

Floods of 1959 in the United States

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1750

*This water-supply paper was printed
as separate chapters A and B*



UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

CONTENTS

[The letters in parentheses preceding the titles designate separately published chapters]

- (A) Floods of January–February 1959 in Ohio and adjacent States.
- (B) Summary of floods in the United States during 1959.

Floods of January-February 1959 in Ohio and Adjacent States

Prepared under the direction of E. L. HENDRICKS, Chief, Surface Water Branch

FLOODS OF 1959 IN THE UNITED STATES

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1750-A

*Prepared in cooperation with the States of
Ohio, Indiana, Pennsylvania, and New
York, and agencies of the Federal
Government*



UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

The U.S. Geological Survey Library has cataloged this publication as follows :

U.S. Geological Survey

Floods of January–February 1959 in Ohio and adjacent States. Washington, U.S. Govt. Print. Off., 1964.

v, 296 p. illus., maps, diagrs., tables. 24 cm. (*Its* Water-supply paper 1750–A)

Floods of 1959 in the United States.

Prepared in cooperation with the States of Ohio, Indiana, Pennsylvania, and New York, and agencies of the Federal Government.

1. Floods—Ohio. 2. Stream measurements—Ohio. I. Title. (Series)

CONTENTS

	Page
Abstract.....	A1
Introduction.....	1
Acknowledgments.....	3
January storms.....	3
February storms.....	12
Floods of January-February.....	15
Allegheny River basin.....	15
Beaver River basin.....	17
Muskingum River basin.....	17
Scioto River basin.....	19
Little Miami River basin.....	20
Mill Creek basin.....	23
Miami River basin.....	23
Ohio River tributary basins in southern Indiana.....	24
Wabash River and upper tributary basins.....	24
East Fork White River basin.....	30
Maumee River basin.....	32
Lake Erie tributaries between the Maumee and Cuyahoga River basins.....	33
Cuyahoga River basin.....	33
Lake Erie tributaries east of the Cuyahoga River.....	33
Susquehanna River basin.....	35
Flood damage.....	37
Magnitude and frequency.....	40
Flood-inundation maps.....	43
Determination of flood discharges.....	47
Streamflow data at gaging stations.....	48
Explanation of data.....	48
Station descriptions and discharge tables.....	49
Summary of peak stages and discharges.....	50
Station data.....	65
Tionesta Creek basin.....	65
Oil Creek basin.....	66
French Creek basin.....	67
Ohio River main stem.....	69
Clarion River basin.....	70
Ohio River main stem.....	74
Mahoning Creek basin.....	75
Beaver River basin.....	76
Raccoon Creek basin.....	95
Little Beaver Creek basin.....	95
Muskingum River basin.....	96
Hocking River basin.....	127
Raccoon Creek basin.....	128
Scioto River basin.....	129
Little Miami River basin.....	151
Mill Creek basin.....	160
Miami River basin.....	163

Streamflow data at gaging stations—Continued

Station data—Continued	Page
Hogan Creek basin.....	A190
Laughery Creek basin.....	190
Indian Creek basin.....	191
Crooked Creek basin.....	191
Fourteenmile Creek basin.....	192
Silver Creek basin.....	192
Big Buck Creek basin.....	193
Big Indian Creek basin.....	193
Blue River basin.....	195
Little Blue River basin.....	196
Anderson River basin.....	196
Little Pigeon Creek basin.....	197
Pigeon Creek basin.....	197
Wabash River basin.....	197
Streams tributary to Lake Erie.....	254
Streams tributary to Niagara River.....	285
Streams tributary to Lake Ontario.....	290
Index.....	293

ILLUSTRATIONS

FIGURE		Page
1.	Map showing area covered by this report.....	A2
2.	Map showing location of flood-determination sites.....	4
3.	Average temperatures and departure of monthly average for December 1958.....	6
4.	Average temperatures and departure of monthly average for January 1959.....	8
5.	Weather conditions at selected weather stations, western part of flood area.....	9
6.	Weather conditions at selected weather stations, eastern part of flood area.....	10
7.	Map showing depth of snow cover January 18, 1959.....	11
8.	Rainfall map, January 19–21, 1959.....	13
9.	Rainfall map, February 9–10, 1959.....	14
10.	Ice jam in Riley Creek near Ottawa, Ohio.....	16
11.	Discharge hydrographs for Beaver and Muskingum River basins.....	18
12.	Flooding in Chillicothe, Ohio.....	21
13.	Discharge hydrographs for basins of the Scioto and the Little Miami Rivers and Mill Creek.....	22
14.	Discharge hydrographs for the Miami River basin and Ohio River tributaries in southern Indiana.....	25
15.	Ice blocks in the Wabash River.....	27
16.	Flooding in Wabash, Ind.....	28
17.	Breach in floodwall at Peru, Ind.....	29
18.	Comparative discharge hydrographs for Wabash River.....	30

CONTENTS

V

	Page
FIGURE 19. Discharge hydrographs for tributaries to upper Wabash River in February 1959 and to lower Wabash River in January 1959.....	A31
20. Flooding in Fremont, Ohio.....	34
21. Discharge hydrographs for streams tributary to Lake Erie....	36
22. Map showing ratio of January and February peak discharges to mean annual flood.....	40
23. Distribution of the ratios of peak discharge to mean annnal flood.....	43
24. Ratio of January peak discharges to the 50-year flood.....	44
25. Ratio of February peak discharges to the 50-year flood.....	45
26. Map of Ohio showing cities for which flood inundation studies have been made.....	47

TABLES

	Page
TABLE 1. Personal and private property losses, Ohio and Indiana, as compiled by the American Red Cross.....	A37
2. Flood damages by river basins.....	38
3. Summary of flood stages and discharges.....	52

FLOODS OF 1959 IN THE UNITED STATES

FLOODS OF JANUARY-FEBRUARY 1959 IN OHIO AND ADJACENT STATES

ABSTRACT

The floods of January 21-24, 1959, were the greatest of record in a widespread area in Ohio and Indiana and were of large magnitude in western Pennsylvania and southwestern New York. On some streams the stages and discharges exceeded those of 1913. Thirty-two lives were reported lost and total damage was estimated at \$100 million. About 20,000 buildings were flooded, and more than 50,000 persons were evacuated.

Heavy rains on January 20-21 exceeded 6 inches in a belt extending from the southwestern corner of Indiana through the southwestern corner of Ohio and into central Ohio. More than 3 inches of rain fell in about half of Ohio and Indiana, in the southern tip of Illinois, in the northern half of Kentucky and in a very narrow area extending into western Pennsylvania. The ground was saturated from a storm of January 14-17 and was frozen. Various depths of snow covered northern Indiana and the entire area east of the Indiana-Ohio State line.

Heavy runoff was due to the high rainfall intensities on deeply frozen ground. On January 21, 6.2 inches fell at Moores Hill, Ind., and 5.5 inches fell at Springfield, Ohio.

On February 9-10, 3 weeks after the January storm, a similar storm occurred in which the center was farther north. More than 3 inches of rain fell on parts of the Maumee River and Sandusky River basins in Ohio and on the upper Wabash River basin in Indiana. The resulting floods were greatly complicated by ice jams, but they were much lower in stage and discharge than those in January.

INTRODUCTION

Damaging floods in 2 periods only 3 weeks apart in January and February 1959 occurred in Ohio and adjacent States (fig. 1). The first series of floods, January 21-24, were in streams throughout Ohio; in Indiana in tributaries to the Ohio River above the Wabash River, in the East Fork White River and tributaries, and in the upper Mississinewa River; in western Pennsylvania; and in the southwestern tip of New York. The second series of floods, February 10-13, were in the Wabash River from Vincennes to Lafayette, Ind., and in tributaries above that point, and in streams in the Maumee River basin and tributaries in the extreme northwestern corner of Ohio.



FIGURE 1.—Map showing area covered by this report.

A major purpose of this report is to relate the history of streams during the floods. Although no interpretation of statistics is attempted, the basic stream data presented here are sufficient for hydrologic evaluation of the floods and for plans for the future in the affected area.

It was important that discharges be determined on many of the streams which had maximum stages of record. Most of these streams are in Ohio, and about 30 hydraulic engineers from all sections of the Nation were assigned to the Columbus district during a 3-month period following the floods.

The severity of these major floods, especially those of January 21-24, may be determined by studying the records of 345 stream sites (fig. 2). These sites are at gaging stations, discontinued gaging stations, crest-stage stations, partial-record stations, miscellaneous sites, and reservoirs. Peak stages and discharges are given for the January-February 1959 floods and also for the maximum floods known previous to this.

The conditions causing the extreme floods, precipitation and antecedent conditions, are discussed. The floods and resultant damage are described in narrative form by basins.

A section on magnitude and frequency relates the peak discharge at many of the stations to the mean annual flood and to a theoretical flood having a 50-year recurrence interval.

Much of the descriptive material in this report was obtained from the U.S. Geological Survey and State of Ohio reports and from the U.S. Geological Survey Circulars 418 and 440.

ACKNOWLEDGMENTS

Records of discharge in the area covered by this report were collected as part of the cooperative programs between the U.S. Geological Survey and the States of Ohio, Indiana, Pennsylvania, and New York; the Corps of Engineers; Miami Conservancy District, Ohio; and the city of Columbus, Ohio.

The following district engineers supervised the work of Surface Water Branch personnel: L. C. Crawford, Ohio; D. M. Corbett, succeeded by M. D. Hale, Indiana; J. J. Molloy, Pennsylvania; and D. F. Dougherty, New York.

The field and office work of obtaining and computing indirect measurements of discharge was directed by Richard H. Tice, flood specialist.

Assistance in collection of data was given by several Federal and State agencies, municipalities, corporations, and individuals, to whom credit is given in appropriate station descriptions. The isohyetal maps were prepared from data furnished by the Weather Bureau; the Division of Water, Ohio Department of Natural Resources; and the Indiana Flood Control and Water Resources Commission.

Acknowledgment of other data furnished is made where the data appear in the report.

The data from the various sources were assembled and the text material was enlarged and coordinated by J. O. Rostvedt, of the Floods Section, Tate Dalrymple, Chief, Washington, D.C.

JANUARY STORMS

The floods of January 21-24, 1959, were the worst in much of the Ohio River basin since the great flood of 1913. On several streams, stages and discharges exceeded those of 1913.

The number of deaths reported due to the floods were 16 in Ohio, 12 in Pennsylvania, and 4 in Indiana. Damage was estimated at \$100 million.

Two factors that contributed significantly to the severity of the floods, in addition to precipitation of January 19-21, were saturated frozen ground and the snow cover at the beginning of the flood period.

December 1958 was a dry month over most of the flood area and the driest December since 1931 in the northeastern and central part of Indiana. The snow cover at the end of the month was therefore

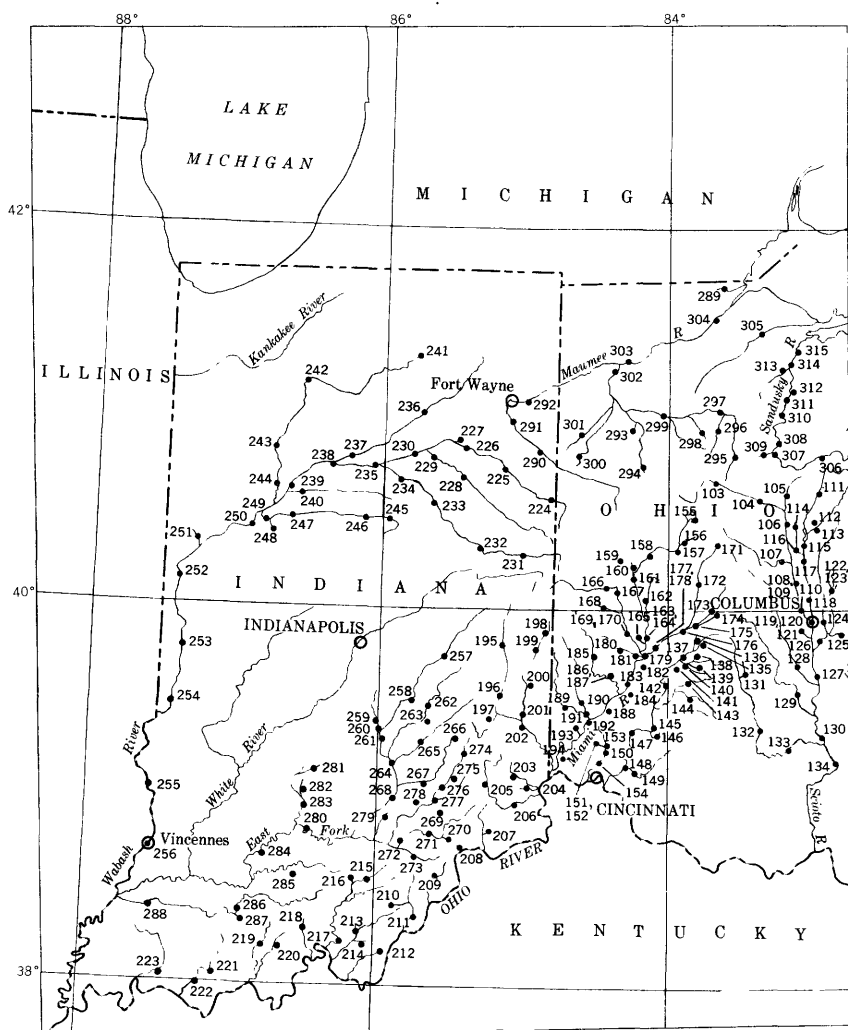
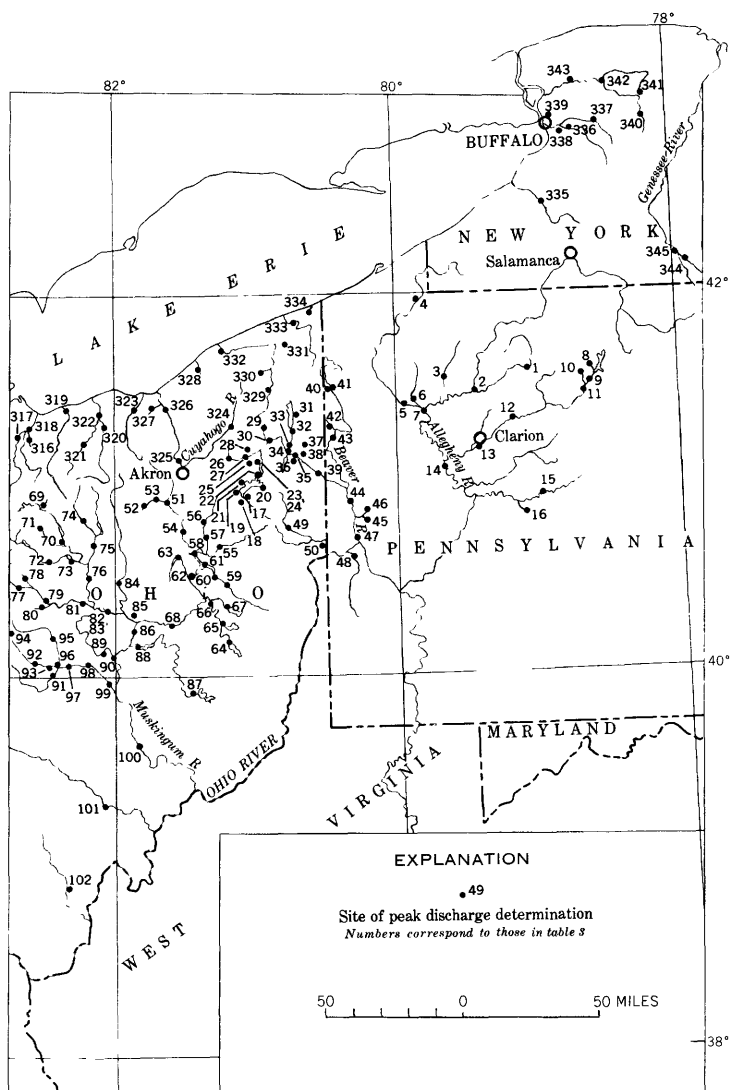


FIGURE 2.—Map of flood area showing

light in all areas except along the Great Lakes. Repeated invasions of cold air crossing the warmer water of the Great Lakes brought snow squalls to areas adjacent to the Great Lakes. Oswego, N.Y., on the shore of Lake Ontario, received from 85 to 100 inches of snow during December, and even greater amounts fell in the extreme southwest corner of New York. La Porte, Ind., received 28 inches during the month.

As well as being a dry month, December was also extremely cold throughout the area. It was the coldest December since 1931 in most



location of flood-determination sites.

of Indiana, since 1926 in New York City, and since 1917 in most of Pennsylvania. The first half of December was the coldest of record in Illinois.

The extent to which the average temperature in December 1958 was below the long-term December mean is shown in figure 3. The number in each of the Weather Bureau divisions represents the departure, in degrees Fahrenheit, of the December 1958 average from the long-term December mean in that division.

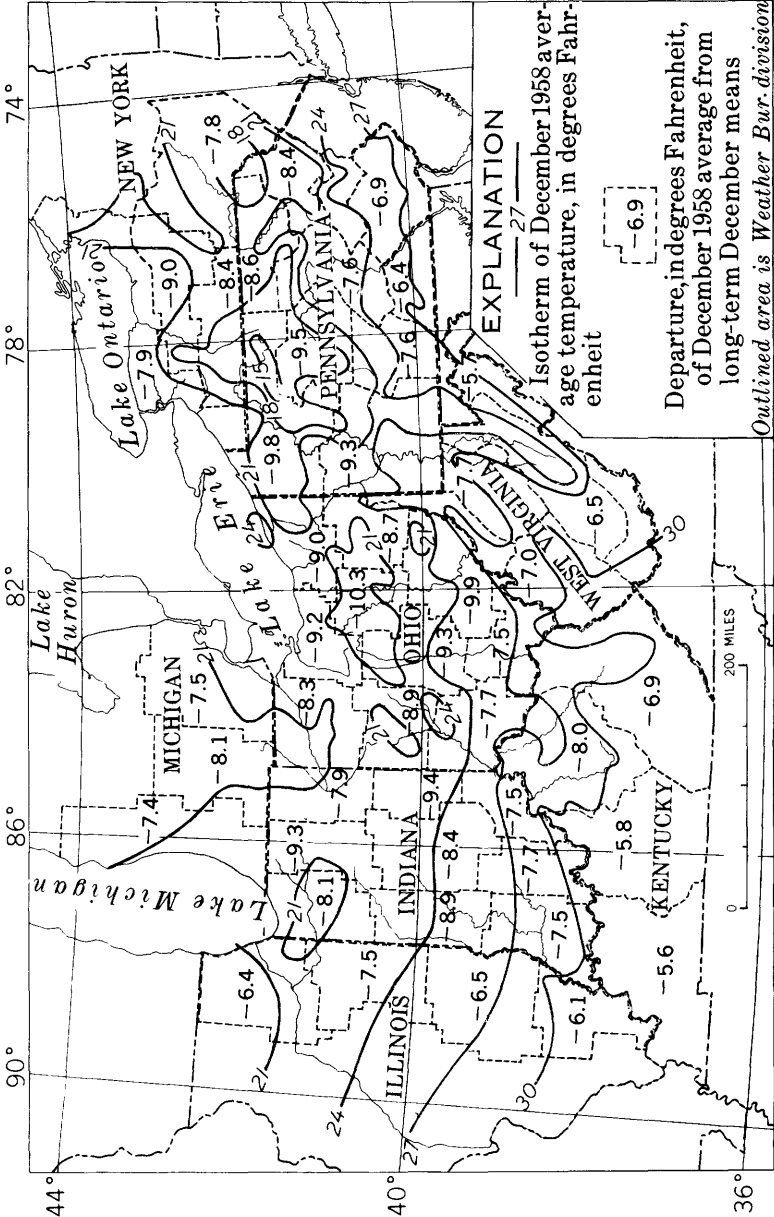


FIGURE 3.—Map of flood area showing average temperatures for December 1958 and departure of monthly average from long-term December means.

Without exception, the December 1958 average temperature was below normal in every Weather Bureau division in the area. The departure of the December 1958 average temperature at Rochester, Ind., was 11.7° below the long-term mean, and the average departure in the entire State was about 8° below the long-term mean. In southern New York, Pennsylvania, and Ohio the departure from the long-term mean ranged from 8° to 10° colder. In the first half of December the average temperature in Illinois was from 10° to 15° below the long-term mean, and in the short period December 7-16 the average temperatures in Pennsylvania ranged from 10° to 30° below the long-term means.

The cold weather continued into January 1959 and again, without exception, the monthly average temperature was considerably below the long-term January mean (fig. 4) throughout the flood area, and precipitation was light during the early part of the month. Consequently, the frost penetrated deeply into the ground. Reports from Ohio indicate that the ground in that State was frozen from 6 to 24 inches deep, and ice as much as 18 inches thick formed on streams in northern Ohio.

Conditions during January 14-17, antecedent to the principal storm on January 19-21, had considerable effect on the floods to follow. From 0.5 to 1.8 inches of precipitation fell in Ohio and western Pennsylvania in the form of rain, sleet, and snow. In western New York the precipitation was light and mainly snow. Indiana received about $1\frac{1}{2}$ inches of rain in the southern part of the State, and snow fell only in the northern part of the State, accumulating to a depth of 17 inches at South Bend and 10 inches at Logansport. More than 1 inch of rain fell at many points in Illinois.

Figures 5 and 6 show that during the storm of January 14-17, maximum daily temperatures fell considerably below freezing, and minimum daily temperatures fell below zero. Nearly all the precipitation from the storm was either retained in the soil by freezing or remained on the surface as snow and ice. In the following period, previous to the principal storm which began January 19, the maximum temperatures did not rise above freezing; hence, very little of the precipitation appeared in streams as runoff.

Figure 7 shows the accumulation of snow on the ground on January 18. In the eastern part of the flood area much of the precipitation of January 19-20 was snow and added somewhat to the depth of accumulation.

A rapid rise in temperatures began January 20 in southern Indiana and Ohio, in western Pennsylvania, and in areas south of there.

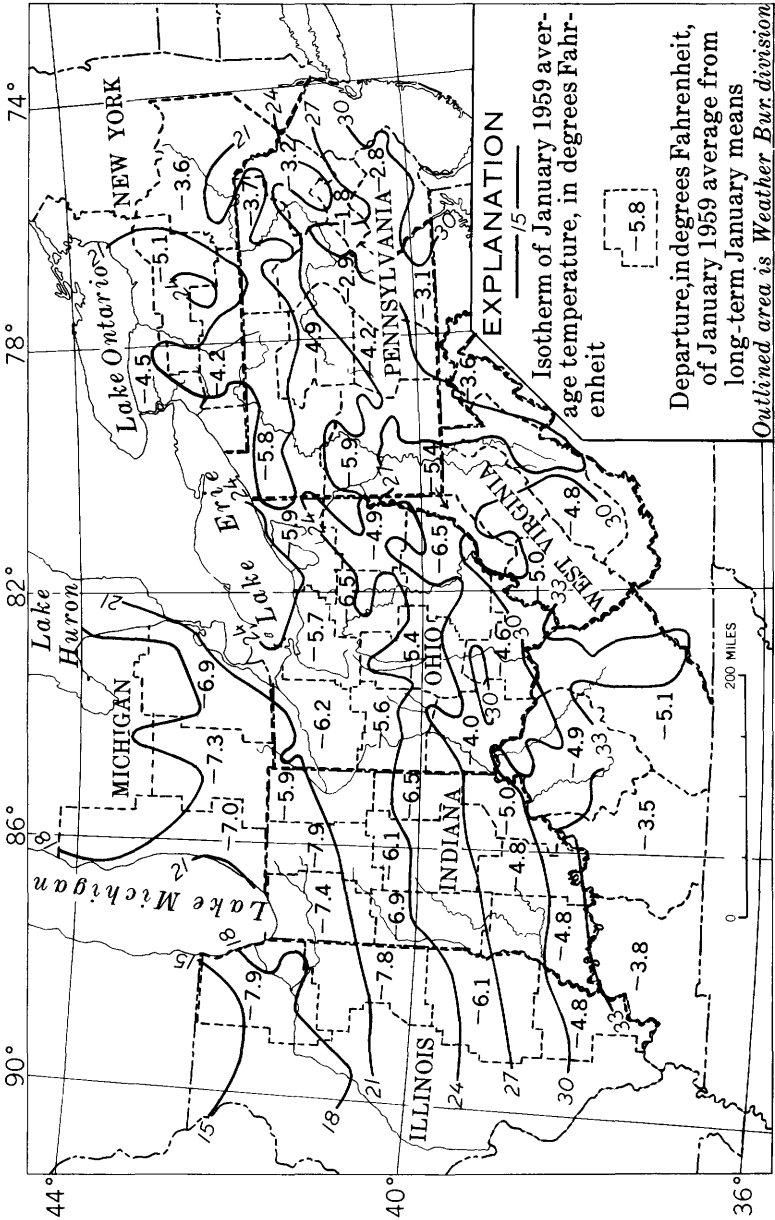


FIGURE 4.—Map of flood area showing average temperatures for January 1959 and departure of monthly average from long-term January means.

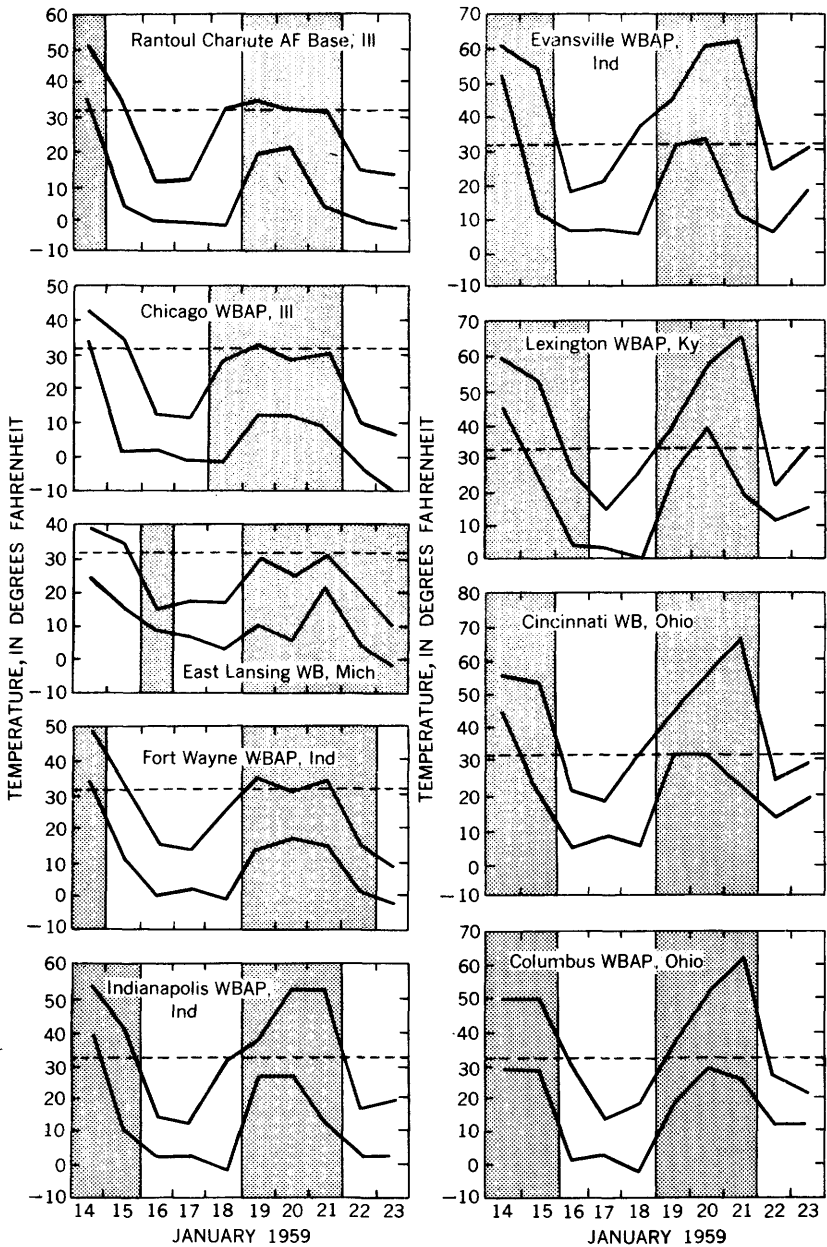


FIGURE 5.—Graphs showing weather conditions at selected weather stations, western part of flood area, January 14–23, 1959. Shaded areas indicate periods in which precipitation occurred. Temperature lines are daily maximums and minimums.

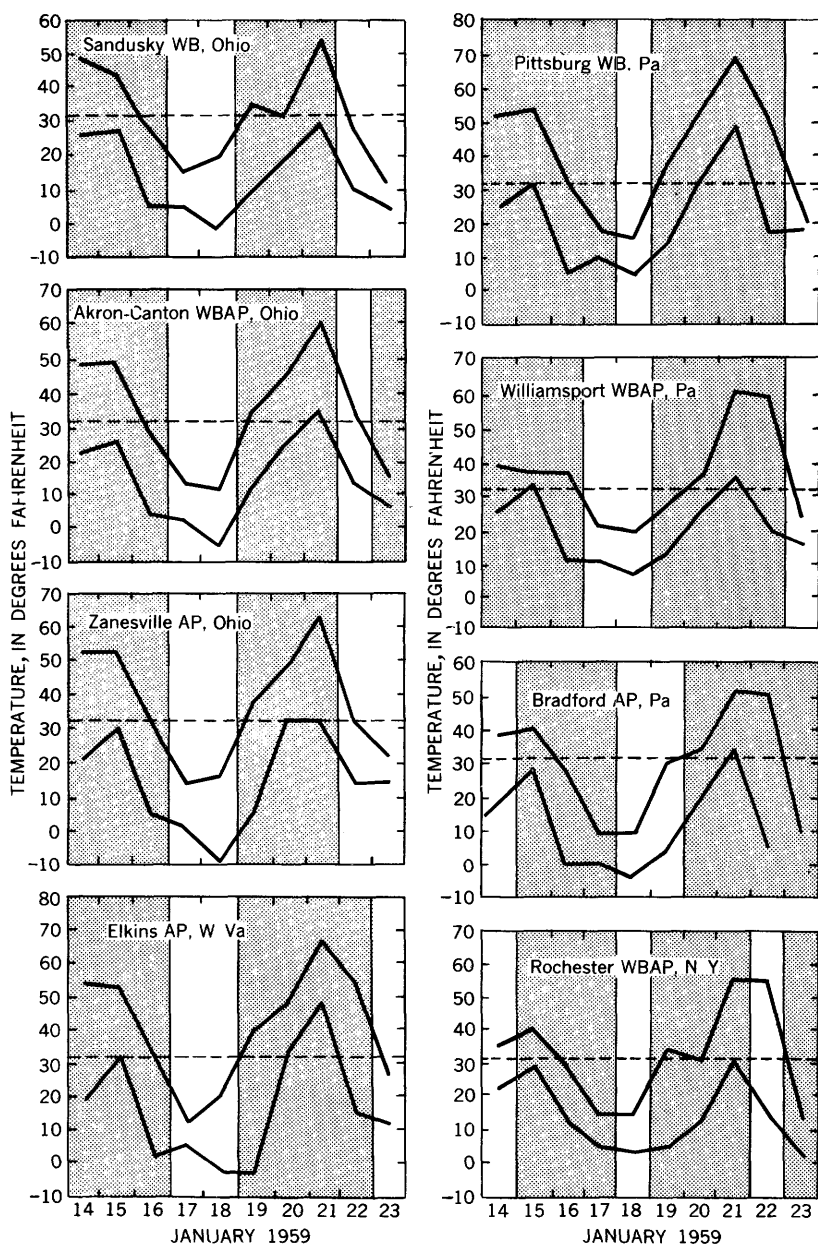


FIGURE 6.—Graphs showing weather conditions at selected weather stations, eastern part of flood area, January 14–23, 1959. Shaded areas indicate periods in which precipitation occurred. Temperature lines are daily maximums and minimums.

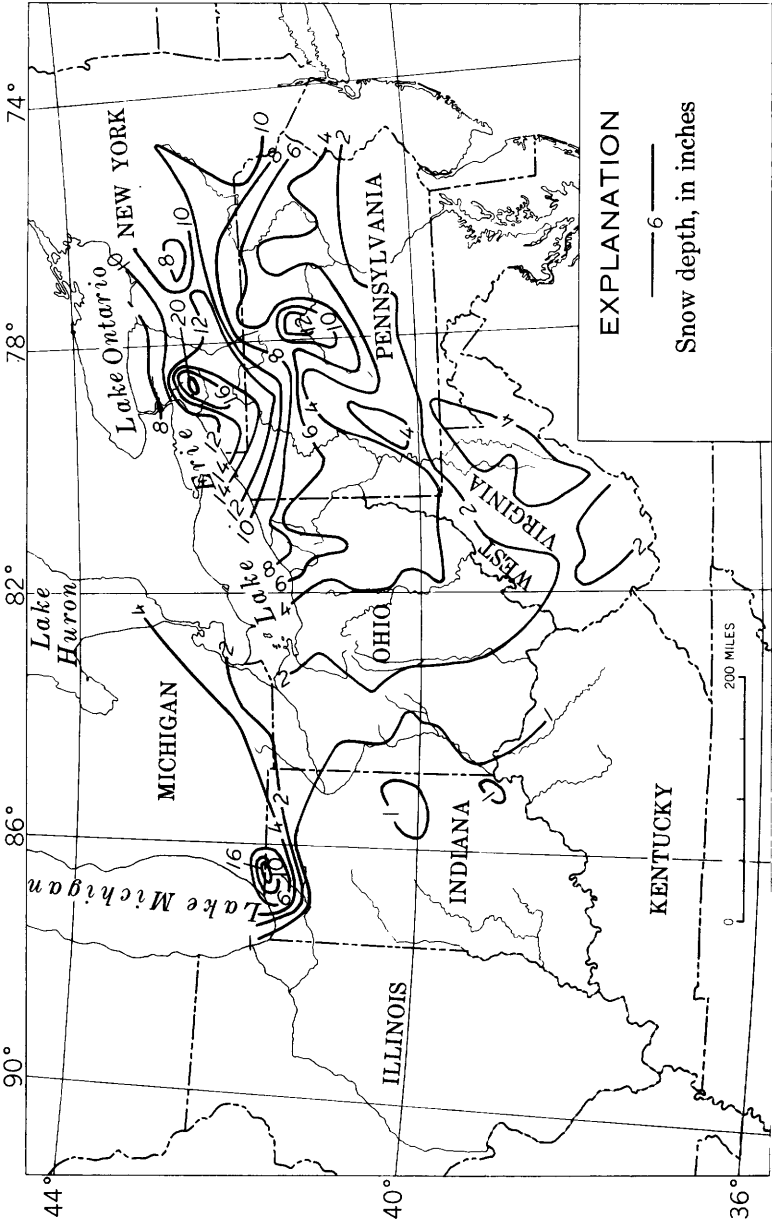


FIGURE 7.—Map of flood area showing depth, in inches, of snow cover, January 18, 1959.

On January 21 the warm weather spread to include the northern part of Ohio and parts of Pennsylvania and New York.

Rains began, generally, on the night of January 20 and continued through January 21. They were of a high intensity in a southwest-northeast belt extending from the southwest corner of Indiana to the southwest corner of Ohio and continuing on to central Ohio. Storm totals (fig. 8) were generally less than those in March 1913 but intensities were greater. Greatest 1-day precipitations were 6.2 inches at Moores Hill in the southeast corner of Indiana and 5.5 inches at Springfield near the southwest corner of Ohio. The floods were extreme in the area inclosed by the 4-inch isohyet.

The ground was deeply frozen from the extremely cold weather in December 1958 and January 1959 and was saturated from rains and melting of snow which had fallen a few days earlier. Therefore, when the heavy rains fell in the warm period very little of the water was absorbed by the soil and most of it appeared in streams as direct runoff. Melting of the accumulated snow in northeast Ohio, western Pennsylvania, and southwestern New York added to the volume and rate of runoff produced by the rain. The water equivalent of the snow at Rochester, N.Y., was 1.7 inches in 11 inches of accumulated snow and that in northeastern Ohio was about 0.5 inch in 4 to 8 inches of snow.

The sudden influx of water into the stream channels caused the heavy ice cover on the streams to break up. Ice gorges backed up water to cause record stages on many streams.

FEBRUARY STORMS

Major floods produced by precipitation on snow-covered frozen ground again occurred on February 10-13 in northern Indiana and northwestern Ohio.

After the floods of January 21-24, a cold spell again froze the top-soil making it impervious. Therefore, when the rains of February occurred, the runoff was greater than in January. The heaviest rains were in an east-west band through the center of Ohio and Indiana. The only area having snow of any consequence was a narrow strip in northern Indiana and the northwestern corner of Ohio.

Rainfall averaged more than 3 inches in less than 24 hours over the extreme upper Wabash and Mississinewa Rivers on February 9-10. Other scattered areas in Ohio also received 3 inches or more of rain (fig. 9). This intense rain falling on ice and frozen ground resulted in the greatest flooding in 46 years at numerous points on the Wabash River and may have exceeded the floods of 1913 at some points.

The runoff was quick and was unretarded by infiltration, and stages

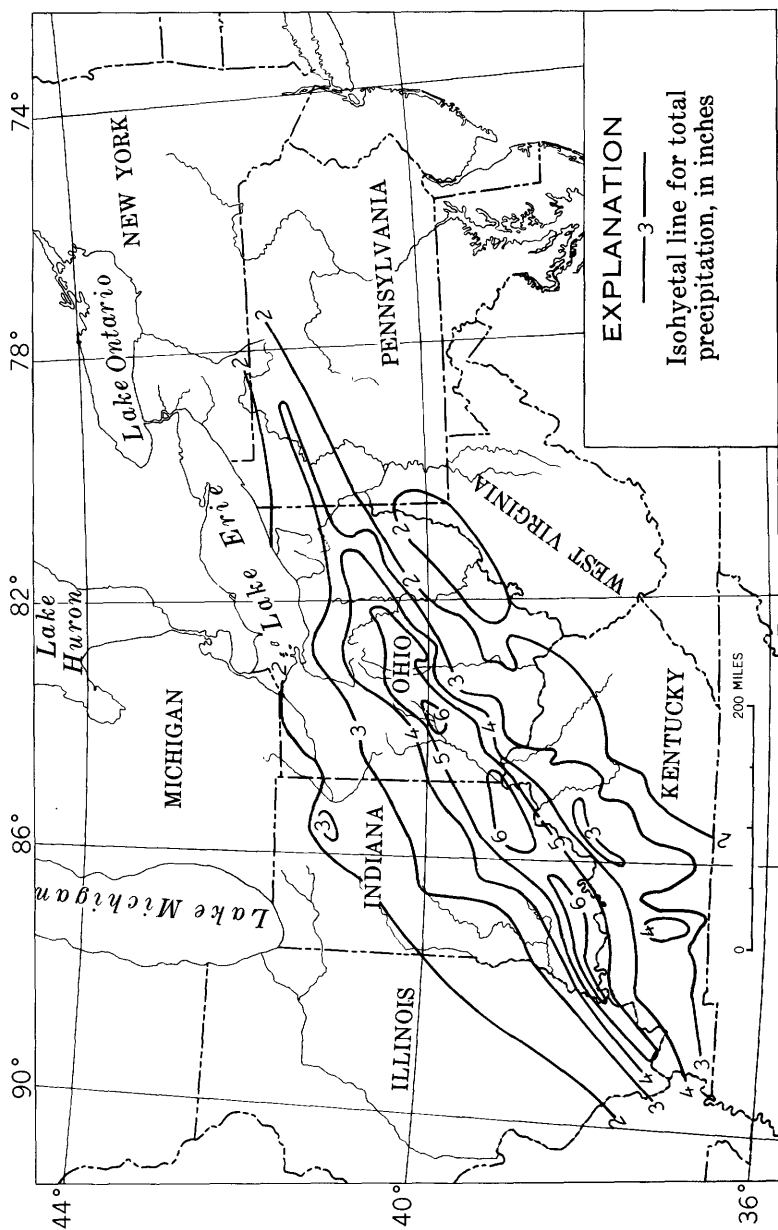


FIGURE 8.—Isohyetal map showing total precipitation, in inches, January 19-21, 1959.

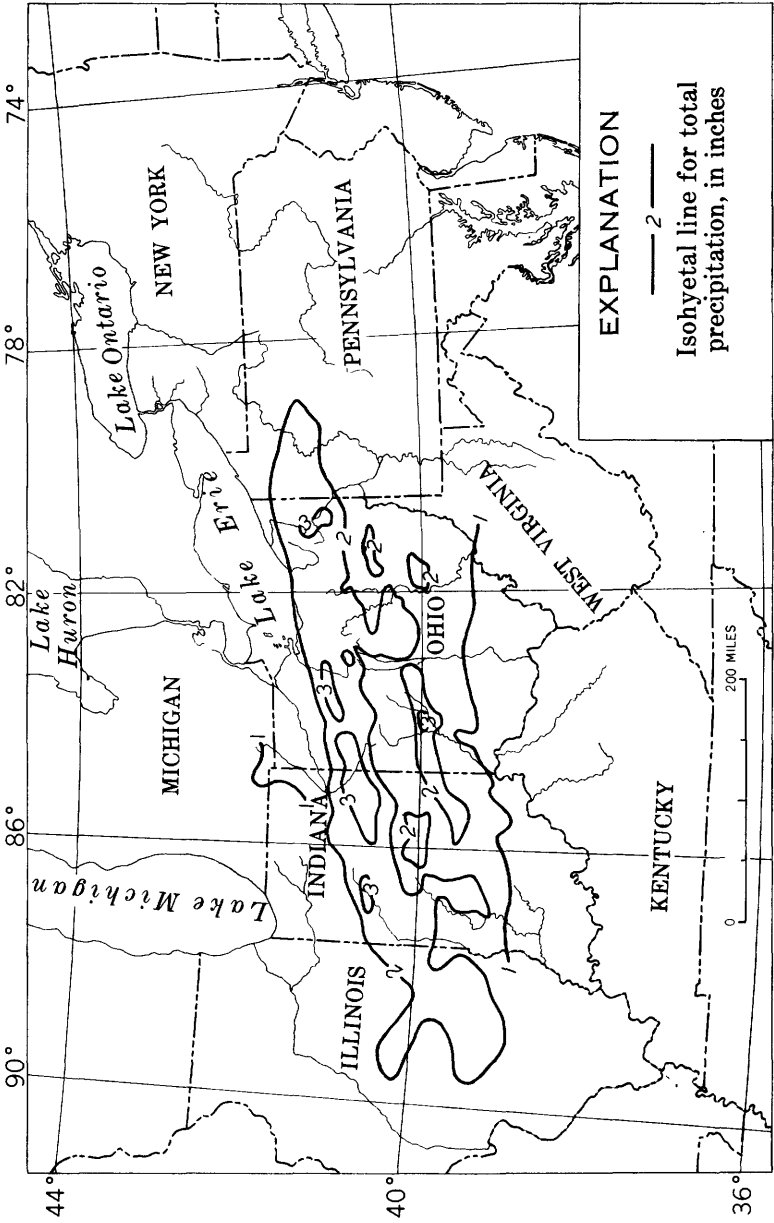


FIGURE 9.—Isohyetal map showing total precipitation, in inches, February 9-10, 1959.

higher than would normally be associated with the discharges were caused by backwater produced by large accumulations of ice which blocked stream channels.

The February floods were particularly severe on the tributaries of the Wabash River in Indiana above Lafayette and in the Maumee and Sandusky River basins in Ohio. The high discharges in these streams were partly due to the fact that they were still high from the January floods. Also, much of the precipitation which fell as snow in January melted to add to the volume of runoff water. In addition, the extremely cold weather following the January floods produced a foot or more of ice on the streams. This resulted in a great deal of backwater due to the formation of ice gorges during the February floods.

FLOODS OF JANUARY-FEBRUARY

The disastrous floods of January 21-24 occurred in an area extending from southern Indiana, through Ohio, and into western Pennsylvania. In some localities in Ohio the floods were worse than those in 1913. The deeply frozen ground throughout the area was partly responsible for the large volume and rapid rate of runoff of the heavy rain. The increase of stage due to ice jams on some streams also caused extreme flooding. Less damaging floods occurred in New York in tributaries to Lake Erie and the Niagara River and in the upper Susquehanna River basin. Flood damage was estimated at about \$100 million.

Damaging floods occurred again on February 10-13 in northern Ohio, in the Wabash River basin above Lafayette, and in the reach of the Wabash River from Lafayette to Vincennes. In Indiana the highest stage since 1913 occurred at several points along the Wabash River. Ice jams (fig. 10) increased the stage in many localities, resulting in millions of dollars in damage in both urban and rural areas.

ALLEGHENY RIVER BASIN

Flood stages were exceeded along the entire reach of the Allegheny River. Ice gorges broke up at various locations in the Allegheny River basin during the early morning of January 22 resulting in huge ice floes accompanied by backed-up water that caused record floods at Meadville, Pa., on French Creek and at Kittanning, Pa., on the Allegheny River.

Meadville had the worst flood in its history when an ice gorge 2 miles long blocked French Creek. An attempt was made to break up the gorge by dropping dynamite from a helicopter. The backed-up water flooded about 10 percent of the city of 25,000 population, drove 2,000 persons from their homes, and paralyzed business.



FIGURE 10.—Ice jams in Riley Creek near Ottawa, Ohio, February 19, 1959. Photograph by Richard E. Landick, Jr., Ottawa.

