







































A, Stillwater River at Pleasant Hill, Ohio.



B, Cave Creek near Fort Spring, Ky.



C, Wabash River at Delphi, Ind.

FIGURE 1.—GAGING STATION STRUCTURES

an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage. If so, the rate of change in stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and 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 1956 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 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











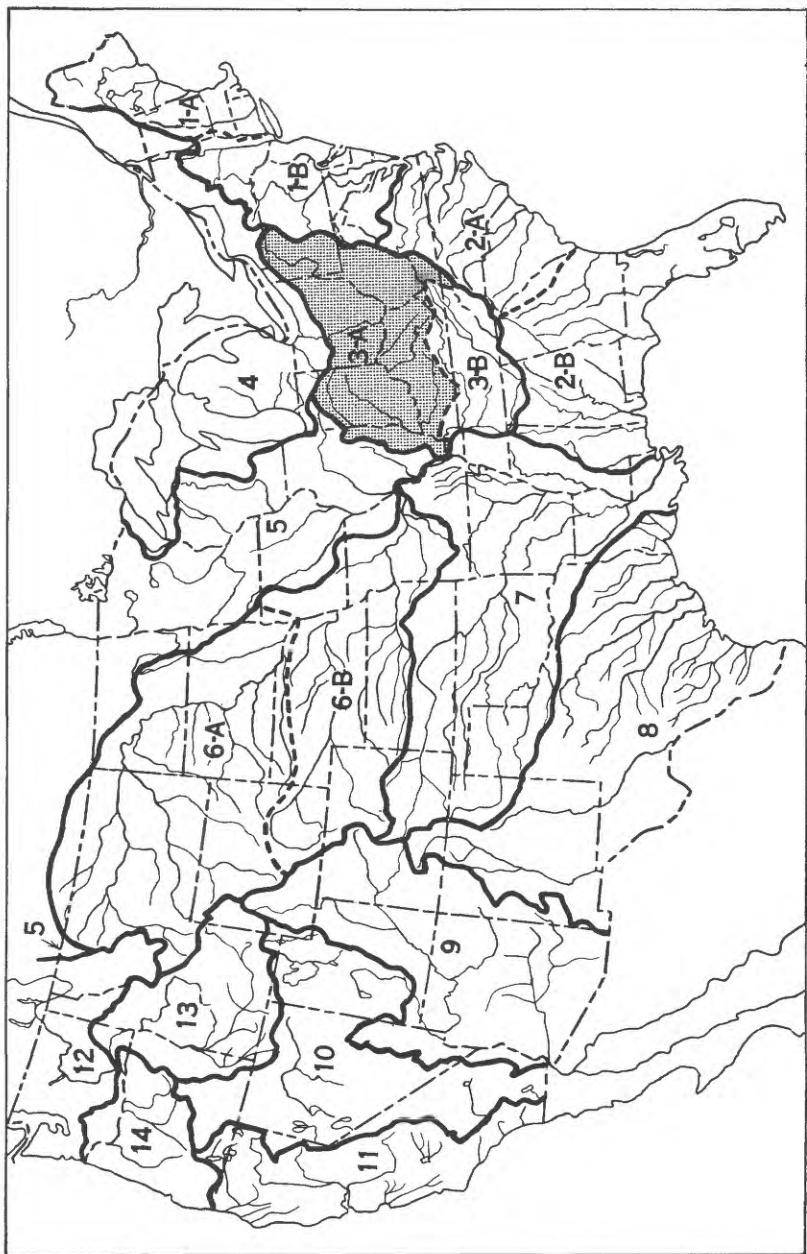


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

State reports containing compilations of records of discharge--Continued

State	Period	Report	Issued by
Kentucky.....	1910-20	Surface waters of Kentucky.....	Kentucky Geological Survey.
Maryland.....	1892-1943	Bull. 1, Summary of records of surface waters of Maryland and the Potomac River basin.	Department of Geology, Mines, and Water Resources.
Do.....	1898-1952	Bull. 13, Geology and water resources of Garrett County.	Do.
North Carolina	1889-1923	Bull. 34, Discharge records of North Carolina streams.	Department of Conservation and Development.
Do.....	1889-1936	Bull. 39, Discharge records of North Carolina streams. a/	Do.
Ohio.....	1898-1921	Bull. 73, Ohio streamflow, Part 1.....	Engineering Experiment Station, Ohio State University.
Do.....	1898-1939	Bull. 111, Ohio stream-drainage areas and flow-duration tables.	Do.
Do.....	1898-1944	Bull. 127, Ohio streamflow, Part 2.....	Do.
Do.....	1902-39	Bull. 200, Compilation of streamflow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Pennsylvania..	1890-1911	Report of Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	1928-32	Streamflow records of Pennsylvania.....	Department of Forests and Waters.
Virginia.....	1895-1927	Bull. 31, Water resources of Virginia.....	Virginia Geological Survey.
Do.....	1927-42	Bull. 7, Surface water supply of Virginia (New, Tennessee, and Big Sandy River basins).	Virginia Conservation Commission.
Do.....	1942-50	Bull. 15, Surface water supply of Virginia (New, Tennessee, and Big Sandy River basins).	Do.
Do.....	1951-55	Bull. 19, Surface water supply of Virginia (New, Big Sandy, and Tennessee River basins).	Virginia Department of Conservation and Development.

a/ Contains records of maximum and minimum daily, weekly and monthly discharge, and yearly mean discharge.

Note.--In addition to the records contained in the reports listed above, the following States have issued annual or biennial reports in which are contained records of discharge: Indiana, New York, and Pennsylvania.

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 or other agencies. 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 is a list of these reports:

Report	Issued by
WSP 147: Destructive floods in the United States in 1904.	U. S. Geological Survey.
WSP 162: Destructive floods in the United States in 1905.	Do.
WSP 334: The Ohio Valley flood of March-April 1913.	Do.
WSP 771: Floods in the United States, magnitude and frequency.	Do.
