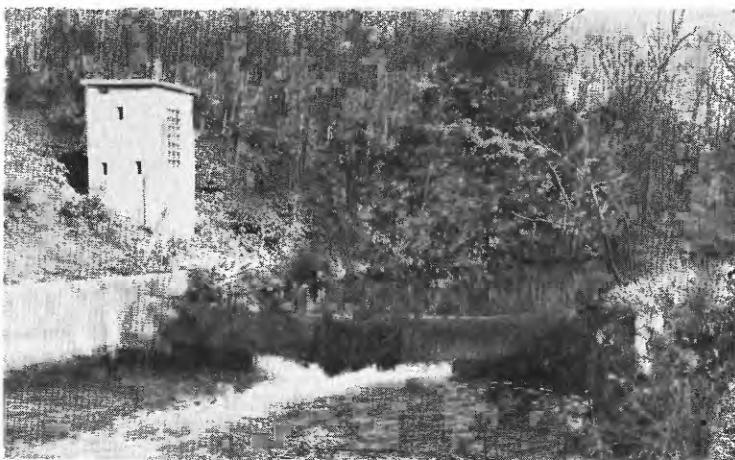




A. Otselic River at Upper Lisle, N. Y.



B. Clark Creek near Carsonville, Pa.



C. Mattaponi River near Bowling Green, Va.

FIGURE 1.—GAGING-STATION STRUCTURES

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. Information requisite for determining the slope or fall is obtained by means of 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 of 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.

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 "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 of gages, locations, and datums of previous gages for which discharge records are generally equivalent to those at the present site. 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). 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 non-recording 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."