Kittanning, a city of 10,000 about 45 miles north of Pittsburgh, was isolated for several hours when an ice jam in the Allegheny River sent 5 feet of water over an area of 30 blocks.

BEAVER RIVER BASIN

The January flood in the Mahoning River basin in Ohio was the highest since the construction of the Berlin and Mosquito Creek flood-control reservoirs. The reservoirs held back substantial runoff, but uncontrolled tributaries, principally the West Branch Mahoning River and Eagle Creek, caused high stages and severe damage. More than 7,000 workers were laid off because of flooded industries. At Warren, 1,750 persons were forced from their homes. At Newton Falls, on the West Branch, the waterplant was shut down, and 300 persons were evacuated from their homes. Crab Creek, a small tributary to the Mahoning River, flooded parts of Youngstown, where 1,000 persons were evacuated. Total damage in the Mahoning River basin exceeded \$16 million. Estimates by the Corps of Engineers (Eng. News-Rec., Feb. 5, 1959) indicate that the reservoirs reduced the stage at Youngstown by 5.3 feet and prevented additional damage of more than \$30 million.

The Shenango River spilled over into Sharon, Pa. The water was 3 feet deep in parts of a 10-block area in the business district. Most downtown business establishments were closed and some industrial plants were shut down. Damage in Sharon was estimated at \$2 million.

Discharges at selected gaging stations in the Beaver River basin on January 20-26 are shown in figure 11.

MUSKINGUM RIVER BASIN

Major damage in the Muskingum River basin was caused by the January floods. The 14 flood-control reservoirs of the Muskingum Conservancy District, operated by the Corps of Engineers, reduced flooding by the Muskingum River in Ohio. However, uncontrolled tributaries in the western part of the basin were in the area of excessive rainfall. The floods on some of these streams exceeded all previous records, including those of the flood of 1913.

Mount Vernon had the worst flood in its history when the levee along the Kokosing River gave way and water rose rapidly in an extensive residential district, flooding about one-third of the city. About 3,500 persons of the total population of 16,000 were forced from their homes. The waterplant was damaged, there was a power failure, and only one road into the city remained passable. The peak flow of Kokosing River at Millwood, downstream from Mount Vernon, was nearly twice that of the 1913 flood. Discharge from Dry Run and other small tributaries added to the damage.

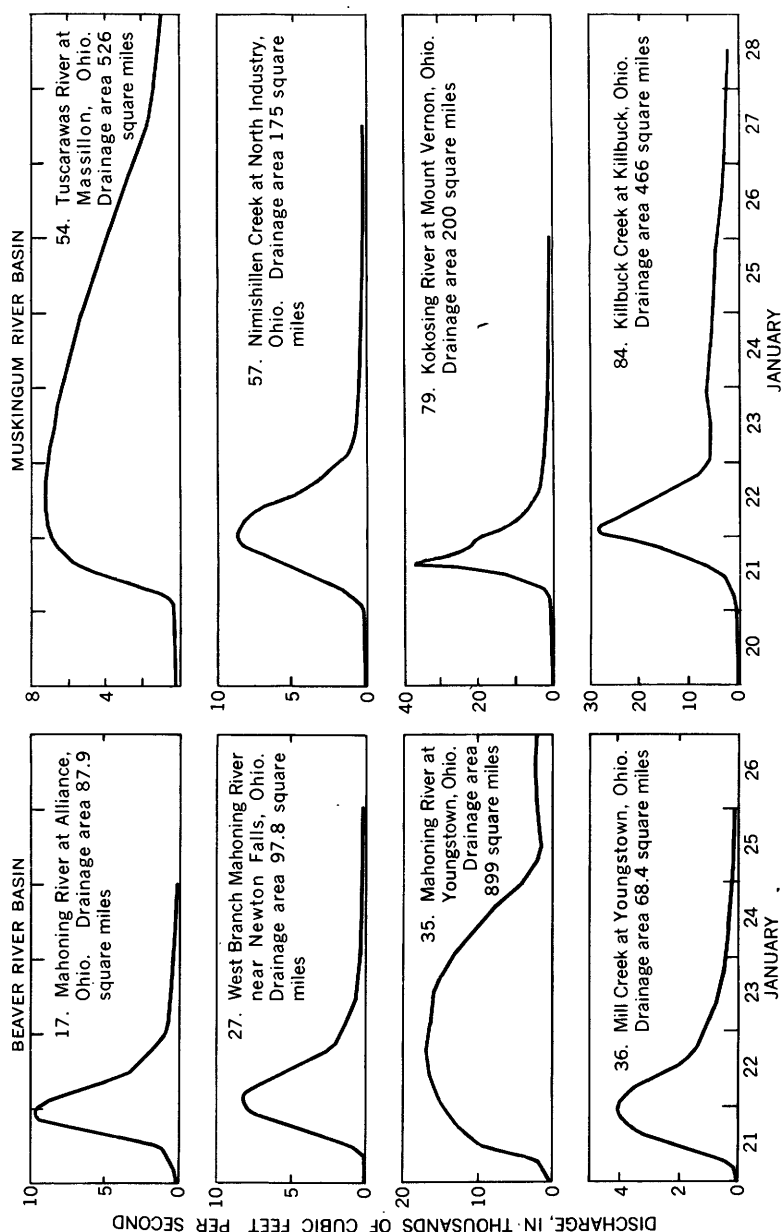


FIGURE 11.—Discharge hydrographs at selected gaging stations, January 20–28, 1959, in Beaver and Muskingum River basins.

Other uncontrolled tributaries of the Walhonding River caused similar disaster. In Mansfield, on Rocky Fork, more than 200 people evacuated their homes. The village of Bellville, on Clear Fork, was completely isolated for a time. Shelby and Wooster were severely flooded. Killbuck Creek at Killbuck reached a stage within 0.02 foot of the record established by the cloudburst flood of August 1935. Total damage in Holmes County approached \$5 million. Water-plants were damaged in Millersburg, Wooster, and Mansfield.

The flood extended into the Tuscarawas River basin. At Rittman, on Chippewa Creek, the water supply was contaminated. Barberton was flooded, and 175 persons were evacuated. Industrial damage in Canton was reported to be over \$5 million, and 400 persons were forced from their homes. Other small communities were flooded, and highway damage was extensive. Several bridges were washed out.

At Newark, on the Licking River, about 1,500 persons were evacuated. The flood stage at the gaging station at Toboso, downstream from Newark, was more than 1 foot above the 1913 record. The water service was interrupted, and the water-supply dam was weakened so that it washed out in the February flood. The sewage-disposal plant was put out of service. In Zanesville, the Licking River flooded 25 city blocks in the western part of the city. Railroads in the vicinity lost several miles of track.

The total storage in the flood-control reservoirs reached 54 percent of the total capacities at spillway elevations, compared to about 47 percent for the highest previous record of storage in June 1947. Reduction in peak stages on the Muskingum River, due to storage, were estimated by the Corps of Engineers to have been 11.9 feet at Coshocton, 11.4 feet at Zanesville, and 7.7 feet at McConnelsville. Without the reservoirs, the damage in the Muskingum River basin would have been increased by about \$13 million. The Muskingum River reservoirs are estimated to have prevented \$7 million additional damages along the Ohio River. Discharges at selected gaging stations in the Muskingum River basin on January 20-28 are shown in figure 11.

SCIOTO RIVER BASIN

In Ohio the headwaters of the Scioto River and several of its tributaries received heavy concentrations of rainfall during January 21-22, 1959. Delaware Reservoir on the Olentangy River, the only flood-control reservoir in the basin, stored all the runoff from 381 square miles and reduced flood stages and damages at downstream points. The three water-supply reservoirs of the city of Columbus had only slight controlling effect because their design did not include flood-storage capacities. Hoover Reservoir on Big Walnut Creek stored

more than 2 inches in equivalent depth on its drainage area of 190 square miles, but still the flood downstream at the gage at Rees was 1.5 feet above the 1913 maximum stage. The peak discharge on Alum Creek, not affected by storage, was five times the discharge of the mean annual flood, and 6 feet higher in stage than the highest flood in the past 35 years.

At Columbus a levee along Dry Run, a small tributary of the Scioto River, was overtopped by the flood waters, releasing water into the west side of the city. At the same time Alum and Big Walnut Creeks, in the eastern part of the city, were at unprecedented stages. Gas service was interrupted for several days because of water in the lines. More than 100 homes were badly damaged and hundreds of automobiles were submerged. The Red Cross cared for 3,200 evacuees at improvised shelters.

Highways and utilities were extensively damaged. The Circleville waterplant and the sewage-disposal plants at Kenton, Marion, and Chillicothe were put out of operation. At Chillicothe one-third of the city was flooded and 9,000 persons were evacuated (fig. 12).

The peak flow at Chillicothe on January 23 was 144,000 cfs (cubic feet per second), compared to 101,000 cfs on January 23, 1937, and 260,000 cfs for the March 1913 peak. The runoff at this station for January 1959 was 4.36 inches, adjusted for reservoir storage, or less than half of the runoff for January 1937. These comparisons indicate that the Scioto River has had, and can have again, floods of much greater volume and peak discharge than the 1959 flood.

Reductions in peak stages by storage in Delaware Reservoir were estimated by the Corps of Engineers to have been 14 feet at Delaware, 9.2 feet at Worthington, 4.2 feet at Columbus, and 2.9 feet at Chillicothe. About \$6 million damage was prevented by this reservoir. Discharges at selected gaging stations in the Scioto River basin, on January 20-26 are shown in figure 13.

LITTLE MIAMI RIVER BASIN

The floods of January 21, 1959, on the Little Miami River in Ohio exceeded the 1913 flood in a reach extending through Fort Ancient to the mouth of Todd Fork at Morrow. Damage was locally severe, but confined largely to the small communities in the flood plains including Spring Valley, Corwin, Morrow, South Lebanon, and Kings Mills. Total damage in the entire basin exceeded \$5 million. Three hundred persons at South Lebanon, 45 persons at Spring Valley, and 200 persons at Morrow were evacuated.

Discharges at selected gaging stations in the Little Miami River basin on January 20-26 are shown in figure 13.



FIGURE 12.—Aerial photograph of east end, Chillicothe, Ohio, January 23, 1959. Photograph by Chillicothe Gazette, James E. Leasure, Jr.

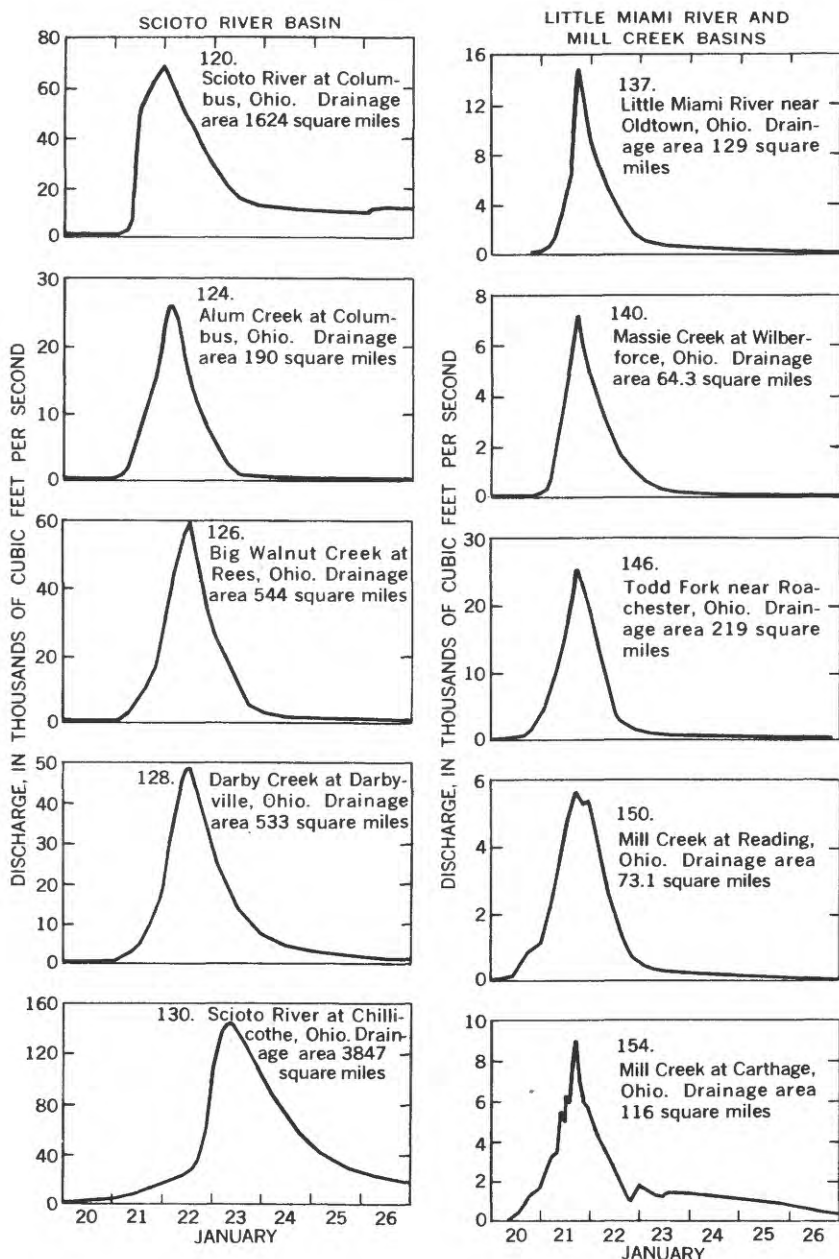


FIGURE 13.—Discharge hydrographs at selected gaging stations, January 20–26, 1959, in the basins of the Scioto and the Little Miami Rivers and Mill Creek.

MILL CREEK BASIN

The area drained by Mill Creek is highly industrialized, the flood plain is broad and flat, and the entire basin was in the area of intense rainfall. Partial flood protection is given the lower part of the basin by the flood-control reservoir on West Fork Mill Creek, which held back a runoff of more than 5 inches on the drainage area of 29.5 square miles. Damage was general throughout the valley.

Discharges at selected gaging stations in the Mill Creek basin on January 20-26 are shown in figure 13.

MIAMI RIVER BASIN

Much of the Miami River basin was in the area of intense rainfall in January 1959. The five retarding basins of the Miami Conservancy District minimized flood stages and damages on the main streams, but uncontrolled tributaries caused widespread damage. Some damage on the Miami River below the reservoirs was due to encroachment on the flood plain.

In Springfield, Ohio, Buck Creek reached a stage exceeded only by the record floods of 1913 and 1929. Industrial damage was extensive. Train service was disrupted, many homes were damaged, and the total loss approached \$4 million.

Damage to roads and streets was widespread. In Dayton, Ohio, and its suburbs, 1,500 people were evacuated. Unusually high runoff of several small uncontrolled Miami River tributaries caused the peak flow of 108,000 cfs in the Miami River at Hamilton, Ohio, on the night of January 21, about 20 hours before the lower main-river peak. The peak on Talawanda Creek was 44,500 cfs from a drainage area of 311 square miles; and Clear Creek, Elk Creek, Dicks Creek, and other small tributaries had similarly high peak rates of runoff.

The town of Venice, Ohio, was almost entirely submerged. Industries were shut down in Hamilton, and 100 families were forced from their homes. In Middletown, Ohio, 100 homes were evacuated, and in the residential district much damage was caused by a series of fires and explosions.

The total peak storage of the 5 flood-control retarding basins was 137,600 acre-feet, or about equal to the maximum total storage of January 1937—the highest since the dams were completed, but only 16 percent of the total storage at spillway levels.

Flooding occurred over the entire Whitewater River basin in January 1959, with the lower portions of the East Fork and the main stem of the Whitewater River receiving the heaviest flooding. Major damage was done to homes, businesses, fields, railroad beds, and highways. Estimates of flood damage in Franklin County, which was

one of the five counties in southern Indiana declared a disaster area by the Small Business Administration, averaged \$1,600,000.

In the southeastern part of Brookville, Ind., 200 residents were forced to evacuate when a levee on the East Fork Whitewater River broke.

The stage on Whitewater River at Brookville was the highest since 1913, according to local residents, but it was 11.2 feet lower than the 1913 peak stage.

Discharge at selected gaging stations in the Miami River basin on January 20-26, are shown in figure 14.

OHIO RIVER TRIBUTARY BASINS IN SOUTHERN INDIANA

The southern quarter of Indiana was in the area of extreme rainfall in January 1959. The American Red Cross reported about 700 families were evacuated from their homes in 8 counties in southern Indiana because of high water. Jefferson, Harrison, Crawford, and Washington Counties were declared disaster areas by the Small Business Administration.

In Madison, the water of Crooked Creek fanned out over an area 5 city blocks wide and 1 mile long to cause the worst flash flood in Madison's history. More than 100 families were routed from their homes. The Pearl Packing Co. estimated a loss of \$200,000 from damage to stored meat by water seeping into the basement of its plant.

Little Indian and Big Indian Creeks caused flooding in Corydon, where damage was estimated as high as \$750,000. The entire business district of 65 establishments and also 250 houses and many roads and bridges were damaged. The January 1959 flood on Big Indian Creek in Corydon was the second highest flood since at least 1889 and was slightly lower, 0.2 to 0.5 foot, than the March 19, 1943, flood, which is the maximum known stage since at least 1815.

Discharge at selected gaging stations in the Ohio River tributaries are shown in figure 14.

Flood waters from the Blue River caused about three-fourths of the 211 residents of Fredricksburg to leave their homes, and badly damaged 49 houses. Milltown, on the Blue River, where the flood was considered the worst in the town's history, and English, on Little Blue River, were the hardest hit areas in Crawford County. The State Soil Conservationist estimated damage in Crawford County at \$600,000.

WABASH RIVER AND UPPER TRIBUTARY BASINS

Although the Wabash River and its upper tributaries in Indiana experienced flooding from the storm of January 1959, the flood of

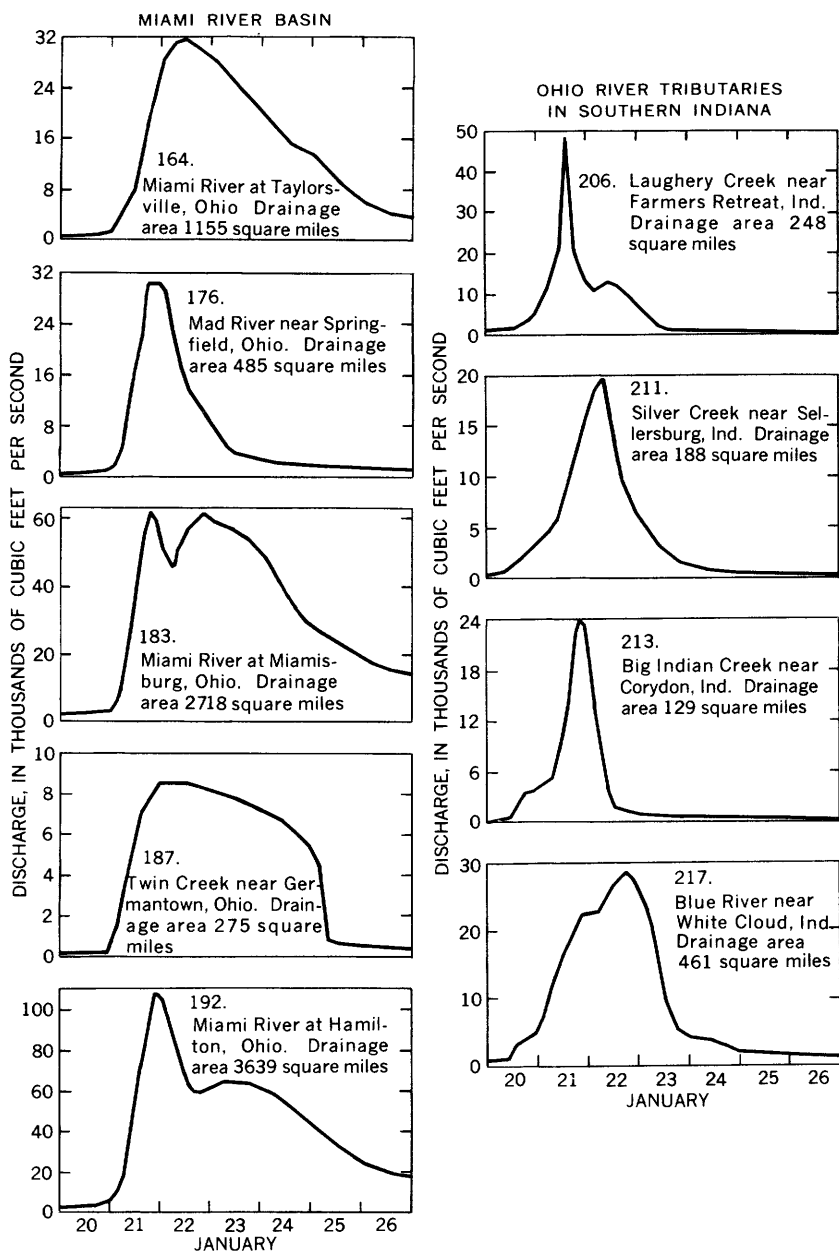


FIGURE 14.—Discharge hydrographs at selected gaging stations, January 20–26, 1959, in the Miami River basin and in Ohio River tributaries in southern Indiana.

February 1959 was generally greater in magnitude and caused considerably more damage. Along with the damaging effect of the inundation, huge ice chunks about 6 inches thick flowed in many of the channels. Ice jams along the Wabash and Salamonie Rivers backed up water, and flooded areas larger than would normally be inundated by discharges of similar magnitude. During the prevalence of ice floes on the Wabash River, ice jams covered about a 14-mile reach of the river, from Delphi to Georgetown. Although it was feared that in the breakup of these ice jams many of the main stem Wabash bridges might be swept away, this destruction failed to materialize. However, the damage to bridges, bridge approaches (fig. 15), houses, factories, and livestock on the Wabash River and its tributaries was great and many hardships resulted.

Several families in southeast Huntington County and a few in the city of Huntington were evacuated as the Wabash River at Huntington rose 0.5 foot higher than the 1913 stage due to an ice jam at the bridge on State Highway 37.

The city of Wabash was one of the hardest hit areas during the February flood. Families were evacuated from 115 homes, and 7 factories were surrounded by water when 40 city blocks on the south side of Wabash were inundated (fig. 16). Flash flooding on two small creeks, one in the city and one in a small suburb south of the city, trapped residents without warning. According to local officials, these small streams rose several inches higher than they did during the 1913 floods, and were the highest known in Wabash. The stage on the Wabash River was 0.2 foot higher than that of the 1943 flood and 4.3 feet lower than that of the great flood of 1913.

The mayor of Peru estimated that 40 percent of that city was under 2 to 6 feet of water (fig. 17). More than 1,000 families were routed from their homes. The Mississinewa River, a tributary to the Wabash River, forced 20 families from their homes in the Johnstown section of the east side of Marion.

Volunteers in boats rescued more than 100 residents isolated by Wabash River waters at Georgetown, 6 miles west of Logansport, as water ran 6 feet deep down the town's main street and around 25 homes.

The Wabash River also caused considerable damage and anxiety as the February flood crest passed on downstream (fig. 18). A sandbagging army, which included 200 National Guardsmen, threw up a sandbag dike 5 city blocks long and 4 feet high behind the breached Sugar Creek levee at West Terre Haute.

The Russell-Allison levee, which protects the farmland of Lawrence County, experienced a break 200 feet long. This break, south of Russellville, let a good part of the Wabash River overflow its banks



FIGURE 15.—Flood-borne ice blocks in the Wabash River sweep away Indiana State Highway 524 at Lagro, Ind. Photograph by Indianapolis Times.



FIGURE 16.—Aerial photograph of south edge of Wabash, Ind., February 12, 1959. Photograph by Indianapolis Times.

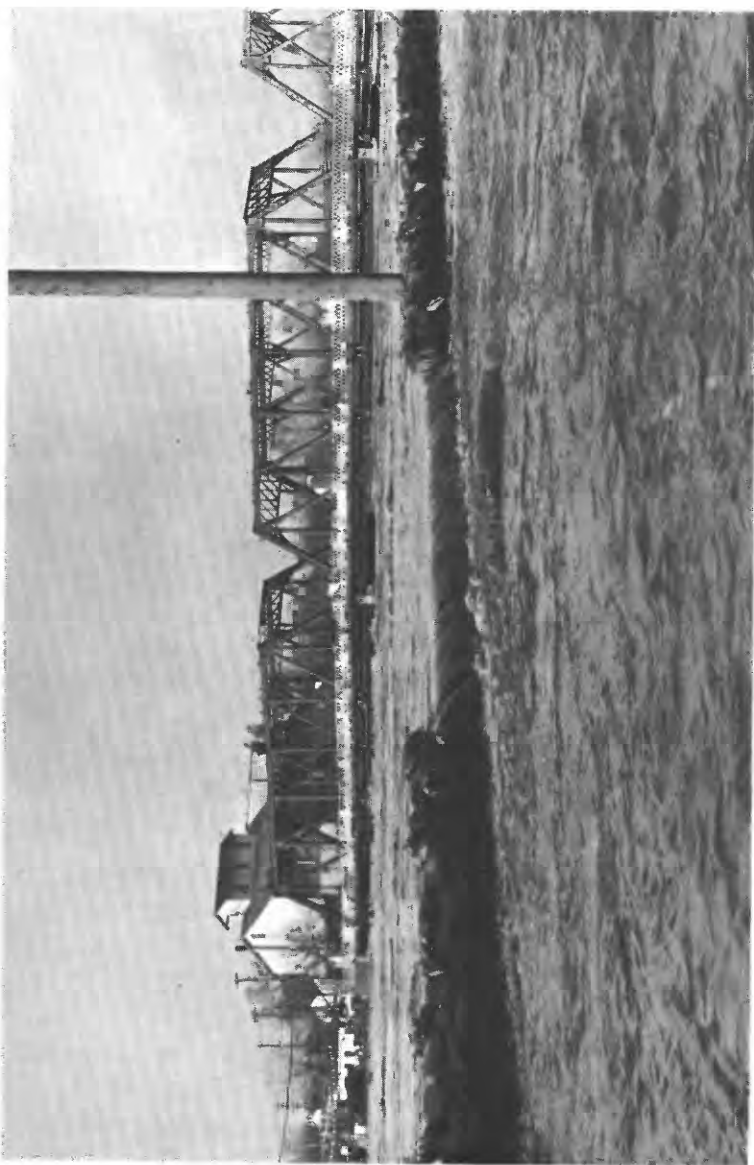


FIGURE 17.—Breach in floodwall protecting the southern part of Peru, Ind., February 12, 1959. Photograph by Wide World Photos.

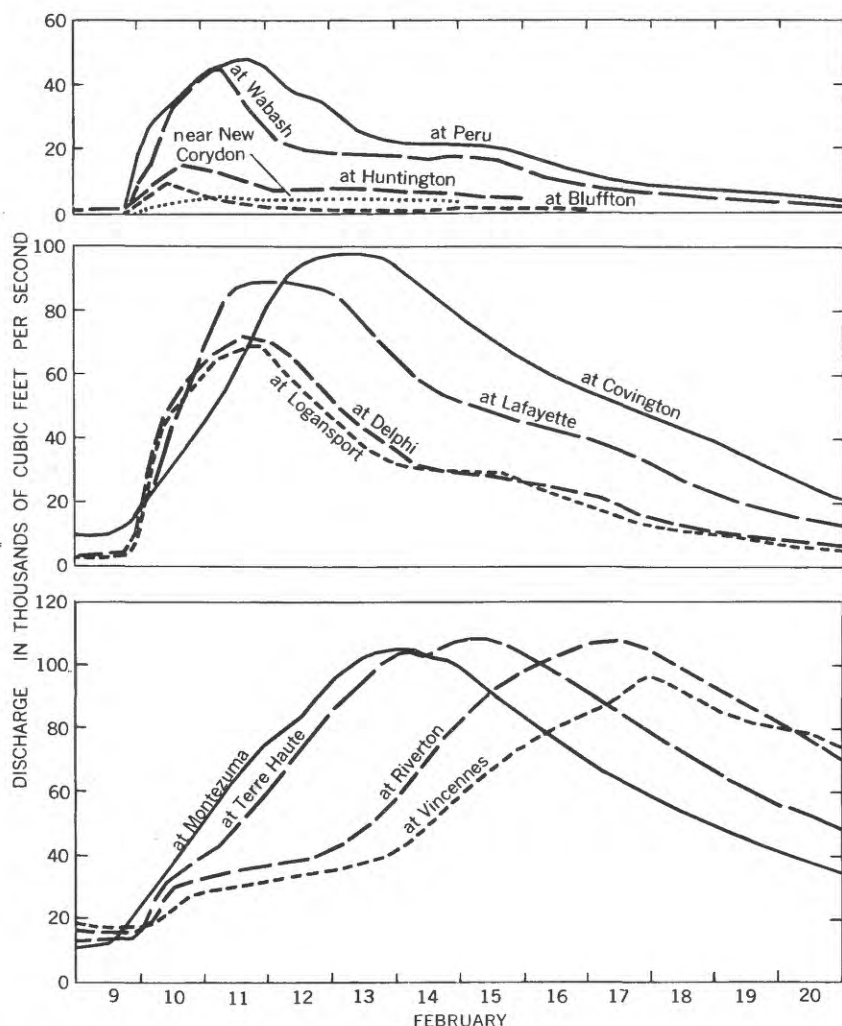


FIGURE 18.—Comparative hydrographs of discharge for stations on the Wabash River, February 9-20, 1959.

and cover 33,000 acres. The Routein levee along the Embarrass River was dynamited to release the impounded flood waters of the Russell-Allison levee break.

Discharges at selected gaging stations in the upper Wabash River basin on February 9-16 are shown in figure 19.

EAST FORK WHITE RIVER BASIN

Suspension of many business operations, decrease in factory production, and school closures resulted in the upper part of the East

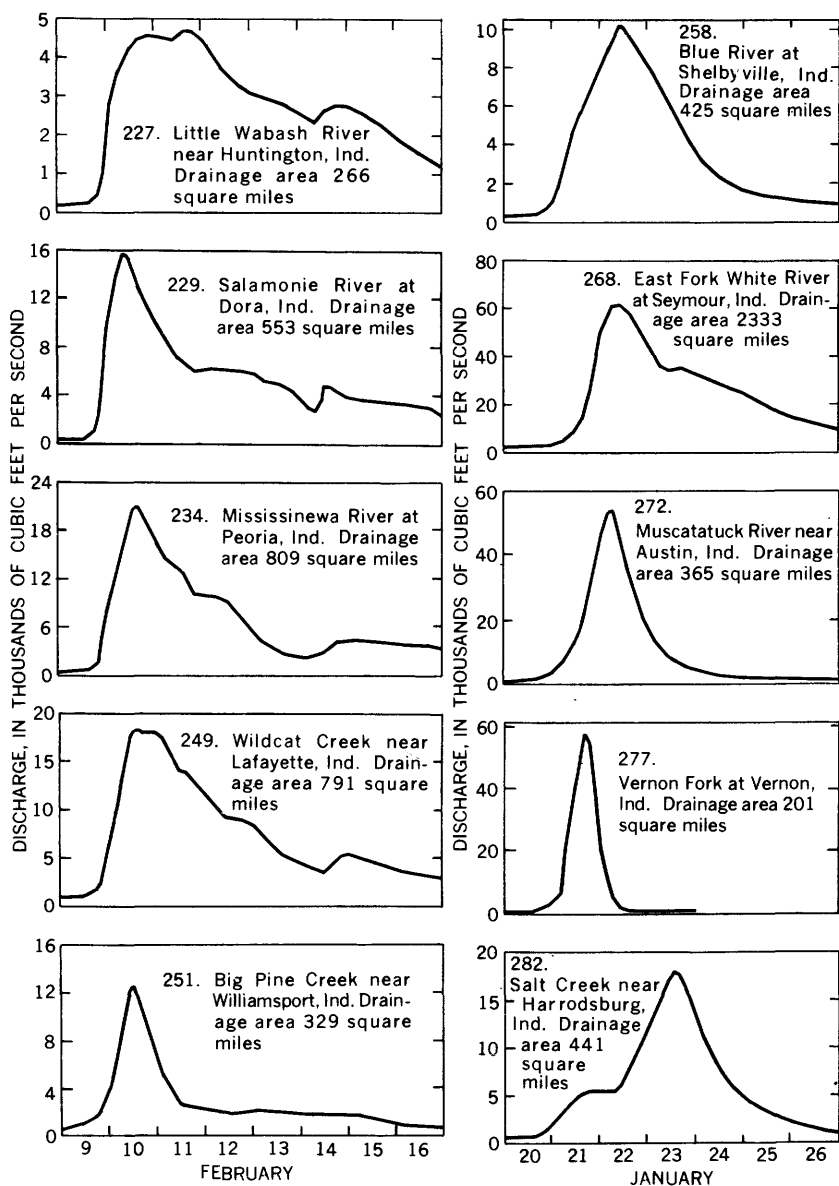


FIGURE 19.—Discharge hydrographs at selected gaging stations February 9-16, 1959, on tributaries to upper Wabash River and January 20-26, 1959, on tributaries to lower Wabash River.

Fork White River basin in Indiana due to bridge and culvert wash-outs and to many roads becoming impassable as streams went out of their banks during the January flood. Utilities were damaged or services were curtailed in several areas. Floodwaters from Haw

Creek covered a broken water main in Columbus, causing the city to be placed on emergency use of water until flood waters receded and repairs could be made. The Wehmeier addition in Columbus was flooded by waters from Clifty Creek which forced dozens of families to higher ground. The American Red Cross estimated 200 families were displaced by the flood waters in Columbus.

The stage of Sand Creek at the small community of Brewersville approached that of the 1913 flood and was higher than that of any other flood since then. At one covered bridge in Geneva Township, Jennings County, the peak on Sand Creek was 3 inches higher than the mark set in 1913.

Long-time residents in the Vernon area stated that Vernon Fork was the highest since the March 1897 flood. Residents in the town of Hayden on Sixmile Creek, a tributary of Vernon Fork, were without electric power because water inundated a transformer.

Discharges at selected gaging stations on January 20-26 in tributaries to the lower Wabash River are shown in figure 19.

MAUMEE RIVER BASIN

The flood of January 1959 in the Maumee River basin was largely in the southern and eastern tributaries. Ice on the streams was as much as 18 inches thick. This added to flood stages and to the length of the periods of inundation. Many roads were temporarily blocked. Damage to roads and bridges was minimized by the flat terrain, which reduced velocities and spread the flood across the wide lowlands. Considerable damage was caused by basement flooding. Lima, Ohio, had 125 evacuees, and Findlay, Ohio, on the Blanchard River, suffered severe damage. The stage at Findlay reached 16.11 feet on January 22, the highest stage since March 1913; on February 11, the stage reached 16.76 feet. On other streams, such as the Auglaize River near Fort Jennings, Ohio, the January peak was higher than the one in February.

The February flood was higher than the January flood at many points in the basin and was more widespread. Findlay was flooded a second time and 650 persons were evacuated. Damage was estimated as \$1.5 million, about twice the January loss. Thick ice was not entirely removed by the January flood and ice jams contributed to the damage in February. Town Creek flooded Van Wert, Ohio, forcing 750 people from their homes. The total damage in February approached the January total. Ice jams on the Maumee River caused high stages, but relatively minor damage.

**LAKE ERIE TRIBUTARIES BETWEEN THE MAUMEE AND CUYA-
HOGA RIVER BASINS**

In the Portage River basin the January flood temporarily isolated some small communities. Basement flooding was widespread, and total damage exceeded \$2 million. In the Sandusky River basin, in Ohio, ice jams prolonged the flood stages. Total damage was in excess of \$6 million. Water and power services were temporarily suspended. Thirty houses were evacuated in Tiffin, and north of there the ice-blocked Sandusky River gouged new channels through adjoining farmland. Generally the January stages were about the same as for the 1937 flood, and slightly lower than those for the record flood of 1913. An ice jam downstream from Fremont caused most of the city to be flooded, and water was 2 feet deep in the business section. About 1,500 people, from a total population of 16,500, were evacuated from Fremont. An ice jam in the Vermilion River at Vermilion, caused 520 houses to be evacuated. The Black River flooded the center of Elyria. Small streams in the area swept cars from roads and caused a night of terror.

Less than 3 weeks after the January flood another highwater period in February hit the lower Sandusky River basin. The stage at Fremont was slightly higher than it was in January and was prolonged by a heavy ice jam. In this city 1,000 persons were evacuated from their homes—more than 200 had not returned after the January flood. The resulting damage and hardship to inhabitants was greater in February than in January (fig. 20). Farther east the February flood peaks, though high, were well below January stages.

CUYAHOGA RIVER BASIN

The Cuyahoga River has had few floods in the past, because of storage in many lakes and ponds and in the Akron, Ohio, water-supply reservoirs. The flood stage of January 1959 at the gaging station at Independence, Ohio, upstream from Cleveland, surpassed all previous records since 1921 and approached that of the record flood of 1913. Damage in the basin approximated \$2 million. Damage was most severe in the downstream part of the river, in the vicinity of Cleveland. Eight hundred persons were reported evacuated.

The February flood at Independence was 2.26 feet lower than the January peak, and damage was slight, though this stage surpassed all records since 1921, except for the January flood.

LAKE ERIE TRIBUTARIES EAST OF THE CUYAHOGA RIVER

The January flood in this area generally reached unprecedented stages. Ice jams occurred on many streams, and damage to roads



FIGURE 20.—Aerial photograph of downtown Fremont, Ohio, February 11, 1959. Photograph by George Demmel, Fremont.

and bridges caused by swift currents in the narrow flood plains was unusually severe. The flood on the Chagrin River was the third largest of record, and damage was extensive. Water and sewage-disposal services were disrupted, and the power service at Eastlake, Ohio, was discontinued temporarily.

In the Grand River basin, in Ohio, Mentor was without power service, the Fairport Harbor sewage-disposal system ceased functioning, and many homes throughout the area were evacuated. The Grand River at the gage near Madison reached a stage more than 2 feet higher than previously reached in 36 years of record. In the Ashtabula River and Conneaut Creek basins the flooding conditions were similar. The Geneva filtration plant was out of service temporarily. The February flood in this region was not excessive and damage was slight.

The springlike January thaw in western New York unleashed the most destructive flash floods ever to hit Buffalo. Water flowing 4 feet deep roared through an 18-block section of South Buffalo on January 22. The raging water which hurled chunks of ice like giant boulders through the streets broke through the lower part of the walls of about 40 houses. Water swirled into the basements of hundreds of other houses. At Tonawanda, 22 persons were driven from their homes by flooding storm sewers, and at Lackawanna, Smoke Creek flooded a large section of the city.

Discharges at selected gaging stations on streams tributary to Lake Erie are shown in figure 21.

SUSQUEHANNA RIVER BASIN

The floods in the Susquehanna River in northeastern Pennsylvania were not particularly high in discharge, that at Pittston was about equal to a 5-year flood. However, the tragic results of the flood from the Susquehanna River near Pittston made it a nationwide news item.

The Susquehanna River, clogged by giant chunks of ice, overflowed its banks and broke through the roof of a coal mine beneath the river, flooding it and adjacent mines. Twelve miners were drowned deep in the mines, but 33 others managed to escape. More than 3 days later after dumping thousands of tons of material including 560 mine cars and 38 gondolas into the hole it was plugged, but by this time the water level in the mines had reached the level in the river. Measurement by the Harrisburg, Pa., office of the Federal-State Flood Forecasting Service indicated that about 35 billion gallons (105,000 acre-ft) of water entered the mine directly from the river. It was estimated that about one-sixth of the peak discharge entered the mines, reducing the flood crest by 1.5 feet.

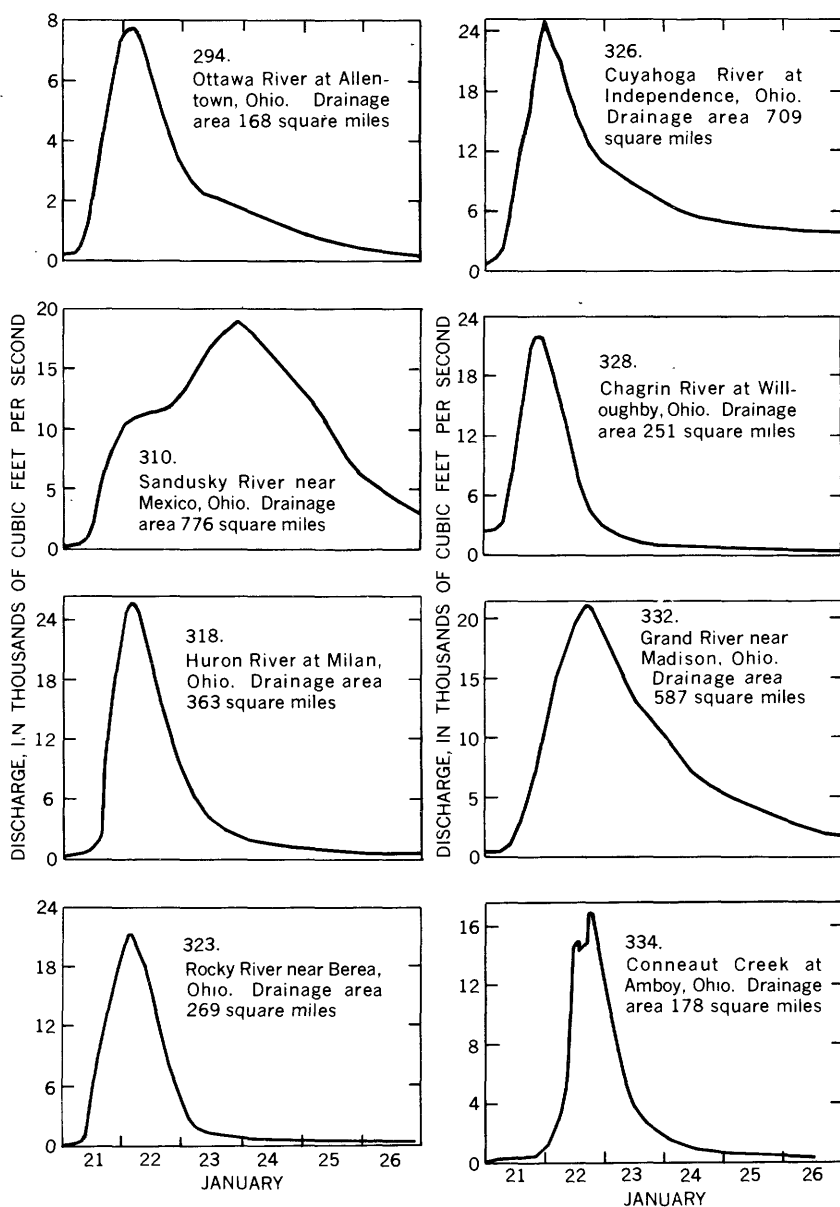


FIGURE 21.—Discharge hydrographs at selected gaging stations, January 21–26, 1959, or streams tributary to Lake Erie.

FLOOD DAMAGE

The floods of January-February 1959 caused heavy damage to industrial, urban, and agricultural areas. By far the greatest amount of the total damage occurred in Ohio.

In Ohio the damage was second only to that which occurred in 1913. If the figures of damage in Ohio for the 1959 floods reported by the Civil Defense Corps are compared with the figures of damage for 1913 (Horton and Jackson, 1913) the ratio in dollars is about 0.7. But if the value of the dollars is considered in the comparison, the ratio would probably be less than 0.3.

Estimates of flood damage were made by various individuals and agencies. In the preceding section, "Floods of January-February," many damage estimates are available for cities and small communities. The following tabulation (table 1) made by the American Red Cross shows that personal and private property damage in Ohio greatly exceeded that in Indiana.

TABLE 1.—*Personal and private property losses, Ohio and Indiana, as compiled by the American Red Cross*

	Ohio	Indiana
Number of persons killed.....	16	4
Number of dwellings:		
Destroyed	132	2
With major damage.....	2, 415	44
With minor damage.....	14, 535	1, 733
Number of other buildings:		
Destroyed	55	30
Damaged	1, 145	174

The estimate of damage of \$95 million in the area made by the U.S. Weather Bureau is broken down into river basins (table 2). These figures do not necessarily agree with figures from other agencies.

The exact amount of damage incurred in a flood as widespread as this one is difficult to determine. Figures from two or more sources are expected to differ widely because of the different classes of damage items used in the tabulations and because of the different systems of appraisal.

Damage figures of the Weather Bureau were used in this report because their estimate of damage covers the entire flood area by river basins. With this complete coverage, damage in different river basins can be related by comparison and the dollar valuation need not be exact.

Cuyahoga River.....	155.0	2,002.0	-----	-----	-----	-----	-----	-----	139.7	2,296.7
Chagrin River.....	244.6	21.5	-----	-----	-----	-----	-----	-----	51.3	317.4
Grand River.....	44.5	5.0	-----	-----	-----	-----	-----	-----	6.5	56.0
Ashtabula River.....	62.0	-----	-----	-----	-----	-----	-----	-----	9.0	71.0
Conneaut Creek.....	1.0	50.0	-----	-----	-----	-----	-----	-----	2.0	53.0
Walnut Creek.....	10.5	11.3	-----	-----	-----	-----	-----	-----	1.0	22.8
Cattaraugus River.....	17.2	-----	-----	-----	-----	-----	-----	-----	2.0	19.2
Smokes Creek.....	629.5	100.7	-----	-----	-----	-----	-----	-----	84.6	814.8
Buffalo River.....	240.5	857.1	-----	-----	-----	-----	-----	-----	3,085.5	4,183.1
Total.....	3,084.6	4,973.3	143.6	1.0	18.5	-----	-----	-----	4,372.2	12,593.2
Grand total.....	39,968.5	23,946.3	3,919.2	5,185.7	3,176.8	872.2	-----	-----	17,161.1	95,096.4

MAGNITUDE AND FREQUENCY

Figure 22 shows the ratio of the January and February floods to the mean annual flood at all stations in the flood area for which the ratio can be computed.