WSP 773-E: The New York State flood of July 1935.	Do.
WSP 800: The floods of March 1936, part 3, Potomac, James, and upper Ohio Rivers.	Do.
WSP 838: Floods of Ohio and Mississippi Rivers, January-February 1937.	Do.
WSP 847: Maximum discharges at stream-measurement stations through September 1938.	Do.
WSP 869: Flood of August 1935 in Muskingum River basin, Ohio	Do.
WSP 967-B: Flood of July 5, 1939, in eastern Kentucky.	Do.
WSP 1066: Floods of August 1940 in the southeastern States.	Do.
WSP 1134-A: Floods of August 4-5, 1943, in Central West Virginia.	Do.
WSP 1134-B: Floods of July 18, 1942, in North Central Pennsylvania.	Do.
WSP 1137-I: Summary of floods in the United States during 1950.	Do.
Bull. 7: Floods in Ohio, magnitude and frequency.	Ohio Water Resources Board.
Bull. 9: The flood of June 1946 in Wayne and Holmes Counties, Ohio	Do.
Bull. 14: Local floods in Ohio during 1947.	Do.
Cir. 204: Floods in Youghiogheny and Kiskiminetas River basins, Pennsylvania and Maryland, frequency and magnitude.	U. S. Geological Survey.
The Miami Valley and the 1913 flood.	The Miami Conservancy District.
The floods of March 1936 in Pennsylvania.	Pennsylvania Department of Forests and Waters.
The floods of May 1943 in Illinois.	Illinois Division of Waterways.
Floods in Illinois, magnitude and frequency.	Do.
Unit hydrographs in Illinois.	Do.
The Crooksville area flood of June 16-17, 1950.	Ohio Division of Water.

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

The Corps of Engineers has been collecting records of daily discharge of Licking River near Butler, Ohio, beginning in 1946 and the Agricultural Research Service of the United States Department of Agriculture has been collecting records of runoff from selected areas in the Ohio River basin as follows: near Blacksburg, Va., beginning in 1939, 4 areas of less than 20 acres each; near Coshocton, Ohio, beginning in 1937, 4 areas of 500 to 5,000 acres each, 5 areas of 100 to 500 acres each, 2 areas of 50 to 100 acres each, 2 areas of 20 to 50 acres each, and 22 areas of less than 10 acres each.

## HYDROLOGIC CONDITIONS

In the area covered by this report, streamflow varied widely during the year; over the entire area it was deficient during January and excessive during February. At one long-term gaging station in Kentucky and one in Ohio, monthly mean discharge was record-high for February. At Allegheny River at Franklin, Pa., flow was record-high for August and September and for the water year 1956. Peak discharge of Allegheny River at Red House, N. Y., on March 8 was the greatest in 53 years of record. In November streams near Edinburg, Ind., experienced the highest floods in about 12 years of record; however, peak discharges of May 29 were even greater. The highest flood in 30 years of record on Chartiers Creek at Carnegie, Pa., occurred on August 6. For three key gaging stations in the area, a comparison of the monthly and yearly mean discharge during the 1956 water year with the median discharge for the 25-year period (1921-45) is shown in figure 3 on the following page.