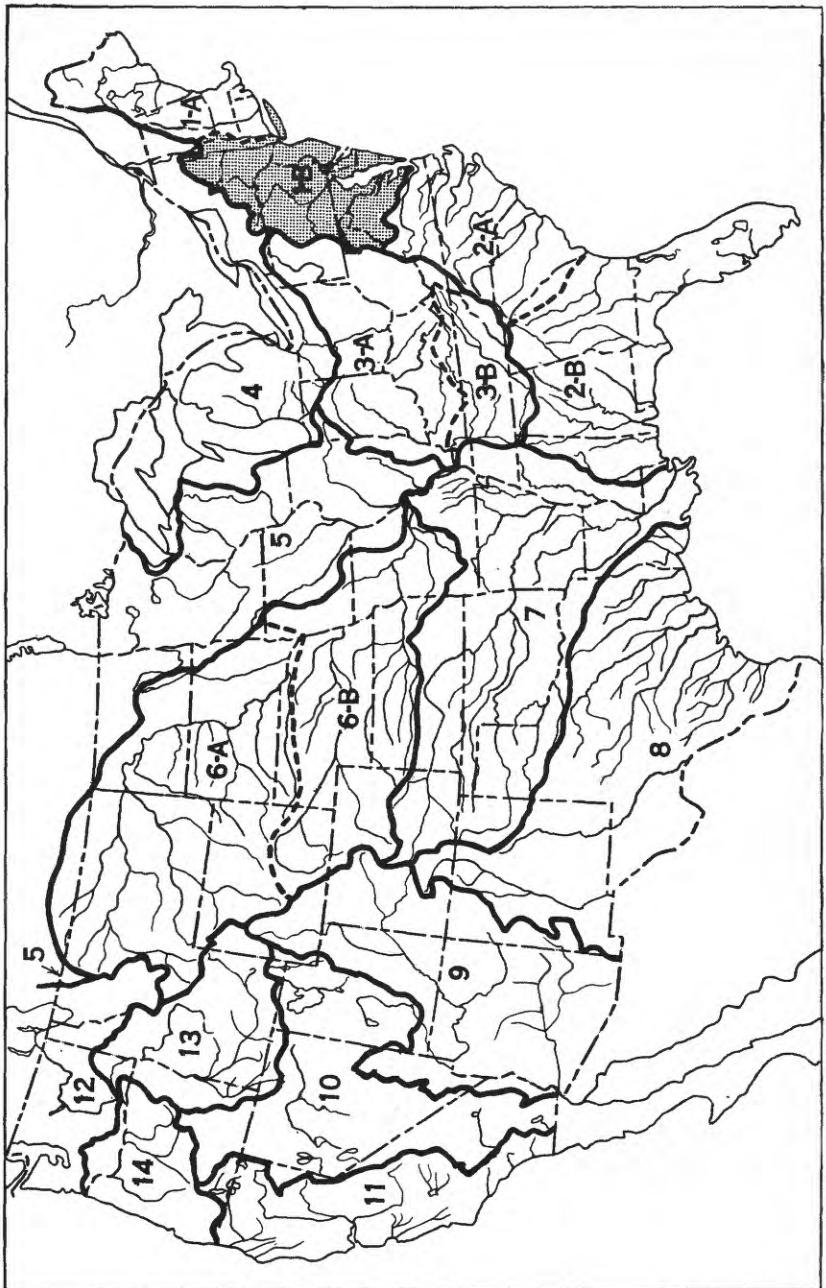


Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

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
Maryland.....	1929-37	Flow data and draft storage curves for major streams in Maryland.	State Planning Commission and Water Resources Commission.
Do.....	1892-1943	Bull. 1, Summary of records of surface water of Maryland and the Potomac River basin.	Department of Geology, Mines, and Water Resources.
Do.....	1931-48	Bull. 5, Anne Arundel County water resources.	Do.
Do.....	1944-49	Physical features of Washington County...	Do.
Do.....	1896-1950	Bull. 10, Prince Georges County water resources.	Do.
Do.....	1946-51	Bull. 11, St. Marys County water resources.	Do.
New Jersey....	1892-1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	1928-34	Special Rept. 5, Surface water supply of New Jersey.	State Water Policy Commission.
Do.....	1934-40	Special Rept. 9, Surface water supply of New Jersey.	Do.
Do.....	1940-45	Special Rept. 12, Surface water supply of New Jersey.	Department of Conservation and Economic Development.
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. 4, Surface water supply of Virginia (Potomac, Rappahannock, and York River basins).	Virginia Conservation Commission.
Do.....	1942-50	Bull. 12, Surface water supply of Virginia (Potomac, Rappahannock, and York River basins).	Department of Conservation and Development.

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: New York (also Board of Water Supply, city of New York, and city of Rochester) 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. 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 <u>Paper</u>	Title
88.....	The Passaic flood of 1902.
92.....	The Passaic flood of 1903.
147.....	Destructive floods in the United States in 1904.
162.....	Destructive floods in the United States in 1905.
771.....	Floods in the United States, magnitude and frequency.
773-E.....	The New York State flood of July 1935.
799.....	The floods of 1936, Part 2, Hudson River to Susquehanna River region.
800.....	The floods of 1936, Part 3, Potomac, James, and upper Ohio Rivers.
847.....	Maximum discharges at stream-measurement stations through September 1938.
966.....	Minor floods of 1938 in North Atlantic States.
1134-A.....	Floods of August 4-5, 1943, in Central West Virginia.
1134-B.....	Floods of July 18, 1942, in North Central Pennsylvania.
1137-I.....	Summary of floods in the United States during 1950.

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 1951 to September 1952 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
East Canada Creek.....	Inghams, N. Y.	1913-52	Niagara Mohawk Power Corp.
Hoosic River.....	Schaghticke, N. Y.	1910-52	Do.
Hudson River.....	Mechanicville, N. Y.	1913-52	Do.
Do.....	Spier Falls, N. Y.	1923-52*	Do.
Sprite Creek.....	Below Canada Lake, N. Y.	1913-52	Do.

* Records for period 1912-23 published in water-supply papers of Geological Survey.

Note.—The Soil Conservation Service, United States Department of Agriculture, has been collecting records of runoff from the following selected areas in the North Atlantic slope basins, New York to York River: Beginning in 1938, from 5 areas of less than 75 acres each near Boonsboro, Md.; beginning in 1939, from 10 areas of less than 20 acres each near College Park, Md.; and beginning in 1948, from one area of 500 acres and one area of 4,000 acres near Staunton, Va.

HYDROLOGIC CONDITIONS

Streamflow during the 1952 water year was well above normal in most of the North Atlantic slope basins, New York to York River. Record-breaking floods occurred in Delaware and Susquehanna River basins, Pennsylvania, in March and in Maryland during the hurricane of August 31 to September 1. Local flooding occurred in Maryland in May, in New York in June, and in Delaware and Pennsylvania in July. For three key gaging stations in the area covered by this report, a comparison of monthly and yearly mean discharges during the 1952 water year with the median discharge for the 25-year period 1921-45 is shown in figure 3 on the following page.