The mean annual flood is the average of the values, for a long period of years, of the annual floods (highest peak discharge in a water year) and is an index of the flood potentialities. The potentiality may be computed for individual stations if the period of record is long enough.

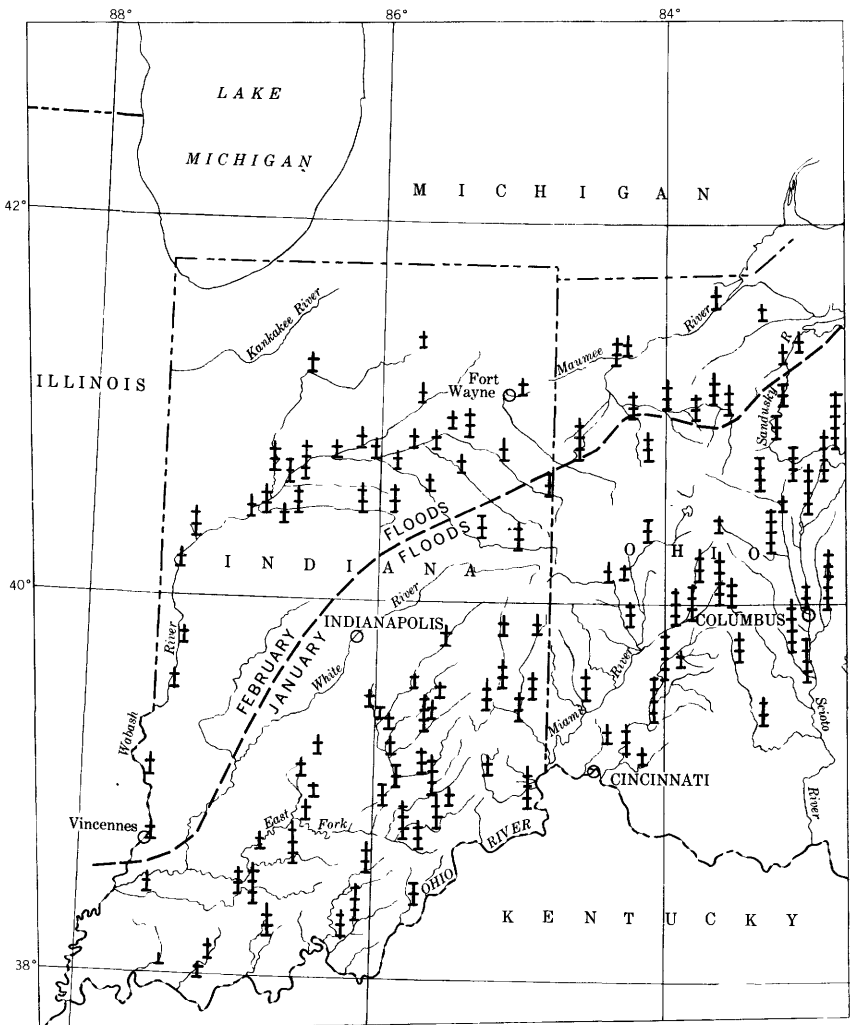
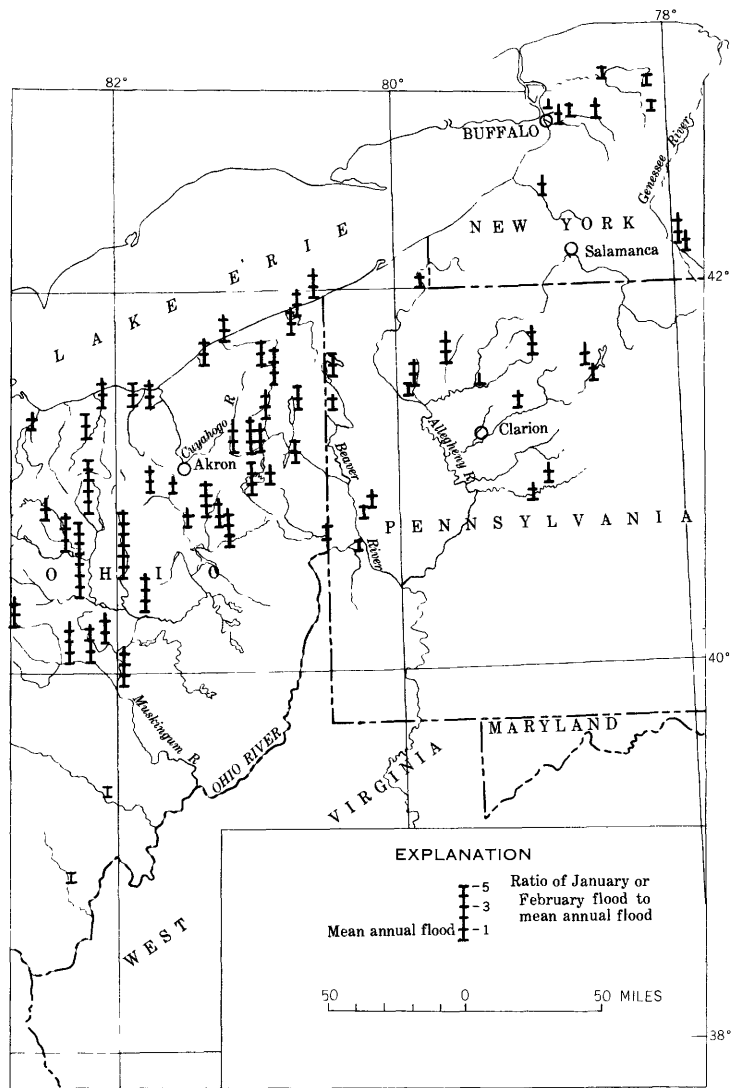


FIGURE 22.—Map of flood area showing ratio of January and February

However, data during the usual period of record may be considered merely the past history of the station and will not necessarily forecast future events—any extreme floods which occur during the period tend to distort the data. The mean annual floods as used here have been computed from combined station data in a region of uniform flood characteristics.

Figure 22 shows in a general way the distribution and the relative severity of flooding.



any peak discharges to mean annual flood at indicated station sites.

Within the area of severe flooding the ratio of the January floods to the mean annual flood ranged from 2 to 7. The stations showing the highest ratios were those in the basins of the Muskingum River, the Scioto River above Deer Creek, and the Little Miami River in Ohio, and in the East Fork White River basin in Indiana. The area in which the ratio is 3 or more is fairly well delineated on the precipitation map for January 19–21 (fig. 8) by the 3-inch isohyet, with the exception of southern Indiana where the area is outlined by the 5-inch isohyet.

Floods of the magnitude of those in February are not so rare as were those in January. This difference is reflected by figure 22, which shows that the ratios of the February floods to the mean annual flood did not exceed 4 at any station and that at only about one-third of the stations did the ratio exceed 2.

The comparative severity of the January and February floods is indicated by figure 23. Of the 188 stations in the summary table for which the ratio of the flood peak to the mean annual flood is known, 147 had higher peak discharges in January than in February. In general, the ratios of the January peaks were larger than those of the February peaks.

In February the greatest proportion of the peaks (61 percent) had ratios from 1 to less than 2, 34 percent had ratios from 2 to less than 3, and 5 percent had ratios of 3 or greater.

In January the proportion of stations (37 percent) having ratios from 1 to less than 2 was much less than in February, and those (37 percent) having ratios from 2 to less than 3 was about equal to that of February. However, the proportion (24 percent) having ratios of 3 or more was much greater than in February. In January 10 percent of the peaks had ratios of 4 or greater, whereas none of the February peaks had ratios of that magnitude.

The ratio of a specific flood to the mean annual flood indicates its magnitude with respect to what can be expected as an average yearly event, whereas the specified frequency for a flood indicates the number of years, on an average, which will elapse between occurrences of floods which are equal to, or greater than, the given flood. For example: a 50-year flood (one of a 50-yr recurrence interval) is equaled or exceeded on the average once in 50 years, which may also be described as a flood that has a 2-percent chance of occurring in any one year.

In none of the flood-frequency studies in the flood area are frequencies of floods computed beyond 50 years, due mainly to absence of streamflow records to define them beyond that point. In human experience, a 50-year flood is considered an unusual event—one which, in any locality, can be expected to occur, on the average, not much

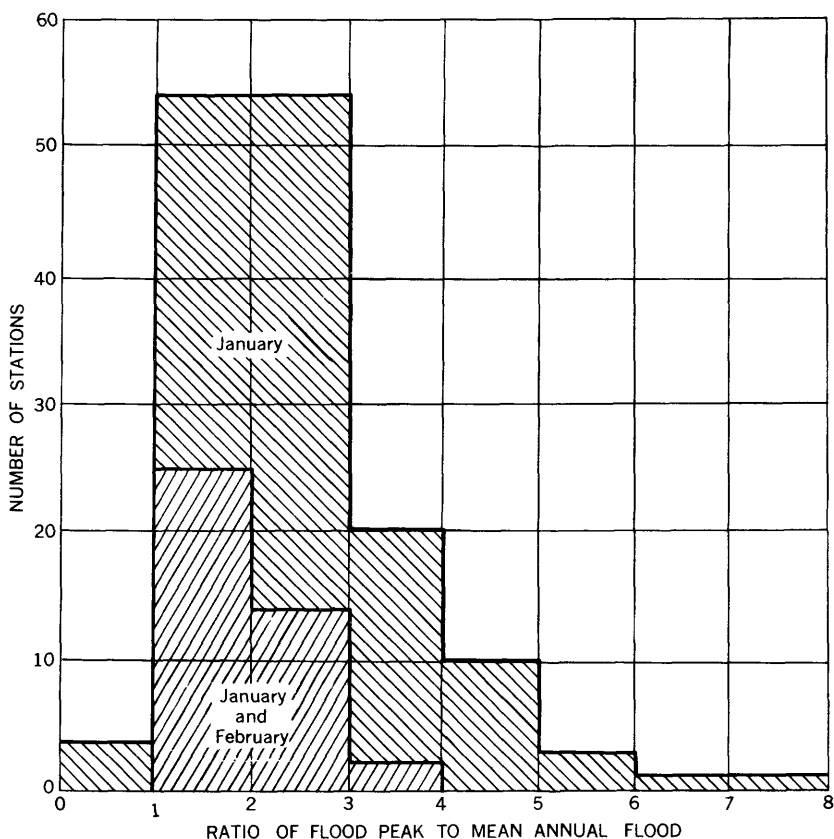


FIGURE 23.—Histogram showing distribution of the ratios of peak discharge to mean annual flood, January and February 1959.

more than once in a lifetime. Many of the floods in this report exceeded a 50-year flood, but owing to data limitation they cannot be adequately described on a frequency basis; however, a ratio of the given flood to the 50-year flood at the same site may be used for purposes of comparison.

From figures 24 and 25 the ratio of a January peak discharge and the ratio of a February peak discharge to the 50-year flood can be determined. Any ratio greater than 1 indicates a recurrence interval greater than 50 years, whereas a ratio less than 1 indicates a recurrence interval less than 50 years. The numbers on the graph are identification numbers which correspond to those in the summary table of peak stages and discharges (table 3) and to those on the map (fig. 2) showing the stations used in this report.

FLOOD-INUNDATION MAPS

The program of the Geological Survey to prepare inundation maps of metropolitan areas reflects the growing interest in flood-plain

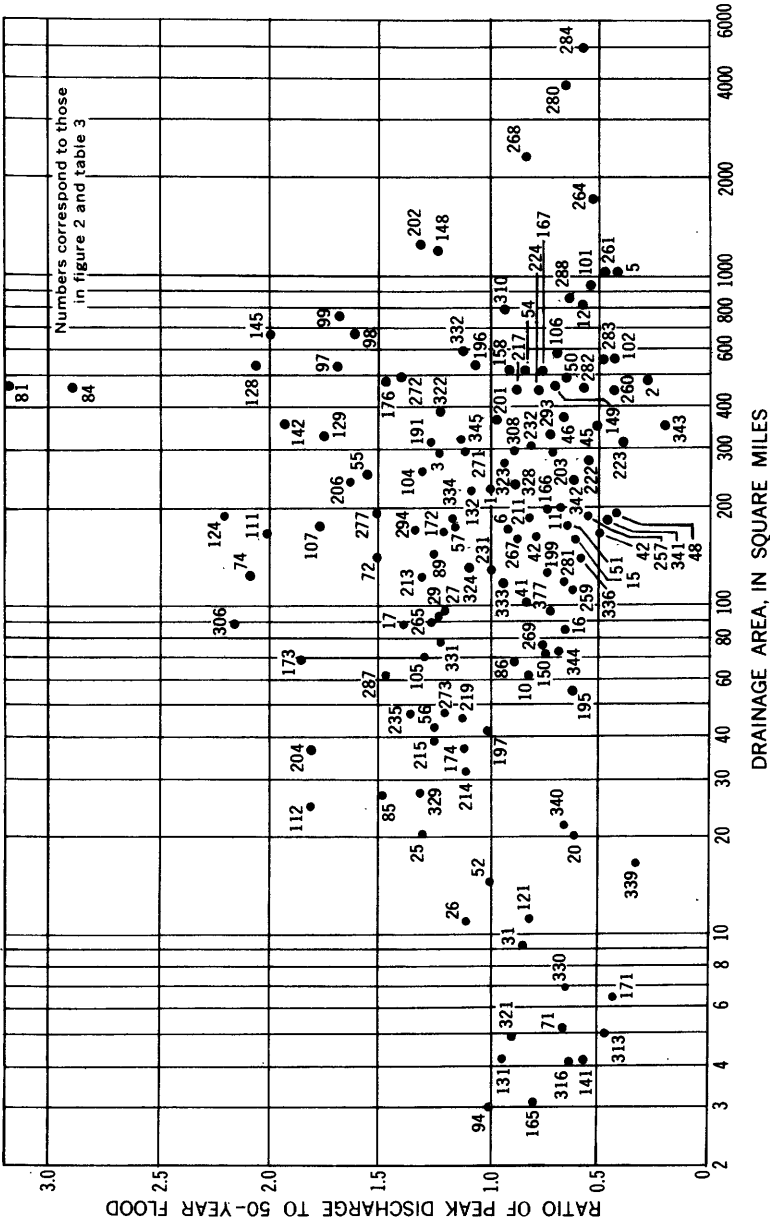


FIGURE 24.—Ratio of peak discharges of January floods to the 50-year flood.

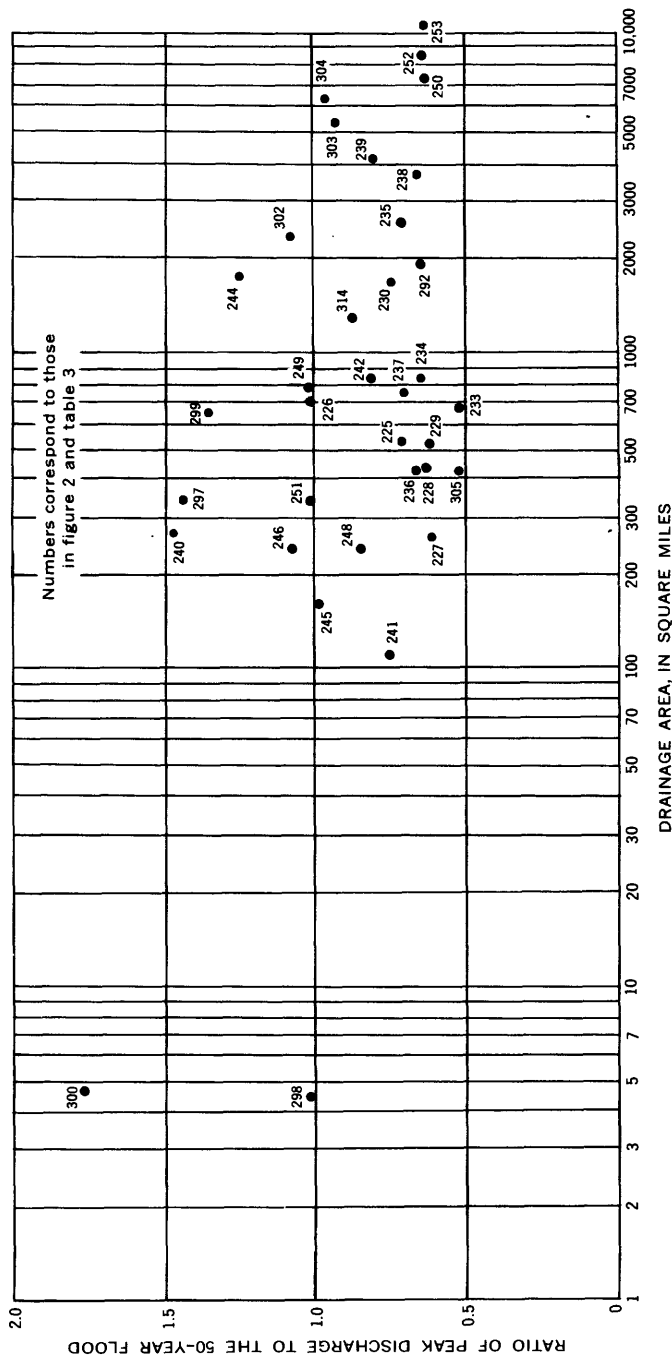


FIGURE 25.—Ratio of peak discharges of February floods to the 50-year flood.

zoning. The maps, a part of the Hydrologic Investigations Atlas series of publications, are of special value to urban planners. Studies for flood inundation maps have been made in 12 urban areas in Ohio (fig. 26). These maps, which are being prepared in cooperation with the Ohio Department of Natural Resources, show the areas of flooding from streams in 12 cities, as follows:

Tuscarawas River and Wolf Creek at Barberton
East Branch and Middle Branch Nimishillen Creek at Canton
Scioto River and Paint Creek at Chillicothe
Scioto River and Darby Creek at Circleville
Scioto River, Olentangy River, Alum Creek, and Dry Run at Columbus
Sandusky River at Fremont
Kokosing River, Center Run, and Dry Creek at Mount Vernon
Licking River, North Fork and South Fork Licking River at Newark
Mad River and Buck Creek at Springfield
Mahoning River at Warren
Crab Creek at Youngstown
Licking River at Zanesville

Inundation maps show the approximate area inundated by at least one specific flood. Where information is available, areas of additional floods may be outlined. The flood boundaries are defined from marks left by floods and are shown on multicolored topographic map bases which record the flood hazard in graphical form. No attempt has been made to define the area for greater known floods or for hypothetical floods.

Water-surface elevations on the maps are in feet above mean sea level. A graph of gage heights (easily converted to feet above mean sea level), and year of occurrence, of each annual flood above a selected gage height is shown. Thus, the gage height of the reported flood can be compared with those of other notable floods.

The frequency of floods in an area is determined from a regional flood-frequency relation derived from records of annual floods at nearby gaging stations. The general relationship between water-surface elevation and recurrence interval is presented in the form of a graph. From the graph the recurrence interval of a flood of known gage height can be determined. The recurrence interval of a flood of a selected gage height must not be construed as an absolute number of years which will elapse before an event of equal magnitude will occur again. Because of the random nature of flood causes, the number of years which elapse between flood events of equal magnitude may be much less (no minimum time can be predetermined) or much more than the long-time average.

Profiles of the water surface along the principal stream and many tributaries are shown. Profiles of floods at other elevations may be

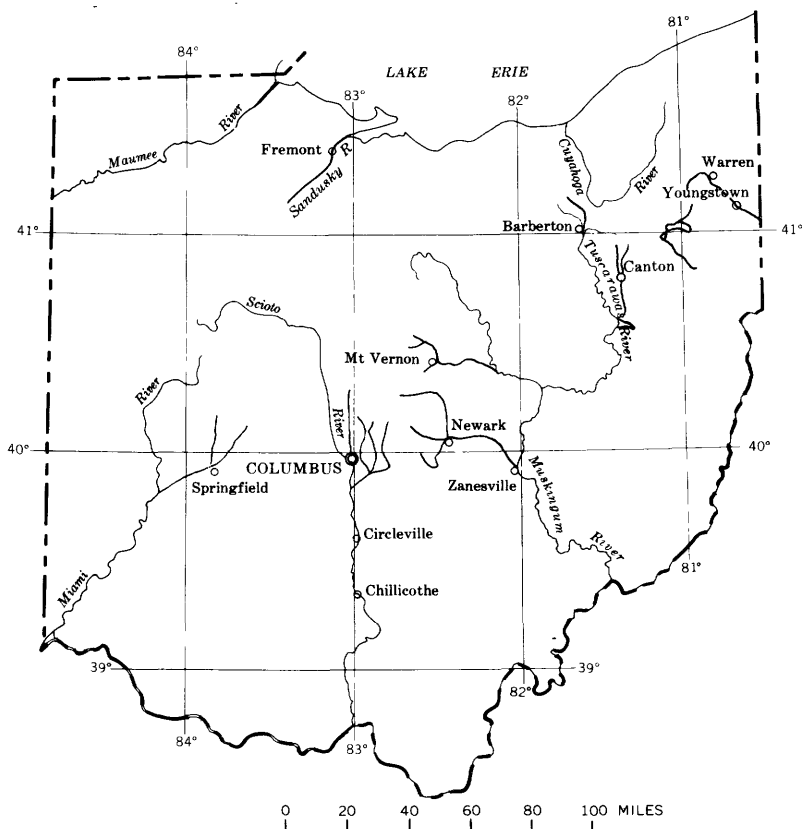


FIGURE 26.—Map of Ohio showing cities for which flood-inundation studies have been made.

plotted on the same graph parallel to the profile of the given flood to indicate the probable water surface elevation. The base line of the profile is generally the thalweg of the stream along which river miles are denoted.

Depth of flooding at any point can be estimated by subtracting the ground elevation from the water-surface elevation indicated by the profiles. The ground elevation can be estimated from information indicated by contours on the map, but more accurate results can be obtained from leveling to nearby bench marks.

Flood-inundation maps may be obtained from the Geological Survey, Washington, D.C. 20242.

DETERMINATION OF FLOOD DISCHARGES

The operation of a stream-gaging station consists principally of the development of a relation between stage and discharge, from which

the discharge can be calculated when the stage is known. The development of a stage-discharge relation is based upon current-meter measurements throughout range of stage experienced, or through a sufficient part of the range so that the discharge corresponding to the maximum stage can be obtained by a reasonable extension of the stage-discharge relation, or rating curve. Short extensions of the rating curves are usually based on logarithmic plotting or velocity-area studies.

During major floods, the maximum stage is likely to be so high above the stage of the highest measurement obtained that an extension of the rating curve is not feasible. Furthermore, during major floods it is often impossible to obtain current-meter measurements for several reasons: the road to a gaging station may be impassable; many streams rise and fall so rapidly that there is insufficient time to make a current-meter measurement near the crest stage; floating debris or destruction or inundation of the bridge or cableway from which the measurement would be made may prevent a current-meter measurement from being obtained. At gaging stations where the flood greatly exceeded the stage defined by current-meter measurements, and at other sites where measurement of the flood discharge was desired, the maximum discharge usually was measured by indirect methods: flow over dams, flow through contracted openings, or slope-area method. A general description of these methods can be found in U.S. Geological Survey Water-Supply Paper 888. More detailed description of the slope-area method, with illustrations examples, can be found in certain flood reports, particularly Water-Supply Papers 773-E, 796-G, and 816. Water-Supply Paper 816 contains illustrative examples of all three indirect methods.

STREAMFLOW DATA AT GAGING STATIONS

EXPLANATION OF DATA

The following section gives detailed information on stage and discharge during the floods of January-February 1959. Much of the information is in additions to the records usually published in the surface water-supply papers.

The systematic collection of basic data at a stream-gaging station includes a record of stage, measurements of discharge, and any other general information pertinent to the determination of the daily flow at the station. The record of stage is determined either from periodic readings of some type of nonrecording gage or from an automatic water-stage recorder, which provides a continuous graph of stage. Measurements of flow are generally made by current meter.

In general, the data on the following pages consist of a description

of the station, a table showing the daily discharge at gaging stations for January-February 1959, and tables of stages and discharges at indicated times for many of the gaging stations.

STATION DESCRIPTIONS AND DISCHARGE TABLES

The description of the station gives information concerning the location, datum, and type of gage, area of drainage basin, details of gage-height and discharge records, and miscellaneous remarks. The paragraph on discharge record briefly explains the methods used to define the stage-discharge relation over the range of stage that occurred during the floods. This paragraph also describes auxiliary methods used to obtain the discharge and conditions that may have affected the stage-discharge relation.

The maximum stage and discharge at each station are given for the floods of January-February 1959, for the period during which continuous records of stage and discharge were obtained, and for any known flood exceeding this which may have occurred outside the period of station record.

The table of daily mean discharge gives data for the 2-month period January-February 1959—this not only covers the period of major flooding but covers a length of time, sufficient in most cases, to show discharges during antecedent and recession periods. The monthly figures of the table show the monthly mean discharge, in cubic feet per second, and the runoff from the drainage area, in inches.

The table of stages and discharges at indicated times gives sufficient data so that accurate hydrographs of stage or discharge can be drawn from them. The period of time covered is from prior to the start of the major rise to an arbitrary cutoff point on the recession. For the quicker reacting streams the cutoff point is well down the recession in baseflow condition. For the slower reacting streams the cutoff point may be fairly high on the recession, but for most of these streams the discharge hydrograph can be extended fairly accurately by use of the daily mean discharge figures.

Even though stages and the discharges associated with these stages are given for a period of time, these figures should not be used in preparation of rating curves (stage-discharge graphs) for use outside this period. For many stations the relation used to compute the discharge was shifted from the basic rating curve for various reasons, such as ice effect or other changes in control conditions.

The gage heights for the detail tables were obtained from continuous water-stage-recorder graphs. For a station with an incomplete record, the gage height for an indicated time may be selected from a graph which has been reconstructed from supplemental gage readings, high-water marks, and other pertinent evidence.

The stations are numbered and arranged in downstream order from headwater to mouth, with stations on tributaries inserted in corresponding order following the order in which the tributaries enter the main stream. Stations on streams in the Allegheny River (head of Ohio River) basin are listed first beginning with those on the tributary, Tionesta Creek. The listing of Ohio River tributaries continues through the Wabash River. Next in order come stations on tributaries to Lake Erie and to the Niagara River.

SUMMARY OF PEAK STAGES AND DISCHARGES

Certain features of the 12 columns in table 3 are presented in the following explanations:

Station number.—The number by which each station is identified at all references in the report. The numerical order follows the Geological Survey's standard downstream order of listing station as previously described.

Permanent station number.—The number used in the water-supply papers of surface-water supply in the United States. These numbers have been assigned in the same downstream order in this report. Blank spaces in the column indicate that the station is at a miscellaneous site and no number has been assigned to it. The number for each station includes the part (geographical division of principal river basins) number. Stations 1–288 are in Part 3–A (Ohio River basin, except Cumberland and Tennessee River basins), and stations 289–345 are in Part 4 (St. Lawrence River basin).

Stream and place of determination.—The permanent name adopted for the site to which the listed data apply; each name is unique.

Drainage area.—The gross drainage area above the station site as determined by the topography.

The last eight columns of the table give data for all known floods at the site:

Period.—The period of known floods prior to January 1959. This period does not necessarily correspond to that in which continuous records of discharge were obtained, but in many cases it extends back to an earlier date. More than one period of known floods are shown for some stations, because periods are shown whenever maximum stages can be associated with them, even though the corresponding discharge may not be known—a second period of known floods is then given in which maximums of both discharge and stage are known.

Year.—The calendar year, within the period of known floods, in which the maximum stage or discharge occurred.

Date.—The date on which the maximum stage or discharge occurred during the floods of January-February 1959.

Gage height and discharge.—Data in each pair of columns are associated with the year or date in the preceding column.

Recurrence interval.—The average interval of time in which the peak discharge of January-February 1959 can be expected to be equaled or exceeded once.

Table 3.--Summary of flood stages and discharges

No.	Permanent station number	Stream and place of determination	Drainage area (sq mi.)	Maximum previously known			Maximum January-February 1959				
				Period	Year	Gage height (feet)	Discharge (cfs)	Date	Gage height (feet)	Discharge Cfs	Recurrence interval (years)
Tionesta Creek basin											
1	3-175	Tionesta Creek at Lynch, Pa.	233	1937-58	1946	10.26	12,000	Jan. 22	11.25	15,000	50
2	3-200	Tionesta Creek at Tionesta Creek Dam, Pa.	479	1940-58	1946	(a)	10,500	Jan. 22	11.90	-	-
								Jan. 25	-	7,560	2
Oil Creek basin											
3	3-205	Oil Creek at Rouseville, Pa.	300	1932-58	1954	11.55	18,600	Jan. 22	11.97	21,000	61.22
French Creek basin											
4	3-215	French Creek at Carters Corners, Pa.	208	1909-58	1918	416.0	-	Jan. 22	12.52	13,500	14
					1947	13.50	20,000				
5	3-240	French Creek at Utica, Pa.	1,028	1913	1913	15.7	35,600	Jan. 24	11.91	19,300	2
				1932-58	1948	12.32	20,700				
6	3-250	Sugar Creek at Sugarcreek, Pa.	166	1952-58	1946	10.49	10,000	Jan. 21	9.43	-	-
								Jan. 21	-	9,600	27
Ohio River main stem											
7	3-255	Allegheny River at Franklin, Pa.	5,982	1865	1865	25.0	196,000	Jan. 21	220.58	-	-
				1913	1913	24.6	191,000	Jan. 22	-	126,000	-
				1913-58	1926	226.0					
Clarion River basin											
8	3-265	Severnille Run near Basselias, Pa.	7.84	1951-58	1953	4.78	1,590	Jan. 21	4.67	1,280	-
9	3-275	East Branch Clarion River at East Branch Clarion River Dam, Pa.	73.2	1948-58	1957	7.25	2,590	Feb. 17-19	-	e f 495	-
10	3-280	West Branch Clarion River at Wilcox, Pa.	63.0	1953-58	1956	8.59	4,050	Jan. 22	8.35	3,960	18
11	3-285	Clarion River at Johnsonburg, Pa.	204	1945-58	1942	16.7	(a)	Jan. 22	7.87	6,670	4
				1945-58	1946	9.2	11,700				
12	3-295	Clarion River at Cooksburg, Pa.	807	1936	1936	19	56,000	Jan. 21	115.35	-	-
				1938-58	1942	14.96	32,700	Jan. 22	14.54	30,400	5
13	3-305	Clarion River near Piney, Pa.	951	1936	1936	(a)	50,000	Jan. 22	221.8	44,300	-
				1947-58	1950	17.66	32,000				
Ohio River main stem											
14	3-315	Allegheny River at Parkers Landing, Pa.	7,671	1865	1865	29.4	250,000	Jan. 21	229.60	-	-
				1932-58	1934	427.85	-	Jan. 22	-	175,000	-
					1942	21.80	157,000				
Mahoning Creek basin											
15	3-340	Mahoning Creek at Furxsutawney, Pa.	158	1936	1936	(a)	12,500	Jan. 22	9.90	6,290	7
				1938-58	1958	10.89	7,570				
16	3-345	Little Mahoning Creek at McCormick, Pa.	87.4	1959-58	1941	111.94	-	Jan. 21	113.86	-	-
					1952	11.42	5,300	Jan. 22	10.46	4,260	9

Beaver River basin

17	3-865	Mahoning River at Alliance, Ohio.....	1941-58	1946	7.90	7,000	Jan. 21	9.11	9,740	cl.39
18	3-870	Beech Creek near Bolton, Ohio.....	1943-54	1950	8.27	2,210	Jan. 21-22	7.6	(a)	-
19	3-880	Deer Creek at Lima, Ohio.....	1941-55	1945	d10.18	-	Jan. 21-22	14.0	-	-
20	3-895	Mill Creek near Berlin Center, Ohio.....	1941-58	1946	9.33	1,530	Jan. 21	6.70	1,700	7
21	3-900	Berlin Reservoir near Berlin Center, Ohio.....	1942-58	1943	1,032.00	h91,150	Jan. 24	1,025.70	h62,010	-
22	3-905	Mahoning River below Berlin Dam, near Berlin Center, Ohio.....	1930-58	1937	-	8,630	Jan. 24	5.23	f3,200	-
23	3-910	Milton Reservoir at Pricetown, Ohio.....	1923-58	1924	953.8	h35,020	Jan. 27	951.67	h30,520	-
24	3-915	Mahoning River at Pricetown, Ohio.....	1929-58	1937	15.01	6,770	Feb. 16	7.90	f2,320	-
25	3-920	Kale Creek near Pricetown, Ohio.....	1940-58	1944	8.3	3,630	Jan. 21	8.52	3,890	cl.27
26	3-921	Hinkley Creek near Charlestown, Ohio.....	1947-58	1955	12.62	584	Jan. 21	13.91	943	cl.09
27	3-925	West Branch Mahoning River near Newton Falls, Ohio.....	1926-58	1929	11.8	6,090	Jan. 22	13.60	8,340	cl.21
28	3-926	Orandace Creek near Newton Falls, Ohio.....	1930-58	1956	6.98	103	Jan. 21	5.54	92	-
29	3-930	Eagle Creek at Phalanx Station, Ohio.....	1926-54,	1929	12.9	5,950	Jan. 22	13.12	6,700	cl.22
30	3-940	Mahoning River at Leavittsburg, Ohio.....	1913-58	1913	24	(a)	Jan. 22	19.37	f20,300	-
31	3-949	Walnut Creek at Cortland, Ohio.....	1940-58	1952	15.88	f9,720	-	-	-	-
32	3-949	Walnut Creek at Cortland, Ohio.....	1947-58	1954	4.60	1,200	Jan. 21	5.06	1,400	20
33	3-950	Mosquito Creek Reservoir near Cortland, Ohio.....	1943-58	1943	903.65	h101,200	Feb. 13	901.45	h82,920	-
34	3-970	Meander Creek Reservoir at Mineral Ridge, Ohio.....	1929-51	1942	5.16	3,080	Jan. 21-22	4.35	f11,350	-
35	3-980	Mahoning River at Youngstown, Ohio.....	1913	1915	908.65	h40,360	Jan. 22	903.25	h41,800	-
36	3-985	Mill Creek at Youngstown, Ohio.....	1921-58	1937	26.5	42,500	Jan. 22	b16.62	f16,900	-
37	-	Crab Creek at Youngstown, Ohio.....	1913	1913	14.92	f17,600	Jan. 22	-	-	-
38	-	Crab Creek at Youngstown, Ohio.....	1943-58	1946	(a)	7,140	Jan. 22	7.49	4,290	37
39	3-995	Mahoning River at Lowellville, Ohio.....	1913	1913	17.8	-	Jan. 21	-	1,170	-
40	3-1015	Shenango River at Pymatuning Dam, Pa.....	1942-58	1946	13.73	(a)	Jan. 21	-	2,140	-
41	3-1025	Little Shenango River at Greenville, Pa.....	1913	1913	9.2	f20,000	Jan. 21	14.43	f21,000	-
42	3-1030	Pymatuning Creek near Orangeville, Pa.....	1913-58	1958	13.50	f1,540	Jan. 21	8.15	f1,280	-
43	3-1035	Shenango River at Sharpsville, Pa.....	1913	1913	(1)	7,580	Jan. 22	14.30	8,540	20
44	3-1055	Beaver River at Wampum, Pa.....	1913	1915	b11.90	6,200	Jan. 22	b13.32	-	-
45	3-1060	Connoquessing Creek at Hazen, Pa.....	1913	1913	19.3	(a)	Jan. 22	15.97	f15,700	4
46	3-1065	Slippery Rock Creek at Wurtzburg, Pa.....	1913-58	1954	-	f13,900	Jan. 22	-	-	-
47	3-1075	Beaver River at Beaver Falls, Pa.....	1913-58	1958	13.97	87,000	Jan. 22	b24.86	f49,900	-
			1919-58	1913	25.9	23,000	Jan. 22	12.65	10,400	4
			1911-58	1937	f12.05	19,000	Jan. 22	10.45	14,000	8
			1935-58	1913	17.4	103,000	Jan. 22	14.42	f69,900	-
				1937	15.8	f64,500				

See footnotes at end of table.

Table 3.--Summary of flood stages and discharges--Continued

No.	Permanent station number	Stream and place of determination	Drainage area (sq mi.)	Maximum previously known				Maximum January-February 1959			
				Period	Year	Gage height (feet)	Discharge (cfs)	Date	Gage height (feet)	Discharge cfs	Recurrence interval (years)
Raccoon Creek basin											
48	3-1080	Raccoon Creek at Moffatts Mill, Pa.	178	1922 1941-58	1922 1952	9.80 9.71	10,000 8,590	Jan. 22	7.74	5,110	3
Little Beaver Creek basin											
49	3-1090	Lisbon Creek at Lisbon, Ohio.	6.08	1946-58	1958	7.47	1,500	Jan. 21	5.64	811	-
50	3-1095	Little Beaver Creek near East Liverpool, Ohio.	505	1915-58	1941	17.4	25,000	Jan. 22	14.70	17,000	7
Muskingum River basin											
51	3-1160	Tuscarawas River at Clinton, Ohio.	165	1913 1926-58	1913 1935	22.2 14.82	(a) 2,700	Jan. 22	15.50	2,120	6
52	3-1161	Little Chippewa Creek near Smithville, Ohio.	13.9	1947-58	1957	13.33	1,360	Jan. 21-22	14.30	1,900	50
53	3-1162	Chippewa Creek at Easton, Ohio.	146	-	-	-	-	Jan. 21	-	10,100	-
54	3-1170	Tuscarawas River at Massillon, Ohio.	526	1937-58	1940	11.39	6,940	Jan. 22	13.46	7,220	20
55	3-1175	Sandy Creek at Waynesburg, Ohio.	254	1938-58	1952	7.95	6,100	Jan. 22	10.05	15,000	cl.55
56	3-1180	Middle Branch Minishillen Creek at Canton, Ohio.	44.2	1941-58	1958	6.15	1,920	Jan. 22	6.50	2,470	cl.25
57	3-1185	Minishillen Creek at North Industry, Ohio.	175	1921-58	1929	9.9	6,660	Jan. 21	11.29	8,620	cl.12
58	3-1195	Bolivar Reservoir at Bolivar, Ohio.	502	1938-58	1952	942.29	h57,850	Jan. 26	944.01	h63,440	-
59	3-1200	Leesville Reservoir near Leesville, Ohio.	47.9	1938-58	1948	969.59	h26,760	Jan. 24	966.87	h23,610	-
60	3-1210	Atwood Reservoir near New Cumberland, Ohio.	70.3	1938-58	1952	934.51	h35,220	Jan. 26	933.16	h32,600	-
61	3-1220	Dover Reservoir near Dover, Ohio.	1,397	1938-58	1947	902.68	h92,890	Jan. 25-26	901.65	h86,120	-
62	3-1225	Tuscarawas River below Dover Dam near Dover, Ohio.	1,598	1913 1928-58	1913 1937	23.5 15.51	82,000 f26,400	Feb. 25	7.56	17,150	-
63	3-1235	Beach City Reservoir near Beach City, Ohio.	300	1938-58	1947	968.56	h34,100	Jan. 23	973.24	h53,520	-
64	3-1255	Piedmont Reservoir at Piedmont, Ohio.	64.0	1938-58	1947	918.33	h46,710	Jan. 24	916.56	h42,120	-
65	3-1265	Clendening Reservoir at Tippesano, Ohio.	69.5	1938-58	1952	903.96	h36,080	Feb. 15	900.64	h31,520	-
66	3-1275	Stillwater Creek at Uhrichsville, Ohio.	367	1913 1922-58	1913 1935	15.5 12.8	(a) 7,650	Jan. 22	15.72	13,040	-
67	3-1280	Tappan Reservoir at Tappan, Ohio.	71.0	1938-58	1952	904.53	h48,480	Feb. 15	901.10	h39,460	-
68	3-1290	Tuscarawas River at Newcomerstown, Ohio.	2,436	1913 1921-58	1913 1937	(a) f46,800	83,000 f46,800	Jan. 22	10.05	113,700	-
69	3-1293	Whetstone Creek tributary near Olivesburg, Ohio.	236	1950-58	1956	5.71	155	Jan. 21	5.53	79	-
70	3-1295	Charles Mill Reservoir near Mifflin, Ohio.	216	1938-58	1947	1,013.34	h52,930	Jan. 25	1,013.53	h53,780	-
71	3-1305	Touhy Run at Mansfield, Ohio.	5.17	1946-58	1947	4.17	965	Jan. 21	54.7	910	9
72	3-1320	Clear Fork at Butler, Ohio.	143	1944-58	1948, 1950	-	7,100	Jan. 21	9.43	14,300	cl.51
73	3-1330	Pleasant Hill Reservoir near Perrysville, Ohio.	199	1938-58	1947	8.16	h32,220	Jan. 23	1,044.01	h43,540	-
74	3-1340	Jerome Fork at Jeroneville, Ohio.	120	1913 1925-49	1913 1937	1,036.69 11.40	(a) 3,720	Jan. 22	14.1	13,000	cl.11
75	3-1345	Mohicanville Reservoir near Mohicanville, Ohio.	269	1938-58	1947	957.60	h59,820	Jan. 26	956.85	h54,870	-

76	3-1360	Mohican River at Greer, Ohio.....	942	1913 1921-58	1913 1935	27.0 13.83	55,000 17,700	Jan. 22	12.39	f15,700	-
77	-	Kokosing River at Uhrichsville, Ohio.....	38.1	-	-	-	-	Jan. 21	-	9,620	-
78	-	East Branch of North Branch Kokosing River at Knox Lake Dam, near Fredericktown, Ohio.....	30.3	-	-	-	-	Jan. 22	-	3,450	-
79	3-1365	Kokosing River at Mount Vernon, Ohio.....	200	1953-58	1956	12.34	7,030	Jan. 21	18.19	38,000	-
80	-	Dry Creek near Bangs, Ohio.....	21.7	-	-	-	-	Jan. 21	-	5,810	-
81	3-1370	Kokosing River at Millwood, Ohio.....	454	1913 1921-58	1913 1937	122.0 118.10	40,000 27,500	Jan. 21	34.00	75,900	c3.21
82	3-1380	Mohawk Reservoir near Nellie, Ohio.....	1,501	1936-58	1937	864.76	h126,800	Jan. 25	873.94	h176,100	-
83	3-1385	Walhonding River below Mohawk Dam, at Nellie, Ohio.....	1,502	1921-58	1937	18.8	12,780	Feb. 6	12.78	99,760	-
84	3-1390	Killbuck Creek at Killbuck, Ohio.....	466	1930-58	1935	21.77	28,800	Jan. 22	21.75	28,400	c2.89
85	3-1400	Mill Creek near Oshocton, Ohio.....	27.5	1936-58	1957	12.73	7,850	Jan. 21	11.40	4,440	c1.47
86	3-1405	Muskingum River near Oshocton, Ohio.....	4,847	1913 1936-58	1913 1937	(a) 21.98	202,000 f78,700	Jan. 22	13.43	f32,900	-
87	3-1410	Seneca Reservoir near Seneca, Ohio.....	121	1938-58	1945	837.27	h63,370	Jan. 25	836.69	h60,890	-
88	3-1430	Wills Creek Reservoir near Willis Creek, Ohio.....	844	1938-58	1945	771.38	h122,200	Feb. 16-17	764.51	h74,810	-
89	3-1440	Wakatomika Creek near Frazeysburg, Ohio.....	140	1936-58	1952	11.61	10,000	Jan. 22	13.15	13,700	c1.24
90	3-1445	Muskingum River at Dresden, Ohio.....	5,982	1913 1921-58	1913 1935	46.0 51.6	228,000 100,000	Jan. 22	20.50	f39,400	-
91	3-1450	South Fork Licking River near Hebron, Ohio.....	133	1939-48	1945	12.1	5,200	Jan. 21	12.4	5,880	-
92	3-1455	Raccoon Creek at Granville, Ohio.....	135.0	1939-48	1940	13.6	6,240	Jan. 21	16.6	8,700	-
93	3-1456	Raccoon Creek at Newark, Ohio.....	104	1947-58	1947	13.25	368	Jan. 21	13.52	10,400	-
94	3-1456	Other Fork near Centerburg, Ohio.....	2.97	1939-48	1948	12.4	6,400	Jan. 21	13.52	445	40
95	3-1460	North Fork Licking River at Utica, Ohio.....	114	1956	1956	13.2	(a)	Jan. 21	15.6	(a)	-
96	-	North Fork Licking River at Newark, Ohio.....	239	1939-58	1952	16.59	25,000	Jan. 21	-	29,800	-
97	3-1465	Licking River near Newark, Ohio.....	536	1913	1913	20.0	35,000	Jan. 22	20.3	45,000	c1.69
98	3-1470	Licking River at Toboso, Ohio.....	672	1902-8, 1921-58	1952	18.75	32,500	Jan. 22	21.08	49,800	c1.62
99	3-1475	Licking River at Dillion, Ohio.....	754	1913 1929-58	1913 1945	37.0	(a) 30,300	Jan. 22	32.46	47,000	c1.66
100	3-1500	Muskingum River at McConnellsville, Ohio.....	7,411	1913 1921-58	1913 1937	27.63 21.14	270,000 f126,000	Jan. 23	14.38	f81,600	-
101	3-1595	Hocking River at Athens, Ohio.....	944	1907 1915-58	1907 1945	26.7 23.0	50,000 30,400	Jan. 23	19.38	15,800	3
102	3-2020	Raccoon Creek at Adamsville, Ohio.....	587	1937 1915-35, 1936-58	1937 1948	25.2 24.92	(a) 15,500	Jan. 24	19.42	7,090	2
103	-	Scioto River at Foraker, Ohio.....	102	1913	1913	17.8	(a)	Jan. 21	15.30	4,420	-
104	3-2175	Scioto River at LaRue, Ohio.....	255	1928-35, 1938-51	1927	15.0	10,700	Jan. 21	15.30	16,300	c1.30

See footnotes at end of table.