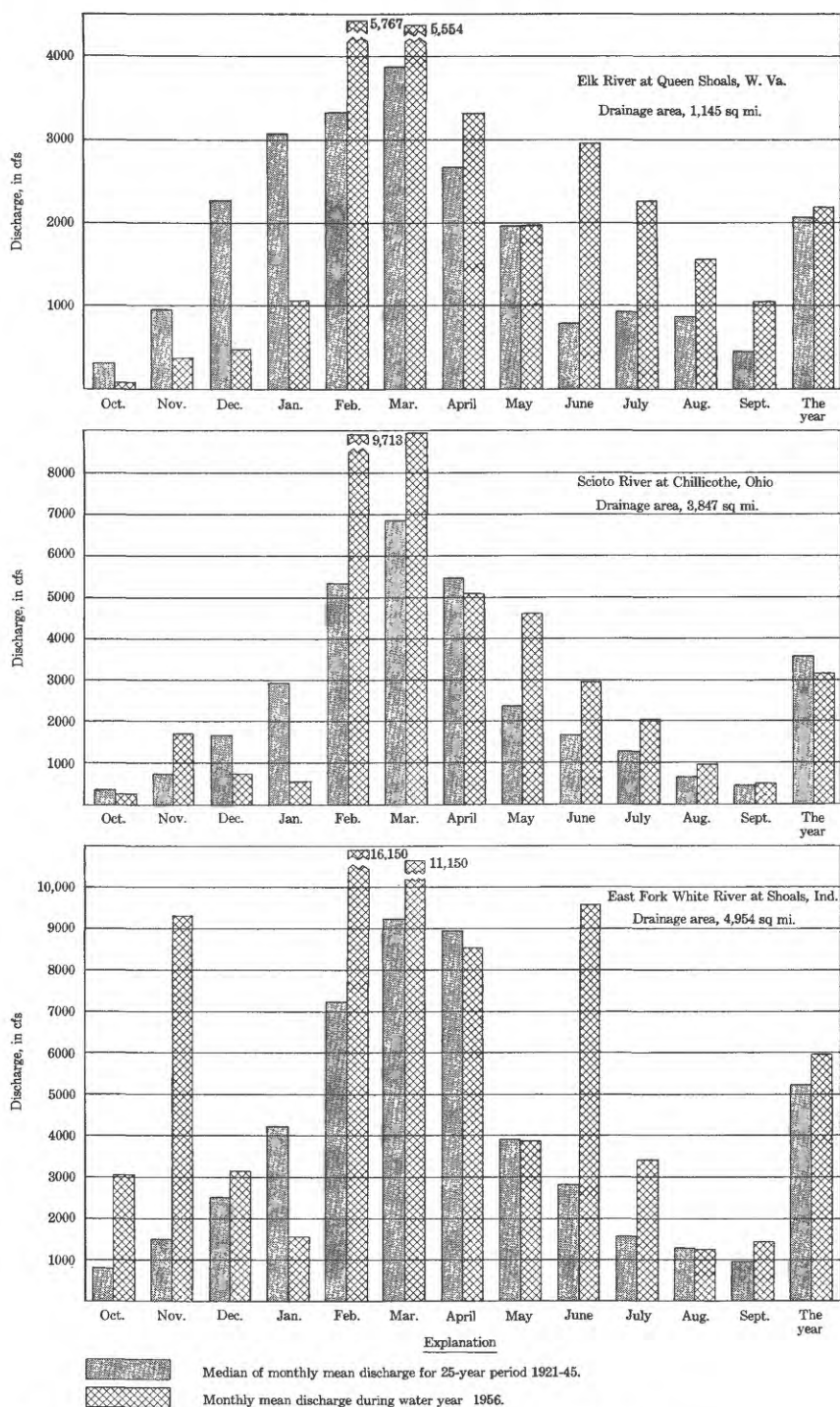


Figure 3. Comparison of discharge at three key gaging stations during 1956 water year with median discharge for 25-year period.















































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































































