955	1,530	1,450	2,700	1,780	1,620	1,160	226	250
12	573	344	440	955	1,580	1,580	2,700	1,890	1,680	1,010	208	300
13	573	344	440	930	1,530	1,680	2,430	2,020	1,720	880	200	340
14	555	344	440	930	1,490	1,680	2,170	2,020	1,780	690	190	390
15	502	344	440	930	1,370	1,680	2,020	2,090	1,780	502	180	450
16	455	344	440	955	1,200	1,680	1,950	2,170	1,680	380	180	490
17	410	344	440	980	1,130	1,620	1,950	2,170	1,580	337	180	490
18	365	337	455	955	1,040	1,620	1,950	2,020	1,490	323	180	460
19	351	337	*455	930	980	1,580	1,890	1,950	1,370	330	196	450
20	337	351	470	880	955	1,530	1,780	2,020	1,260	351	226	490
21	337	337	486	830	905	1,490	1,680	2,090	1,160	395	267	600
22	365	337	502	805	855	1,450	1,580	2,090	1,130	455	316	750
23	410	344	537	780	855	1,450	1,410	2,020	1,130	470	372	900
24	440	351	573	780	805	1,530	1,260	1,890	1,130	*455	425	940
25	455	351	630	780	780	1,780	1,160	1,780	1,040	440	486	900
26	455	344	690	805	780	2,020	1,070	1,680	980	395	537	830
27	455	*344	755	805	780	2,260	1,010	1,580	980	365	*573	780
28	455	344	805	805	780	2,320	955	1,530	905	410	592	755
29	455	358	880	805	-	2,260	880	1,410	830	470	592	732
30	*455	365	980	855	-----	2,220	805	1,340	755	537	555	755
31	455	-----	1,070	880	-----	2,370	-----	1,230	-----	592	486	-----
Total	16,011	10,749	16,798	30,630	31,685	47,160	59,870	51,375	40,070	21,919	12,106	14,562
Mean	516	358	542	968	1,132	1,521	1,996	1,657	1,356	707	391	485
Cfs/m	0.266	0.185	0.279	0.509	0.584	0.784	1.03	0.854	0.689	0.364	0.202	0.250
In.	0.31	0.21	0.32	0.59	0.61	0.90	1.15	0.98	0.77	0.42	0.23	0.28
Calendar year 1956: Max			7,150		Min 160		Mean 1,033	Cfs/m 0.532	In. 7.26			
Water year 1956-57: Max			3,120		Min 180		Mean 967	Cfs/m 0.498	In. 6.77			

* Discharge measurement made on this day.

Note.--Doubtful or no gage-height record Aug. 15-18, Sept. 2-25; discharge estimated on basis of recorder graph, weather records, and records for nearby stations.