Table 3.--Summary of flood stages and discharges--Continued

No.	Permanent station number	Stream and place of determination	Drainage area (sq mi)	Maximum previously known				Maximum January-February 1959			
				Period	Year	Gage height (feet)	Discharge (cfs)	Date	Gage height (feet)	Discharge cfs	Recurrence interval (years)
Scioto River basin--Continued											
105	3-2180	Little Scioto River above Marion, Ohio.....	70.0	1938-58	1947	8.16	3,720	Jan. 22	8.73	5,160	cl.30
106	3-2195	Scioto River near Prospect, Ohio.....	571	1913 1925-32, 1939-58	1913 1927	121.1 115.0	27,000 10,100	Jan. 21	15.30	10,100	7
107	3-2200	Mill Creek near Bellepoint, Ohio.....	181	1913 1942-58	1913 1956	18.0 9.92	(a) 7,170	Jan. 21	13.85	20,300	cl.77
108	3-2205	O'Shaughnessy Reservoir near Dublin, Ohio.....	987	1924-58	1952	851.74	h21,050	Jan. 22	854.40	h24,290	-
109	3-2210	Scioto River below O'Shaughnessy Dam, near Dublin, Ohio.....	988	1913 1921-58	1913 1937	24.6 15.45	74,500 f27,000	Jan. 22	22.04	f55,200	-
110	3-2215	Griggs Reservoir near Columbus, Ohio.....	1,052	1913 1921-58	1913 1952	766.2 760.63	(a) h6,490	Jan. 22	763.91	h7,730	-
111	3-2230	Olentangy River at Claridon, Ohio.....	156	1946-58	1947	13.57	6,800	Jan. 22	16.77	14,900	cl.94
112	3-2240	Shaw Creek at Shawtown, Ohio.....	25.2	1946-55	1948	6.05	1,250	Jan. 21	8.12	4,120	cl.81
113	3-2245	Whetstone Creek near Ashley, Ohio.....	98.5	1954-58	1956	8.54	4,020	Jan. 21	14.34	19,100	-
114	3-2250	Delaware Reservoir near Delaware, Ohio.....	381	1951-58	1957	931.14	h45,300	Jan. 25	944.75	h113,000	-
115	3-2255	Olentangy River near Delaware, Ohio.....	387	1923-34, 1938-58	1927	116.9	14,100	Jan. 31	88.11	f6,000	-
116	3-2262	Delaware Run near Delaware, Ohio.....	3.33	1947-58	1948	12.42	780	Jan. 21	13.01	1,050	-
117	3-2265	Olentangy River at Stratford, Ohio.....	436	1934-55, 1938-58	1959	8.77	15,600	Jan. 21	6.75	f9,600	-
118	3-2268	Olentangy River near Worthington, Ohio.....	493	1955-58	1952	15.3	f15,100	Jan. 21	15.68	f16,500	-
119	-	Scioto River at Columbus, Ohio.....	1,613	1897-1958	1957	21.52	f6,820	Jan. 22	16.2	(a)	-
120	3-2275	Scioto River at Columbus, Ohio.....	1,624	1913 1920-58	1913 1952	35.9 24.70	136,000 f40,300	Jan. 22	27.22	f68,200	-
121	3-2280	Scioto Big Run at Briggsdale, Ohio.....	11.0	1947-58	1954	11.92	2,790	Jan. 21	12.09	2,920	17
122	3-2284	Hoover Reservoir at Central College, Ohio.....	190	1955-58	1957	831.90	h65,600	Jan. 21	834.76	h74,680	-
123	3-2285	Big Walnut Creek at Central College, Ohio.....	190	1938-58	1943	16.6	14,400	Jan. 21	19.75	f23,800	-
124	3-2290	Alum Creek at Columbus, Ohio.....	190	1923-35, 1938-58	1929	13.6	8,800	Jan. 22	19.59	26,400	cl.24
125	-	Blacklick Creek near Groveport, Ohio.....	58.5	1956	1956	-	12,300	Jan. 21	-	10,300	-
126	3-2295	Big Walnut Creek at Rees, Ohio.....	544	1913 1921-35, 1938-58	1913 1929	120.5 18.0	(a) 21,800	Jan. 22	22.03	f59,800	-
127	3-2300	Scioto River near Circleville, Ohio.....	2,635	1913 1939-56	1913 1945	34	(a) 69,200	Jan. 22	27.2	f100,000	-
128	3-2305	Big Darby Creek at Darbyville, Ohio.....	533	1921-35, 1938-58	1952 1929	24.07 14.9	- 22,600	Jan. 22	17.94	49,000	cl.12

129	3-2310	Deer Creek at Williamsport, Ohio.....	331	1926-35, 1938-58 1913 1920-58	1929 1952 1937	- 15.49 39.8 27.68	29,300 - 260,000 101,000	Jan. 22 Jan. 23	17.6 32.50	39,600 \$144,000	01.76 -
130	3-2315	Scioto River at Chillicothe, Ohio.....	3,847								
131	3-2316	East Fork Paint Creek near Sedalia, Ohio.....	4.23	1947-58	1948	13.77	292	Jan. 21	14.47	515	40
132	3-2320	Paint Creek near Greenfield, Ohio.....	251	1926-35, 1939-58	1940 1945	10.8 19.2	13,900 52,100	Jan. 21 Jan. 22	11.0 16.63	14,500 \$24,700	01.07 -
133	3-2340	Paint Creek near Bourneville, Ohio.....	808	1921-37, 1938-58	1945						
134	3-2345	Scioto River at Higby, Ohio.....	5,129	1913 1930-58	1913 1937	31.6 26.4	(a) 177,000	Jan. 23	26.40	\$160,000	-
Little Miami River basin											
135	3-2390	Little Miami River near Selma, Ohio.....	50.6	1952-58	1958	8.59	3,500	Jan. 21	9.42	7,920	-
136	3-2395	North Fork Little Miami River near Picholin, Ohio..	29.1	1952-58	1958	6.04	955	Jan. 21	7.58	3,350	-
137	3-2400	Little Miami River near Oldtown, Ohio.....	129	1952-58	1954	10.2	4,720	Jan. 21	12.20	12,800	-
138	3-2405	North Fork Massie Creek at Cedarville, Ohio.....	25.6	1954-58	1958	7.52	1,620	Jan. 21	8.55	2,960	-
139	3-2410	South Fork Massie Creek near Cedarville, Ohio.....	20.2	1954-58	1958	7.24	1,130	Jan. 21	8.27	2,440	-
140	3-2415	Massie Creek at Wilberforce, Ohio.....	64.3	1952-58	1958	10.35	4,300	Jan. 21	11.25	7,300	-
141	3-2416	Shawnee Creek at Xenia, Ohio.....	4.21	1948-58	1949	15.71	790	Jan. 21	16.02	855	7
142	3-2420	Little Miami River at Spring Valley, Ohio.....	361	1925-35, 1939-58	1929 1952	16.8 -	18,600	Jan. 21, 22	19.0	36,400	01.94
143	-	Caesar Creek near Xenia, Ohio.....	66.8	-	-	-	-	Jan. 21	-	10,600	-
144	-	Anderson Fork near Lumberton, Ohio.....	58.0	-	-	-	-	Jan. 21	-	7,600	-
145	3-2425	Little Miami River near Fort Ancient, Ohio.....	677	1913 1936-51	1913 1945	20 16.80	(a) 32,900	Jan. 21 Jan. 21	21.9	67,000	01.99
146	3-2440	Todd Fork near Roachester, Ohio.....	219	1952-58	1958	17.55	14,500	Jan. 21	19.50	25,500	-
147	-	Little Miami River at Kings Mills, Ohio.....	1,048	1915-58	1913	33.7	-	Jan. 22	31.80	-	-
148	3-2455	Little Miami River at Milford, Ohio.....	1,195	1913 1915-17, 1925-36, 1938-58	1913 1945	25.5 20.90	(a) 69,000	Jan. 22 Jan. 22	22.30	84,100	01.23
149	3-2475	East Fork Little Miami River at Perintown, Ohio...	477	1915-20, 1925-58	1945	23.42	39,400	Jan. 21	21.24	32,000	8
Mill Creek basin											
150	3-2555	Mill Creek at Reading, Ohio.....	73.1	1938-58	1945	20.00	5,780	Jan. 21	19.67	5,640	12
151	3-2565	West Fork Mill Creek Reservoir near Greenhills, Ohio.	29.5	1935-58	1957	689.76	8,720	Jan. 22	698.95	89,750	-
152	3-2575	West Fork Mill Creek at Woodlawn, Ohio.....	31.9	1952-58	1956	8.82	12,000	Jan. 23	5.56	11,290	-
153	3-2580	West Fork Mill Creek at Lookland, Ohio.....	35.6	1938-58	1947	16.93	6,310	Jan. 21	10.63	11,700	-
154	3-2590	Mill Creek at Carthage, Ohio.....	116	1946-58	1947	14.21	8,500	Jan. 21	16.17	18,900	-
Miami River basin											
155	3-2605	Indian Lake at Russell's Point, Ohio.....	109	1913 1946-58	1913 1957	5.3 3.23	(a) (a)	Jan. 22	3.58	(a)	-
156	3-2607	Backongshelias Creek near Dedraff, Ohio.....	37.5	1957-58	1958	5.24	740	Jan. 21	6.83	1,780	-
157	3-2610	Miami River at Quincy, Ohio.....	408	1946-49	1947	12.1	4,860	January	16.5	(a)	-

See footnotes at end of table.

Table 3.--Summary of flood stages and discharges--Continued

No.	Permanent station number	Stream and place of determination	Drainage area (sq mi.)	Maximum previously known				Maximum January-February 1959		
				Period	Year	Gage height (feet)	Discharge (cfs)	Date	Gage height (feet)	Discharge cfs
Miami River basin--Continued										
158	3-2615	Miami River at Sidney, Ohio.....	545	1913-58	1913	19.6	44,000	Jan. 21	15.91	16,800
159	-	Lockington retarding basin at Lockington, Ohio.....	261	1922-58	1958	912.2	h12,000	Jan. 22	909.8	h3,500
160	3-2620	Loramie Creek at Lockington, Ohio.....	261	1913-58	1913	91.6	25,600	Jan. 22	84.43	f5,750
161	3-2625	Miami River at Piqua, Ohio.....	842	1910-58	1913	29.1	-	Jan. 21	14.8	-
162	3-2628	Lost Creek near Troy, Ohio.....	55.3	1913	1913	-	29,700	Jan. 21	-	5,650
163	-	Taylorville retarding basin at Taylorville, Ohio	1,155	1922-58	1933	787.1	h12,800	Jan. 22	791.5	h21,500
164	3-2630	Miami River at Taylorville, Ohio.....	1,155	1913-58	1913	325.4	127,000	Jan. 22	75.44	f31,400
165	3-2631	Poplar Creek near Vandalia, Ohio.....	3.16	1947-58	1955	6.07	1,110	Jan. 21	6.10	1,130
166	3-2640	Greenville Creek near Bradford, Ohio.....	195	1913	1913	312.1	318,200	Jan. 21	8.93	5,990
167	3-2650	Stillwater River at Pleasant Hill, Ohio.....	502	1930-58	1933	9.2	9,320	Jan. 21	17.98	19,300
168	3-2651	Hog Run tributary at Laura, Ohio.....	46	1913	1913	(k)	351,400	Jan. 21	-	9
169	-	Englewood retarding basin at Englewood, Ohio.....	846	1916-28,	1937	17.32	26,400	Jan. 21	-	-
170	3-2660	Stillwater River at Englewood, Ohio.....	846	1934-58	1953	7.65	204	Jan. 21	6.00	54
171	3-2665	Mad River at Zanesfield, Ohio.....	6.41	1950-58	1953	831.5	h65,800	Jan. 23	825.1	h48,000
172	3-2670	Mad River near Urbana, Ohio.....	157	1925-58	1938	80.98	365,400	Jan. 23	80.21	f9,450
173	3-2680	Buck Creek at New Moorefield, Ohio.....	67.3	1946-58	1948	6.76	1,390	Jan. 21	5.05	797
174	3-2685	Beaver Creek near Springfield, Ohio.....	57.3	1942-58	1948	10.4	7,740	Jan. 22	12.05	8,000
175	3-2690	Buck Creek at Springfield, Ohio.....	137	1913-21, 1924-58	1929	7.46	5,150	Jan. 21	7.98	8,130
176	3-2695	Mad River near Springfield, Ohio.....	485	1904-5, 1913-58	1913	7.96	4,980	Jan. 21	9.0	5,400
177	-	Huffman retarding basin near Dayton, Ohio.....	632	1922-58	1929	14.3	13,000	Jan. 21	12.39	10,500
178	3-2700	Mad River near Dayton, Ohio.....	632	1913-58	1913	319.0	250,000	Jan. 22	35.45	f60,900
179	3-2705	Miami River at Dayton, Ohio.....	2,513	1905-6, 1913-58	1913	329.0	250,000	Jan. 22	-	-
180	3-2708	Wolf Creek at Trotwood, Ohio.....	48.2	-	-	-	-	Jan. 21 or 22	-	6,990
181	3-2710	Wolf Creek at Dayton, Ohio.....	69.5	1938-50	1943	53.5	9,950	Jan. 21	55.1	-
182	3-2713	Holes Creek near Kettering, Ohio.....	20.6	-	-	-	-	Jan. 21	-	4,730
183	3-2715	Miami River at Miamisburg, Ohio.....	2,718	1913	1913	(a)	257,000	Jan. 21, 22	20.65	f61,800
184	3-2717	Clear Creek at Franklin, Ohio.....	46.7	1916-20, 1924-35, 1952-58	1929	316.5	f55,000	-	-	-
185	3-2718	Twin Creek near Ingomar, Ohio.....	198	-	-	-	-	Jan. 21	-	13,300
				-	-	-	-	Jan. 21	18.9	30,300

186	-	3-2720	Germantown retarding basin near Germantown, Ohio.....	275	1922-58	778.3	221,400	Jan. 22	787.2	453,600	-
187	-	3-2721	Twin Creek near Germantown, Ohio.....	275	1913-23, 1926-58	718.3	66,000	Jan. 22	29.19	18,590	-
188	-	3-2723	Dicks Creek near Exceello, Ohio.....	44.8	-	-	-	Jan. 21	-	9,850	-
189	-	3-2724	Fourmile Creek at Huston Woods Dam, Ohio.....	102	-	-	-	Jan. 21	-	13,500	-
190	-	3-2728	Sevenmile Creek at Collinsville, Ohio.....	121	-	-	-	Jan. 21	-	16,600	-
191	-	3-2735	Talawanda Creek near Hamilton, Ohio.....	311	1937-58	21.0	33,500	Jan. 21	21.9	44,500	cl. 23
192	-	3-2740	Miami River at Hamilton, Ohio.....	3,689	1930-38, 1927-58	358.5	382,000	Jan. 21	79.49	1,080,000	-
193	-	-	Indian Creek near Millville, Ohio.....	99.1	-	-	-	Jan. 21	-	23,500	-
194	-	-	Miami River near Madison, Ohio.....	3,880	-	-	-	Jan. 22	31.4	1,115,000	-
195	-	-	Maritdale Creek at Cambridge City, Ind.....	58.5	-	-	-	Jan. 21	-	4,240	6
196	-	3-2750	Whitewater River near Alpine, Ind.....	539	1928-58	16.61	35,000	Jan. 21	16.14	31,600	cl. 04
197	-	-	Salt Creek near Hamburg, Ind.....	41.0	-	-	-	Jan. 21	-	10,200	cl. 02
198	-	-	Middle Fork of East Fork Whitewater River at Middleboro, Ind.....	35.9	-	-	-	Jan. 21	-	3,280	-
199	-	3-2755	East Fork Whitewater River at Richmond, Ind.....	123	1913 1949-58	15.0 12.49	(a) 13,500	Jan. 21	12.44	14,100	11
200	-	-	Hanna Creek near Liberty, Ind.....	22.1	-	-	-	Jan. 21	-	4,770	-
201	-	3-2760	East Fork Whitewater River at Brookville, Ind.....	362	1954-58	11.42	14,100	Jan. 21	16.50	36,100	40
202	-	3-2765	Whitewater River at Brookville, Ind.....	1,239	1813-1958 1913 1915-20, 1929 1923-58	39.0 25.56	(a) 69,200	Jan. 21	27.78	81,800	cl. 05
Hogan Creek basin											
203	-	-	North Hogan Creek near Moores Hill, Ind.....	23.2	-	-	-	Jan. 21	-	7,040	-
204	-	-	South Hogan Creek near Dilisboro, Ind.....	36.6	-	-	-	Jan. 21	-	16,300	cl. 74
Laughery Creek basin											
205	-	-	Laughery Creek at Versailles, Ind.....	167	-	-	-	Jan. 21	36.43	17,000	14
206	-	3-2770	Laughery Creek near Farmers Retreat, Ind.....	248	1940-58	16.15	20,200	Jan. 21	m21.13	47,800	cl. 58
Indian Creek basin											
207	-	-	Wilson Fork Creek near Canaan, Ind.....	17.0	-	-	-	Jan. 21	-	13,100	-
Crooked Creek basin											
208	-	-	Crooked Creek at Madison, Ind.....	8.01	1957	-	2,580	Jan. 21	-	4,200	-
Fourteenmile Creek basin											
209	-	-	West Fork Fourteenmile Creek near Mabb, Ind.....	14.0	-	-	-	Jan. 21	-	5,770	-
Silver Creek basin											
210	-	-	Persimmon Run near Carwood, Ind.....	3.23	-	-	-	Jan. 21	-	874	-
211	-	3-2940	Silver Creek near Sellersburg, Ind.....	188	1954-58	23.61	6,250	Jan. 22	30.89	19,600	17
Big Buck Creek basin											
212	-	-	Big Buck Creek near New Middletown, Ind.....	27.4	-	-	-	Jan. 21	-	8,830	-
Big Indian Creek basin											
213	-	3-3025	Big Indian Creek near Corydon, Ind.....	129	1815-1958	22.4	17,000	Jan. 21	m22.22	23,800	cl. 22
214	-	3-3026	Little Indian Creek near Corydon, Ind.....	32.5	1948-50	10.12	8,820	Jan. 21	9.32	9,440	-

See footnotes at end of table.

Table 3.--Summary of flood stages and discharges--Continued

No.	Permanent station number	Stream and place of determination	Drainage area (sq mi)	Maximum previously known				Maximum January-February 1959					
				Period	Year	Discharge (cfs)	Age height (feet)	Date	Age height (feet)	Discharge	Recurrence interval (years)		
												Cfs	
Blue River basin													
215	3-3027	Middle Fork Blue River near Salem, Ind.	38.4	-	-	-	-	Jan. 21	-	11,400	c1.16		
216	-	Mill Creek near Becks Mill, Ind.	8.04	-	-	-	-	Jan. 21	-	2,740	-		
217	3-3030	Blue River near White Cloud, Ind.	461	1930-58	1937	26,000	21.97	Jan. 22	n23.07	28,500	23		
Little Blue River basin													
218	-	Little Blue River at English, Ind.	16.8	-	-	-	-	Jan. 21	-	6,920	-		
Anderson River basin													
219	-	Anderson River near Siberia, Ind.	44.8	-	-	-	-	Jan. 21	-	11,800	c1.11		
220	-	Middle Fork Anderson River near Uniontown, Ind.	7.42	-	-	-	-	Jan. 21	-	6,270	-		
Little Pigeon Creek basin													
221	3-3040	Little Pigeon Creek near Tennyson, Ind.	150	1944-47	1945	4,020	25.00	Jan. 21	24.19	3,620	4		
222	-	Little Pigeon Creek near Midway, Ind.	268	-	-	-	-	Jan. 21	-	5,900	5		
Pigeon Creek basin													
223	3-3221	Pigeon Creek at Evansville, Ind.	321	-	-	-	-	Jan. 21	-	4,680	2		
Wabash River basin													
224	3-3225	Wabash River near New Corydon, Ind.	258	1951-58	1957	6,390	19.27	Jan. 22	20.47	8,720	17		
225	3-3230	Wabash River at Bluffton, Ind.	506	1837-1958	1913	285,000	21.0	Feb. 10	14.95	9,820	12		
226	3-3235	Wabash River at Huntington, Ind.	710	1913	1913	(a)	22.7	Feb. 10	23.20	19,800	50		
227	3-3240	Little Wabash River near Huntington, Ind.	266	1951-58	1958	11,400	19.12	Feb. 11	18.43	4,710	6		
228	3-3243	Salamonie River near Warren, Ind.	422	1957-58	1958	5,990	16.9	Feb. 10	17.05	13,200	8		
229	3-3245	Salamonie River at Dora, Ind.	553	1913	1913	(a)	19.5	Feb. 10	14.08	15,600	7		
230	3-3250	Wabash River at Wabash, Ind.	1,733	1923-58	1943	16,500	21.75	Feb. 11	24.44	45,300	15		
231	3-3255	Mississinewa River near Ridgeville, Ind.	130	1883-1958	1913	28.7	28.7	Feb. 11	24.44	45,300	15		
232	3-3260	Mississinewa River near Eaton, Ind.	304	1952-58	1958	16.25	16.25	Jan. 21	14.70	9,120	40		
233	3-3265	Mississinewa River at Marion, Ind.	677	1913	1913	18.53	18.53	Jan. 22	16.8	12,800	17		
234	3-3270	Mississinewa River at Peoria, Ind.	809	1923-58	1927	25,000	17.4	Feb. 10	12.73	14,500	4		
235	3-3275	Wabash River at Peru, Ind.	2,655	1943-58	1958	28,000	19.26	Feb. 10	17.17	21,000	10		
236	3-3280	Peel River at North Manchester, Ind.	416	1883-1958	1913	115,000	28.1	Feb. 11	22.60	48,000	10		
237	3-3285	Peel River near Logansport, Ind.	791	1929-58	1936	14,00	14.00	Feb. 10	13.32	7,050	10		
238	3-3290	Wabash River at Logansport, Ind.	3,751	1943-58	1943	17,000	13.2	Feb. 10	11.50	12,300	11		
239	3-3295	Wabash River at Delphi, Ind.	4,032	1883-1958	1913	25.3	25.3	or 11					
240	3-3297	Deer Creek near Delphi, Ind.	278	1913	1913	419,000	419.69	Feb. 11	d19.69	69,000	10		
241	3-3305	Tippacanoe River at Oswego, Ind.	115	1939-58	1943	145,000	28.4	Feb. 11	d27.48	71,500	19		
				1943-58	1943	85,300	25.60						
						18,000	19.8	Feb. 10	16.72	12,100	c1.50		
				1949-58	1954	700	8.64	Feb. 18	8.48	548	7		

Table 3.--Summary of flood stages and discharges--Continued

No.	Permanent station number	Stream and place of determination	Drainage area (sq mi)	Maximum previously known				Maximum January-February 1959		
				Period	Year	Discharge (cfs)	Date	Stage height (feet)	Discharge (cfs)	Recurrence interval (years)
Wabash River basin--Continued										
276	3-3690	North Fork of Vernon Fork near Butterville, Ind...	87.3	1942-58	1945, 1949	-	Jan. 21	25.41	f26,200	-
277	3-3695	Vernon Fork at Vernon, Ind.....		1939-58	1945	18.73	Jan. 21	k32.83	56,800	e1.55
278	-	Sixmile Creek at Hayden, Ind.....	201	-	-	26.28	Jan. 21	-	6,080	19
279	-	Manning ditch at Dudleytown, Ind.....	12.5	-	-	-	Jan. 21	-	2,350	7
280	3-3715	East Fork White River near Bedford, Ind.....	3,670	1913 1939-58	1913 1945	447.5 335.75	Jan. 25	34.87	65,100	7
281	3-3720	North Fork Salt Creek near Belmont, Ind.....	120	1913 1946-58	1913 1952	25.7 22.55	Jan. 21	21.85	10,600	6
282	3-3725	Salt Creek near Harrodsburg, Ind.....	441	1913 1955-58	1913 1957	38.1 29.34	Jan. 23	31.88	17,900	7
283	3-3730	Salt Creek near Peerless, Ind.....	582	1937 1939-50, 1957-58	1937 1949	34.30 33.06	Jan. 23	-	14,100	3
284	3-3735	East Fork White River at Shoals, Ind.....	4,954	1897-1958	1913	42.2	Jan. 26, 27	32.07	68,200	5
285	3-3736	Lick Creek near Paoli, Ind.....	45.2	-	-	-	Jan. 21	-	8,160	e1.35
286	3-3755	Patoka River at Jasper, Ind.....	257	1913 1947-58	1913 1957	q15.9 q12.70	Jan. 24	q13.73	9,150	25
287	-	Straight River at Waltersville, Ind.....	62.4	-	-	-	Jan. 21	-	11,100	e1.46
288	3-3765	Patoka River near Princeton, Ind.....	815	1934-58	1937	j26.80	Jan. 29	18.71	9,490	8
Streams tributary to Lake Erie										
289	4-1770	Ten Mile Creek at Toledo, Ohio.....	156	1943-48, 1950	1943	11.4	Feb. 12	9.27	1,500	-
290	4-1815	St. Marys River at Decatur, Ind.....	615	1946-58	1950	23.60	Feb. 10	d24.22	e11,300	-
291	4-1820	St. Marys River near Fort Wayne, Ind.....	753	1930-58	1943	18.79	Feb. 11	d19.42	-	-
292	4-1830	Maumee River at New Haven, Ind.....	1,940	1946-58	1950	21.4	Feb. 11	21.3	f13,600	6
293	4-1865	Auglaize River near Fort Jennings, Ohio.....	533	1921-35, 1940-58	1950	17.6	Feb. 12	d20.30	18,900	e1.13
294	4-1875	Ottawa River at Allentown, Ohio.....	168	1939-58, 1943-58	1939 1957	10.1 9.45	Jan. 22	10.88	12,000	e1.33
295	-	Blanchard River near Forest, Ohio.....	82.5	-	-	-	Jan. 21	-	7,740	-
296	4-1885	Eagle Creek near Findlay, Ohio.....	46.5	1947-57	1947	13.45	Feb. 10	(a)	12,300	-
297	4-1890	Blanchard River near Findlay, Ohio.....	343	1913 1923-35, 1940-58	1913 1927	18.5 15.4	Feb. 11	16.76	6,300	e1.41
298	4-1891	Tidewater Creek near Jerera, Ohio.....	4.51	1947-58	1956	14.53	Feb. 10	15.5	15,000	e1.02

299	4-1895	Blanchard River at Glandorf, Ohio.....	643	1921-28, 1947-51	1950	27.0	15,800	Feb. 12	27.9	17,700	cl.31
300	4-1905	Roller Creek at Ohio City, Ohio.....	4.94	1947-58	1955	8.65	351	Feb. 10	9.58	890	cl.75
301	4-1910	Town Creek near Van Wert, Ohio.....	20.4	1945-53	1948	9.34	935	Feb. 10	11.77	2,350	-
302	4-1915	Auglaize River near Defiance, Ohio.....	2,329	1913-58	1913	38.8	120,000	Feb. 12	11.77	52,500	cl.07
303	4-1925	Maumee River near Defiance, Ohio.....	5,530	1924-35, 1939-58	1950	dl3.70	87,100	Feb. 11	dl2.65	-	-
304	4-1935	Maumee River at Waterville, Ohio.....	6,314	1921-35, 1939-58	1950	14.52	94,000	Feb. 12	dl3.77	76,500	32
305	4-1955	Portage River at Woodville, Ohio.....	433	1913- 1928-35, 1939-58	1913 1950	17 14.51	17,000 11,500	Feb. 12	dl6.17	85,000	35
306	4-1960	Sandusky River near Bucyrus, Ohio.....	89.8	1913- 1925-35, 1939-51	1913 1927	14.5 9.15	(a) 5,600	Jan. 22	11.9	13,500	cl.18
307	-	Sandusky River at Upper Sandusky, Ohio.....	293	1911-58	1913	19.0	(a)	Jan. 22	18.70	(a)	-
308	4-1965	Sandusky River near Upper Sandusky, Ohio.....	299	1917-58	1937	14.3	(a)	Jan. 22	dl5.00	10,000	23
309	4-1967	St. James Run near Upper Sandusky, Ohio.....	5.35	1921-35, 1939-58	1927	10.5	8,900	Jan. 21	12.66	408	-
310	4-1970	Sandusky River near Mexico, Ohio.....	776	1947-58	1947	12.25	356	Jan. 21	22.43	18,900	40
311	-	Sandusky River at Tiffin, Ohio.....	965	1937- 1958	1937 1927	22.5 19.9	19,000 15,200	Jan. 23	12.66	408	-
312	-	Spicer Creek near Tiffin, Ohio.....	7.09	1904-58	1913	19.4	(a)	Jan. 23	9.7	(a)	-
313	4-1975	Havens Creek at Havens, Ohio.....	5.00	1947-58	1956	7.66	312	Jan. 21	-	1,110	-
314	4-1980	Sandusky River near Fremont, Ohio.....	1,248	1923-35, 1939-58	1930 1951	dl2.12	27,300	Feb. 10	dl7.13	(a)	-
315	-	Sandusky River at Fremont, Ohio.....	1,351	1904-58	1913	21.5	(a)	Feb. 11	dl5.20	28,000	25
316	4-1961	Norwalk Creek near Norwalk, Ohio.....	4.18	1947-58	1956	14.37	1,060	Jan. 21	18.0	(a)	-
317	4-1985	East Branch Huron River near Norwalk, Ohio.....	84.9	1924-35	1929	9.5	4,700	Jan. 21	13.96	646	8
318	4-1990	Huron River at Milan, Ohio.....	363	1950-58	1956	21.10	18,200	Jan. 22	12.3	(a)	-
319	4-1995	Vermilion River near Vermilion, Ohio.....	260	1950-58	1952	11.5	9,820	Jan. 21	24.08	25,800	-
320	4-2000	East Branch Black River at Elyria, Ohio.....	211	1922-35	1933	10.10	11,400	Jan. 21	13.80	20,500	-
321	4-2001	Plum Creek at Oberlin, Ohio.....	4.88	1947-58	1947	14.69	658	Jan.21,22	14.7	990	28
322	4-2005	Black River at Elyria, Ohio.....	392	1944-58	1956	18.02	14,900	Jan. 22	16.13	24,000	cl.22
323	4-2015	Rocky River near Berea, Ohio.....	269	1913- 1923-35, 1947-58	1913 1929	20.9 11.0	(a) 16,600	Jan. 22	22.9	21,400	32
324	4-2020	Cuyahoga River at Hiram Rapids, Ohio.....	147	1927-35, 1947-58	1948	7.00	2,760	Jan. 23	14.10	3,670	cl.10
325	4-2060	Cuyahoga River at Old Portage, Ohio.....	405	1921-35, 1939-58	1952	10.43	4,540	Jan. 21	8.11	6,500	-
326	4-2080	Cuyahoga River at Independence, Ohio.....	709	1921-23, 1927-35, 1940-58	1954	20.04	414,300	Jan. 22	11.54	724,800	-

See footnotes at end of table.

Table 3.--Summary of flood stages and discharges--Continued

No.	Permanent station number	Stream and place of determination	Drainage area (sq mi)	Maximum previously known					Maximum January-February 1959		
				Period	Year	Stage height (feet)	Discharge (cfs)	Date	Stage height (feet)	Cfs	Recurrence interval (years)
Streams tributary to Lake Erie--Continued											
327	-	Big Creek at Cleveland Zoo, Cleveland, Ohio.....	37.5	1948	1948	(a)	5,900	Jan. 22	(a)	6,000	-
328	4-2090	Chagrin River at Willoughby, Ohio.....	251	1925-35, 1948	1948	17.95	28,000	Jan. 21	16.73	22,000	cl.04
329	4-2100	Phelps Creek near Windsor, Ohio.....	26.4	1942-58	1948	-	3,840	Jan. 21	9.34	4,600	cl.32
330	4-2101	Hoskins Creek at Hartsgrove, Ohio.....	6.94	1947-58	1948	b9.48	-	Jan. 21	14.55	552	11
331	4-2115	Mill Creek near Jefferson, Ohio.....	78.3	1942-58	1948	-	7,010	Jan. 22	12.50	9,810	cl.22
332	4-2120	Grand River near Madison, Ohio.....	587	1922-35, 1938-58	1948	d10.28	16,600	Jan. 22	14.73	21,100	cl.10
333	4-2125	Ashtabula River near Ashtabula, Ohio.....	118	1924-35, 1939-47, 1950-58	1942	9.67	10,800	Jan. 22	11.03	11,600	42
334	4-2130	Conneaut Creek at Amboy, Ohio.....	178	1922-35, 1950-58	1934	d12.94	-	Jan. 22	11.70	17,000	cl.14
335	4-2135	Cattaraugus Creek at Gowanda, N.Y.....	428	1939-58	1942	-	12,900	Jan. 22	12.55	27,000	13
336	4-2145	Buffalo Creek at Gardenville, N.Y.....	145	1938-58	1942	d11.90	13,000	Jan. 22	8.37	10,000	5
337	4-2150	Cayuga Creek near Lancaster, N.Y.....	93.3	1938-58	1942	d12.36	8,700	Jan. 22	d11.08	-	-
338	4-2155	Cazenovia Creek at Ebenezer, N.Y.....	136	1940-58	1955	15.82	13,500	Jan. 22	10.09	8,750	9
Streams tributary to Niagara River											
339	4-2162	Scasquada Creek at Buffalo, N.Y.....	15.7	1957-58	1957	5.98	746	Jan. 22	7.98	1,150	1
340	4-2165	Little Tonawanda Creek at Linden, N.Y.....	22.0	1912-58	1956	16.04	2,700	Jan. 22	10.71	1,830	5
341	4-2170	Tonawanda Creek at Batavia, N.Y.....	172	1944-58	1942	14.15	(a)	Jan. 22	d11.26	-	-
342	4-2175	Tonawanda Creek near Alabama, N.Y.....	230	1955-58	1947	13.85	-	Jan. 22	-	5,230	2
343	4-2180	Tonawanda Creek at Rapids, N.Y.....	358	1955-58	1956	13.92	6,480	Jan. 23	d15.96	9,000	5
Streams tributary to Lake Ontario											
344	4-2205	Dyke Creek at Wellsville, N.Y.....	71.4	1955-58	1957	15.46	5,210	Jan. 26	11.97	3,760	1
345	4-2215	Genesee River at Scio, N.Y.....	309	1916-58	1956	11.22	16,900	Jan. 22	15.49	3,930	9

a Unknown.

b Affected by backwater.

c Ratio of peak discharge to 50-year flood.

d Affected by ice jam or backwater from ice.

e Affected by ice jam or backwater from ice.

f Affected by regulation by reservoirs.

g Affected by backwater from Lake Ontario.

h Contents, in acre-feet.

i Maximum stage known; see station description.

j At different site or datum; see station description.

k Affected by failure of levees; see station description.

m Greatest known since at least 1897.

n Greatest known since at least 1910.

p Not necessarily maximum for period.

q At supplementary gage; see station description.

STATION DATA

TIONESTA CREEK BASIN

1. Tionesta Creek at Lynch, Pa.

Location.--Lat 41°36'05", long 79°03'00", on left bank at downstream side of highway bridge at Lynch, Forest County, 500 ft upstream from Bluejay Creek and 7 miles south of Sheffield.

Drainage area.--233 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 21-25 for which graph was completed from adjoining records and floodmarks. Datum of gage is 1,252.43 ft above mean sea level, unadjusted.

Discharge record. Stage-discharge relation defined by current-meter measurements below 4,600 cfs and by indirect measurement at 15,200 cfs. Stage-discharge relation affected by ice Jan. 1-21, 28, 29 and Feb. 1-3, 6-9, 12, 20-26.

Maxima.--January-February 1959: Discharge, 15,000 cfs 4 a.m. Jan. 22 (gage height, 11.25 ft).
1937 to December 1958: Discharge, 12,000 cfs May 28, 1946 (gage height, 10.26 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	180	720	11.....	190	2,870	21.....	2,500	500
2.....	250	540	12.....	180	1,500	22.....	11,600	500
3.....	290	540	13.....	170	1,410	23.....	4,130	480
4.....	280	865	14.....	170	1,340	24.....	1,840	470
5.....	250	664	15.....	250	1,860	25.....	1,330	370
6.....	220	500	16.....	400	1,380	26.....	995	400
7.....	230	400	17.....	300	1,130	27.....	752	402
8.....	220	420	18.....	290	962	28.....	580	416
9.....	210	380	19.....	280	752	29.....	560	- - - - -
10.....	200	2,710	20.....	300	520	30.....	1,270	- - - - -
						31.....	1,100	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,017	894
Runoff, in inches.....							5.03	3.99

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--6on.			Jan. 26		
12 p.m.....	2.46	-	12 p.m.....	8.00	6,200	12 m.....	3.09	995
						12 p.m.....	2.89	858
Jan. 21			Jan. 23			Jan. 27		
6 a.m.....	2.72	-	12 m.....	6.43	3,950	12 m.....	2.71	746
8.....	2.89	-	12 p.m.....	5.00	2,500	12 p.m.....	2.54	647
9.....	3.10	-						
10.....	3.50	-	Jan. 24			Jan. 28		
6 p.m.....	8.33	6,800	2 a.m.....	4.73	2,280	2 p.m.....	2.37	-
12 p.m.....	10.75	13,500	5.....	4.47	2,050	6.....	2.63	-
			9.....	4.27	1,880	7.....	2.68	-
Jan. 22			3 p.m.....	4.07	1,680	8.....	2.69	-
4.....	11.14	14,600	12 p.m.....	3.86	1,520	10.....	2.69	-
7.....	11.25	15,000				12 p.m.....	2.65	-
12 m.....	11.14	14,600	Jan. 25					
12 p.m.....	10.51	12,600	12 m.....	3.59	1,340			
6 p.m.....	9.10	8,650	12 p.m.....	3.34	1,160			

FLOODS OF 1959 IN THE UNITED STATES

2. Tionesta Creek at Tionesta Creek Dam, Pa.

Location.--Lat 41°28'45", long 79°26'45", on left bank 100 ft downstream from outlet tunnel at Tionesta Creek Dam, Forest County, 0.3 mile southeast of Tionesta, and 0.9 mile upstream from mouth.

Drainage area.--479 sq mi.

Gage-height record.--Water-stage recorder graph, except Feb. 1-7. Datum of gage is 1,044.93 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge during period of no gage-height record computed from reservoir outflow records. Backwater from Allegheny River Jan. 21-23.

Maxima.--January-February 1959: Discharge, 7,560 cfs 5 a.m. Jan. 25 (gage height, 8.05 ft); gage height, 9.90 ft 4 a.m. Jan. 22 (backwater from Allegheny River). 1940 to December 1958: Discharge, 10,300 cfs June 6, 1946.

Remarks.--Flow completely regulated since 1941 by Tionesta Creek Reservoir.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	335	3,500	11.....	482	1,160	21.....	450	1,230
2.....	340	2,900	12.....	482	3,180	22.....	480	978
3.....	335	1,500	13.....	476	4,210	23.....	1,000	978
4.....	340	880	14.....	476	3,580	24.....	3,820	1,180
5.....	345	1,200	15.....	470	2,690	25.....	7,560	1,220
6.....	350	1,400	16.....	522	4,020	26.....	7,060	879
7.....	391	1,200	17.....	628	5,610	27.....	6,560	870
8.....	482	880	18.....	635	4,660	28.....	6,060	879
9.....	482	1,050	19.....	628	3,490	29.....	5,610	-----
10.....	482	962	20.....	621	2,660	30.....	4,500	-----
						31.....	3,490	-----
Monthly mean discharge, in cubic feet per second.....							1,803	2,105

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25		
12 p.m.....	3.69	628	12 p.m.....	5.86	-	5 a.m.....	8.05	7,560
Jan. 21			Jan. 23			12 p.m.....	7.87	7,310
9 a.m.....	3.69	628	12 m.....	4.73	-	Jan. 26		
9.....	3.24	355	12.....	5.19	-	12 p.m.....	7.72	6,810
2 p.m.....	3.26	365	12 p.m.....	4.67	-	Jan. 27		
4.....	8.38	-	12 p.m.....	6.08	-	12 p.m.....	7.50	6,310
8.....	5.83	-	Jan. 24			Jan. 28		
12 p.m.....	7.22	-	3 p.m.....	5.97	3,230	12 m.....	7.35	6,060
Jan. 22			3.....	6.80	4,810	12 p.m.....	7.31	5,810
4 a.m.....	9.90	-	12 p.m.....	6.77	4,710			
7.....	5.40	-	12 p.m.....	8.00	7,560			
3 p.m.....	6.78	-						

OIL CREEK BASIN

3. Oil Creek at Rouseville, Pa.

Location.--Lat 41°28'55", long 79°41'40", on right bank 200 ft downstream from bridge on State Highway 8, 200 ft upstream from Cherrytree Run, and 1 mile upstream from Rouseville, Venango County.

Drainage area.--300 sq mi, includes that of Cherrytree Run.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,028.33 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Stage-discharge relation affected by ice Jan. 1-21, 27-29 and Feb. 1-4, 6, 7, 19-22, 25, 26.

Maxima.--January-February 1959: Discharge, 21,000 cfs 9 a.m. Jan. 22 (gage height, 11.97 ft). 1932 to December 1958: Discharge, 18,600 cfs Oct. 16, 1954 (gage height, 11.55 ft).

Remarks.--Records include flow of Cherrytree Run.

Mean discharge, in cubic feet per second, 1959, of Oil Creek at Rouseville, Pa.

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.	3.89	-	6 p.m.	10.71	14,000	4 p.m.	4.08	1,280
			7	10.52	13,000	12 p.m.	3.93	1,150
Jan. 21			12 p.m.	8.99	8,580			
2 a.m.	3.90	-				Jan. 26		
4	3.97	-	Jan. 23			4 a.m.	3.84	1,070
5	4.03	-	6 a.m.	7.57	5,860	10	3.64	902
6	4.15	-	9	7.07	4,950	2 p.m.	3.60	870
8	4.72	-	12 m.	6.63	4,100	12 p.m.	3.58	856
12 m.	8.02	-	3 p.m.	6.30	3,630			
7 p.m.	9.47	-	6	6.00	3,230	Jan. 27		
9	10.37	-	12 p.m.	5.37	2,480	4 a.m.	3.57	-
12 p.m.	11.07	-				11	3.45	-
			Jan. 24			6 p.m.	3.43	-
Jan. 22			6 a.m.	4.87	1,980	12 p.m.	3.32	-
1 a.m.	11.22	16,300	11	4.62	1,730			
2	11.34	16,800	6 p.m.	4.45	1,600	Jan. 28		
3	11.37	17,400	12 p.m.	4.36	1,500	2 a.m.	3.29	-
4	11.52	18,000				11	2.95	-
5	11.57	18,000	Jan. 25			8 p.m.	3.21	-
9	11.97	21,000	1 a.m.	4.36	1,500	12 p.m.	3.13	-
1 p.m.	11.65	18,600	10 a.m.	4.18	1,370			

FRENCH CREEK BASIN

4. French Creek at Carters Corners, Pa.

Location.--Lat 41°57'20", long 79°52'40"; on left bank 400 ft upstream from highway bridge at Carters Corners, Erie County, 4 miles northwest of Union City, and 5 miles upstream from South Branch.

Drainage area.--208 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 23-29. Datum of gage is 1,235.7 ft above mean sea level.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 8,700 cfs and by indirect measurement at 20,000 cfs. Discharge for period of no gage-height record computed from records for nearby stations. Stage-discharge relation affected by ice Jan. 1-21 and Jan. 30 to Feb. 9, Feb. 17-26.

Maxima.--January-February 1959: Discharge, 13,500 cfs 2 p.m. Jan. 22 (gage height, 12.52 ft).

1909 to December 1958: Discharge, 20,000 cfs Apr. 5, 1947 (gage height, 13.50 ft); gage height observed, 16.0 ft (ice jam, at site 400 ft downstream at same datum).

Mean discharge, in cubic feet per second, 1959

[illegible]

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of French Creek at Carters Corners, Pa.

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20 12 p.m.....	3.52	-	Jan. 21--Con. 7 p.m.....	11.46	-	Jan. 22--Con. 12 m.....	12.44	13,100
Jan. 21 4 a.m.....	3.66	-	9.....	8.57	4,900	2 p.m.....	12.52	13,500
7.....	3.94	-	12 p.m.....	10.15	7,140	7.....	11.80	10,900
9 a.m.....	4.35	-	Jan. 22 8 a.m.....	12.13	11,900	12 p.m.....	10.40	7,480

5. French Creek at Utica, Pa.

Location.--Lat 41°26'15", long 79°57'20", on right bank at upstream side of bridge on State Highway 964 at Utica, Venango County, a third of a mile upstream from Mill Creek.

Drainage area.--1,028 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,019.54 ft above mean sea level, adjustment of 1907.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Stage-discharge relation affected by ice Jan. 5-14, 17-21 and Feb. 19, 20.

Maxima.--January-February 1959: Discharge, 19,300 cfs 3-6 a.m. Jan. 24 (gage height, 11.91 ft).

1932 to December 1958: Discharge, 20,700 cfs Mar. 23, 24, 1948 (gage height, 12.32 ft).

Stage known: 15.7 ft March 1913 (discharge, 35,600 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,320	6,220	11.....	1,100	10,600	21.....	7,000	2,100
2.....	2,030	5,500	12.....	1,050	10,100	22.....	15,800	1,880
3.....	2,770	4,270	13.....	1,050	8,920	23.....	17,900	1,780
4.....	2,700	3,560	14.....	1,050	7,600	24.....	19,000	2,000
5.....	2,100	3,560	15.....	1,470	8,480	25.....	15,100	2,100
6.....	1,600	3,330	16.....	2,280	8,260	26.....	9,750	2,100
7.....	1,400	2,560	17.....	2,400	7,600	27.....	6,800	2,460
8.....	1,400	2,220	18.....	2,200	5,680	28.....	4,960	3,110
9.....	1,400	1,940	19.....	2,000	3,900	29.....	3,710	- - - - -
10.....	1,150	8,660	20.....	1,900	2,600	30.....	4,440	- - - - -
						31.....	5,860	- - - - -
Monthly mean discharge, in cubic feet per second.....							4,667	4,754
Runoff, in inches.....							5.23	4.82

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20 12 p.m.....	3.94	-	Jan. 23 12 m.....	11.57	18,200	Jan. 26 12 m.....	8.44	9,380
Jan. 21 4 a.m.....	4.06	-	12 p.m.....	11.88	19,300	12 p.m.....	7.80	8,040
8.....	4.73	-	Jan. 24 3 a.m.....	11.91	19,300	Jan. 27 12 p.m.....	6.69	5,860
12 m.....	8.30	-	6.....	11.91	19,300	Jan. 28 12 p.m.....	5.79	4,270
12 p.m.....	10.39	-	12 m.....	11.86	19,300			
Jan. 22 12 m.....	10.93	16,100	6 p.m.....	11.72	18,600			
12 p.m.....	11.20	17,000	12 p.m.....	11.43	17,600			
			Jan. 25 12 p.m.....	9.63	12,400			

6. Sugar Creek at Sugarcreek, Pa.

Location.--Lat 41°25'45", long 79°52'45", on right bank at downstream side of highway bridge, three-quarters of a mile north of Sugarcreek, Venango County, three-quarters of a mile upstream from mouth, and 3 miles northwest of Franklin.

Drainage area.--166 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,014.03 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,200 cfs and extended above by logarithmic plotting. Stage-discharge relation affected by ice Jan. 6-14, 17-19, 21, and Feb. 1-3, 6, 19-21.

Maxima.--January-February 1959: Discharge, 9,600 cfs 9 p.m. Jan. 21 (gage height, 9.25 ft); gage height, 9.43 ft 7 p.m. Jan. 21 (backwater from ice).
1932 to December 1958: Discharge, 10,000 cfs May 28, 1946 (gage height, 10.49 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	119	500	11.....	120	1,890	21.....	4,000	260
2.....	327	340	12.....	115	968	22.....	5,880	292
3.....	288	300	13.....	110	1,040	23.....	1,920	292
4.....	256	538	14.....	110	987	24.....	1,110	352
5.....	176	415	15.....	324	1,550	25.....	840	298
6.....	170	280	16.....	436	900	26.....	625	292
7.....	150	240	17.....	300	680	27.....	505	417
8.....	140	241	18.....	290	560	28.....	364	485
9.....	130	267	19.....	285	360	29.....	336	-----
10.....	125	4,190	20.....	284	260	30.....	1,060	-----
						31.....	780	-----
Monthly mean discharge, in cubic feet per second.....							699	686
Runoff, in inches.....							4.86	4.30

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 26		
12 p.m.....	1.78	292	12 p.m.....	5.16	2,750	12 p.m.....	2.18	590
Jan. 21			Jan. 23			Jan. 27		
7 a.m.....	2.30	515	12 m.....	4.15	1,850	12 p.m.....	1.75	380
5 p.m.....	9.31	-	12 p.m.....	3.52	1,380			
7.....	9.43	-	Jan. 24			Jan. 28		
9.....	9.25	9,600	7 a.m.....	3.16	1,140	12 m.....	1.45	265
12 p.m.....	9.16	9,480	12 p.m.....	2.90	990	6 p.m.....	2.04	520
Jan. 22			Jan. 25			12 p.m.....	1.72	368
8 a.m.....	8.56	8,120	12 p.m.....	2.44	725			

OHIO RIVER MAIN STEM

7. Allegheny River at Franklin, Pa.

Location.--Lat 41°23'25", long 79°49'10", on right bank at downstream side of Eighth Street bridge on U.S. Highway 62 at Franklin, Venango County, 1,000 ft downstream from French Creek.

Drainage area.--5,982 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 28, 29 for which graph was completed from adjoining records and from once-daily tape-gage readings. Datum of gage is 955.92 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Stage-discharge relation affected by ice Jan. 1-21, 25-28 and Feb. 1, 2, 19, 20.

Maxima.--January-February 1959: Discharge, 126,000 cfs 9 a.m. Jan. 22 (gage height, 20.00 ft); gage height, 20.58 ft 5 p.m. Jan. 21 (ice jam).
1913 to December 1958: Discharge, 191,000 cfs Mar. 26, 1913 (gage height, 24.6 ft); gage height, 26.0 ft Feb. 26, 1926 (ice jam).
Free-flow stage known: 25.0 ft Mar. 17, 1865 (discharge, 196,000 cfs).

Remarks.--Flow regulated by Chautauqua Lake and since 1940 by Tionesta Creek Reservoir.

Day	January	February	Day	January	February	Day	January	February
1.....	6,000	32,000	11.....	5,800	51,900	21.....	22,000	13,400
2.....	7,000	26,000	12.....	5,400	42,700	22.....	117,000	11,700
3.....	8,000	19,800	13.....	5,400	39,100	23.....	94,800	11,300
4.....	9,000	18,600	14.....	5,400	36,300	24.....	74,500	11,700
5.....	9,000	19,200	15.....	8,000	42,700	25.....	60,000	11,300
6.....	8,000	17,600	16.....	10,000	42,000	26.....	48,000	10,500
7.....	6,400	14,800	17.....	11,000	38,400	27.....	36,000	11,300
8.....	5,400	13,000	18.....	10,000	30,400	28.....	30,000	12,500
9.....	5,800	10,900	19.....	9,000	24,000	29.....	26,200	- - -
10.....	6,000	37,000	20.....	8,200	18,000	30.....	28,000	- - -
						31.....	34,900	- - -
Monthly mean discharge, in cubic feet per second.....							23,230	23,860

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22			Jan. 25		
12 p.m.....	11.03	-	2 a.m.....	17.88	102,000	12 p.m.....	13.09	-
			9.....	20.00	126,000			
Jan. 21			1 p.m.....	19.62	122,000	Jan. 26		
4 a.m.....	11.02	-	6.....	19.80	124,000	12 p.m.....	11.31	-
10.....	12.20	-	12 p.m.....	18.85	112,000			
3 p.m.....	20.57	-				Jan. 27		
4.....	17.17	-	Jan. 23			12 p.m.....	10.07	-
5.....	20.58	-	12 p.m.....	15.86	82,400			
12 p.m.....	18.63	-	Jan. 24			Jan. 28		
			12 p.m.....	14.35	68,600	12 p.m.....	8.96	-

8. Sevenmile Run near Russelas, Pa.

Drainage area.--7.84 sq mi.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 210 cfs and by indirect measurement at 1,100 cfs. Discharge for period of no gage-height record computed from records of nearby stations. Stage-discharge relation affected by ice Jan. 1, 5-13, 16-30 and Feb. 1-3, 6, 7, 12, 19, 20, 25, 26.

Maxima.--January-February 1959: Discharge, 1,280 cfs 11 p.m. Jan. 21 (gage height, 4.67 ft).
1951 to December 1958: Discharge, 1,590 cfs Aug. 9, 1953 (gage height, 4.78 ft).

[illegible]

Location.--Lat 41°33'10", long 78°35'50", on left bank 700 ft upstream from Middle Fork, 0.5 mile downstream from East Branch Clarion River Dam, Elk County, and 1¼ miles northeast of Glen Hazel.

[illegible]

FLOODS OF 1959 IN THE UNITED STATES

11. Clarion River at Johnsonburg, Pa.

Location.--Lat 41°29'10", long 78°40'43", on right bank at downstream side of highway bridge in Johnsonburg, Elk County, 0.1 mile downstream from Johnson Run and 0.4 mile downstream from confluence of East and West Branches.

Drainage area.--204 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 24-26 for which graph was completed from adjoining records and once-daily Telemark gage readings. Datum of gage is 1,422.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 21.

Maxima.--January-February 1959: Discharge, 6,670 cfs 3 a.m. Jan. 22 (gage height, 7.87 ft).

1945 to December 1958: Discharge, 11,700 cfs May 28, 1946; gage height, 9.25 ft.

Flood of July 1942 reached a stage of 16.7 ft.

Remarks.--Flow regulated since 1952 by East Branch Clarion River Reservoir.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	113	424	11.....	142	1,330	21.....	1,750	454
2.....	181	436	12.....	136	945	22.....	4,890	418
3.....	177	480	13.....	136	980	23.....	1,690	380
4.....	174	574	14.....	133	945	24.....	980	360
5.....	151	424	15.....	181	1,120	25.....	735	291
6.....	154	412	16.....	220	1,080	26.....	568	247
7.....	161	375	17.....	171	1,050	27.....	490	231
8.....	145	365	18.....	174	945	28.....	390	231
9.....	148	340	19.....	177	847	29.....	350	---
10.....	145	1,780	20.....	184	694	30.....	692	---
						31.....	496	---
Monthly mean discharge, in cubic feet per second.....							524	648

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 26		
12 p.m.....	2.10	184	12 p.m.....	5.27	2,580	12 p.m.....	2.86	556
Jan. 21			Jan. 23			Jan. 27		
6 a.m.....	2.14	198	12 p.m.....	4.33	1,640	12 p.m.....	2.55	375
6 p.m.....	5.35	2,700	12 p.m.....	3.79	1,190			
12 p.m.....	7.47	5,910	Jan. 24			Jan. 28		
Jan. 22			12 p.m.....	3.28	826	6 a.m.....	2.44	320
3 a.m.....	7.87	6,670	Jan. 25			1 p.m.....	2.77	502
9 a.m.....	7.40	5,730	12 p.m.....	3.00	640	12 p.m.....	2.47	335

12. Clarion River at Cooksburg, Pa.

Location.--Lat 41°19'50", long 79°12'35", on left bank at downstream side of bridge on State Highway 36 at Cooksburg, Forest County, 300 ft downstream from Toms Run and 5 miles upstream from Canther Run.

Drainage area.--807 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,146.48 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 1-21 and Feb. 1-3, 6, 7, 20, 21, 25, 26.

Maxima.--January-February 1959: Discharge, 30,400 cfs 9 a.m. Jan. 22 (gage height, 14.54 ft); gage height, 15.35 ft Jan. 21 (ice jam).
1938 to December 1958: Discharge, 32,700 cfs July 19, 1942 (gage height, 14.96 ft).

Stage known: 19 ft Mar. 17, 1936 (discharge, 56,000 cfs).

Remarks.--Flow regulated since 1952 by East Branch Clarion Reservoir.

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Clarion River near Piney, Pa.

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.	1.18	25	4 p.m.	20.70	44,300	12 p.m.	6.62	5,160
			12 p.m.	16.66	29,200			
Jan. 21			Jan. 23			Jan. 26		
6 a.m.	1.28	35	12 m.	12.28	16,700	12 p.m.	5.82	3,850
8	6.91	5,670	12 p.m.	10.54	12,700			
7 p.m.	6.98	5,840	Jan. 24			Jan. 27		
12 p.m.	10.80	13,400	12 p.m.	8.10	7,850	12 p.m.	5.29	3,120
Jan. 22			Jan. 25			Jan. 28		
9 a.m.	18.00	33,800	12 m.	7.02	5,840	12 m.	4.89	2,610
2 p.m.	19.10	37,900				12 p.m.	4.75	2,430

OHIO RIVER MAIN STEM

14. Allegheny River at Parkers Landing, Pa.

Location.--Lat 41°06'05", long 79°40'45", on right bank 500 ft downstream from bridge on State Highway 368 at Parkers Landing, Armstrong County, and 1.1 miles downstream from Clarion River.

Drainage area.--7,671 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 21-22 for which graph was completed from adjoining records and floodmarks. Datum of gage is 845.14 ft above mean sea level, adjustment of 1907.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 1-22.

Maxima.--January-February 1959: Discharge, 175,000 cfs Jan. 22; gage height, 29.60 ft Jan. 21 (backwater from ice).

1932 to December 1958: Discharge, 157,000 cfs Dec. 30, 1942; gage height, 27.85 ft (ice jam).

Stage known: 29.4 ft Mar. 17, 1865 (discharge, 250,000 cfs).

Remarks.--Flow regulated by Chautauqua Lake and since 1940 by Tionesta Creek Reservoir, since 1952 by East Branch Clarion River Reservoir, and since 1924 by Piney Reservoir.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	6,800	37,600	11.....	7,000	79,100	21.....	25,000	17,800
2.....	8,000	30,600	12.....	6,800	54,300	22.....	160,000	15,500
3.....	10,000	24,000	13.....	6,800	48,700	23.....	126,000	15,000
4.....	12,000	22,000	14.....	6,800	44,700	24.....	90,300	16,000
5.....	11,000	23,000	15.....	7,800	49,500	25.....	75,100	15,000
6.....	10,000	21,000	16.....	12,000	50,300	26.....	59,900	14,000
7.....	8,400	18,500	17.....	13,000	45,500	27.....	44,700	14,000
8.....	7,000	16,000	18.....	12,000	38,300	28.....	36,200	15,000
9.....	7,200	14,000	19.....	11,500	30,000	29.....	30,000	-----
10.....	7,400	52,900	20.....	11,000	24,000	30.....	30,000	-----
						31.....	36,900	-----

Monthly mean discharge, in cubic feet per second..... 28,920 30,220

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25		
12 p.m.	8.55	-	8 a.m.	22.96	-	12 p.m.	13.03	67,900
			3 p.m.	24.00	163,000			
Jan. 21			6	24.18	165,000	Jan. 26		
12 m.	9.95	-	12 p.m.	23.18	156,000	12 p.m.	10.92	51,100
10 p.m.	29.14	-						
11:30	29.60	-	Jan. 23			Jan. 27		
12 p.m.	29.60	-	12 p.m.	17.15	102,000	12 p.m.	9.50	40,400
Jan. 22			Jan. 24			Jan. 28		
2 a.m.	29.30	-	12 p.m.	14.76	82,300	12 p.m.	8.46	33,400

MAHONING CREEK BASIN

15. Mahoning Creek at Punxsutawney, Pa.

Location.--Lat 40°56'21", long 79°00'31", on right bank 75 ft downstream from Williams Run, a quarter of a mile west of Punxsutawney, Jefferson County, and 1.9 miles downstream from Sawmill Run.

Drainage area.--158 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,206.14 ft above mean sea level (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 5-9, 18-20, 28 and Feb. 1-3, 7, 20, 21, 25.

Maxima.--January-February 1959: Discharge, 6,290 cfs 8 a.m. Jan. 22 (gage height, 9.90 ft).
1938 to December 1958: Discharge, 7,370 cfs July 15, 1958 (gage height, 10.89 ft).
Stage known: 15.6 ft Mar. 18, 1936, at site 2.9 miles upstream at datum 13.30 ft higher (discharge, 12,500 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	108	400	11.....	146	1,790	21.....	2,120	220
2.....	349	320	12.....	140	830	22.....	4,930	245
3.....	301	300	13.....	133	720	23.....	1,850	272
4.....	271	450	14.....	127	638	24.....	980	441
5.....	180	350	15.....	390	830	25.....	692	250
6.....	180	266	16.....	743	626	26.....	525	236
7.....	190	200	17.....	458	520	27.....	412	233
8.....	170	230	18.....	340	458	28.....	300	224
9.....	160	206	19.....	300	364	29.....	297	-
10.....	157	2,580	20.....	300	250	30.....	763	-
						31.....	614	-
Monthly mean discharge, in cubic feet per second.....							600	509
Runoff, in inches.....							4.38	3.35

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.....	2.46	-	8 p.m.....	7.04	3,470	12 p.m.....	3.00	610
			12 p.m.....	6.27	2,880			
Jan. 21			Jan. 23			Jan. 26		
4 a.m.....	2.73	478	12 p.m.....	4.11	1,260	12 p.m.....	2.67	458
5 p.m.....	6.84	3,300						
12 p.m.....	8.50	4,890	Jan. 24			Jan. 27		
			12 m.....	3.61	950	12 p.m.....	2.39	356
			12 p.m.....	3.36	802			
Jan. 22			Jan. 25			Jan. 28		
6 a.m.....	9.81	6,190				12 m.....	2.14	-
8.....	9.90	6,290	12 m.....	3.14	687	12 p.m.....	2.36	-
10 a.m.....	9.72	6,090						

16. Little Mahoning Creek at McCormick, Pa.

Location.--Lat 40°50'10", long 79°06'35", on left bank 200 ft downstream from highway bridge at McCormick, Indiana County, 1 mile west of Georgeville, 1.7 miles upstream from Ross Run, and 4 miles southeast of Smicksburg.

Drainage area.--87.4 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,164.88 ft above mean sea level (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,000 cfs and by indirect measurement at 3,500 cfs. Backwater from ice Jan. 1-22, 28-30 and Feb. 1-9, 19-22, 24-26, 28.

Maxima.--January-February 1959: Discharge, 4,260 cfs 5:30 a.m. Jan. 22 (gage height, 10.46 ft); gage height, 13.86 ft 9 p.m. Jan. 21 (ice jam).
1939 to December 1958: Discharge, 5,300 cfs Jan. 27, 1952 (gage height, 11.42 ft); gage height, 11.94 ft Mar. 4, 1941 (ice jam).

[illegible]

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20 12 p.m.....	4.88	-	Jan. 22--Con. 12 p.m.....	6.22	1,100	Jan. 26 12 p.m.....	3.42	189
Jan. 21 2 p.m.....	13.20	-	Jan. 23 12 p.m.....	4.66	518	Jan. 27 9 p.m.....	3.23	152
9.....	13.86	-	Jan. 24 12 p.m.....	4.05	338	12 p.m.....	3.11	-
12 p.m.....	10.94	-	Jan. 25 12 m.....	3.83	282	Jan. 28 9 a.m.....	2.62	-
Jan. 22 3 a.m.....	10.20	3,950	12 p.m.....	3.73	258	12 p.m.....	3.33	-
5:30 a.m.....	10.46	4,260						

17. Mahoning River at Alliance, Ohio

Drainage area.--87.9 sq mi.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,300 cfs and extended above on basis of computations of flow over dam. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 9,740 cfs 10:30 p.m. Jan. 21 (gage height, 9.11 ft).
1941 to December 1958: Discharge, 7,000 cfs May 27, 1946 (gage height, 7.90 ft).

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Mahoning River at Alliance, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10		
12 p.m.....	1.79	80	4 a.m.....	8.35	7,960	2 a.m.....	2.58	456
Jan. 20			6.....	7.85	6,860	4.....	2.80	590
6 a.m.....	1.73	62	12 m.....	5.87	3,410	6.....	2.97	700
12 m.....	1.70	54	6 p.m.....	4.44	1,810	8.....	3.62	1,140
6 p.m.....	1.68	49	10.....	3.68	1,190	10.....	4.35	1,720
12 p.m.....	1.76	71	12 p.m.....	3.38	976	12 m.....	5.00	2,390
Jan. 21			Jan. 23			2 p.m.....	5.43	2,880
2 a.m.....	1.80	83	4 a.m.....	2.98	707	4.....	5.66	3,150
4.....	2.06	182	6.....	2.80	590	6.....	5.75	3,260
6.....	2.41	358	12 m.....	2.65	498	7.....	5.76	3,270
7.....	2.68	516	4 p.m.....	2.58	456	8.....	5.72	3,220
8.....	2.86	629	8.....	2.50	410	10.....	5.57	3,040
9.....	2.97	700	12 p.m.....	2.38	341	12 p.m.....	5.37	2,800
10.....	3.18	857	Jan. 24			Feb. 11		
11.....	3.70	1,200	6 a.m.....	2.20	246	6 a.m.....	4.55	1,910
12 m.....	4.28	1,660	12 m.....	2.07	187	12 m.....	3.75	1,240
1 p.m.....	5.00	2,390	6 p.m.....	1.99	152	4 p.m.....	3.33	941
2.....	5.45	2,900	12 p.m.....	1.96	140	8.....	3.03	740
3.....	6.50	4,320	Feb. 8			12 p.m.....	2.82	603
4.....	7.85	6,860	12 p.m.....	1.66	36	Feb. 12		
5.....	8.35	7,960	Feb. 9			8 a.m.....	2.48	398
6.....	8.68	8,710	10 a.m.....	1.66	36	12 m.....	2.27	282
7.....	9.03	9,550	4 p.m.....	1.68	42	4 p.m.....	2.18	237
8.....	9.11	9,740	6.....	1.73	58	12 p.m.....	2.17	232
9.....	9.09	9,700	10.....	1.94	133			
10:30.....	9.00	9,480	12 p.m.....	2.13	214			
11.....								
12 p.m.....								
Jan. 22								
2 a.m.....	8.73	8,830						

18. Beech Creek near Bolton, Ohio

(Gaging station, partial-record station 1952-54)

Location.--Lat 40°55'50", long 81°08'50", on right bank at downstream side of county highway bridge, $1\frac{1}{2}$ miles upstream from Little Beech Creek, $1\frac{1}{4}$ miles southwest of Bolton, Stark County, and $2\frac{1}{2}$ miles west of Alliance.

Drainage area.--18.8 sq mi.

Gage-height record.--High-water marks at gage site. Altitude of gage is 1,045 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,200 cfs and extended above by logarithmic plotting.

Maxima.--January-February 1959: Gage height, about 7.6 ft, Jan. 21-22, from high-water marks.
1943-54: Discharge, 2,210 cfs June 24, 1950 (gage height, 8.27 ft).

19. Deer Creek at Limaville, Ohio

(Gaging station, partial-record station 1952-55)

Location.--Lat 40°58'45", long 81°09'35", on left bank 1,000 ft downstream from highway bridge, 0.6 mile west of Limaville, Stark County, and $2\frac{1}{2}$ miles upstream from flow line of Berlin Reservoir.

Drainage area.--31.9 sq mi.

Gage-height record.--High-water marks at gage site. Datum of gage is 1,046.8 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,010 cfs and extended above by logarithmic plotting. Discharge for peaks after 1951 are based on 1951 rating.

Maxima.--January-February 1959: Gage height, 14.0 ft Jan. 21-22, from high-water marks.
1941-55: Discharge, 1,530 cfs Jan. 26, 1952 (gage height, 9.33 ft); gage height, 10.18 ft Feb. 22, 1945 (ice jam).

FLOODS OF 1959 IN THE UNITED STATES

20. Mill Creek near Berlin Center, Ohio

Location.--Lat 41°00'00", long 80°58'10", on left bank at downstream side of county bridge, 150 ft upstream from unnamed tributary, 1 mile upstream from flow line of Berlin Reservoir, 1½ miles upstream from Turkeybroth Creek, and 2 miles southwest of Berlin Center, Mahoning County. Records include flow of unnamed tributary.

Drainage area.--19.7 sq mi, including that of unnamed tributary 150 ft downstream from gage.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,032.9 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,520 cfs.

Maxima.--January-February 1959: Discharge, 1,700 cfs 2:30 p.m. Jan. 21 (gage height, 6.70 ft).
1941 to December 1958: Discharge, 1,900 cfs May 27, 1946 (gage height, 6.92 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	49	15	11.....	4.2	147	21.....	1,120	7.9
2.....	187	8.6	12.....	4.0	59	22.....	401	8.2
3.....	52	8.6	13.....	4.0	53	23.....	200	63
4.....	20	40	14.....	8.2	82	24.....	70	61
5.....	11	15	15.....	44	151	25.....	30	24
6.....	7.4	6.7	16.....	56	43	26.....	15	24
7.....	6.2	4.7	17.....	26	26	27.....	8.6	39
8.....	5.5	4.5	18.....	15	18	28.....	6.4	34
9.....	5.0	36	19.....	10	12	29.....	6.0	-
10.....	4.5	832	20.....	8.0	9.5	30.....	162	-
						31.....	42	-
Monthly mean discharge, in cubic feet per second.....							83.5	65.5
Runoff, in inches.....							4.89	3.46

21. Berlin Reservoir near Berlin Center, Ohio

Location.--Lat 41°02'45", long 81°00'10", at dam on Mahoning River, 3½ miles north-west of Berlin Center, Mahoning County.

Drainage area.--249 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is at mean sea level (levels by Corps of Engineers).

Maxima.--January-February 1959: Contents, 62,010 acre-ft Jan. 24 (elevation, 1,025.70 ft).
1942 to December 1958: Contents, 91,150 acre-ft July 8, 1943 (elevation, 1,032.0 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; storage began in December 1942. Capacity at top of crest gates (elevation, 1,032.0 ft), 91,150 acre-ft. No dead storage. Reservoir is used for flood control, to augment flow of Mahoning River during periods of low flow and for diversion to Meander Creek Reservoir. Water used for municipal and industrial purposes in vicinity of Warren and Youngstown. A 42-inch pipeline was completed in 1958 for diversion of water to Meander Creek Reservoir. Two pumps have capacities of 10 and 20 mgd (million gallons per day) each. Pumpage was as follows: December 1958, none; January 1959, 6 acre-ft; February 1959, 6 acre-ft. Records furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959			
Nov. 30.....	12 p.m....	1,007.24	19,520	Jan. 24.....	9 a.m.....	1,025.70	62,010
Dec. 31.....	12 p.m....	1,003.53	15,330	Jan. 31.....	12 p.m....	1,018.43	39,870
1959				Feb. 9.....	4 p.m.....	1,013.19	28,630
Jan. 20.....	12 p.m....	1,004.68	16,520	Feb. 12.....	9 a.m.....	1,023.43	53,930
				Feb. 28.....	12 p.m....	1,016.21	34,590

22. Mahoning River below Berlin Dam, near Berlin Center, Ohio

Location.--Lat 41°02'55", long 81°00'05", in T.1 N., R.6 W., on left bank 600 ft downstream from Berlin Dam and $3\frac{1}{4}$ miles northwest of Berlin Center, Mahoning County.

Drainage area.--249 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 958.0 ft above mean sea level (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 3,200 cfs Jan. 24 (gage height, 5.23 ft).
1930 to December 1958: Discharge, 8,630 cfs Jan. 25, 1937 (gage height, 10.97 ft at site $1\frac{1}{4}$ miles upstream at datum 8.15 ft lower).

Remarks.--Flow regulated since 1942 by Berlin Reservoir (see sta. 21).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	172	2,340	11.....	180	196	21.....	247	1,740
2.....	176	1,800	12.....	192	1,450	22.....	257	1,250
3.....	180	1,100	13.....	210	1,750	23.....	334	828
4.....	183	352	14.....	205	23	24.....	1,790	104
5.....	187	522	15.....	205	1,080	25.....	2,750	104
6.....	187	423	16.....	214	2,100	26.....	2,410	104
7.....	183	187	17.....	214	2,210	27.....	2,280	104
8.....	180	157	18.....	218	2,340	28.....	2,220	104
9.....	183	183	19.....	210	2,410	29.....	1,980	-----
10.....	183	187	20.....	210	2,160	30.....	248	-----
						31.....	1,060	-----
Monthly mean discharge, in cubic feet per second.....							627	975

23. Milton Reservoir at Pricetown, Ohio

Location.--Lat 41°07'40", long 80°58'35", at dam on Mahoning River, 0.8 mile southwest of Pricetown, Mahoning County.

Drainage area.--276 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is at mean sea level (levels by city of Youngstown).

Maxima.--January-February 1959: Contents, 30,520 acre-ft Jan. 27 (elevation, 951.67 ft).
1923 to December 1958: Contents, 35,020 acre-ft June 29, 1924 (elevation, 953.8 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; storage began in 1916. Capacity at spillway level (elevation, 951 ft), 29,150 acre-ft. No dead storage. Reservoir is used to augment flow of Mahoning River during periods of low flow. Water used for industrial purposes in vicinity of Warren and Youngstown. Capacity table computed from base data furnished by city of Youngstown, Division of Water.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958							
Nov. 30.....	12 p.m....	941.92	14,550	Jan. 31.....	12 p.m....	950.60	28,370
Dec. 31.....	12 p.m....	941.83	14,450	Feb. 9.....	12 m.....	947.95	23,440
1959							
				Feb. 13.....	1:30 p.m....	951.13	29,420
Jan. 20.....	3 p.m.....	943.68	16,830	Feb. 16.....	9 a.m.....	951.16	29,480
Jan. 27.....	951.67	30,520	Feb. 28.....	12 p.m....	948.38	24,240

FLOODS OF 1959 IN THE UNITED STATES

24. Mahoning River at Pricetown, Ohio

Location.--Lat 41°07'50", long 80°58'24", in T.2 N., R.5 W., on left bank a quarter of a mile south of Mahoning-Trumbull County line, 0.3 mile downstream from Milton Dam, half a mile southwest of Pricetown, Mahoning County, and 3 miles upstream from Kale Creek.

Drainage area.--276 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 905.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 2,320 cfs Feb. 16 (gage height, 7.90 ft).

1929 to December 1958: Discharge, 6,770 cfs Jan. 25, 1937 (gage height, 15.01 ft).

Remarks.--Flow regulated since 1942 by Berlin Reservoir and since 1929 by Milton Reservoir (see stas. 21, 23).

Mean discharge, in cubic feet per second, 1959

[illegible]

25. Kale Creek near Pricetown, Ohio

Location.--Lat 41°08'25", long 80°59'45", on right bank at downstream side of highway bridge, 0.4 mile north of Mahoning-Trumbull County line, 1½ miles northwest of Pricetown, 2¼ miles upstream from mouth, and 3½ miles south of Newton Falls, Trumbull County.

Drainage area.--20.9 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 914.7 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 3,890 cfs 5 p.m. Jan. 21 (gage height, 8.52 ft).

1940 to December 1958: Discharge, 3,630 cfs May 27, 1944 (gage height, 8.3 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

26. Hinkley Creek near Charlestown, Ohio

(Crest-stage station)

Location.--Lat 41°09'10", long 81°10'15", at culvert on State Highway 5, 1.3 miles southwest of Charlestown, Portage County, and 2.6 miles east of intersection of State Highways 5 and 14.

Drainage area.--10.8 sq mi.

Gage-height record.--Crest stages only. Altitude of gage is 986 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 156 cfs and extended above on basis of slope-area measurements at 589 and 896 cfs.

Maxima.--January-February 1959: Discharge, 943 cfs Jan. 21 (gage height, 13.91 ft). 1947 to December 1958: Discharge, 584 cfs Nov. 16, 1955 (gage height, 12.62 ft).

27. West Branch Mahoning River near Newton Falls, Ohio

Location.--Lat 41°10'18", long 81°01'18", on right bank 250 ft downstream from bridge on Ravenna Road in Portage County, 2½ miles southwest of Newton Falls, Trumbull County, 6 miles upstream from mouth, and 7 miles downstream from Silver Creek.

Drainage area.--97.8 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 6-12, 22-25 and Feb. 1-3, for which graph was reconstructed on basis of high-water mark in well, and graph before and after these periods. Datum of gage is 912.2 ft above mean sea level (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,280 cfs. Backwater from ice Jan. 1, 13-14, 19-21, 26-29 and Feb. 5-9, 19-21.

Maxima.--January-February 1959: Discharge, 8,340 cfs 2:30 a.m. Jan. 22 (gage height, 13.60 ft). 1926 to December 1958: Discharge, 6,090 cfs Feb. 26, 1929 (gage height, 11.8 ft from graph based on gage readings).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	50	150	11.....	30	2,650	21.....	2,550	70
2.....	648	71	12.....	30	355	22.....	5,190	57
3.....	344	52	13.....	29	240	23.....	839	189
4.....	154	96	14.....	29	240	24.....	290	648
5.....	84	78	15.....	63	892	25.....	125	226
6.....	70	45	16.....	256	319	26.....	80	154
7.....	50	33	17.....	143	215	27.....	60	195
8.....	40	30	18.....	106	191	28.....	45	195
9.....	36	40	19.....	75	108	29.....	38	-----
10.....	32	2,590	20.....	50	85	30.....	502	-----
						31.....	387	-----
Monthly mean discharge, in cubic feet per second.....							401	365
Runoff, in inches.....							4.73	3.88

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	1.83	50	7 p.m.....	12.20	5,840	4 p.m.....	10.73	3,530
Jan. 21			9.....	12.85	6,920	6.....	9.90	2,510
1 a.m.....	1.56	50	11.....	13.30	7,770	8.....	9.56	2,070
5.....	1.61	50	12 p.m.....	13.43	8,020	10.....	8.93	1,820
6.....	1.68	60				12 p.m.....	8.58	1,640
7.....	1.91	75	Jan. 22					
8.....	2.50	130	1 a.m.....	13.53	8,210	Jan. 23		
9.....	4.20	275	2:30.....	13.60	8,340	2 a.m.....	8.27	1,510
10.....	6.15	475	3.....	13.59	8,320	4.....	7.80	1,330
11.....	7.60	800	4.....	13.54	8,230	6.....	6.30	906
12 m.....	8.30	1,200	6.....	13.30	7,770	10.....	5.70	780
2 p.m.....	9.55	2,000	8.....	12.90	7,050	12 m.....	5.28	697
4.....	10.85	3,700	10.....	12.44	6,250	2 p.m.....	4.95	634
5 p.m.....	11.43	4,570	12 m.....	11.92	5,360	8.....	4.09	488
			2 p.m.....	11.37	4,480	12 p.m.....	3.62	423

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of West Branch Mahoning River near Newton Falls, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 24			Feb. 10--Con.			Feb. 11--Con.		
6 a.m.....	3.08	354	3 a.m.....	4.05	482	12 m.....	9.62	2,270
12 m.....	2.64	288	5.....	6.40	928	6 p.m.....	8.10	1,440
6 p.m.....	2.30	224	6.....	7.13	1,110	8.....	7.37	1,190
12 p.m.....	2.03	165	7.....	7.70	1,300	12 p.m.....	5.55	750
Jan. 25			8.....	8.03	1,410			
6 a.m.....	1.90	137	10.....	8.47	1,590	Feb. 12		
12 m.....	1.81	119	11.....	8.83	1,760	2 a.m.....	4.67	583
6 p.m.....	1.75	108	1 p.m.....	9.95	2,560	4.....	4.07	484
12 p.m.....	1.75	108	2.....	10.40	3,090	10.....	2.94	336
Feb. 8			4.....	10.97	3,880	12 m.....	2.71	301
12 p.m.....	1.26	30	6.....	11.35	4,440	2 p.m.....	2.43	250
Feb. 9			7.....	11.50	4,680	4.....	2.34	232
12 m.....	1.25	25	9.....	11.68	4,970	6.....	2.35	234
6 p.m.....	1.28	30	10.....	11.73	5,050	10.....	2.51	265
12 p.m.....	1.77	111	11.....	11.74	5,060	12 p.m.....	2.55	272
Feb. 10			12 p.m.....	11.72	5,050			
1 a.m.....	2.15	191	Feb. 11			Feb. 13		
2 a.m.....	2.85	322	2 a.m.....	11.58	4,810	6 a.m.....	2.37	238
			4.....	11.37	4,480	12 m.....	2.26	215
			6.....	11.02	3,950	6 p.m.....	2.35	234
			10 a.m.....	10.12	2,740	12 p.m.....	2.55	272

28. Ordinance Creek near Newton Falls, Ohio

(Partial-record station)

Location--Lat 41°11'20", long 81°01'05", at culvert on State Highway 5, 0.6 mile upstream from West Branch Mahoning River, in Portage County, 0.8 mile west of Portage-Trumbull County line, and 2 miles west of Newton Falls.

Drainage area--0.16 sq mi (104 acres).

Gage-height record--Water-stage recorder graph. Datum of gage is 932.61 ft above mean sea level (levels by Ravenna Arsenal, U.S. Army).

Discharge record--Stage-discharge relation defined by current-meter measurements below 19 cfs and extended above on basis of culvert measurements at 49.4, 99.2, and 103 cfs.

Maxima--January-February 1959: Discharge, 92 cfs 8:30 a.m. Jan. 21 (gage height, 5.54 ft).
1950 to December 1958: Discharge, 103 cfs May 12, 1956 (gage height, 6.98 ft).

29. Eagle Creek at Phalanx Station, Ohio

Location--Lat 41°15'40", long 80°57'16", on right bank 75 ft downstream from highway bridge, 1 mile north of Phalanx Station, Trumbull County, 2 miles downstream from Tinker Creek, and 4 miles upstream from mouth.

Drainage area--97.0 sq mi.

Gage-height record--Water-stage recorder graph, except 9 a.m. Jan. 23 to 1 p.m. Jan. 25 and 6 p.m. Feb. 1 to 10 a.m. Feb. 3, for which graph was reconstructed on basis of gage readings. Datum of gage is 887.42 ft above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District).

Discharge record--Stage-discharge relation defined by current-meter measurements below 6,700 cfs. Backwater from ice Jan. 26-29 and Feb. 6-9 and backwater from the Mahoning River Feb. 25.

Maxima--January-February 1959: Discharge, 6,700 cfs 8-9 a.m. Jan. 22 (gage height, 13.12 ft).
1926-34, 1937 to December 1958: Discharge, 5,950 cfs Feb. 27, 1929 (gage height, 12.9 ft, from graph based on gage readings).

Mean discharge, in cubic feet per second, 1959, of Eagle Creek at Phalanx Station, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	61	460	11.....	45	2,590	21.....	1,670	91
2.....	318	184	12.....	42	635	22.....	5,500	79
3.....	552	82	13.....	42	356	23.....	2,090	136
4.....	270	99	14.....	42	420	24.....	1,450	529
5.....	134	141	15.....	42	618	25.....	376	365
6.....	103	60	16.....	183	542	26.....	200	202
7.....	69	50	17.....	276	274	27.....	100	230
8.....	56	45	18.....	169	230	28.....	55	250
9.....	51	70	19.....	94	158	29.....	256	-
10.....	47	2,860	20.....	72	99	30.....	720	-
						31.....	-	-
Monthly mean discharge, in cubic feet per second.....							490	431
Runoff, in inches.....							5.82	4.62

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10		
12 p.m.....	2.80	75	8 p.m.....	12.11	4,420	2 a.m.....	6.10	514
			10.....	11.88	3,960	4.....	7.75	830
Jan. 20			12 p.m.....	11.60	3,480	5.....	8.37	982
6 a.m.....	2.78	73				6.....	8.75	1,100
12 m.....	2.76	70	Jan. 23			8.....	9.30	1,280
6 p.m.....	2.75	69	2 a.m.....	11.33	3,240	9.....	9.62	1,390
12 p.m.....	2.78	73	4.....	11.11	2,910	10.....	10.25	1,770
			6.....	10.82	2,350	12 m.....	11.51	3,320
Jan. 21			8.....	10.47	1,970	2 p.m.....	12.04	4,290
4 a.m.....	2.88	85	10.....	10.24	1,760	4.....	12.21	4,620
5.....	2.97	98	12 m.....	10.15	1,700	5.....	12.26	4,720
6.....	3.15	125	4 p.m.....	10.10	1,660	7.....	12.26	4,720
7.....	3.70	196	12 p.m.....	10.25	1,770	8:30.....	12.31	4,820
8.....	4.92	336				9.....	12.30	4,800
9.....	5.24	380	Jan. 24			12 p.m.....	12.19	4,580
10.....	7.26	732	4 a.m.....	10.33	1,840			
11.....	8.03	898	8.....	10.37	1,870	Feb. 11		
12 m.....	8.70	1,080	10.....	10.33	1,840	6 a.m.....	11.74	3,720
1 p.m.....	9.21	1,240	12 m.....	10.21	1,740	8.....	11.48	3,270
2.....	9.51	1,350	2 p.m.....	9.95	1,560	2 p.m.....	10.53	2,030
3.....	9.74	1,450	6.....	8.40	990	6.....	9.72	1,440
4.....	9.88	1,520	12 p.m.....	6.00	496	8.....	9.28	1,270
5.....	10.11	1,670				12 p.m.....	8.58	1,040
7.....	11.58	3,440	Jan. 25					
8.....	12.15	4,500	4 a.m.....	5.48	415	Feb. 12		
9.....	12.33	4,860	8.....	5.26	382	6 a.m.....	7.58	796
12 p.m.....	12.65	5,560	12 m.....	5.15	367	10.....	6.97	674
			4 p.m.....	5.01	347	2 p.m.....	6.13	519
Jan. 22			12 p.m.....	4.83	324	4.....	5.84	470
2 a.m.....	12.75	5,790	Feb. 8			6.....	5.67	444
3.....	12.76	5,810	12 p.m.....	2.67	48	12 p.m.....	5.34	394
6.....	13.01	6,420	Feb. 9					
8.....	13.12	6,700	6 a.m.....	2.67	49	Feb. 13		
9.....	13.12	6,700	12 m.....	2.67	52	6 a.m.....	5.13	364
10.....	13.10	6,650	6 p.m.....	2.75	58	12 m.....	4.94	338
12 m.....	12.93	6,220	9.....	3.00	91	6 p.m.....	4.93	337
3 p.m.....	12.51	5,250	12 p.m.....	4.30	261	12 p.m.....	5.22	377
6 p.m.....	12.26	4,720						

30. Mahoning River at Leavittsburg, Ohio

Location--Lat 41°14'20", long 80°52'50", on right bank at upstream side of highway bridge at Leavittsburg, Trumbull County, 300 ft downstream from Buck Creek and 1½ miles downstream from Eagle Creek.

Drainage area--580 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 871.25 ft above mean sea level, adjustment of 1912.

Discharge record--Stage-discharge relation defined by current-meter measurements below 18,200 cfs.

Maxima--January-February 1959: Discharge, 20,300 cfs 7 p.m. Jan. 22 (gage height, 19.37 ft).

1941 to December 1958: Discharge, 9,720 cfs Jan. 27, 1952 (gage height, 15.88 ft).

Stage known: About 24 ft Mar. 26, 1913. Flood of Jan. 25 or 26, 1937, reached a stage of 17.8 ft.

Remarks--Flow regulated by Berlin and Milton Reservoirs (see stas. 21, 23).

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of Mahoning River at Levittsburg, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	418	2,020	11.....	250	9,800	21.....	3,190	2,440
2.....	1,090	1,800	12.....	230	4,240	22.....	15,500	1,960
3.....	1,310	1,700	13.....	220	2,140	23.....	10,500	1,620
4.....	850	1,560	14.....	223	2,200	24.....	2,200	2,020
5.....	542	1,500	15.....	295	2,140	25.....	1,500	1,560
6.....	400	1,370	16.....	484	3,160	26.....	1,960	1,090
7.....	350	800	17.....	569	2,920	27.....	2,500	1,060
8.....	300	725	18.....	492	2,920	28.....	2,500	1,180
9.....	280	700	19.....	398	2,800	29.....	2,580	-----
10.....	260	4,720	20.....	338	2,620	30.....	2,580	-----
						31.....	2,500	-----
Monthly mean discharge, in cubic feet per second.....							1,820	2,313

31. Walnut Creek at Cortland, Ohio

(Partial-record station)

Location.--Lat 41°19'45", long 80°43'30", at Main Street bridge in Cortland, Trumbull County, and 1.8 miles upstream from mouth,

Drainage area.--9.12 sq mi.

Gage-height record.--Water-stage recorder graph. Altitude of gage is 1,000 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,160 cfs.

Maxima.--January-February 1959: Discharge, 1,400 cfs 1:30 p.m. Jan. 21 (gage height, 5.06 ft).
1947 to December 1958: Discharge, 1,200 cfs Oct. 15, 1954 (gage height, 4.60 ft).

32. Mosquito Creek Reservoir near Cortland, Ohio

Location.--Lat 41°18'00", long 80°45'25", at dam on Mosquito Creek, 3 miles south-west of Cortland, Trumbull County.

Drainage area.--97.4 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is at mean sea level (levels by Corps of Engineers).

Maxima.--January-February 1959: Contents, 82,920 acre-ft 2 a.m. Feb. 16 (elevation, 901.47 ft).
1943 to December 1958: Contents, 101,100 acre-ft June 3, 1947 (elevation, 903.65 ft).

Remarks.--Reservoir is formed by earth dam with an emergency spillway discharging into Grand River basin. Flow is controlled by gates in concrete conduits through dam. Storage began in October 1943. Capacity at spillway level (elevation, 904.00 ft) 104,100 acre-ft. Reservoir is used for flood control and to augment flow of Mahoning River during periods of low flow. About 12 cfs pumped from reservoir for water supply for city of Warren. Water used for industrial purposes in vicinity of Warren and Youngstown. Records furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959			
Nov. 30.....	12 p.m....	896.70	49,990	Jan. 26.....	6 a.m....	900.49	75,400
Dec. 31.....	12 p.m....	897.21	53,070	Jan. 31.....	12 p.m....	900.27	73,760
				Feb. 9.....	12 m.....	899.77	70,120
1959				Feb. 16.....	2 a.m....	901.47	82,920
Jan. 20.....	6 p.m.....	898.02	58,180	Feb. 28.....	12 p.m....	900.13	72,730

33. Mosquito Creek at Niles, Ohio

(Gaging station, discontinued 1951)

Location.--Lat 41°11'02", long 80°45'39", on right bank at dam in Niles, Trumbull County, half a mile upstream from mouth.

Drainage area.--139 sq mi.

Gage-height record.--High-water marks at gage site. Datum of gage is 857.26 ft above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,760 cfs.

Maxima.--January-February 1959: Discharge, 1,950 cfs Jan. 21-22 (gage height, 4.35 ft, from high-water marks).

1929-51: Discharge, 3,080 cfs Dec. 30, 1942 (gage height, 5.16 ft).

Remarks.--Flow regulated by Mosquito Creek Reservoir beginning October 1943 (see sta. 32).

34. Meander Creek Reservoir at Mineral Ridge, Ohio

Location.--Lat 41°09'10", long 80°46'50", at dam on Meander Creek, 0.8 mile north-west of Mineral Ridge, Trumbull County.

Drainage area.--84.9 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is at mean sea level (levels by Mahoning Valley Sanitary District).

Maxima.--January-February 1959: Contents, 41,800 acre-ft 12 p.m. Jan. 21 (elevation, 909.25 ft).

1929 to December 1958: Contents, 40,360 acre-ft May 13, 1956 (elevation, 908.65 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; storage began in 1929. Capacity at spillway level (elevation, 905 ft), 32,410 acre-ft. No dead storage. Water used for municipal supply of Niles and Youngstown. Water is diverted by pumpage through pipeline from Berlin Reservoir beginning 1958 (see Berlin Reservoir record, sta. 21). Capacity table computed from base data furnished by Mahoning Valley Sanitary District.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959			
Nov. 30.....	12 p.m....	904.22	30,900	Jan. 21.....	12 p.m...	909.25	41,800
Dec. 31.....	12 p.m....	904.33	31,110	Jan. 31.....	12 p.m....	905.75	33,930
				Feb. 9.....	12 m.....	905.10	32,610
1959				Feb. 10.....	8 p.m....	908.13	39,130
Jan. 20.....	12 p.m....	905.08	32,570	Feb. 28.....	12 p.m...	905.54	33,500

35. Mahoning River at Youngstown, Ohio

Location.--Lat 41°06'41", long 80°40'25", on left bank 400 ft upstream from Bridge Street Bridge in Youngstown, Mahoning County, and three-quarters of a mile upstream from Mill Creek.

Drainage area.--899 sq mi.

Gage-height record.--Water-stage recorder graph, except 7 a.m. Jan. 21 to 5 p.m. Jan. 22 and Jan. 24 to Feb. 4 for which graph was reconstructed on basis of gage readings. Datum of gage is 826.53 ft above mean sea level, adjustment of 1912 (levels by Mahoning Valley Sanitary District).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from Mill Creek at times.

Maxima.--January-February 1959: Discharge, 16,900 cfs 4-8 p.m. Jan. 22; maximum gage height, 18.62 ft (backwater from Mill Creek) 7 a.m. Jan. 22.

1921 to December 1958: Discharge, 17,600 cfs Jan. 25, 1937 (gage height, 14.92 ft).

Maximum stage known, 26.5 ft Mar. 26, 1913 (discharge, 42,500 cfs).

Remarks.--Floodflow regulated by Milton Reservoir beginning in 1916 (see sta. 23), Meander Creek Reservoir beginning in 1929 (see sta. 34), Berlin Reservoir beginning in 1942 (see sta. 21), Mosquito Creek Reservoir beginning in 1943 (see sta. 32), and reservoir on Squaw Creek.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	536	2,980	11.....	350	13,600	21.....	7,680	3,850
2.....	1,430	2,470	12.....	350	10,600	22.....	16,200	3,300
3.....	1,940	2,470	13.....	322	3,370	23.....	15,600	2,950
4.....	1,370	2,300	14.....	295	3,500	24.....	9,140	3,460
5.....	783	2,120	15.....	424	3,610	25.....	2,130	2,840
6.....	550	1,960	16.....	590	4,280	26.....	2,090	1,800
7.....	473	1,400	17.....	747	4,400	27.....	2,590	1,670
8.....	417	1,070	18.....	693	4,460	28.....	3,040	1,820
9.....	392	1,100	19.....	558	4,310	29.....	3,080	-----
10.....	356	8,550	20.....	451	3,960	30.....	3,360	-----
						31.....	3,670	-----
Monthly mean discharge, in cubic feet per second.....							2,632	3,724

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.94	477	12 p.m.....	17.02	16,200	2 a.m.....	6.55	2,830
Jan. 20			Jan. 23			3 a.m.....	7.45	3,760
6 a.m.....	2.88	437	2 a.m.....	17.55	16,700	6.....	8.87	5,340
12 m.....	2.87	434	10.....	16.55	16,100	8.....	9.58	6,190
6 p.m.....	2.87	432	6 p.m.....	15.42	15,000	11.....	11.53	8,340
12 p.m.....	3.01	523	8.....	15.07	14,600	1 p.m.....	13.45	10,400
Jan. 21			12 p.m.....	13.95	13,300	2.....	13.90	11,000
2 a.m.....	3.09	572	Jan. 24			3.....	14.12	11,300
3.....	3.15	605	6 a.m.....	12.31	11,300	5.....	14.37	11,800
4.....	3.30	710	12 m.....	10.87	9,520	10.....	14.66	12,600
5.....	3.65	970	6 p.m.....	9.15	7,100	12 p.m.....	14.75	12,900
6.....	4.20	1,370	12 p.m.....	6.70	3,960	Feb. 11		
7.....	5.00	1,740	Jan. 25			3 a.m.....	14.80	13,400
8.....	6.50	2,830	6 a.m.....	5.00	2,240	12 m.....	14.71	13,800
10.....	10.00	6,760	12 m.....	4.32	1,560	5 p.m.....	14.63	13,900
12 m.....	12.41	9,590	6 p.m.....	4.43	1,760	6.....	14.60	13,800
2 p.m.....	14.33	11,100	12 p.m.....	4.65	1,960	12 p.m.....	14.19	13,600
3.....	14.68	11,900	Jan. 26			Feb. 12		
4.....	15.26	11,900	6 a.m.....	4.85	2,150	6 a.m.....	13.42	12,700
5.....	15.68	12,000	12 m.....	4.83	2,140	12 m.....	12.20	11,200
6.....	16.32	12,800	6 p.m.....	4.75	2,070	6 p.m.....	10.56	8,970
7.....	17.41	14,100	12 p.m.....	4.75	2,070	12 p.m.....	8.28	5,830
8.....	17.96	14,300	Feb. 8			Feb. 13		
9.....	17.96	14,300	12 p.m.....	3.52	990	6 a.m.....	6.01	3,120
10.....	18.14	14,400	Feb. 9			12 m.....	5.53	2,650
11.....			6 a.m.....	3.46	934	6 p.m.....	5.94	3,060
12 p.m.....			12 m.....	3.45	924	12 p.m.....	6.33	3,480
Jan. 22			6 p.m.....	3.54	997	Feb. 14		
2 a.m.....	18.45	14,900	12 p.m.....	5.23	1,910	6 a.m.....	6.55	3,740
3.....	18.56	15,400	Feb. 10			12 m.....	6.51	3,690
4.....	18.62	15,700	1 a.m.....	5.70	2,140	6 p.m.....	6.14	3,230
5.....	18.60	16,000				12 p.m.....	6.26	3,200
6.....	18.40	16,200						
7.....	18.42	16,400						
8.....	18.09	16,900						
9.....	17.80	16,900						
10.....	17.59	16,800						
11.....								
12 p.m.....								

36. Mill Creek at Youngstown, Ohio

Location.--Lat 41°04'20", long 80°41'25", on right bank 600 ft upstream from suspension bridge in Mill Creek Park at Youngstown, Mahoning County, 1 mile downstream from Newport Dam, and 2½ miles upstream from mouth.

Drainage area.--68.4 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 898.52 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,720 cfs and extended above on basis of computations of flow over dam. Backwater from ice Jan. 6-10, 18-21, 27-29 and Feb. 2-3.

Maxima.--January-February 1959: Discharge, 4,290 cfs 1 a.m. Jan. 22 (gage height, 7.49 ft).

1943 to December 1958: Discharge, 6,100 cfs May 27, 1946 (gage height, 9.00 ft).

Maximum discharge known, 7,140 cfs in March 1913 at dam 1 mile downstream (computed by Mill Creek Park Association).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	70	103	11.....	17	988	21.....	2,100	35
2.....	307	50	12.....	16	311	22.....	2,560	31
3.....	247	40	13.....	15	190	23.....	730	114
4.....	136	74	14.....	18	208	24.....	224	260
5.....	79	69	15.....	50	192	25.....	86	134
6.....	45	35	16.....	97	225	26.....	60	84
7.....	30	24	17.....	83	146	27.....	40	106
8.....	24	22	18.....	60	122	28.....	30	110
9.....	20	76	19.....	45	78	29.....	25	---
10.....	18	1,930	20.....	30	44	30.....	124	---
						31.....	139	---
Monthly mean discharge, in cubic feet per second.....							243	207
Runoff, in inches.....							4.09	3.16

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 9--Con.		
12 p.m.....	1.25	30	6 a.m.....	6.77	3,500	12 p.m.....	2.93	640
Jan. 20			7.....	6.76	3,490	Feb. 10		
6 a.m.....	1.20	30	8.....	6.48	3,210	2 a.m.....	3.75	1,080
12 m.....	1.16	25	10.....	6.04	2,780	4.....	4.25	1,370
9 p.m.....	1.40	30	11.....	5.90	2,650	6.....	4.71	1,680
12 p.m.....	1.63	35	1 p.m.....	5.37	2,190	8.....	4.81	1,750
Jan. 21			4.....	4.70	1,670	9.....	5.20	2,050
1 a.m.....	1.54	40	8.....	4.29	1,390	10.....	5.76	2,520
2.....	1.61	50	12 p.m.....	3.95	1,190	12 m.....	5.00	2,740
3.....	1.75	70	Jan. 23			1:30 p.m.....	5.93	2,680
4.....	1.98	100	4 a.m.....	3.62	1,010	2.....	5.88	2,630
5.....	2.23	150	12 m.....	3.03	690	3.....	5.62	2,400
6.....	2.62	250	6 p.m.....	2.66	517	4.....	5.45	2,250
7.....	3.23	600	12 p.m.....	2.36	382	5.....	5.40	2,210
8.....	3.65	1,020	Jan. 24			6.....	5.15	2,010
9.....	4.80	1,740	6 a.m.....	2.11	279	7.....	5.10	1,970
10.....	4.95	1,850	12 m.....	1.90	205	8.....	4.92	1,830
11.....	5.28	2,110	6 p.m.....	1.73	156	Feb. 11		
12 m.....	5.63	2,590	12 p.m.....	1.62	128	4 a.m.....	4.38	1,450
1 p.m.....	6.19	2,920	Jan. 25			6.....	3.87	1,140
2.....	6.31	3,040	6 a.m.....	1.50	101	12 m.....	3.43	902
3.....	6.68	3,410	12 m.....	1.40	81	6 p.m.....	2.95	650
4.....	6.97	3,720	6 p.m.....	1.33	69	12 p.m.....	2.44	426
5.....	7.10	3,860	12 p.m.....	1.27	60	Feb. 12		
6.....	7.04	3,790	Feb. 8			6 a.m.....	2.07	284
7.....	7.38	4,170	12 p.m.....	.93	20	12 m.....	2.17	320
12 p.m.....	7.46	4,260	Feb. 9			6 p.m.....	2.15	312
Jan. 22			6 a.m.....	.93	20	12 p.m.....	1.91	228
1 a.m.....	7.49	4,290	12 m.....	.94	21	Feb. 13		
2.....	7.35	4,140	6 p.m.....	1.07	33	6 a.m.....	1.80	195
3.....	7.32	4,100	9 p.m.....	1.65	136	12 m.....	1.75	181
4.....	7.03	3,780				6 p.m.....	1.75	181
5 a.m.....	7.00	3,750				12 p.m.....	1.74	178

(Miscellaneous site)

(Miscellaneous site)

39. Mahoning River at Lowellyville, Ohio

Remarks.--Flow regulated by Berlin, Milton, Mosquito Creek, and Meander Creek Reservoirs (see stas. 21, 23, 32, 34), together with reservoirs on Dry Run, Squaw Creek, and Yellow Creek (total capacity, 22,000 acre-ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1....	784	3,450	11....	430	15,100	21....	11,400	4,050
2....	1,870	2,850	12....	420	11,200	22....	19,300	3,600
3....	2,350	2,850	13....	400	4,130	23....	16,800	3,380
4....	1,700	2,700	14....	370	4,200	24....	8,890	4,050
5....	1,000	2,420	15....	500	4,350	25....	2,700	3,450
6....	700	2,210	16....	700	4,650	26....	2,780	2,280
7....	600	1,740	17....	920	4,800	27....	3,220	2,000
8....	530	1,310	18....	850	4,800	28....	3,380	2,150
9....	475	1,290	19....	710	4,500	29....	3,380	- - - - -
10....	450	10,100	20....	635	4,200	30....	4,600	- - - - -
						31....	4,200	- - - - -
Monthly mean discharge, in cubic feet per second.....							3,113	4,208

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY

A89

40. Shenango River at Pymatuning Dam, Pa.

Location.--Lat 41°29'55", long 80°27'30", on left bank 500 ft downstream from Sugar Run, 550 ft downstream from Pymatuning Dam, Crawford County, and 1½ miles north-west of Jamestown.

Drainage area.--167 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 6-13, 21 and Feb. 12-15 for which graph was completed from adjoining records and from twice-daily tape-gage readings. Datum of gage is 970.00 ft above mean sea level, adjustment of 1907.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 1,280 cfs 5:30 p.m. Jan. 21 (gage height, 8.15 ft).
1934 to December 1958: Discharge, 1,540 cfs Sept. 4, 1937 (gage height, 9.2 ft).

Remarks.--Flow regulated since 1933 by Pymatuning Reservoir.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	27	575	11.....	21	230	21.....	704	910
2.....	77	575	12.....	21	535	22.....	191	880
3.....	41	575	13.....	18	610	23.....	28	910
4.....	30	575	14.....	15	592	24.....	20	910
5.....	24	575	15.....	27	628	25.....	19	910
6.....	24	575	16.....	32	752	26.....	225	910
7.....	23	575	17.....	26	880	27.....	432	910
8.....	22	575	18.....	23	910	28.....	523	910
9.....	22	407	19.....	18	910	29.....	575	---
10.....	21	540	20.....	17	910	30.....	645	---
						31.....	592	---
Monthly mean discharge, in cubic feet per second.....							145	705

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 26--Con.		
12 p.m.....	4.08	18	12 p.m.....	4.33	35	12 m.....	5.49	400
Jan. 21			Jan. 23			12 p.m.....	5.56	432
1 a.m.....	4.15	22	12 p.m.....	4.12	20	Jan. 27		
7.....	4.75	102	Jan. 24			12 p.m.....	5.55	428
12 m.....	7.20	1,000	12 p.m.....	4.11	20	Jan. 28		
5:30 p.m.....	8.15	1,280	Jan. 25			8 a.m.....	5.55	428
7.....	8.05	1,230	12 p.m.....	4.06	17	9.....	5.85	555
12 p.m.....	6.70	850	Jan. 26			12 p.m.....	5.93	592
Jan. 22			12 m.....	4.05	16			
4 a.m.....	5.40	360						

41. Little Shenango River at Greenville, Pa.

Location.--Lat 41°25'15", long 80°22'35", on left bank 1,500 ft downstream from Williamson Crossing Bridge, 1 mile northeast of Greenville, Mercer County, and 2 miles upstream from mouth.

Drainage area.--104 sq mi.

Gage-height record.--Water-stage recorder graph, except Feb. 11, 20 when graph was completed from once-daily tape-gage readings. Datum of gage is 953.46 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,200 cfs and by indirect measurement at 6,200 cfs. Backwater from ice Jan. 1, 2, 5-21, 26-30 and Feb. 5-9, 19-23, 25, 26.

Maxima.--January-February 1959: Discharge, 8,540 cfs 3 a.m. Jan. 22 (gage height, 14.30 ft).
1913 to December 1958: Discharge, 7,580 cfs July 15, 1958 (gage height, 13.50 ft).

Mean discharge, in cubic feet per second, 1959, of Little Shenango River at Greenville, Pa.

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20 12 p.m.....	2.60	-	Jan. 22--Con. 12 p.m.....	7.65	2,160	Jan. 25--Con. 12 p.m.....	2.59	216
Jan. 21 5 a.m.....	3.20	-	Jan. 23 12 m.....	5.19	1,010	Jan. 26 12 p.m.....	2.38	-
10.....	5.95	-	12 p.m.....	3.85	545	Jan. 27 12 p.m.....	2.20	-
4 p.m.....	9.50	3,420	Jan. 24 2 p.m.....	3.03	316	Jan. 28 10 a.m.....	2.03	-
8.....	13.24	7,220	12 p.m.....	2.98	303	12 p.m.....	2.10	-
12 p.m.....	14.13	8,300	Jan. 25 12 m.....	2.87	277			
Jan. 22 3 a.m.....	14.30	8,540						
7 a.m.....	13.92	8,060						

42. Pymatuning Creek near Orangeville, Pa.

Location.--Lat 41°18'40", long 80°28'40", on right bank 2 miles upstream from mouth,
3 miles southeast of Orangeville, Mercer County, and 3 miles north of Sharpsville.

Drainage area.--169 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 24, 25, 28. Graph for Jan. 24, 25 completed from adjoining records. Datum of gage is 873.35 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,000 cfs and extended above by logarithmic plotting. Backwater from Shennango River Jan. 22-24; backwater from ice Jan. 5-21 and Jan. 26 to Feb. 7, Feb. 18-22, 25, 26. Discharge during periods of backwater computed from records of nearby stations.

Maxima.--January-February 1959: Discharge, 5,360 cfs 1:30 a.m. Jan. 22 (gage height, 11.88 ft); gage height, 13.32 ft 5:30 p.m. Jan. 22 (backwater from Shenango River). 1913 to December 1958: Discharge, 6,200 cfs Feb. 3, 1915 (gage height, 9.1 ft, at site 1,500 ft downstream at datum 0.62 ft higher); gage height, 11.90 ft July 16, 1958 (backwater from Shenango River).
Maximum stage known, 16.0 ft Mar. 26, 1913, at site in use Feb. 3, 1915.

Mean discharge, in cubic feet per second, 1959

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A91

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Pymatuning Creek near Orangeville, Pa.

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 20			Jan. 23			Jan. 27		
12 p.m.	4.76	-	12 p.m.	11.09	-	12 m.	6.78	-
Jan. 21			Jan. 24			12 p.m.	6.43	-
5 a.m.	5.38		12 p.m.	9.75	-	Jan. 29		
2 p.m.	10.86	3,760	Jan. 25			12 m.	5.62	-
12 p.m.	11.85	5,200	12 p.m.	8.51	1,360	12 p.m.	5.16	-
Jan. 22			Jan. 26					
1:30 a.m.	11.88	5,360	12 p.m.	7.25	-			
5:30 p.m.	13.32	-						
12 p.m.	13.07	-						

43. Shenango River at Sharpsville, Pa.

Location.--Lat 41°16'00", long 80°28'20", on left bank 700 ft upstream from Erie Railroad bridge at Sharpsville, Mercer County, and 3 miles downstream from Pymatuning Creek.

Drainage area.--588 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 861.57 ft above mean sea level, datum of 1929, New York-Pennsylvania supplementary adjustment of 1943.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 1, 6-14, 19, 26-29 and Feb. 1-3, 7.

Maxima.--January-February 1959: Discharge, 15,700 cfs 5 p.m. Jan. 22 (gage height, 15.97 ft).

1938 to December 1958: Discharge, 13,900 cfs Oct. 16, 1954; gage height, 13.97 ft July 16, 1958.

Maximum stage known, 19.3 ft Mar. 26, 1913.

Remarks.--Flow regulated since 1933 by Pymatuning Reservoir.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.	360	1,400	11.	300	8,360	21.	4,880	1,500
2.	1,410	1,200	12.	280	4,830	22.	14,200	1,400
3.	1,320	1,100	13.	270	3,070	23.	10,900	1,400
4.	977	1,220	14.	260	2,800	24.	4,540	1,750
5.	758	1,200	15.	529	3,400	25.	2,360	1,600
6.	640	1,020	16.	1,130	2,800	26.	1,500	1,550
7.	540	920	17.	1,010	2,240	27.	1,300	1,860
8.	450	888	18.	806	2,140	28.	1,200	2,020
9.	400	915	19.	650	1,860	29.	1,250	- - - - -
10.	350	5,140	20.	586	1,550	30.	1,880	- - - - -
						31.	2,080	- - - - -
Monthly mean discharge, in cubic feet per second.							1,907	2,183

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 20			Jan. 22--Con.			Jan. 25		
12 p.m.	3.36	539	5 p.m.	15.97	15,700	12 p.m.	4.72	1,860
Jan. 21			12 p.m.	14.97	14,300	Jan. 26		
5 a.m.	3.75	830	Jan. 23			1 p.m.	4.27	-
12 p.m.	12.50	10,900	12 p.m.	9.53	7,160	12 p.m.	4.15	-
Jan. 22			Jan. 24			Jan. 27		
5 a.m.	14.03	12,900	12 m.	6.80	4,170	12 p.m.	4.30	-
12 m.	15.48	15,000	12 p.m.	5.67	2,960	Jan. 28		
						12 p.m.	4.10	-

44. Beaver River at Wampum, Pa.

Location.--Lat 40°53'15", long 80°20'05", on right bank at downstream side of bridge on State Highway 288 at Wampum, Lawrence County, 2½ miles upstream from Connoquenessing Creek.

Drainage area.--2,235 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 21, 22, 24 for which graph was completed from fragmentary gage-height record. Datum of gage is 736.24 ft above mean sea level (Pennsylvania Railroad bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from Connoquenessing Creek Jan. 21-24 and Feb. 10-12.

Maxima.--January-February 1959: Discharge, 49,900 cfs 2:30 p.m. Jan. 22 (gage height, 24.86 ft, backwater from Connoquenessing Creek).
1914-18, 1932 to December 1958: Discharge, 50,100 cfs May 28, 1946 (gage height, 21.53 ft, backwater from Connoquenessing Creek).
Maximum stage known, 29.9 ft Mar. 26, 1913.

Remarks.--Flow regulated since 1942 by Berlin, since 1916 by Milton, since 1944 by Mosquito Creek, since 1929 by Meander Creek, and since 1933 by Pymatuning Reservoirs.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,590	6,600	11.....	1,040	32,100	21.....	16,000	6,200
2.....	4,600	5,020	12.....	980	24,500	22.....	47,500	5,800
3.....	5,310	4,740	13.....	958	13,800	23.....	39,200	5,800
4.....	4,150	5,020	14.....	903	9,800	24.....	27,000	7,400
5.....	2,710	4,640	15.....	1,600	11,000	25.....	12,200	6,600
6.....	1,910	4,070	16.....	2,870	10,400	26.....	6,600	5,210
7.....	1,710	3,440	17.....	2,790	9,200	27.....	5,600	5,210
8.....	1,530	2,860	18.....	2,400	8,400	28.....	5,400	5,600
9.....	1,400	2,780	19.....	1,980	7,800	29.....	5,400	-----
10.....	1,200	20,000	20.....	1,840	6,800	30.....	7,600	-----
						31.....	8,400	-----
Monthly mean discharge, in cubic feet per second.....							7,238	8,600

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.....	4.18	1,910	12 p.m.....	23.73	-	12 p.m.....	7.80	8,600
Jan. 21			Jan. 23			Jan. 26		
4 a.m.....	4.52	2,330	12 p.m.....	19.42	-	12 m.....	6.76	6,600
12 m.....	12.00	16,500	Jan. 24			12 p.m.....	6.37	5,800
12 p.m.....	22.00	-	12 p.m.....	13.01	-	Jan. 27		
Jan. 22						12 p.m.....	6.30	5,600
10 a.m.....	24.59	-	Jan. 25			Jan. 28		
2:30 p.m.....	24.86	-	1 a.m.....	12.60	18,200	12 p.m.....	6.20	5,400
2:30 p.m.....	-	49,900	12 m.....	9.40	11,800			

45. Connoquenessing Creek at Hazen, Pa.

Location.--Lat 40°49'00", long 80°14'35", on right bank at downstream side of highway bridge at Hazen, Beaver County, half a mile upstream from Brush Creek.

Drainage area.--356 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 22-24. Datum of gage is 852.31 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record completed from fragmentary recorder graph and from records of nearby stations. Backwater from ice Jan. 1-21, 28, 29 and Feb. 1-3, 6, 7, 18-22, 25.

Maxima.--January-February 1959: Discharge, 10,400 cfs 8 a.m. Jan. 22 (gage height, 12.65 ft).
1919 to December 1958: Discharge, 23,000 cfs June 29, 1924 (gage height, 16.66 ft).

A93

Day	January	February	Day	January	February	Day	January	February
1.....	300	600	11.....	210	4,960	21.....	3,000	450
2.....	800	400	12.....	210	1,940	22.....	9,200	500
3.....	1,000	400	13.....	200	1,460	23.....	5,500	565
4.....	700	477	14.....	200	1,260	24.....	1,500	940
5.....	500	587	15.....	300	1,860	25.....	1,080	600
6.....	350	360	16.....	600	1,430	26.....	870	603
7.....	350	290	17.....	500	1,180	27.....	675	609
8.....	300	345	18.....	350	940	28.....	400	597
9.....	250	333	19.....	300	700	29.....	400	-- -- --
10.....	230	5,380	20.....	330	450	30.....	1,180	-- -- --
						31.....	1,080	-- -- --
Monthly mean discharge, in cubic feet per second.....							1,028	1,089
Runoff, in inches.....							3.33	3.18

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 23			Jan. 26		
12 p.m.....	4.51	-	8 a.m.....	7.00	3,540	12 m.....	3.40	870
			10 a.m.....	6.50	3,110	12 p.m.....	3.24	766
Jan. 21			Jan. 24			Jan. 27		
3 a.m.....	4.58	-	9 a.m.....	4.34	1,540	12 p.m.....	2.97	597
6 p.m.....	11.08	-	12 p.m.....	3.91	1,220			
12 p.m.....	12.65	-	Jan. 25			Jan. 28		
Jan. 22			1 p.m.....	3.66	1,040	4 p.m.....	2.49	-
8 a.m.....	12.65	10,400	12 p.m.....	3.54	975	12 p.m.....	2.77	-

Location.--Lat 40°53'00", long 80°13'55", on left bank at highway bridge at Camp Elwood, 2 miles north of Wurtemburg, Lawrence County, and 2.8 miles upstream from mouth.

Gage-height record.--Water-stage recorder graph, except Jan. 23, 24 and Feb. 10-15 for which graph was completed from adjoining records and from records of nearby stations. Datum of gage is 831.40 ft above mean sea level, adjustment of 1907.

Maxima.--January-February 1959: Discharge, 14,000 cfs 8 a.m. Jan. 22 (gage height, 10.45 ft).

1911 to December 1958: Discharge, 19,000 cfs Jan. 25, 1937 (gage height, 12.05 ft, at site 2 miles downstream at datum 18.92 ft lower).

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Slippery Rock Creek at Wurtemberg, Pa.

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 23			Jan. 26--Con.		
12 p.m.....	2.46	-	12 p.m.....	5.00	3,390	12 p.m.....	2.91	1,180
Jan. 21			Jan. 24			Jan. 27		
3 a.m.....	2.73	-	12 p.m.....	3.92	2,100	12 m.....	2.59	-
12 p.m.....	8.87	-	Jan. 25			9 p.m.....	2.60	-
Jan. 22			12 p.m.....	3.20	1,430	Jan. 28		
8 a.m.....	10.45	14,000	Jan. 26			11 a.m.....	2.07	-
11.....	10.22	13,500	12 m.....	2.92	1,180	12 p.m.....	2.11	-
11.....	10.39	14,000	8 p.m.....	3.00	1,260			
6 p.m.....	9.35	11,800						
12 p.m.....	7.94	8,700						

47. Beaver River at Beaver Falls, Pa.

Location.--Lat 40°45'45", long 80°18'55", on left bank at Beaver Falls, Beaver County, 200 ft upstream from pumping plant of Beaver Valley Water Co., 5.5 miles upstream from mouth, and 7 miles downstream from Connoquenessing Creek.

Drainage area.--3,106 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 24 for which graph was completed from adjoining record. Datum of gage is 727.48 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 57,000 cfs and extended above by logarithmic plotting.

Maxima.--January-February 1959: Discharge, 69,900 cfs 1 p.m. Jan. 22 (gage height, 14.42 ft).

1935 to December 1958: Discharge, 64,500 cfs Jan. 25, 1937 (gage height, 13.8 ft).

Maximum stage known, 17.4 ft Mar. 27, 1913 (discharge, 103,000 cfs).

Remarks.--Flow regulated since 1942 by Berlin, since 1916 by Milton, since 1943 by Mosquito Creek, since 1929 by Meander Creek, and since 1933 by Fymatuning Reservoirs.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	2,380	8,980	11.....	1,870	46,200	21.....	22,800	7,400
2.....	6,550	6,400	12.....	1,670	31,700	22.....	65,400	7,200
3.....	8,980	5,820	13.....	1,620	18,700	23.....	49,900	7,050
4.....	7,200	6,600	14.....	1,570	13,700	24.....	32,400	9,700
5.....	4,740	6,400	15.....	2,610	15,700	25.....	16,900	8,520
6.....	3,220	5,270	16.....	5,450	14,200	26.....	9,700	6,800
7.....	2,930	4,420	17.....	4,920	12,400	27.....	7,850	6,600
8.....	2,590	3,980	18.....	3,980	11,200	28.....	7,000	7,400
9.....	2,350	3,820	19.....	3,400	9,950	29.....	6,600	-----
10.....	2,080	30,000	20.....	3,190	8,080	30.....	10,400	-----
						31.....	12,000	-----
Monthly mean discharge, in cubic feet per second.....							10,140	11,580

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 26		
12 p.m.....	4.83	3,280	6 p.m.....	14.20	67,700	12 p.m.....	6.21	8,300
Jan. 21			12 p.m.....	13.63	61,500	Jan. 27		
2 a.m.....	4.87	3,400	Jan. 23			12 m.....	6.06	7,620
7.....	5.60	5,820	12 m.....	12.30	48,800	12 p.m.....	6.09	7,850
3 p.m.....	9.93	29,500	11.43	41,000		Jan. 28		
12 p.m.....	12.92	54,500	Jan. 24			12 m.....	5.85	6,800
Jan. 22			12 p.m.....	8.94	22,800	12 p.m.....	5.84	6,800
5 a.m.....	13.85	63,500	Jan. 25					
1 p.m.....	14.42	69,900	12 p.m.....	7.04	12,400			

RACCOON CREEK BASIN

48. Raccoon Creek at Moffatts Mill, Pa.

Location.--Lat 40°37'40", long 80°20'20", on left bank at downstream side of highway bridge at Moffatts Mill, Beaver County, 1.4 miles downstream from Gums Run, 4 miles south of Vanport, and 4.2 miles upstream from mouth.

Drainage area.--178 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 719.16 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944 (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,700 cfs and extended above by logarithmic plotting. Backwater from ice Jan. 1-21, 28-30 and Feb. 1-4, 6, 7, 19-22.

Maxima.--January-February 1959: Discharge, 5,110 cfs 3 a.m. Jan. 22 (gage height, 7.74 ft).
1941 to December 1948: Discharge, 8,590 cfs Jan. 27, 1952 (gage height, 9.71 ft).
Flood of Apr. 15, 1922, reached a stage of 9.80 ft (discharge, 10,000 cfs).
Stage of Mar. 5, 1920 (ice jam), equaled that of Apr. 15, 1922.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	90	260	11.....	100	1,590	21.....	1,000	210
2.....	300	180	12.....	90	724	22.....	4,020	230
3.....	250	180	13.....	80	595	23.....	940	272
4.....	200	340	14.....	76	545	24.....	545	329
5.....	120	260	15.....	150	850	25.....	420	244
6.....	100	180	16.....	350	610	26.....	352	244
7.....	110	140	17.....	200	505	27.....	284	233
8.....	130	184	18.....	180	435	28.....	180	219
9.....	120	176	19.....	170	310	29.....	190	- - - - -
10.....	110	1,860	20.....	200	200	30.....	450	- - - - -
						31.....	410	- - - - -
Monthly mean discharge, in cubic feet per second.....							384	432
Runoff, in inches.....							2.49	2.53

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25		
12 p.m.....	2.80	-	12 p.m.....	4.70	1,600	12 p.m.....	2.85	388
Jan. 21			Jan. 23			Jan. 26		
4 p.m.....	4.20	-	9 a.m.....	3.90	980	12 p.m.....	2.69	316
12 p.m.....	7.54	4,790	12 p.m.....	3.41	676	Jan. 27		
Jan. 22			Jan. 24			12 p.m.....	2.53	252
3 a.m.....	7.74	5,110	12 m.....	3.13	525	Jan. 28		
12 m.....	7.45	4,630	12 p.m.....	3.06	490	11 a.m.....	2.11	-
3 p.m.....	7.10	4,210				12 p.m.....	2.57	-

LITTLE BEAVER CREEK BASIN

49. Lisbon Creek at Lisbon, Ohio

Location.--Lat 40°46'55", long 80°45'50", in NW¹/₄ sec.13,T.14 N., R.3 W., on left bank at City Water Works of Lisbon, Columbiana County, 800 ft upstream from bridge on State Highway 164 and 1 mile upstream from mouth.

Drainage area.--6.08 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 963.28 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 110 cfs and by indirect measurements at 533 cfs, 782 cfs, and 1,480 cfs.

Maxima.--January-February 1959: Discharge, 811 cfs 7:30 a.m. Jan. 21 (gage height, 5.64 ft).
1946 to December 1958: Discharge, 1,500 cfs July 31, 1958 (gage height, 7.47 ft).

Mean discharge, in cubic feet per second, 1959, of Lisbon Creek at Lisbon, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	8.5	7	11.....	1.6	28	21.....	339	5
2.....	17	4.0	12.....	1.5	15	22.....	52	6
3.....	8.2	5	13.....	1.5	17	23.....	14	18
4.....	6.0	15	14.....	1.6	21	24.....	8.2	14
5.....	4.5	6	15.....	11	24	25.....	7.6	8.9
6.....	3.5	4.5	16.....	6.5	14	26.....	6.5	9.6
7.....	3.0	4.0	17.....	5	13	27.....	5	11
8.....	2.5	3.5	18.....	4.5	12	28.....	4.0	9.6
9.....	2.1	21	19.....	4.0	7.0	29.....	3.5	---
10.....	1.6	178	20.....	5	5	30.....	51	---
						31.....	13	---
Monthly mean discharge, in cubic feet per second.....							19.4	17.4
Runoff, in inches.....							3.68	2.98

50. Little Beaver Creek near East Liverpool, Ohio

Location.--Lat 40°40'32", long 80°32'23", on right bank at downstream side of Grimms Bridge, 1½ miles upstream from Island Run, 4 miles upstream from mouth, and 4 miles northeast of East Liverpool, Columbiana County.

Drainage area.--505 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 702.77 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 15,500 cfs and extended on basis of slope-area measurement at 25,000 cfs. Backwater from ice Jan. 1, 7-14, 18-21, 26-29 and Feb. 1-3, 6-9, 20-22. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 17,000 cfs 6 a.m. Jan. 22 (gage height, 14.70 ft).
1915 to December 1958: Discharge, 25,000 cfs July 19, 1941 (gage height, 17.4 ft).
Maximum stage known, about 20 ft.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	400	850	11.....	150	6,930	21.....	6,100	470
2.....	1,810	450	12.....	150	2,550	22.....	13,000	500
3.....	1,830	330	13.....	160	1,830	23.....	3,910	852
4.....	1,410	1,150	14.....	200	1,630	24.....	1,880	1,420
5.....	750	855	15.....	681	2,120	25.....	1,230	946
6.....	400	520	16.....	1,270	1,680	26.....	800	836
7.....	250	400	17.....	618	1,350	27.....	550	841
8.....	200	320	18.....	618	1,230	28.....	400	808
9.....	170	395	19.....	450	958	29.....	350	---
10.....	150	8,080	20.....	370	540	30.....	2,050	---
						31.....	1,890	---
Monthly mean discharge, in cubic feet per second.....							1,433	1,459
Runoff, in inches.....							3.27	3.01

MUSKINGUM RIVER BASIN

51. Tuscarawas River at Clinton, Ohio

Location.--Lat 40°55'39", long 81°37'59", on right bank 100 ft downstream from bridge on U.S. Highway 21 at Clinton, Summit County, and 1 mile upstream from Chippewa Creek.

Drainage area.--165 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 933.28 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 2,120 cfs 11-12 p.m. Jan. 22 (gage height, 15.50 ft).
1926 to December 1958: Discharge, 2,700 cfs Aug. 8, 1935 (gage height, 14.82 ft).
Flood of March 1913 reached a stage of 22.2 ft.

Remarks.--Flow slightly regulated at headwaters and at Portage Lakes (3,000 acre-ft), 3 miles south of Akron; peak discharges not materially affected.

Mean discharge, in cubic feet per second, 1959, of Tuscarawas River at Clinton, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	110	271	11.....	68	1,520	21.....	852	174
2.....	329	207	12.....	64	1,490	22.....	1,940	157
3.....	233	155	13.....	67	1,180	23.....	2,000	342
4.....	144	206	14.....	68	864	24.....	1,690	579
5.....	96	176	15.....	114	1,010	25.....	1,260	353
6.....	92	177	16.....	134	921	26.....	788	266
7.....	81	131	17.....	102	723	27.....	462	295
8.....	78	119	18.....	88	479	28.....	294	271
9.....	74	149	19.....	81	345	29.....	250	---
10.....	69	1,050	20.....	79	249	30.....	404	---
						31.....	533	---
Monthly mean discharge, in cubic feet per second.....							408	495

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 24			Feb. 10--Con.		
12 p.m.....	4.46	78	6 a.m.....	14.16	1,790	4 p.m.....	11.80	1,240
Jan. 20			12 m.....	13.76	1,690	8.....	12.18	1,320
6 a.m.....	4.38	73	6 p.m.....	13.36	1,600	12 p.m.....	12.52	1,400
12 m.....	4.45	78	12 p.m.....	13.00	1,510			
6 p.m.....	4.52	82	Jan. 25			Feb. 11		
12 p.m.....	4.63	90	6 a.m.....	12.53	1,400	6 a.m.....	12.74	1,450
Jan. 21			12 m.....	11.95	1,270	12 m.....	13.13	1,540
3 a.m.....	4.85	108	6 p.m.....	11.32	1,130	6 p.m.....	13.28	1,580
4.....	5.00	120	12 p.m.....	10.78	1,010	9.....	13.30	1,580
5.....	5.23	138	Jan. 26			12 p.m.....	13.28	1,580
6.....	5.67	175	6 a.m.....	10.17	877	Feb. 12		
7.....	6.70	272	12 m.....	9.67	767	6 a.m.....	13.18	1,550
8.....	8.00	436	6 p.m.....	9.34	695	12 m.....	12.93	1,490
9.....	9.50	730	12 p.m.....	8.96	613	6 p.m.....	12.74	1,450
10.....	10.28	902				12 p.m.....	12.47	1,390
12 m.....	10.82	1,020	Jan. 27			Feb. 13		
2 p.m.....	11.40	1,150	6 a.m.....	8.55	530	6 a.m.....	12.09	1,280
4.....	11.72	1,220	12 m.....	8.02	439	12 m.....	11.63	1,200
6.....	12.08	1,300	6 p.m.....	7.72	396	6 p.m.....	11.11	1,080
7.....	12.41	1,370	12 p.m.....	7.40	353	12 p.m.....	10.57	965
10.....	13.06	1,520	Feb. 8			Feb. 14		
12 p.m.....	13.37	1,600	12 p.m.....	4.83	106	6 a.m.....	10.09	860
Jan. 22			Feb. 9			12 m.....	9.70	774
4 a.m.....	13.91	1,730	6 a.m.....	5.02	122	6 p.m.....	10.08	858
8.....	14.46	1,860	12 m.....	4.87	110	12 p.m.....	10.57	965
12 m.....	14.95	1,990	6 p.m.....	5.35	148	Feb. 15		
3 p.m.....	15.20	2,050	12 p.m.....	7.20	329	6 a.m.....	10.81	1,020
6.....	15.38	2,100	Feb. 10			12 m.....	10.87	1,030
8.....	15.46	2,120	2 a.m.....	8.90	600	6 p.m.....	10.79	1,010
11.....	15.50	2,120	3.....	9.52	734	12 p.m.....	10.71	996
12 p.m.....	15.50	2,120	4.....	9.94	827	Feb. 16		
Jan. 23			5.....	10.11	864	6 a.m.....	10.60	972
6 a.m.....	15.31	2,080	8.....	10.39	926	12 m.....	10.41	930
12 m.....	14.99	2,000	10.....	10.70	994	6 p.m.....	10.16	875
6 p.m.....	14.66	1,920	12 m.....	11.17	1,100	12 p.m.....	9.90	818
12 p.m.....	14.44	1,860						

52. Little Chippewa Creek near Smithville, Ohio

(Crest-stage station)

Location--Lat 40°53'40", long 81°48'50", at bridge on State Highway 5, 3.3 miles northeast of Smithville, Wayne County.

Drainage area--13.9 sq mi.

Gage-height record--Crest stages only. Altitude of gage is 975 ft (from topographic map).

Discharge record--Stage-discharge relation defined by current-meter measurements below 890 cfs and extended above on basis of slope-area measurement at 1,800 cfs.

Maxima--January-February 1959: Discharge, 1,800 cfs Jan. 21-22 (gage height, 14.30 ft).
1947 to December 1958: Discharge, 1,360 cfs Apr. 24, 1957 (gage height, 13.33 ft).

53. Chippewa Creek at Easton, Ohio

(Miscellaneous site)

Location.--Lat 40°56'45", long 81°44'40", at State Highway 5 bridge in Easton, Wayne County, and 6 miles above mouth.

Drainage area.--146 sq mi.

Maximum.--January-February 1959: Discharge, 10,100 cfs Jan. 21, from contracted-opening measurement.

54. Tuscarawas River at Massillon, Ohio

Location.--Lat 40°46'17", long 81°31'25", on left bank at sewage-treatment works, 1½ miles south of Massillon, Stark County, and 3 miles downstream from Newman Creek.

Drainage area.--526 sq mi.

Gage-height record.--Water-stage recorder graph, except 2 p.m. Jan. 21 to 2 p.m. Feb. 18 and 3 a.m. Feb. 23 to 10 a.m. Feb. 25 for which graph was reconstructed on basis of gage readings made once daily or more frequently. Datum of gage is 916.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 7,220 cfs 9:30 a.m. Jan. 22 (gage height, 13.46 ft).

1937 to December 1958: Discharge, 6,940 cfs Mar. 5, 1940 (gage height, 11.39 ft, from graph based on gage readings).

Remarks.--Flow slightly regulated at headwaters, at Portage Lakes (3,000 acre-ft), and by Nimisilla Reservoir (6,500 acre-ft, 19.3 sq mi) since 1939; peak discharges not materially affected.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	310	1,080	11.....	190	4,880	21.....	3,810	588
2.....	1,090	612	12.....	188	4,900	22.....	7,130	519
3.....	880	514	13.....	194	4,290	23.....	6,660	1,190
4.....	535	644	14.....	200	3,290	24.....	5,730	1,580
5.....	331	566	15.....	328	3,110	25.....	4,660	1,300
6.....	315	481	16.....	535	3,050	26.....	3,220	902
7.....	280	427	17.....	345	2,570	27.....	1,890	874
8.....	256	364	18.....	313	1,890	28.....	1,190	918
9.....	238	412	19.....	268	1,220	29.....	882	-----
10.....	215	3,490	20.....	263	790	30.....	1,320	-----
						31.....	1,640	-----
Monthly mean discharge, in cubic feet per second.....							1,465	1,659

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Jan. 19								
12 p.m.....	1.30	256	Jan. 21--Con.					
Jan. 20			3 p.m.....	10.75	5,300	Jan. 24		
6 a.m.....	1.29	254	4.....	11.10	5,550	6 a.m.....	11.70	5,970
12 p.m.....	1.28	251	5.....	11.47	5,810	12 m.....	11.25	5,660
6 p.m.....	1.34	266	6.....	11.95	6,140	6 p.m.....	11.11	5,560
12 p.m.....	1.50	305	7.....	12.35	6,420	12 p.m.....	10.70	5,270
Jan. 21			8.....	12.70	6,670	Jan. 25		
1 a.m.....	1.55	318	9.....	12.90	6,810	6 a.m.....	10.25	4,960
2.....	1.68	353	10.....	13.04	6,910	12 m.....	9.80	4,670
3.....	1.83	395	11.....	13.15	6,980	6 p.m.....	9.38	4,400
4.....	2.15	490	12 p.m.....	13.22	7,040	12 p.m.....	8.72	3,970
5.....	2.77	700	Jan. 22			Jan. 26		
6.....	3.30	910	6 a.m.....	13.43	7,190	6 a.m.....	8.13	3,580
7.....	4.40	1,420	9:30.....	13.46	7,220	12 m.....	7.57	3,220
8.....	5.75	2,120	12 m.....	13.43	7,190	6 p.m.....	7.00	2,860
9.....	6.80	2,740	6 p.m.....	13.33	7,120	12 p.m.....	6.33	2,460
10.....	7.75	3,340	12 p.m.....	13.21	7,030	Jan. 27		
11.....	8.70	3,960	Jan. 23			6 a.m.....	5.70	2,100
12 m.....	9.55	4,510	6 a.m.....	13.03	6,900	12 m.....	5.27	1,860
1 p.m.....	10.15	4,900	12 m.....	12.75	6,700	6 p.m.....	4.90	1,670
2 p.m.....	10.50	5,130	6 p.m.....	12.36	6,430	12 p.m.....	4.42	1,430
			12 p.m.....	12.02	6,190			

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Tuscarawas River at Massillon, Ohio--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 28			Feb. 10--Con.			Feb. 13--Con.		
6 a.m.....	4.10	1,270	8 a.m.....	7.70	3,300	12 m.....	9.28	4,330
12 m.....	3.84	1,150	10.....	8.10	3,560	6 p.m.....	8.90	4,080
6 p.m.....	3.68	1,080	12 m.....	8.55	3,860	12 p.m.....	8.48	3,810
12 p.m.....	3.65	1,060	4 p.m.....	9.10	4,220			
			8.....	9.45	4,440	Feb. 14		
Feb. 8			12 p.m.....	9.73	4,620	6 a.m.....	8.05	3,530
12 p.m.....	1.68	353				12 m.....	7.57	3,220
			Feb. 11			6 p.m.....	7.00	2,860
Feb. 9			6 a.m.....	10.03	4,820	12 p.m.....	7.65	3,270
6 a.m.....	1.68	353	12 m.....	10.20	4,930			
12 m.....	1.72	364	6 p.m.....	10.25	4,960	Feb. 15		
6 p.m.....	1.80	366	12 p.m.....	10.36	5,030	6 a.m.....	7.40	3,110
12 p.m.....	2.88	742				12 m.....	7.00	2,860
			Feb. 12			6 p.m.....	7.57	3,220
Feb. 10			6 a.m.....	10.40	5,060	12 p.m.....	7.60	3,240
1 a.m.....	3.65	1,060	12 m.....	10.20	4,930			
2.....	5.00	1,720	6 p.m.....	9.95	4,770	Feb. 16		
3.....	5.50	1,980	12 p.m.....	9.75	4,640	6 a.m.....	7.50	3,180
4.....	6.15	2,350				12 m.....	7.29	3,040
5.....	6.75	2,710	Feb. 13			6 p.m.....	7.15	2,950
6 a.m.....	7.18	2,970	6 a.m.....	9.55	4,510	12 p.m.....	6.95	2,830

55. Sandy Creek at Waynesburg, Ohio

Location.--Lat 40°40'22", long 81°15'38", on upstream side of right pier of bridge on U.S. Highway 43, 800 ft downstream from Little Sandy Creek, a quarter of a mile north of Waynesburg, Stark County, and half a mile upstream from Indian Run.

Drainage area.--254 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 955.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,570 cfs and by slope-area measurement at 15,000 cfs.

Maxima.--January-February 1959: Discharge, 15,000 cfs 4 a.m. Jan. 22 (gage height, 10.05 ft).

1938 to December 1958: Discharge, 6,100 cfs Jan. 27, 1952 (gage height, 7.95 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	214	562	11.....	95	3,420	21.....	5,100	360
2.....	732	399	12.....	95	1,800	22.....	11,000	377
3.....	542	364	13.....	100	1,140	23.....	3,270	538
4.....	409	598	14.....	102	916	24.....	1,690	734
5.....	200	503	15.....	269	1,060	25.....	941	517
6.....	140	357	16.....	385	797	26.....	660	467
7.....	130	288	17.....	250	696	27.....	524	477
8.....	120	291	18.....	170	632	28.....	409	442
9.....	110	338	19.....	140	510	29.....	390	-----
10.....	100	2,950	20.....	176	406	30.....	1,100	-----
						31.....	918	-----
Monthly mean discharge, in cubic feet per second.....							983	784
Runoff, in inches.....							4.46	3.22

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	0.57	138	4 p.m.....	8.60	8,550	8 p.m.....	8.20	6,900
			9.12	10,760	10.....	8.00	6,100	
Jan. 20			8.....	9.12	10,760	12 p.m.....	7.84	5,520
6 a.m.....	.58	140	10.....	9.44	12,130			
12 m.....	.62	150	12 p.m.....	9.84	14,000	Jan. 23		
6 p.m.....	.80	195				6 a.m.....	7.15	3,710
12 p.m.....	1.15	295	Jan. 22			12 m.....	6.60	2,980
			2 a.m.....	10.02	14,900	6 p.m.....	6.10	2,550
Jan. 21			4.....	10.05	15,000	12 p.m.....	5.50	2,160
2 a.m.....	1.35	355	6.....	9.96	14,600			
4.....	1.65	448	8.....	9.74	13,500	Jan. 24		
6.....	2.20	640	10.....	9.52	12,490	6 a.m.....	5.05	1,920
8.....	3.55	1,210	12 m.....	9.29	11,480	12 m.....	4.60	1,700
10.....	4.75	1,780	2 p.m.....	9.02	10,340	6 p.m.....	4.10	1,460
12 m.....	6.30	2,700	4.....	8.75	9,190	12 p.m.....	3.50	1,180
2 p.m.....	7.60	4,750	6 p.m.....	8.48	8,040			

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Sandy Creek at Waynesburg, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 25			Feb. 10--Con.			Feb. 11--Con.		
6 a.m.....	3.10	1,020	6 a.m.....	4.92	1,860	8 p.m.....	6.52	2,900
12 m.....	2.84	916	8.....	5.91	2,420	12 p.m.....	6.19	2,620
6 p.m.....	2.65	842	10.....	6.68	3,060			
12 p.m.....	2.50	790	12 m.....	6.98	3,450	Feb. 12		
Feb. 8			2 p.m.....	7.12	3,660	4 a.m.....	5.72	2,290
12 p.m.....	.99	282	4.....	7.21	3,820	8.....	5.18	1,990
Feb. 9			6.....	7.26	3,920	12 m.....	4.62	1,710
6 a.m.....	.97	276	8.....	7.33	4,070	4 p.m.....	4.16	1,480
12 m.....	.97	276	11.....	7.39	4,200	8.....	3.92	1,370
6 p.m.....	1.13	325	12 p.m.....	7.37	4,160	12 p.m.....	3.77	1,310
12 p.m.....	2.14	664	Feb. 11			Feb. 13		
Feb. 10			4 a.m.....	7.23	3,860	6 a.m.....	3.51	1,190
2 a.m.....	3.18	1,050	8.....	7.15	3,710	12 m.....	3.30	1,100
4 a.m.....	4.16	1,480	12 m.....	7.01	3,490	6 p.m.....	3.17	1,090
			4 p.m.....	6.79	3,190	12 p.m.....	3.09	1,020

56. Middle Branch Nimishillen Creek at Canton, Ohio

Location.--Lat 40°50'30", long 81°21'20", on right bank at downstream side of bridge on Martindale Road, 2.4 miles upstream from mouth and 3.1 miles northeast of Canton, Stark County.

Drainage area.--44.2 sq mi.

Gage-height record.--Water-stage recorder graph, except 8 a.m. Jan. 21 to 1 p.m. Jan. 22 and 7 p.m. Jan. 22 to 3 p.m. Jan. 26 for which graph was reconstructed on basis of range lines and high-water mark near gage house. Datum of gage is 1,046.6 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,540 cfs and by contracted-opening measurement at 2,470 cfs. Backwater from ice Jan. 1, 4-14, 16-20.

Maxima.--January-February 1959: Discharge, 2,470 cfs 2 a.m. Jan. 22 (gage height, 6.50 ft).
1941 to December 1958: Discharge, 1,920 cfs Aug. 1, 1958 (gage height, 6.15 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	24	58	11.....	11	508	21.....	1,230	50
2.....	97	53	12.....	11	172	22.....	1,620	49
3.....	58	38	13.....	11	134	23.....	365	114
4.....	33	69	14.....	12	151	24.....	223	103
5.....	16	47	15.....	37	197	25.....	141	74
6.....	15	36	16.....	43	114	26.....	90	79
7.....	14	31	17.....	33	98	27.....	63	84
8.....	14	31	18.....	28	91	28.....	53	76
9.....	13	50	19.....	27	69	29.....	45	-----
10.....	12	744	20.....	36	56	30.....	141	-----
						31.....	95	-----

Monthly mean discharge, in cubic feet per second..... 149 120

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 8		
12 p.m.....	1.32	24	6 p.m.....	6.02	1,740	12 p.m.....	1.68	29
Jan. 20			8.....	6.10	1,850	Feb. 9		
6 a.m.....	1.33	24	10.....	6.32	2,180	6 a.m.....	1.67	29
12 m.....	1.30	24	12 p.m.....	6.45	2,390	12 m.....	1.67	29
6 p.m.....	1.37	28	Jan. 22			6 p.m.....	1.73	34
9.....	1.59	43	2 a.m.....	6.50	2,470	12 p.m.....	3.04	186
12 p.m.....	2.62	169	4.....	6.47	2,420	Feb. 10		
Jan. 21			6.....	6.40	2,310	2 a.m.....	3.33	228
2 a.m.....	3.33	268	8.....	6.28	2,120	4.....	3.72	291
4.....	3.85	356	10.....	6.15	1,920	6.....	4.10	365
6.....	4.53	502	12 m.....	6.00	1,710	8.....	4.44	445
8.....	5.08	718	2 p.m.....	5.90	1,570	10.....	4.82	580
10.....	5.47	1,040	4.....	5.63	1,220	12 m.....	5.25	840
12 m.....	5.80	1,430	6.....	5.33	907	2 p.m.....	5.42	990
2 p.m.....	5.94	1,630	8.....	5.10	730	4.....	5.54	1,110
4.....	6.02	1,740	10.....	4.90	620	6 p.m.....	5.60	1,180
			12 p.m.....	4.80	570			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A101

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Middle Branch Nimishillen Creek at Canton, Ohio--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 10--Con.			Feb. 11--Con.			Feb. 12		
8 p.m.....	5.60	1,180	10 a.m.....	4.63	502	6 a.m.....	3.11	195
10.....	5.54	1,110	12 m.....	4.35	422	12 m.....	2.87	163
12 p.m.....	5.47	1,040	2 p.m.....	4.05	355	6 p.m.....	2.72	144
Feb. 11			4.....	3.85	315	12 p.m.....	2.70	141
2 a.m.....	5.38	952	6.....	3.65	280			
4.....	5.23	824	8.....	3.53	260	Feb. 13		
6.....	5.00	670	10.....	3.43	244	12 m.....	2.62	131
8.....	4.92	630	12 p.m.....	3.37	234	12 p.m.....	2.65	134

57. Nimishillen Creek at North Industry, Ohio

Location.--Lat 40°44'01", long 81°21'08", on left bank just downstream from railroad bridge, 1 mile southeast of North Industry, Stark County, and 3 miles downstream from Sherrick Run.

Drainage area.--175 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 970.77 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,400 cfs and by slope-area measurement at 8,600 cfs. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 8,620 cfs 10 p.m. Jan. 21 (gage height, 11.29 ft).
1921 to December 1958: Discharge, 6,660 cfs Feb. 26, 1929 (gage height, 9.9 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	336	235	11.....	92	1,830	21.....	4,300	208
2.....	560	187	12.....	93	590	22.....	5,390	217
3.....	286	184	13.....	99	508	23.....	928	444
4.....	202	324	14.....	112	558	24.....	488	516
5.....	127	211	15.....	325	870	25.....	349	314
6.....	129	169	16.....	250	460	26.....	293	296
7.....	119	145	17.....	160	405	27.....	259	321
8.....	117	145	18.....	145	377	28.....	217	310
9.....	108	289	19.....	135	293	29.....	205	-----
10.....	95	3,100	20.....	168	235	30.....	712	-----
						31.....	402	-----
Monthly mean discharge, in cubic feet per second.....							555	491
Runoff, in inches.....							3.66	2.93

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 22--Con.			Feb. 9--Con.		
12 p.m.....	1.44	137	4 p.m.....	7.38	3,480	11 p.m.....	3.60	970
Jan. 20			8.....	6.27	2,560	12 p.m.....	4.10	1,220
6 a.m.....	1.37	119	12 p.m.....	4.92	1,680	Feb. 10		
12 m.....	1.43	135	Jan. 23			1 a.m.....	4.80	1,610
6 p.m.....	1.52	160	4 a.m.....	4.00	1,170	3.....	5.57	2,070
12 p.m.....	2.22	377	8.....	3.50	920	5.....	6.02	2,380
Jan. 21			12 m.....	3.27	805	8.....	6.62	2,810
1 a.m.....	2.18	363	4 p.m.....	3.24	790	11.....	7.37	3,470
3.....	2.38	433	8.....	3.12	730	3 p.m.....	7.53	3,630
5.....	2.70	560	12 p.m.....	2.88	632	5.....	7.49	3,590
7.....	3.13	735	Jan. 24			8.....	7.68	3,800
9.....	3.80	1,070	6 a.m.....	2.63	532	9.....	7.74	3,860
11.....	4.90	1,670	12 m.....	2.43	452	10.....	7.73	3,850
1.....	5.80	2,230	6 p.m.....	2.41	444	11.....	7.63	3,740
3.....	6.50	2,720	12 p.m.....	2.33	416	12 p.m.....	7.47	3,570
5.....	7.65	3,760	Feb. 8			Feb. 11		
7.....	9.05	5,500	12 p.m.....	1.47	137	4 a.m.....	6.52	2,730
9.....	9.83	6,560	Jan. 9			8.....	5.68	2,150
11.....	11.07	8,300	12 p.m.....	1.47	137	12 m.....	4.94	1,690
1.....	11.22	8,520	9 a.m.....	1.47	137	4 p.m.....	4.10	1,220
3.....	11.29	8,620	12 m.....	1.52	151	8.....	3.61	975
5.....	11.25	8,590	2 p.m.....	1.82	241	12 p.m.....	3.29	815
7.....			5.....	1.69	202	Feb. 12		
9.....			7.....	1.85	250	6 a.m.....	2.87	628
11.....			9.....	2.40	440	12 m.....	2.64	536
1.....	11.03	8,240	11.....	3.22	780	6 p.m.....	2.64	536
3.....	10.48	7,460	12 p.m.....	3.32	830	12 p.m.....	2.57	508
5.....	9.00	5,440						

58. Bolivar Reservoir at Bolivar, Ohio

Location.--Lat 40°39'05", long 81°25'55", at dam on Sandy Creek, 1.1 miles east of Bolivar, Tuscarawas County.

Drainage area.--502 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 895.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 63,440 acre-ft 9-10 p.m. Jan. 26 (elevation, 944.01 ft).
1938 to December 1958: Contents, 57,830 acre-ft Feb. 8, 1952 (elevation, 942.29 ft).

Remarks.--Reservoir formed by earth dam completed November 1937. Capacity at spillway level (elevation, 962.0 ft), 149,600 acre-ft. Reservoir is used for flood control only. No gates are on spillway and all regulation is done by gates in conduits through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	897.33	245	Jan. 26.....	9-10 p.m..	944.01	63,440
Dec. 31.....	12 p.m....	898.13	313	Jan. 31.....	12 p.m....	941.84	56,400
				Feb. 9.....	12 p.m....	928.81	24,660
1959				Feb. 12.....	1:30 p.m..	936.13	40,440
Jan. 20.....	6 p.m.....	898.35	336	Feb. 28.....	12 p.m....	901.79	841

59. Leesville Reservoir near Leesville, Ohio

Location.--Lat 40°28'10", long 81°11'45", at dam on McGuire Creek, 1.4 miles north-west of Leesville, Carroll County.

Drainage area.--47.9 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 928.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 23,610 acre-ft 7:30 a.m. Jan. 24 (elevation, 966.87 ft).
1938 to December 1958: Contents, 26,760 acre-ft Apr. 17, 1948 (elevation, 969.59 ft).

Remarks.--Reservoir formed by earth dam completed October 1937. Capacity at spillway level (elevation, 977.5 ft), 37,400 acre-ft, of which 19,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in conduit through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	962.65	19,150	Jan. 24.....	7:30 a.m..	966.87	23,610
Dec. 31.....	12 p.m....	962.65	19,150	Jan. 31.....	12 p.m....	966.48	23,180
				Feb. 9.....	10 p.m....	963.93	20,430
1959				Feb. 13.....	12 m.....	966.49	23,190
Jan. 20.....	12 p.m....	962.88	19,380	Feb. 28.....	12 p.m....	963.04	19,540

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A103

60. Atwood Reservoir near New Cumberland, Ohio

Location--Lat 40°31'35", long 81°17'15", at dam on Indian Fork, 1.5 miles southeast of New Cumberland, Tuscarawas County.

Drainage area--70.3 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 890.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima--January-February 1959: Contents, 32,600 acre-ft 7:30 a.m. to 1:30 p.m. Jan. 26 (elevation, 933.16 ft).
1938 to December 1958: Contents, 35,220 acre-ft Feb. 8, 1952 (elevation, 934.51 ft).

Remarks--Reservoir formed by earth dam completed September 1937. Capacity at spillway level (elevation, 941.0 ft), 49,700 acre-ft, of which 23,600 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in conduits through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	927.61	23,020	Jan. 31.....	12 p.m....	932.93	32,170
Dec. 31.....	12 p.m....	927.66	23,090	Feb. 9.....	10 p.m....	929.57	26,110
				Feb. 13.....	10:30 a.m.	932.62	31,580
1959				Feb. 28.....	12 p.m....	928.25	24,000
Jan. 20.....	12 p.m....	928.00	23,600				
Jan. 26.....	7:30 a.m.- 1:30 p.m.	933.16	32,600				

61. Dover Reservoir near Dover, Ohio

Location--Lat 40°33'30", long 81°24'45", at dam on Tuscarawas River, 4.2 miles northeast of Dover, Tuscarawas County.

Drainage area--1,397 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 858.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima--January-February 1959: Contents, 86,120 acre-ft 7:30 p.m. Jan. 25 to 1:30 a.m. Jan. 26 (elevation, 901.65 ft).
1938 to December 1958: Contents, 92,890 acre-ft June 11, 1947 (elevation, 902.68 ft).

Remarks--Reservoir formed by concrete dam completed November 1937. Capacity at spillway level (elevation, 916.0 ft), 203,000 acre-ft, of which 1,000 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in conduits through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	865.60	3.0	Jan. 25.....	7:30 p.m.	901.65	86,120
Dec. 31.....	12 p.m....	866.55	17	Jan. 31.....	12 m.....	896.74	57,250
				Feb. 9.....	12 p.m....	882.29	8,490
1959				Feb. 17.....	5 p.m.....	896.37	55,320
Jan. 21.....	2 a.m.....	868.63	93	Feb. 28.....	12 p.m....	871.25	338

62. Tuscarawas River below Dover Dam, near Dover, Ohio

Location.--Lat 40°31'49", long 81°25'51", on left bank at downstream side of bridge on State Highway 16, 2.2 miles downstream from Dover Dam, 2½ miles north-east of Dover, Tuscarawas County, and 3 miles upstream from Sugar Creek.

Drainage area.--1,398 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 861.51 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 24,700 cfs. Backwater from ice Jan. 5-14, 17-20.

Maxima.--January-February 1959: Discharge, 7,150 cfs Feb. 25 (gage height, 7.56 ft).
1923 to December 1958: Discharge, 26,400 cfs Jan. 26, 1937 (gage height, 15.51 ft), affected by storage above partly completed flood-control dams.
Flood in March 1913 reached a stage of about 23.5 ft (discharge, 62,000 cfs, computed by Corps of Engineers).

Remarks.--Flow regulated, beginning in 1936, by four flood-control reservoirs (see stas. 58-61).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,010	6,330	11.....	600	5,640	21.....	3,080	6,790
2.....	2,270	6,330	12.....	560	6,240	22.....	110	6,870
3.....	2,980	6,330	13.....	560	6,100	23.....	41	6,570
4.....	2,220	6,060	14.....	600	6,010	24.....	39	6,650
5.....	1,400	6,410	15.....	882	6,040	25.....	4,790	6,730
6.....	1,100	6,540	16.....	1,870	6,220	26.....	6,020	6,650
7.....	900	6,780	17.....	1,200	6,410	27.....	6,470	6,520
8.....	800	6,750	18.....	1,000	6,520	28.....	6,510	5,650
9.....	700	6,570	19.....	850	6,520	29.....	6,350	-----
10.....	640	4,030	20.....	800	6,680	30.....	5,980	-----
						31.....	6,360	-----

Monthly mean discharge, in cubic feet per second..... 2,216 6,319

63. Beach City Reservoir near Beach City, Ohio

Location.--Lat 40°38'10", long 81°33'30", at dam on Sugar Creek, 1.6 miles south-east of Beach City, Stark County.

Drainage area.--300 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 931.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 53,520 acre-ft 6:15-7:30 a.m. Jan. 23 (elevation, 973.24 ft).
1938 to December 1958: Contents, 34,100 acre-ft June 10, 1947 (elevation, 968.56 ft).

Remarks.--Reservoir formed by earth dam completed August 1937. Capacity at spillway level (elevation, 976.5 ft), 71,700 acre-ft, of which 1,700 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in conduits through dam or through bypass in conservation weir. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	948.65	2,000	Jan. 31.....	12 p.m....	964.62	22,590
Dec. 31.....	12 p.m....	948.93	2,130	Feb. 9.....	10 p.m....	949.50	2,430
				Feb. 12.....	7:30 a.m.	962.16	17,140
1959				Feb. 28.....	12 p.m....	950.01	2,710
Jan. 20.....	12 m.....	949.18	2,260				
Jan. 23.....	6:15-7:30 a.m.	973.24	53,520				

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A105

64. Piedmont Reservoir at Piedmont, Ohio

Location.--Lat 40°11'25", long 81°12'45", at dam on Stillwater Creek, 0.4 mile west of Piedmont, Harrison County.

Drainage area.--84.0 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 881.75 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 42,120 acre-ft 4:30-10:30 p.m. Jan. 24 (elevation, 916.56 ft).
1938 to December 1958: Contents, 46,710 acre-ft June 11, 12, 1947 (elevation, 918.33 ft).

Remarks.--Reservoir formed by earth dam completed May 1937. Capacity at spillway level (elevation, 924.6 ft), 65,000 acre-ft, of which 33,600 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in tunnel through abutment of dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	912.83	33,180	Jan. 31.....	12 p.m....	914.76	37,620
Dec. 31.....	12 p.m....	912.87	33,280	Feb. 9.....	12 m.....	913.22	34,080
				Feb. 13.....	7:30-8:30 p.m.	915.94	40,580
1959				Feb. 28.....	12 p.m....	913.13	33,870
Jan. 19.....	12 p.m....	913.18	33,990				
Jan. 24.....	4:30-10:30 p.m.	916.56	42,120				

65. Clendening Reservoir at Tippecanoe, Ohio

Location.--Lat 40°16'05", long 81°16'35", at dam on Brushy Fork, 0.6 mile east of Tippecanoe, Harrison County.

Drainage area.--69.5 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 862.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 31,520 acre-ft 6 a.m. Feb. 15 (elevation, 900.64 ft).
1938 to December 1958: Contents, 38,080 acre-ft Feb. 7, 1952 (elevation, 903.85 ft).

Remarks.--Reservoir formed by earth dam completed November 1937; capacity at spillway level (elevation, 910.5 ft), 54,000 acre-ft, of which 26,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in tunnel through abutment of dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	897.60	25,820	Jan. 31.....	12 p.m....	898.05	26,600
Dec. 31.....	12 p.m....	897.65	25,900	Feb. 9.....	10 p.m....	898.12	26,730
				Feb. 15.....	6 a.m....	900.64	31,520
1959				Feb. 28.....	12 p.m....	898.11	26,710
Jan. 20.....	12 m.....	898.06	26,610				
Jan. 24.....	1:30 a.m.-9:30 p.m.	900.44	31,140				

66. Stillwater Creek at Uhrichsville, Ohio

Location.--Lat 40°23'11", long 81°20'48", on left bank, gages upstream and downstream from concrete dam of Dennison Water Supply Co., at Uhrichsville, Tuscarawas County, 2 miles upstream from Little Stillwater Creek.

Drainage area.--367 sq mi.

Gage-height record.--Water-stage recorder graphs. Datum of upper gage is 839.37 ft, lower gage, 829.37 ft above mean sea level, adjustment of 1912.

Discharge record.--Defined by current-meter measurements but subject to backwater from the Tuscarawas River at high stages.

Maxima.--January-February 1959: Discharge, 3,410 cfs 8 a.m. Jan. 22 (gage height, 5.72 ft, upper gage).

1922 to December 1958: Discharge, 7,650 cfs Aug. 8, 19, 1935 (gage height, 14.2 ft at site 1.7 miles upstream at upper gage datum; 12.8 ft, upper gage at present site).

Flood of March 1913 reached a stage of about 17.5 ft at site 1.7 miles upstream at upper gage datum; about 15.5 ft, upper gage at present site.

Remarks.--Flow regulated by Piedmont and Clendening Reservoirs (see stas. 64, 65).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	152	1,450	11.....	244	2,290	21.....	1,820	1,330
2.....	535	1,030	12.....	211	2,640	22.....	2,920	1,250
3.....	897	897	13.....	157	2,470	23.....	2,700	1,010
4.....	950	974	14.....	118	1,650	24.....	2,480	974
5.....	625	1,050	15.....	222	1,510	25.....	1,950	770
6.....	297	1,030	16.....	930	1,590	26.....	1,520	471
7.....	303	644	17.....	1,160	1,600	27.....	1,440	441
8.....	291	371	18.....	1,150	1,560	28.....	1,380	448
9.....	267	350	19.....	820	1,500	29.....	1,330	-----
10.....	250	952	20.....	487	1,410	30.....	1,520	-----
						31.....	1,730	-----
Monthly mean discharge, in cubic feet per second.....							995	1,202

67. Tappan Reservoir at Tappan, Ohio

Location.--Lat 40°21'35", long 81°13'35", at dam on Little Stillwater Creek, 0.9 mile west of Tappan, Harrison County.

Drainage area.--71.0 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 870.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 39,460 acre-ft 9 a.m. Feb. 15 (elevation, 901.10 ft).

1938 to December 1958: Contents, 48,480 acre-ft Feb. 5, 6, 1952 (elevation, 904.53 ft).

Remarks.--Reservoir formed by earth dam completed October 1936. Capacity at spillway level (elevation, 909.0 ft), 61,600 acre-ft, of which 35,100 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in tunnel through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	893.00	21,800	Jan. 31.....	12 p.m....	898.56	33,390
Dec. 31.....	12 p.m....	893.27	22,300	Feb. 9.....	12 m.....	899.26	35,020
				Feb. 15.....	9 a.m.....	901.10	39,460
1959				Feb. 28.....	12 p.m....	899.30	35,120
Jan. 20.....	9 p.m.....	895.11	25,930				

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A107

68. Tuscarawas River at Newcomerstown, Ohio

Location.--Lat 40°15'40", long 81°36'35", on right bank at downstream side of highway bridge three-quarters of a mile south of Newcomerstown, Tuscarawas County, 2 miles upstream from Buckhorn Creek, and 4 miles downstream from Dunlap Creek.

Drainage area.--2,436 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 780.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 44,200 cfs. Backwater from ice Jan. 7-14, 17-20. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 13,700 cfs 12 m. to 1 p.m. Jan. 22 (gage height, 10.05 ft).

1921 to December 1958: Discharge, 46,800 cfs Jan. 26, 1937 (gage height, 20.65 ft, at site $1\frac{1}{2}$ miles upstream at datum 0.03 ft higher than present datum), affected by storage above partly completed flood-control dams.

Flood in March 1913 reached a stage of about 21.5 ft, at site $1\frac{1}{2}$ miles upstream at datum 5.03 ft higher than present datum (discharge, 83,000 cfs, computed by Corps of Engineers).

Remarks.--Flow regulated, beginning in 1936, by eight flood-control reservoirs (see stas. 58-61, 63-65, 67).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,600	10,300	11.....	1,020	11,600	21.....	6,500	9,250
2.....	2,450	9,830	12.....	960	11,700	22.....	12,400	9,220
3.....	4,580	9,530	13.....	960	12,100	23.....	6,220	9,110
4.....	4,310	9,660	14.....	1,050	11,700	24.....	5,500	8,780
5.....	3,300	9,540	15.....	1,310	11,100	25.....	6,620	8,890
6.....	1,760	9,540	16.....	2,770	10,700	26.....	9,400	8,510
7.....	1,550	8,500	17.....	2,100	10,800	27.....	9,790	8,150
8.....	1,300	7,870	18.....	1,700	10,900	28.....	9,890	7,870
9.....	1,200	7,640	19.....	1,550	10,500	29.....	10,000	- - - - -
10.....	1,100	10,500	20.....	1,540	9,540	30.....	10,000	- - - - -
						31.....	10,400	- - - - -
Monthly mean discharge, in cubic feet per second.....							4,549	9,762

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Jan. 19			Jan. 22-Con.			Feb. 9		
12 p.m.....	3.83	1,560	6 a.m.....	9.86	13,300	6 a.m.....	7.04	7,730
Jan. 20			8.....	9.97	13,500	12 m.....	6.98	7,630
6 a.m.....	-	1,520	10.....	10.03	13,700	6 p.m.....	6.89	7,470
12 m.....	3.64	1,480	12 m.....	10.05	13,700	12 p.m.....	7.03	7,710
6 p.m.....	-	1,520	1 p.m.....	10.05	13,700			
12 p.m.....	3.62	1,720	2.....	10.02	13,600	Feb. 10		
Jan. 21			4.....	9.85	13,300	4 a.m.....	7.26	8,120
2 a.m.....	3.71	1,920	6.....	9.48	12,500	8.....	7.78	9,050
4.....	3.92	2,270	8.....	8.78	11,000	12 m.....	8.73	10,900
6.....	4.26	2,840	10.....	7.88	9,230	4 p.m.....	9.30	12,100
8.....	4.86	4,090	12 p.m.....	7.11	7,850		9.42	12,300
10.....	5.70	5,450				12 p.m.....	9.42	12,300
12 m.....	6.54	6,880	Jan. 23					
2 p.m.....	7.27	8,140	6 a.m.....	6.00	5,960	Feb. 11		
4.....	7.73	8,960	12 m.....	6.12	6,160	4 a.m.....	9.42	-
6.....	8.10	9,640	6 p.m.....	5.99	5,940	6.....	9.38	12,200
8.....	8.45	10,300	12 p.m.....	5.89	5,770	12 m.....	8.99	11,400
10.....	8.75	10,900				6 p.m.....	8.82	11,000
12 p.m.....	9.10	11,600	Jan. 24			12 p.m.....	8.91	11,200
Jan. 22			12 m.....	5.74	5,520	Feb. 12		
2 a.m.....	9.36	12,200	12 p.m.....	5.55	5,200	12 m.....	9.17	11,800
4 a.m.....	9.59	12,700	Feb. 8			12 p.m.....	9.26	12,000
			12 p.m.....	7.03	7,710			

69. Whetstone Creek tributary near Olivesburg, Ohio

(Partial-record station)

Location.--Lat 40°53'10", long 82°24'25", at culvert on State Highway 96, 1.1 miles east of Olivesburg, 5 miles west of Ashland, Ashland County, and 1.9 miles upstream from mouth.

Drainage area.--0.236 sq mi (151 acres).

Gage-height record.--Water-stage recorder graph of peak. Frequent clock stoppages make time of peak uncertain. Altitude of gage is 1,180 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9 cfs and by computations of flow through culvert and over road at 155 cfs.

Maxima.--January-February 1959: Discharge, 79 cfs Jan. 21 (gage height, 5.53 ft). 1950 to December 1958: Discharge, 155 cfs July 26, 1956 (gage height, 5.71 ft).

70. Charles Mill Reservoir near Mifflin, Ohio

Location.--Lat 40°44'20", long 82°21'40", at dam on Black Fork, 2.5 miles south of Mifflin, Ashland County.

Drainage area.--216 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 987.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 53,780 acre-ft 10 a.m. to 7:30 p.m. Jan. 25 (elevation, 1,013.53 ft). 1938 to December 1958: Contents, 52,930 acre-ft June 19, 1947 (elevation, 1,013.34 ft).

Remarks.--Reservoir formed by earth dam completed August 1936. Capacity at spillway level (elevation, 1,020.0 ft), 88,000 acre-ft, of which 7,400 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in conduits through dam or through bypass gate around conservation weir. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	997.70	8,380	Jan. 31.....	12 p.m....	1,012.34	48,560
Dec. 31.....	12 p.m....	997.38	7,930	Feb. 9.....	9 p.m....	1,008.78	34,730
				Feb. 15.....	10 a.m....	1,012.82	50,630
1959				Feb. 28.....	12 p.m....	1,008.57	34,000
Jan. 20.....	12 p.m....	997.80	8,520				
Jan. 25.....	10 a.m.- 7:30 p.m.	1,013.53	53,780				

71. Touby Run at Mansfield, Ohio

Location.--Lat 40°45'55", long 82°32'35", at drop structure 100 ft downstream from bridge on U.S. Highway 30N at west edge of Mansfield, Richland County, and 2 miles upstream from mouth.

Drainage area.--5.17 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,216.42 ft above mean sea level, adjustment of 1912 (levels by city of Mansfield).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 151 cfs and extended above on basis of slope-area measurements and measurements of flow over dam.

Maxima.--January-February 1959: Discharge, 910 cfs 4:45 p.m. Jan. 21 (gage height, 3.94 ft in gage well, 4.7 ft from outside floodmark). 1947 to December 1958: Discharge, 965 cfs June 6, 1947 (gage height, 4.17 ft).

Mean discharge, in cubic feet per second, 1959, of Touby Run at Mansfield, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	15	3.3	11.....	1.8	17	21.....	424	4.0
2.....	9.5	3.5	12.....	1.8	8.5	22.....	30	3.7
3.....	4.1	4.5	13.....	2.0	9.1	23.....	9.1	21
4.....	2.9	9.3	14.....	5	57	24.....	6.4	10
5.....	2.9	2.9	15.....	18	23	25.....	4.1	4.9
6.....	2.7	1.9	16.....	4.9	10	26.....	3.3	4.9
7.....	2.5	1.6	17.....	4.4	8.5	27.....	2.9	5.9
8.....	2.3	1.6	18.....	4.0	6.9	28.....	2.2	5.4
9.....	2.1	26	19.....	3.5	4.4	29.....	6.2	- - - - -
10.....	1.9	180	20.....	13	4.0	30.....	43	- - - - -
						31.....	7.5	- - - - -
Monthly mean discharge, in cubic feet per second.....							20.7	15.8
Runoff, in inches.....							4.61	3.19

72. Clear Fork at Butler, Ohio

Location.--Lat 40°35'35", long 82°25'20", on left bank at downstream side of bridge on State Highway 95, 0.3 mile northeast of Butler, Richland County.

Drainage area.--143 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,057.2 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,830 cfs and extended above on basis of inflow into Pleasant Hill Reservoir. Backwater from ice Jan. 16-21.

Maxima.--January-February 1959: Discharge, 14,300 cfs 1 p.m. Jan. 21 (gage height, 9.43 ft).

1944 to December 1958: Discharge, 7,100 cfs Apr. 12, 1948, Jan. 16, 1950 (gage heights, 8.01 ft and 7.98 ft, respectively); gage height, 8.16 ft Feb. 25, 1956.

Remarks.--Flow slightly regulated by Clear Fork Reservoir (10,740 acre-ft, 35.0 sq mi) 12 miles upstream from station, beginning in July 1953, flood discharges not materially affected.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	138	322	11.....	64	1,800	21.....	6,720	203
2.....	276	233	12.....	64	709	22.....	4,700	199
3.....	147	205	13.....	65	488	23.....	1,420	292
4.....	121	315	14.....	66	765	24.....	574	370
5.....	88	225	15.....	345	1,050	25.....	394	252
6.....	85	177	16.....	300	630	26.....	318	225
7.....	80	165	17.....	175	455	27.....	262	223
8.....	80	157	18.....	150	382	28.....	219	221
9.....	75	210	19.....	135	298	29.....	201	- - - - -
10.....	65	2,850	20.....	140	238	30.....	673	- - - - -
						31.....	485	- - - - -
Monthly mean discharge, in cubic feet per second.....							601	488

73. Pleasant Hill Reservoir near Perrysville, Ohio

Location.--Lat 40°37'25", long 82°19'30", at dam on Clear Fork, 2.5 miles south of Perrysville, Ashland County.

Drainage area.--199 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 971.75 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 43,540 acre-ft 1:30 a.m. Jan. 23 (elevation, 1,044.01 ft).

1938 to December 1958: Contents, 32,220 acre-ft June 8, 1947 (elevation, 1,036.69 ft).

Remarks.--Reservoir formed by earth dam completed February 1938. Capacity at spillway level (elevation, 1,065.0 ft), 87,700 acre-ft, of which 13,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in tunnel through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet, of Pleasant Hill Reservoir near
Perryville, Ohio

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	1,019.57	13,160	Jan. 23.....	1:30 a.m..	1,044.01	43,540
Dec. 31.....	12 p.m....	1,019.56	13,150	Jan. 31.....	12 p.m....	1,019.82	13,360
1959				Feb. 9.....	10 p.m....	1,022.77	16,020
Jan. 20.....	4 p.m.....	1,019.99	13,520	Feb. 12.....	1:30 a.m..	1,030.58	24,300
				Feb. 28.....	12 p.m....	1,022.22	15,520

74. Jerome Fork at Jeromeville, Ohio

(Gaging station, discontinued 1949)

Location.--Lat 40°48'07", long 82°12'01", at highway bridge at Jeromeville, Ashland County, 1 mile upstream from Oldtown Run.

Drainage area.--120 sq mi.

Gage-height record.--High-water marks at gage site. Datum of gage is 949.14 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,780 cfs and by contracted-opening measurement at 13,000 cfs.

Maxima.--January-February 1959: Discharge, 13,000 cfs Jan. 22 (gage height, 14.1 ft).
1925-49: Discharge, 3,720 cfs Jan. 15, 25, 1937 (gage height, 11.40 ft, from graph based on gage readings).
Maximum stage known, about 15.1 ft in March 1913.

75. Mohicanville Reservoir near Mohicanville, Ohio

Location.--Lat 40°43'35", long 82°09'05", at dam on Lake Fork, 2 miles east of Mohicanville, Ashland County.

Drainage area.--269 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 932.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 54,870 acre-ft 10:15 p.m. Jan. 26 (elevation, 956.85 ft).
1938 to December 1958: Contents, 59,820 acre-ft June 15, 1947 (elevation, 957.60 ft).

Remarks.--Reservoir formed by earth dam completed December 1936. Capacity at spillway level (elevation, 963.0 ft), 102,000 acre-ft. Reservoir is used for flood control only. No gates are on spillway and all regulation is done by gates in conduits through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	933.99	83	Jan. 26.....	10:15 p.m.	956.85	54,870
Dec. 31.....	12 p.m....	933.92	80	Jan. 31.....	12 p.m....	955.87	48,830
1959				Feb. 9.....	10 p.m....	951.00	24,000
Jan. 20.....	4 p.m.....	934.07	87	Feb. 11.....	10 p.m....	955.24	45,120
				Feb. 28.....	12 p.m....	947.77	12,530

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A111

76. Mohican River at Greer, Ohio

Location.--Lat 40°30'55", long 82°11'48", on left bank 3,000 ft downstream from bridge on State Highway 514 at Greer, Knox County, 5 miles upstream from Nigger Run, and 7 miles downstream from Lake Fork.

Drainage area.--942 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 27-28 and Jan. 31 to Feb. 5 for which graph was reconstructed on basis of weather records and records for nearby stations. Datum of gage is 872.91 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 13,800 cfs. Backwater from ice Jan. 6-15, 17-21. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 15,700 cfs 1 a.m. Jan. 22 (gage height, 12.39 ft).
1921 to December 1958: Discharge, 17,700 cfs Aug. 7, 1935 (gage height, 13.63 ft).
Stage known: 27.0 ft in March 1913 (discharge, 55,000 cfs, estimated).

Remarks.--Flow regulated, beginning in 1936, by Charles Mill, Mohicanville, and Pleasant Hill Reservoirs (see stas. 70, 73, 75).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	537	3,900	11.....	400	6,130	21.....	8,700	3,790
2.....	1,280	3,700	12.....	375	4,590	22.....	13,600	3,770
3.....	1,210	3,550	13.....	375	5,110	23.....	6,750	3,870
4.....	975	3,550	14.....	400	5,020	24.....	3,230	3,880
5.....	705	3,200	15.....	500	5,440	25.....	3,000	3,650
6.....	600	3,570	16.....	1,060	4,820	26.....	3,340	3,680
7.....	550	3,550	17.....	700	4,690	27.....	3,300	3,720
8.....	500	3,480	18.....	600	4,380	28.....	3,700	3,660
9.....	475	3,530	19.....	532	4,010	29.....	4,100	-----
10.....	450	6,920	20.....	541	3,880	30.....	4,990	-----
						31.....	4,200	-----
Monthly mean discharge, in cubic feet per second.....							2,312	4,173

77. Kokosing River at Uhrichsville, Ohio

(Miscellaneous site)

Location.--Lat 40°28'27", long 82°41'06", at bridge on State Highway 314, 0.5 mile south of Chesterville, Morrow County.

Drainage area.--38.1 sq mi.

Maxima.--January-February 1959: Discharge, 9,620 cfs Jan. 21, from contracted-opening measurement.

Flood of Apr. 11-12, 1948, reached a discharge of 3,380 cfs, from contracted-opening measurement.

78. East Branch of North Branch Kokosing River at Knox Lake Dam, near Fredericktown, Ohio

(Miscellaneous site)

Location.--Lat 40°29'45", long 82°31'40", at Knox Lake Dam, $1\frac{1}{2}$ miles northeast of Fredericktown, Knox County, and $1\frac{1}{2}$ miles upstream from mouth.

Drainage area.--30.3 sq mi.

Maximum.--January-February 1959: Discharge, 3,450 cfs Jan. 22, from computations of flow over dam (peak stage, 1,104.67 ft above mean sea level, 4.67 ft above spillway level).

Remarks.--Capacity of reservoir at spillway elevation (1,100 ft), 3,750 acre-ft; capacity at peak stage, 6,200 acre-ft.

79. Kokosing River at Mount Vernon, Ohio

Location.--Lat 40°24'25", long 82°30'00", on right bank at downstream side of Tilden Avenue Bridge at Mount Vernon, Knox County, 0.8 mile downstream from North Branch and 2.7 miles upstream from Dry Run.

Drainage area.--200 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 984.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1944 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,350 cfs and by slope-area measurements of 1959 peak flow at site $\frac{1}{2}$ miles downstream. Backwater from ice Jan. 5-7, 10-12.

Maxima.--January-February 1959: Discharge, 38,000 cfs 3:30 a.m. Jan. 21 (gage height, 18.19 ft).
1953 to December 1958: Discharge, 7,030 cfs Feb. 25, 1956 (gage height, 12.34 ft).

Remarks.--Some regulation by Knox Lake on East Branch of North Branch Kokosing River.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	181	372	11.....	85	2,150	21.....	14,600	228
2.....	512	264	12.....	80	615	22.....	7,310	220
3.....	292	232	13.....	81	678	23.....	1,380	358
4.....	217	405	14.....	87	982	24.....	774	550
5.....	150	292	15.....	498	1,610	25.....	584	327
6.....	140	210	16.....	451	804	26.....	455	280
7.....	130	179	17.....	246	578	27.....	381	260
8.....	115	164	18.....	208	475	28.....	314	252
9.....	105	167	19.....	180	358	29.....	284	- - - - -
10.....	95	4,250	20.....	150	280	30.....	872	- - - - -
						31.....	672	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,020	634
Runoff, in inches.....							5.88	3.30

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.60	154	5 a.m.....	14.16	10,900	3 a.m.....	5.63	1,580
			6.....	13.63	9,760	4.....	6.92	2,350
Jan. 20			7.....	13.20	8,970	5.....	7.92	3,050
12 m.....	2.55	142	8.....	12.72	8,160	6.....	8.72	3,690
4 p.m.....	2.55	142	9.....	12.20	7,390	7.....	9.29	4,140
8.....	2.60	154	10.....	11.68	6,660	8.....	9.53	4,340
12 p.m.....	2.67	172	11.....	11.18	6,030	9.....	9.70	4,490
Jan. 21			12 m.....	10.74	5,520	10.....	10.30	5,060
1 a.m.....	2.72	186	1 p.m.....	10.27	5,030	11.....	10.72	5,500
2.....	2.80	208		9.84	4,620	12 m.....	10.97	5,780
3.....	2.93	249	3.....	9.42	4,250	1 p.m.....	11.15	5,990
4.....	3.19	346	4.....	8.99	3,900	2.....	11.28	6,150
5.....	3.98	720	5.....	8.51	3,520	3.....	11.37	6,250
6.....	5.96	1,780	6.....	8.20	3,270	4.....	11.28	6,150
7.....	8.14	3,220	7.....	7.88	3,010	5.....	11.04	5,860
8.....	10.18	4,940	8.....	7.54	2,770	6.....	10.62	5,390
9.....	12.10	7,250	9.....	7.25	2,560	7.....	10.42	5,180
10.....	13.21	8,990	10.....	6.99	2,390	8.....	10.11	4,870
11.....	13.96	10,400	11.....	6.77	2,260	9.....	9.77	4,550
12 m.....	14.73	12,500	12 p.m.....	6.58	2,150	10.....	9.45	4,270
1 p.m.....	15.70	16,300				11.....	9.14	4,020
2.....	17.26	26,600	Jan. 23			12 p.m.....	8.87	3,810
3.....	18.16	37,500	2 a.m.....	6.24	1,940			
3:30.....	18.19	38,000	4 a.m.....	6.00	1,800	Feb. 11		
4.....	18.10	36,500	5.....	5.74	1,640	1 a.m.....	8.59	3,580
5.....	17.76	31,900	6.....	5.49	1,490	2.....	8.54	3,380
6.....	17.41	28,000	7.....	5.30	1,360	3.....	8.12	3,210
7.....	17.12	25,400	8.....	5.14	1,280	4.....	7.88	3,010
8.....	16.91	23,700	9.....	5.00	1,200	5.....	7.67	2,860
9.....	16.68	22,100	10.....	4.89	1,130	6.....	7.47	2,720
10.....	16.49	20,700	11.....	4.85	1,110	7.....	7.27	2,580
11.....	16.48	20,700	12.....	4.78	1,070	8.....	7.06	2,440
12 p.m.....	16.44	20,400	10.....	4.70	1,020	9.....	6.88	2,330
			12 p.m.....	4.61	966	10.....	6.69	2,210
Jan. 22			Feb. 9			11.....	6.51	2,110
1 a.m.....	16.21	19,100	12 p.m.....	3.36	284	12 m.....	6.36	2,020
2.....	15.84	17,000	Feb. 10			1 p.m.....	6.17	1,900
3.....	15.31	14,500	1 a.m.....	3.67	425	2.....	6.01	1,810
4 a.m.....	14.73	12,500	2 a.m.....	4.42	852	3.....	5.84	1,700
						4 p.m.....	5.70	1,620

A113

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Kokosing River at Mt. Vernon, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 11--Con.			Feb. 11--Con.			Feb. 12--Con.		
5 p.m.....	5.59	1,550	12 p.m.....	4.90	1,140	10 a.m.....	4.33	798
6.....	5.48	1,490				12 m.....	4.25	758
7.....	5.39	1,430	Feb. 12			2 p.m.....	4.18	708
8.....	5.29	1,370	2 a.m.....	4.77	1,060	6.....	4.15	690
9.....	5.17	1,300	4.....	4.64	984	9.....	4.17	702
10.....	5.07	1,240	6.....	4.53	918	12 p.m.....	4.17	702
11 p.m.....	4.98	1,190	8 a.m.....	4.42	852			

80. Dry Creek near Bangs, Ohio

(Miscellaneous site)

Location.--Lat 40°20'50", long 82°34'10", at bridge on county road 1 mile west of Bangs, 5 miles southwest of Mount Vernon, Knox County, and 6 miles above mouth.

Drainage area.--21.7 sq mi.

Maximum.--January-February 1959: Discharge, 5,810 cfs Jan. 21, from contracted-opening measurement.

81. Kokosing River at Millwood, Ohio

Location.--Lat 40°23'55", long 82°17'10", on left bank 0.4 mile west of Millwood, Knox County, 1½ miles upstream from Honey Run, 2 miles downstream from Jelloway Creek, and 3½ miles upstream from Brush Run.

Drainage area.--454 sq mi.

Gage-height record.--Water-stage recorder graph, except 12 m. Jan. 21 to 4 a.m. Jan. 22 and 6 a.m. to 12 m. Jan. 22 for which graph was reconstructed on basis of high-water mark in well and normal recession curves. Datum of gage is 865.00 ft above mean sea level.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 18,700 cfs and by slope-area measurement at 75,900 cfs. Backwater from ice Jan. 1, 6-12, 16-20. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 75,900 cfs 8 p.m. Jan. 21 (gage height, 34.0 ft. from high-water mark in well).

1921 to December 1958: Discharge, 27,500 cfs June 22, 1937 (gage height, 18.10 ft, at site $3\frac{1}{2}$ miles downstream at datum 23.94 ft lower), from rating curve extended above 13,000 cfs on basis of slope-area measurement.

Flood in March 1913 reached a stage corresponding to 22.0 ft at site 3½ miles downstream at datum 23.94 ft lower (discharge, 40,000 cfs, estimated).

Mean discharge, in cubic feet per second, 1959

[illegible]

Location.--Lat 40°21'10", long 82°05'15", at dam on Walhonding River, 1.5 miles northwest of Nellie, Coshocton County.

Gage-height record.--Water-stage recorder graph. Datum of gage is 799.2 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

1938 to December 1958: Contents, 126,800 acre-ft June 10, 1947 (elevation, 864.76 ft).

Remarks.--Reservoir formed by earth dam completed September 1937. Capacity at spillway level (elevation, 890.0 ft), 285,000 acre-ft. Reservoir is used for flood control only. No gates are on spillway, and all regulation is done by gates in tunnels through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet							
Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959-Con.			
Nov. 30.....	12 p.m....	802.52	222	Jan. 25.....	7:30 a.m..	873.94	176,100
Dec. 31.....	12 p.m....	802.63	230	Jan. 31.....	12 p.m....	867.86	142,600
				Feb. 10.....	7 a.m.....	847.50	55,600
1959				Feb. 12.....	12 m.....	859.90	103,800
Jan. 20.....	4 p.m.....	804.56	390	Feb. 28.....	12 p.m....	814.06	2,180

Location.--Lat 40°20'26", long 82°03'49", on right bank at upstream side of bridge on State Highway 79 at Nellie, Coshocton County, half a mile upstream from Mohawk Creek and 1½ miles downstream from Mohawk Dam.

Gage-height record.--Water-stage recorder graph. Datum of gage is 790.00 ft above mean sea level, adjustment of 1912. Prior to Oct. 1, 1937, at site $3\frac{3}{4}$ miles upstream, at Pomerene, at datum 15.53 ft higher.

1921 to December 1958: Discharge, 24,000 cfs Jan. 25, 26, 1937 (gage height, 18.8 ft. from floodmarks).

Remarks.--Flow regulated beginning in 1936, by four flood-control reservoirs (see stas. 70, 73, 75, 82).

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A115

84. Killbuck Creek at Killbuck, Ohio

Location.--Lat 40°29'43", long 81°59'10", on right bank at downstream side of bridge on U.S. Highway 62 at Killbuck, Holmes County, an eighth of a mile downstream from Black Creek.

Drainage area.--466 sq mi.

Gage-height record.--Water-stage recorder graph, except 2 p.m. Jan. 21 to 10 a.m. Jan. 24, Jan. 27-29 and Feb. 2-7, 21-23 for which graph was reconstructed on basis of high-water mark in gage house and wire-weight gage readings made twice daily or oftener.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 7,450 cfs and by slope-area measurement at 28,400 cfs. Backwater from ice Jan. 5-14, 18-21 and Feb. 13-22.

Maxima.--January-February 1959: Discharge, 28,400 cfs 3 a.m. Jan. 22 (gage height, 21.75 ft, from high-water mark in gage house).
1930 to December 1958: Discharge, 28,800 cfs Aug. 7, 1935 (gage height, 21.77 ft, from floodmark).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	309	1,200	11.....	225	2,770	21.....	6,980	620
2.....	845	902	12.....	210	2,380	22.....	17,300	660
3.....	688	726	13.....	200	1,600	23.....	6,120	784
4.....	570	816	14.....	196	1,250	24.....	6,040	957
5.....	400	652	15.....	455	1,450	25.....	4,910	873
6.....	340	506	16.....	592	1,200	26.....	3,470	865
7.....	305	393	17.....	441	1,050	27.....	2,590	801
8.....	290	434	18.....	370	900	28.....	1,900	734
9.....	270	397	19.....	340	780	29.....	1,430	- - - - -
10.....	240	2,060	20.....	334	700	30.....	1,510	- - - - -
						31.....	1,520	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,980	1,016
Runoff, in inches.....							4.90	2.27

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 9--Con.		
12 p.m.....	8.40	330	10 a.m.....	20.60	19,070	12 p.m.....	9.20	540
			12 m.....	20.17	16,450			
Jan. 20			2 p.m.....	19.85	14,690	Feb. 10		
6 a.m.....	8.28	330	4.....	19.45	12,630	2 a.m.....	11.25	868
12 m.....	8.15	330	6.....	19.00	10,480	4.....	12.73	1,240
6 p.m.....	7.99	330	8.....	18.52	8,480	6.....	13.36	1,450
12 p.m.....	8.51	360	10.....	18.00	6,700	8.....	13.82	1,650
			12 p.m.....	17.77	6,130	10.....	14.26	1,860
Jan. 21						12 m.....	14.78	2,120
2 a.m.....	9.07	420	Jan. 23			2 p.m.....	15.20	2,390
4.....	10.22	540	6 a.m.....	17.65	5,840	4.....	15.52	2,630
6.....	12.48	800	12 m.....	17.66	5,860	6.....	15.73	2,800
8.....	13.50	1,200	6 p.m.....	17.87	6,380	8.....	15.87	2,920
10.....	14.60	2,030	12 p.m.....	18.00	6,700	10.....	15.96	3,000
12 m.....	16.25	3,300				12 p.m.....	15.99	3,030
2 p.m.....	17.58	5,670	Jan. 24					
4.....	18.55	8,600	6 a.m.....	17.85	6,320	Feb. 11		
6.....	19.50	12,880	12 m.....	17.65	5,840	2 a.m.....	16.01	3,050
8.....	20.10	16,060	6 p.m.....	17.66	5,860	6.....	15.93	2,980
10.....	20.68	19,630	12 p.m.....	17.55	5,600	12 m.....	15.69	2,760
12 p.m.....	21.35	24,940				6 p.m.....	15.46	2,580
Jan. 22			Feb. 8			12 p.m.....	15.30	2,460
2 a.m.....	21.72	28,130	12 p.m.....	8.28	407			
3.....	21.75	28,400	Feb. 9			Feb. 12		
4.....	21.70	27,950	6 a.m.....	8.17	392	6 a.m.....	15.19	2,380
6.....	21.55	24,940	12 m.....	8.00	368	12 m.....	15.14	2,350
8 a.m.....	20.98	22,000	6 p.m.....	7.90	354	6 p.m.....	15.17	2,370
						12 p.m.....	15.22	2,400

85. Mill Creek near Coshocton, Ohio

Location.--Lat 40°21'50", long 81°51'40", on left bank half a mile downstream from Little Mill Creek and 6 miles north of Coshocton, Coshocton County.

Drainage area.--27.5 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 782.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,390 cfs and by slope-area measurement at 4,720 cfs.

Maxima.--January-February 1959: Discharge, 4,440 cfs 2 p.m. Jan. 21 (gage height, 11.40 ft).

1936 to December 1958: Discharge, 7,650 cfs June 28, 1957 (gage height, 12.73 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	64	30	11.....	6.2	162	21.....	2,180	25
2.....	154	26	12.....	6	74	22.....	455	25
3.....	47	26	13.....	6	67	23.....	110	40
4.....	27	44	14.....	7	80	24.....	70	40
5.....	18	27	15.....	75	94	25.....	50	30
6.....	11	19	16.....	40	56	26.....	40	28
7.....	10	18	17.....	24	46	27.....	30	26
8.....	9	18	18.....	16	41	28.....	24	24
9.....	8	41	19.....	15	30	29.....	25	-----
10.....	7.2	1,030	20.....	22	25	30.....	92	-----
						31.....	46	-----
Monthly mean discharge, in cubic feet per second.....							119	78.2
Runoff, in inches.....							4.99	2.96

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 10--Con.		
12 p.m.....	1.59	17	4 p.m.....	10.82	3,040	2 a.m.....	7.65	694
			6.....	10.24	2,100	3.....	8.00	750
Jan. 20			8.....	10.54	2,520	4.....	8.23	791
12 m.....	1.56	15	10.....	10.45	2,390	5.....	8.37	822
2 p.m.....	1.56	15	12 p.m.....	9.90	1,680	6.....	8.48	850
6.....	1.62	18				7.....	8.57	876
8.....	1.70	23	Jan. 22			8.....	8.66	906
10.....	1.90	40	4 a.m.....	7.88	731	10.....	9.05	1,080
12 p.m.....	2.27	91	8.....	5.32	402	12 m.....	9.80	1,580
			12 m.....	4.12	282	1 p.m.....	10.36	2,260
Jan. 21			6 p.m.....	3.32	199	2.....	10.30	2,180
1 a.m.....	2.50	123	12 p.m.....	2.82	143	4.....	9.86	1,640
2.....	3.08	181				6.....	8.70	920
3.....	4.00	270	Feb. 8			8.....	7.22	631
4.....	5.90	465	12 p.m.....	1.62	17	10.....	5.86	461
5.....	7.69	700				12 p.m.....	4.85	355
6.....	9.35	1,250	Feb. 9					
7.....	10.26	2,130	12 m.....	1.64	18			
8.....	10.62	2,660	5 p.m.....	1.69	20	Feb. 11		
9.....	10.74	2,880	7.....	1.87	33	2 a.m.....	4.22	292
10.....	10.68	2,760	9.....	2.18	65	4.....	3.82	252
11.....	10.71	2,820	10.....	2.48	103	6.....	3.52	221
12 m.....	10.93	3,290	11.....	3.41	209	8.....	3.25	192
1 p.m.....	11.18	3,870	12 p.m.....	5.07	377	10.....	3.05	170
2.....	11.40	4,440				12 m.....	2.90	153
3 p.m.....	11.26	4,080	Feb. 10			6 p.m.....	2.18	65
			1 a.m.....	6.98	597	12 p.m.....	2.40	93

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A117

86. Muskingum River near Coshocton, Ohio

Location.--Lat 40°14'55", long 81°52'22", on right bank at upstream side of highway bridge, 2 miles south of Coshocton, Coshocton County, and 2 miles downstream from confluence of Tuscarawas and Walhonding Rivers.

Drainage area.--4,847 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 730.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 75,000 cfs.

Maxima.--January-February 1959: Discharge, 32,900 cfs 10 p.m. Jan. 22 (gage height, 13.43 ft).
1936 to December 1958: Discharge, 78,700 cfs Jan. 26, 1937 (gage height, 21.98 ft), affected by storage in partially completed reservoirs.
Maximum discharge known, 202,000 cfs March 1913 (computed by Corps of Engineers).

Remarks.--Flow regulated, beginning in 1936, by 12 flood-control reservoirs (see stas. 58-61, 63-65, 67, 70, 73, 75, 82).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	3,050	21,900	11.....	2,200	19,900	21.....	17,900	20,800
2.....	5,640	21,100	12.....	2,100	22,300	22.....	30,700	20,400
3.....	9,170	20,400	13.....	2,000	24,200	23.....	24,000	20,300
4.....	8,210	20,400	14.....	2,200	24,700	24.....	14,500	20,000
5.....	5,820	20,200	15.....	2,770	23,800	25.....	17,200	20,300
6.....	3,960	20,000	16.....	5,460	23,300	26.....	20,400	19,800
7.....	3,500	19,100	17.....	6,130	23,300	27.....	21,000	18,900
8.....	3,000	18,100	18.....	5,260	23,300	28.....	21,200	18,800
9.....	2,500	17,900	19.....	4,890	23,100	29.....	21,700	- - - - -
10.....	2,400	21,800	20.....	4,410	21,700	30.....	22,200	- - - - -
						31.....	22,200	- - - - -

Monthly mean discharge, in cubic feet per second..... 10,250 20,990

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	3.61	4,760	10 a.m.....	7.45	13,500	10 p.m.....	13.43	32,900
			12 m.....	8.85	17,500	12 p.m.....	13.36	32,700
Jan. 20			2 p.m.....	10.38	22,200	Jan. 23		
6 a.m.....	3.45	4,460	4.....	11.36	25,600	6 a.m.....	12.12	28,200
12 m.....	3.40	4,370	6.....	12.18	29,400	12 m.....	10.66	23,200
6 p.m.....	3.33	4,240	8.....	12.46	29,400	6 p.m.....	9.63	19,800
12 p.m.....	3.39	4,350	10.....	12.52	29,600	12 p.m.....	8.67	17,000
			12 p.m.....	12.54	29,700	Jan. 24		
Jan. 21			Jan. 22			6 a.m.....	8.01	15,100
2 a.m.....	3.75	5,020	6 a.m.....	12.28	28,800	12 m.....	7.54	13,800
4.....	4.30	6,130	12 m.....	12.70	30,300	6 p.m.....	7.53	13,800
6.....	5.35	8,390	6 p.m.....	13.28	32,400	12 p.m.....	7.52	13,700
8 p.m.....	6.38	10,800						

87. Senecaville Reservoir near Senecaville, Ohio

Location.--Lat 39°55'25", long 81°26'10", at dam on Seneca Fork, 1.5 miles southeast of Senecaville, Guernsey County.

Drainage area.--121 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 812.05 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 60,890 acre-ft 4:15-5:15 p.m. Jan. 25 (elevation, 836.69 ft).
1938 to December 1958: Contents, 63,370 acre-ft Mar. 24, 1945 (elevation, 837.27 ft).

Remarks.--Reservoir formed by earth dam completed May 1937. Capacity at spillway level (elevation, 842.5 ft), 88,500 acre-ft, of which 43,500 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. Outflow is controlled mostly by operation of gates in short conduits through dam. Above spillway level, 11½ ft taintor gates on spillway can be used. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	832.33	43,710	Jan. 31.....	12 p.m....	835.06	54,140
Dec. 31.....	12 p.m....	831.89	42,160	Feb. 9.....	12 p.m....	832.75	45,220
1959				Feb. 12.....	3 p.m....	835.05	54,100
Jan. 20.....	1 p.m.....	832.77	45,290	Feb. 28.....	12 p.m....	832.44	44,100
Jan. 25.....	4:15 p.m.- 5:15 p.m.	836.69	60,890				

88. Wills Creek Reservoir near Wills Creek, Ohio

Location.--Lat 40°09'25", long 81°50'55", at dam on Wills Creek, 1.3 miles south of village of Wills Creek, Coshocton County.

Drainage area.--844 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 733.0 ft above mean sea level, adjustment of 1912; gage readings have been adjusted to elevations above mean sea level.

Maxima.--January-February 1959: Contents, 74,810 acre-ft 7:30 p.m. Feb. 16 to 1:30 a.m. Feb. 17 (elevation, 764.51 ft).
1938 to December 1958: Contents, 122,200 acre-ft Mar. 11, 1945 (elevation, 771.38 ft).

Remarks.--Reservoir formed by earth dam completed October 1937. Capacity at spillway level (elevation, 779.0 ft), 196,000 acre-ft, of which 6,000 acre-ft is in conservation pool. Reservoir is used for flood control and conservation. No gates are on spillway, and all regulation is done by gates in conduits through dam. Gage-height record and capacity curve furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	742.22	6,220	Jan. 31.....	12 p.m....	753.38	26,900
Dec. 31.....	12 p.m....	742.77	6,760	Feb. 9.....	10 p.m....	744.54	8,860
1959				Feb. 16-17..	7:30 p.m.- 1:30 a.m.	764.51	74,810
Jan. 20.....	12 p.m....	744.65	9,000	Feb. 28.....	12 p.m....	744.21	8,420
Jan. 26.....	7:30 a.m..	764.17	72,800				

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A119

89. Wakatomika Creek near Frazeyburg, Ohio

Location.--Lat 40°07'57", long 82°08'53", on right bank 2 miles northwest of Frazeyburg, Muskingum County, 2 miles downstream from Fivemile Run, and 2½ miles upstream from Black Run.

Drainage area.--140 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 748.12 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 7,680 cfs and by contracted-opening measurement at 13,700 cfs.

Maxima.--January-February 1959: Discharge, 13,700 cfs 12:30 a.m. Jan. 22 (gage height, 13.15 ft).
1936 to December 1958: Discharge, 10,000 cfs Jan. 27, 1952 (gage height, 11.61 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	160	204	11.....	40	2,390	21.....	4,850	210
2.....	480	170	12.....	40	676	22.....	6,920	165
3.....	289	180	13.....	42	532	23.....	993	206
4.....	195	222	14.....	46	522	24.....	494	256
5.....	110	171	15.....	156	792	25.....	367	185
6.....	100	131	16.....	195	489	26.....	298	176
7.....	75	125	17.....	140	386	27.....	237	167
8.....	55	117	18.....	160	334	28.....	190	158
9.....	50	111	19.....	160	245	29.....	190	---
10.....	45	2,800	20.....	131	200	30.....	369	---
						31.....	291	---
Monthly mean discharge, in cubic feet per second.....							576	440
Runoff, in inches.....							4.74	3.27

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.12	159	12 m.....	10.02	6,640	2 p.m.....	7.99	3,600
Jan. 21			4 p.m.....	8.12	3,720	3.....	8.05	3,660
2 a.m.....	2.56	289	8.....	6.22	2,310	4.....	8.19	3,780
4.....	3.50	660	12 p.m.....	5.19	1,600	5.....	8.45	4,060
5.....	4.80	1,390	Jan. 23			6.....	8.70	4,380
6.....	5.35	1,740	6 a.m.....	4.53	1,170	7.....	8.95	4,740
7.....	6.00	2,160	12 m.....	4.13	918	8.....	9.12	5,010
8.....	6.48	2,500	6 p.m.....	3.86	758	9.....	9.23	5,190
9.....	6.54	2,540	12 p.m.....	3.66	650	10.....	9.28	5,270
11.....	6.80	2,720	Feb. 9			11.....	9.31	5,320
12 m.....	7.13	2,950	12 p.m.....	2.27	152	12 p.m.....	9.30	5,300
1 p.m.....	7.72	3,390	Feb. 10			Feb. 11		
3.....	9.10	4,980	1 a.m.....	2.40	180	1 a.m.....	9.27	5,250
5.....	10.05	6,700	2.....	2.68	251	2.....	9.17	5,090
6.....	10.60	7,820	3.....	2.95	334	3.....	9.00	4,820
7.....	11.20	9,140	4.....	3.23	444	4.....	8.73	4,420
8.....	11.90	10,700	5.....	3.54	590	5.....	7.98	3,590
9.....	12.35	11,600	6.....	3.98	828	6.....	7.07	2,910
11.....	12.70	12,700	7.....	4.50	1,150	7.....	5.84	2,050
12 p.m.....	12.80	12,900	8.....	5.15	1,570	8.....	5.22	1,620
Jan. 22			9.....	5.90	2,090	9.....	4.87	1,390
12:30 a.m.....	13.15	13,700	10.....	6.50	2,510	10.....	4.65	1,250
2.....	12.88	13,100	11.....	6.98	2,850	11.....	4.50	1,150
4.....	12.40	11,900	12 m.....	7.25	3,040	12.....	4.36	1,060
6 a.m.....	11.20	9,140	1 p.m.....	7.88	3,510	1.....	4.25	990
						12 p.m.....	4.15	930

90. Muskingum River at Dresden, Ohio

Location.--Lat 40°07'14", long 82°00'02", on left bank 70 ft downstream from bridge on State Highway 208, half a mile east of Dresden, Muskingum County, and half a mile downstream from Wakatomika Creek.

Drainage area.--5,982 sq mi.

Gage-height record.--Water-stage recorder graph, except 11 a.m. Jan. 23 to 11 a.m. Jan. 24 for which graph was reconstructed on basis of graph before and after this period. Datum of gage is 693.15 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 92,600 cfs. Backwater from ice Jan. 17-21.

Maxima.--January-February 1959: Discharge, 39,400 cfs 8 p.m. Jan. 22 (gage height, 20.50 ft).

1921 to December 1958: Discharge, 100,000 cfs Aug. 9, 1935 (gage height, 31.6 ft).

Stage known, 46.0 ft in March 1913, from floodmark (discharge, 228,000 cfs, computed by Corps of Engineers).

Remarks.--Flow regulated by 14 flood-control reservoirs (see stas. 58-61, 63-65, 67, 70, 73, 75, 82, 87, 88), beginning in 1936.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	2,920	28,700	11.....	3,150	27,700	21.....	17,400	27,700
2.....	4,960	28,000	12.....	3,000	24,900	22.....	36,900	27,200
3.....	9,080	27,000	13.....	2,800	27,300	23.....	33,800	27,100
4.....	11,600	25,500	14.....	2,940	28,100	24.....	18,800	26,900
5.....	9,500	24,000	15.....	3,320	27,700	25.....	19,200	26,800
6.....	6,650	24,000	16.....	5,620	28,200	26.....	26,300	25,100
7.....	4,940	21,700	17.....	7,000	28,800	27.....	27,400	25,500
8.....	4,200	21,700	18.....	6,500	29,200	28.....	28,000	20,600
9.....	3,900	21,200	19.....	5,600	29,100	29.....	28,300	-----
10.....	3,500	25,700	20.....	6,000	28,400	30.....	28,800	-----
						31.....	29,100	-----
Monthly mean discharge, in cubic feet per second.....							12,940	26,160

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 23--Con.			Feb. 10		
12 p.m.....	15.65	5,500	8 a.m.....	19.63	36,400	2 a.m.....	14.75	21,400
Jan. 20			12 m.....	19.10	34,700	4.....	14.85	21,700
4 a.m.....	15.68	5,500	6 p.m.....	18.00	31,200	6.....	15.05	22,300
8.....	15.55	5,500	12 p.m.....	16.00	25,100	8.....	15.32	23,700
12 m.....	15.70	6,000	Jan. 24			10.....	15.52	24,800
6 p.m.....	15.60	6,000	4 a.m.....	14.85	21,700	12.....	16.25	25,800
10.....	15.38	7,000	8.....	14.10	19,600	2 p.m.....	16.65	27,000
12 p.m.....	15.25	7,000	12 m.....	13.50	17,900	4.....	17.03	28,200
Jan. 21			4 p.m.....	13.05	16,800	6.....	17.32	29,100
2 a.m.....	15.20	7,000	8.....	12.79	16,100	8.....	17.50	29,600
4.....	15.21	8,000	12 p.m.....	12.73	15,900	10.....	17.56	29,800
6.....	15.48	9,000	Jan. 25			12 p.m.....	17.53	29,700
8.....	15.78	11,000	4 a.m.....	12.93	16,500	Feb. 11		
9.....	14.75	13,100	8.....	13.24	17,300	2 a.m.....	17.47	29,500
10.....	15.60	15,100	12 m.....	13.70	18,500	4.....	17.39	29,300
11.....	16.20	16,600	4 p.m.....	14.22	20,000	6.....	17.27	28,900
1 p.m.....	16.77	18,800	8.....	15.11	22,400	8.....	17.13	28,500
4.....	18.30	22,100	12 p.m.....	15.85	24,600	10.....	17.00	28,100
6.....	17.21	24,500	Jan. 26			12 m.....	16.90	27,800
7.....	17.17	25,600	6 a.m.....	16.33	26,100	2 p.m.....	16.72	27,300
8.....	17.26	26,400	12 m.....	16.47	26,500	4.....	16.58	26,800
10.....	17.41	28,600	6 p.m.....	16.52	26,700	6.....	16.43	26,400
12 p.m.....	17.75	30,400	12 p.m.....	16.60	26,900	8.....	16.35	26,200
Jan. 22			Jan. 27			10.....	16.25	25,800
2 a.m.....	18.18	31,700	6 a.m.....	16.73	27,300	12 p.m.....	16.13	25,500
4.....	18.67	33,300	12 m.....	16.78	27,400	Feb. 12		
6.....	19.15	34,900	6 p.m.....	16.85	27,600	4 a.m.....	15.85	24,600
8.....	19.62	36,400	12 p.m.....	16.92	27,900	8.....	15.75	24,400
10.....	19.95	37,400	Feb. 8			12 m.....	15.73	24,300
12 m.....	20.15	38,200	6 a.m.....	14.65	21,200	4 p.m.....	15.89	24,800
2 p.m.....	20.32	38,800	12 p.m.....	14.70	21,300	8.....	16.13	25,500
4.....	20.41	39,100	Feb. 9			12 p.m.....	16.37	26,200
6.....	20.47	39,300	8 a.m.....	14.62	21,100	Feb. 13		
8.....	20.50	39,400	12 p.m.....	14.63	21,100	4 a.m.....	16.58	26,800
10.....	20.47	39,300	Feb. 10			8.....	16.72	27,300
12 p.m.....	20.58	39,000	6 a.m.....	14.65	21,200	12 m.....	16.80	27,500
Jan. 23			12 p.m.....	14.62	21,100	4 p.m.....	16.85	27,600
4 a.m.....	20.10	38,000	8.....	14.63	21,100	8.....	16.88	27,700
						12 p.m.....	16.93	27,900

91. South Fork Licking River near Hebron, Ohio

(Gaging station, discontinued 1948)

Location.--Lat 39°59'20", long 82°28'30", at highway bridge 800 ft downstream from Beaver Run, 2.3 miles north of Hebron, Licking County, and 2½ miles upstream from Ramp Creek.

Drainage area.--133 sq mi.

Gage-height record.--High-water mark at gage site. Altitude of gage is 855 ft above mean sea level (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,420 cfs and by contracted-opening measurement at 5,880 cfs.

Maxima.--January-February 1959: Discharge, 5,880 cfs 10 p.m. Jan. 21 (gage height, 12.4 ft, from high-water mark).
1939-48: Discharge, 5,200 cfs Mar. 6, 1945 (gage height, 12.1 ft, from floodmarks).

Remarks.--Flow regulated by Buckeye Lake (27,300 acre-ft, 3,140 acres surface area, 46.2 sq mi).

92. Raccoon Creek at Granville, Ohio

(Gaging station, discontinued 1948)

Location.--Lat 40°03'50", long 82°31'35", at bridge on State Highway 16 at southwest edge of Granville, Licking County, and at mouth of Salt Run.

Drainage area.--83.0 sq mi, including that of Salt Run.

Gage-height record.--High-water mark at gage site. Altitude of gage is 900 ft above mean sea level (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,160 cfs and by contracted-opening measurement of 10,400 cfs at Newark (drainage area, 104 sq mi).

Maxima.--January-February 1959: Discharge, 8,700 cfs at about 9 p.m. Jan. 21 (gage height, 16.6 ft, from high-water mark).
1939-48: Discharge, 6,240 cfs Mar. 3, 1940 (gage height, 13.6 ft, from graph based on gage readings).

93. Raccoon Creek at Newark, Ohio

(Miscellaneous site)

Location.--Lat 40°02'55", long 82°24'40", at Baltimore & Ohio Railroad bridge in Newark, Licking County, a quarter of a mile upstream from mouth and 6 miles downstream from former gaging station at Granville.

Drainage area.--104 sq mi.

Maximum.--January-February 1959: Discharge, 10,400 cfs 10 p.m. Jan. 21, from contracted-opening measurement.

94. Otter Fork near Centerburg, Ohio

(Crest-stage station)

Location.--Lat 40°17'25", long 82°43'15", 500 ft downstream from culvert on State Highway 3, 1.2 miles west of city limits of Centerburg, Knox County.

Drainage area.--2.97 sq mi.

Gage-height record.--Crest stages only. Altitude of gage is 1,160 ft from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 124 cfs and extended above on basis of slope-area measurements.

Maxima.--January-February 1959: Discharge, 445 cfs Jan. 21 (gage height, 13.52 ft).
1947 to December 1958: Discharge, 368 cfs June 29, 1947 (gage height, 13.25 ft).

95. North Fork Licking River at Utica, Ohio

(Gaging station, discontinued 1948)

Location.--Lat 40°13'35", long 82°27'05", at bridge on State Highway 13, at south edge of Utica, Licking County, and 2 miles upstream from Lake Fork.

Drainage area.--114 sq mi.

Gage-height record.--High-water marks at gage site. Altitude of gage is 940 ft above mean sea level (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,760 cfs and extended above on basis of slope-area measurement at 5,500 cfs.

Maxima.--January-February 1959: Maximum gage height, 15.8 ft about 9-10 p.m. Jan. 21.
1939-48: Discharge, 6,400 cfs Apr. 13, 1948 (gage height, 12.4 ft).
Flood of July 1956 reached a stage of 13.2 ft.

96. North Fork Licking River at Newark, Ohio

(Miscellaneous site)

Location.--Lat 40°03'30", long 82°23'50", at bridge on State Highway 16 on East Main Street, in Newark, Licking County, half a mile upstream from confluence with South Fork.

Drainage area.--239 sq mi.

Maximum.--January-February 1959: Discharge, 29,800 cfs 11 p.m. Jan. 21, from contracted-opening measurement.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A123

97. Licking River near Newark, Ohio

Location.--Lat 40°03'33", long 82°20'23", on right bank at downstream side of Stadden Bridge, 1 mile downstream from Shawnee Run, 1½ miles upstream from Equality Run, and 3½ miles east of Newark, Licking County.

Drainage area.--536 sq mi.

Gage-height record.--Water-stage recorder graph, except 10 p.m. Jan. 21 to 4:30 p.m. Jan. 23 for which graph was reconstructed on basis of high-water mark in gage house and flood-routing study. Datum of gage is 779.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 23,600 cfs and extended above on basis of flood-routing study.

Maxima.--January-February 1959: Discharge, 45,000 cfs 12 p.m. Jan. 21 (gage height, 20.3 ft).
1939 to December 1958: Discharge, 25,000 cfs Jan. 27, 1952 (gage height, 16.59 ft).

Remarks.--Flow slightly regulated by Buckeye Lake on South Fork.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	548	1,130	11.....	154	8,940	21.....	15,300	915
2.....	2,160	900	12.....	142	3,150	22.....	25,600	905
3.....	1,090	850	13.....	201	2,230	23.....	6,000	995
4.....	742	1,130	14.....	239	2,560	24.....	3,170	1,430
5.....	455	1,080	15.....	923	3,630	25.....	1,920	1,130
6.....	425	855	16.....	1,360	2,160	26.....	1,520	985
7.....	292	555	17.....	700	1,620	27.....	1,270	728
8.....	232	509	18.....	500	1,450	28.....	1,110	669
9.....	198	488	19.....	600	1,230	29.....	1,030	-----
10.....	176	9,370	20.....	415	1,030	30.....	1,480	-----
						31.....	1,540	-----
Monthly mean discharge, in cubic feet per second.....							2,306	1,879
Runoff, in inches.....							4.96	3.66

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.15	485	10 p.m.....	13.40	11,200	1 p.m.....	13.90	12,600
			12 p.m.....	12.80	9,900	2.....	14.50	14,400
Jan. 21						3.....	14.80	15,400
1 a.m.....	2.30	560	6 a.m.....	11.20	7,320	4.....	14.90	15,700
2.....	2.95	918	12 m.....	9.30	5,090	5.....	14.93	15,800
3.....	4.50	1,820	6 p.m.....	8.68	4,570	6.....	14.95	15,900
4.....	5.25	2,290	8.....	8.55	4,470	7.....	14.96	15,900
5.....	6.30	3,010	12 p.m.....	8.07	4,090	8.....	14.97	15,900
6.....	7.95	4,290				9.....	14.95	15,900
7.....	9.60	5,740	Jan. 24			10.....	14.89	15,700
8.....	10.90	7,100	12 m.....	6.83	3,160	12 p.m.....	14.82	15,400
9.....	12.55	9,450	6 p.m.....	6.15	2,680			
10.....	13.68	12,000	12 p.m.....	5.63	2,310	Feb. 11		
12 m.....	14.64	14,800				2 a.m.....	14.72	15,100
2 p.m.....	15.70	18,700	Feb. 9			4.....	14.55	14,600
4.....	17.20	25,600	12 p.m.....	2.77	647	6.....	14.10	13,200
6.....	17.90	29,400				8.....	13.37	11,200
8.....	19.15	36,800	Feb. 10			10.....	12.40	9,200
10.....	20.30	45,000	1 a.m.....	2.90	705	12 m.....	11.40	7,600
12 p.m.....			2.....	2.92	714	2 p.m.....	10.45	6,300
Jan. 22			3.....	3.00	750	4.....	9.77	5,530
2 a.m.....	19.90	42,000	4.....	3.30	900	6.....	9.35	5,140
4.....	19.40	38,500	5.....	4.32	1,470	8.....	9.02	4,850
6.....	18.80	34,700	6.....	5.30	2,090	10.....	8.75	4,630
8.....	18.30	31,700	7.....	6.27	2,760	12 p.m.....	8.43	4,370
10.....	17.70	28,200	8.....	8.37	4,330			
12 m.....	17.00	24,600	9.....	10.35	6,180	Feb. 12		
2 p.m.....	16.20	20,800	10.....	11.62	7,950	6 a.m.....	7.52	3,680
4.....	15.60	18,300	11.....	12.55	9,450	12 m.....	6.65	3,020
6.....	14.90	15,700	12 m.....	13.27	10,900	6 p.m.....	5.94	2,530
8 p.m.....	14.20	13,500				12 p.m.....	5.69	2,350

98. Licking River at Toboso, Ohio

Location.--Lat 40°03'26", long 82°13'12", on right bank 30 ft downstream from highway bridge at Toboso, Licking County, and 3 miles downstream from Rocky Fork.

Drainage area.--672 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 744.84 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 10-12.

Maxima.--January-February 1959: Discharge, 49,800 cfs 5 a.m. Jan. 22 (gage height, 21.08 ft).

1902-6, 1921 to December 1958: Discharge, 32,500 cfs Jan. 27 1952 (gage height, 18.75 ft).

Flood of March 1913 reached a stage of 20.0 ft (discharge, 35,000 cfs, computed by Muskingum Watershed Conservancy District).

Remarks.--Flow slightly regulated by Buckeye Lake on South Fork.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	566	1,340	11.....	230	12,100	21.....	12,600	1,010
2.....	2,420	1,160	12.....	220	3,750	22.....	36,900	983
3.....	1,340	1,100	13.....	267	2,390	23.....	9,540	1,120
4.....	928	1,300	14.....	304	2,620	24.....	4,110	1,440
5.....	585	1,250	15.....	1,010	4,090	25.....	2,340	1,170
6.....	537	1,070	16.....	1,520	2,240	26.....	1,840	1,050
7.....	429	851	17.....	794	1,710	27.....	1,540	851
8.....	324	780	18.....	658	1,540	28.....	1,340	785
9.....	293	741	19.....	946	1,300	29.....	1,260	---
10.....	260	9,790	20.....	658	1,090	30.....	1,680	---
						31.....	1,720	---

Monthly mean discharge, in cubic feet per second.....	2,876	2,165
Runoff, in inches.....	4.93	3.35

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Jan. 20			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.19	641	4 p.m.....	19.10	31,600	5 a.m.....	5.24	1,540
Jan. 21			6.....	18.50	27,400	6.....	6.30	2,250
1 a.m.....	2.37	722	8.....	17.90	23,800	7.....	7.80	3,370
2.....	2.70	870	10.....	17.32	20,700	8.....	9.55	5,100
3.....	3.75	1,340	12 p.m.....	16.75	18,000	9.....	11.70	7,770
4.....	5.40	2,200	Jan. 23			10.....	13.15	9,860
5.....	7.05	3,400	2 a.m.....	16.10	15,600	11.....	14.08	11,300
6.....	8.35	4,580	4.....	15.45	13,900	12 m.....	14.56	12,200
7.....	9.68	5,860	6.....	14.72	12,500	4 p.m.....	15.63	14,300
8.....	11.10	7,360	8.....	13.88	11,000	6.....	16.15	15,800
9.....	12.15	8,520	10.....	12.88	9,460	8.....	16.40	16,600
10.....	12.95	9,440	12 m.....	11.87	8,010	10.....	16.50	17,000
11.....	13.46	10,200	2 p.m.....	11.25	7,180	12 p.m.....	16.47	16,900
12 m.....	13.98	11,000	4.....	10.80	6,600	Feb. 11		
2 p.m.....	14.80	12,500	6.....	10.55	6,300	4 a.m.....	16.29	16,200
4.....	15.48	14,000	8.....	10.35	6,060	6.....	16.14	15,700
6.....	16.45	16,800	12 p.m.....	10.00	5,640	8.....	15.95	15,200
8.....	17.75	22,900	Jan. 24			10.....	15.66	14,400
10.....	18.98	30,800	6 a.m.....	9.26	4,790	12 m.....	15.12	13,200
12 p.m.....	19.80	37,000	12 m.....	8.45	3,960	2 p.m.....	14.38	11,900
Jan. 22			6 p.m.....	7.84	3,410	4.....	13.23	9,990
2 a.m.....	20.70	45,600	12 p.m.....	7.24	2,910	6.....	11.92	8,080
4.....	21.02	49,000	Feb. 9			8.....	10.96	6,810
5.....	21.08	49,800	12 p.m.....	3.92	796	10.....	10.38	6,100
6.....	21.05	49,400	Feb. 10			12 p.m.....	10.00	5,640
8.....	20.92	47,800	2 a.m.....	4.30	1,000	6 a.m.....	8.98	4,480
10.....	20.55	44,100	4 a.m.....	4.80	1,280	12 m.....	8.00	3,550
12 m.....	20.18	40,400				6 p.m.....	7.16	2,850
2 p.m.....	19.55	35,000				12 p.m.....	6.81	2,590

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A125

99. Licking River at Dillon, Ohio

Location.--Lat 39°58'15", long 82°03'25", on downstream side of center pier of highway bridge at Dillon, Muskingum County, 3 miles northwest of Zanesville and 3½ miles upstream from mouth.

Drainage area.--754 sq mi.

Gage-height record.--Water-stage recorder graph, except 6 a.m. Jan. 21 to 10 a.m. Jan. 22 for which graph was reconstructed on basis of channel-storage studies. Datum of gage is 683.7 ft above mean sea level, adjustment of 1912 (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 29,300 cfs and by slope-area measurement at 47,000 cfs.

Maxima.--January-February 1959: Discharge, 47,000 cfs 1 p.m. Jan. 22 (gage height, 32.46 ft).

1939 to December 1958: Discharge, 30,300 cfs Mar. 7, 1945 (gage height, 27.57 ft); maximum gage height, 27.63 ft Jan. 27, 1952.

Maximum stage known, 37.0 ft in March 1913, from floodmark. (backwater from Muskingum River).

Remarks.--Flow slightly regulated by Buckeye Lake on South Fork.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	424	1,570	11.....	230	16,000	21.....	7,050	1,100
2.....	2,680	1,210	12.....	210	6,140	22.....	38,000	1,070
3.....	1,830	1,020	13.....	280	3,370	23.....	16,700	1,110
4.....	1,130	1,260	14.....	340	3,360	24.....	5,100	1,970
5.....	600	1,490	15.....	836	4,740	25.....	3,000	1,290
6.....	600	1,160	16.....	1,910	3,400	26.....	2,370	1,210
7.....	450	870	17.....	955	2,450	27.....	1,830	1,020
8.....	350	704	18.....	703	1,980	28.....	1,510	898
9.....	300	674	19.....	871	1,600	29.....	1,350	-----
10.....	260	5,950	20.....	738	1,300	30.....	1,850	-----
						31.....	2,250	-----
Monthly mean discharge, in cubic feet per second.....							3,055	2,497
Runoff, in inches.....							4.67	3.45

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 23--Con.			Feb. 11--Con.		
12 p.m.....	4.58	906	8 p.m.....	14.32	9,070	3 a.m.....	19.83	15,600
			12 p.m.....	12.08	6,920	4.....	20.30	16,300
Jan. 21			Jan. 24			5.....	20.76	17,000
2 a.m.....	5.00	1,200				6.....	20.98	17,300
4.....	5.90	1,830	12 m.....	9.82	4,890	7.....	21.23	17,700
6.....	7.12	2,800	12 p.m.....	8.45	3,710	8.....	21.35	17,900
8.....	8.72	4,150				9.....	21.30	17,800
10.....	10.30	5,570	Feb. 9			9:30.....	21.46	18,100
12 m.....	12.00	7,100	12 p.m.....	4.60	740	10.....	21.31	17,800
4 p.m.....	14.20	9,100				11.....	21.19	17,700
6.....	16.60	11,700	Feb. 10			12 m.....	21.21	17,700
12 p.m.....	20.00	16,400	3 a.m.....	4.83	891	3 p.m.....	20.77	17,000
Jan. 22			4.....	4.98	996	5.....	20.21	16,200
4 a.m.....	25.50	25,400	5.....	5.15	1,120	6.....	19.92	15,700
6.....	29.50	34,800	6.....	5.43	1,310	8.....	19.06	14,500
8.....	31.40	41,800	7.....	5.75	1,550	9.....	18.61	13,900
10.....	32.10	45,000	8.....	6.21	1,920	10.....	18.00	13,200
11.....	32.10	45,000	9.....	7.01	2,560	12 p.m.....	16.60	11,500
12 m.....	32.35	46,400	10.....	8.40	3,670			
1 p.m.....	32.46	47,000	11.....	9.91	4,970	Feb. 12		
2.....	32.41	46,800	12 m.....	11.20	6,130	2 a.m.....	15.15	9,920
3.....	32.00	44,400	1 p.m.....	12.46	7,260	4.....	13.84	8,590
4.....	32.00	44,400	3.....	13.87	8,620	6.....	12.67	7,450
6.....	31.24	41,000	5.....	15.01	9,760	8.....	11.69	6,570
8.....	31.15	40,600	6.....	15.25	10,000	10.....	10.91	5,870
12 p.m.....	28.12	31,100	8.....	15.86	10,700	12 m.....	10.49	5,490
Jan. 23			10.....	16.76	11,700	2 p.m.....	10.03	5,080
4 a.m.....	25.30	25,000	12 p.m.....	17.91	13,000	4.....	9.64	4,730
6.....	22.50	19,800				6.....	9.26	4,380
8.....	19.75	15,500	Feb. 11			8.....	8.98	4,130
12 m.....	17.05	12,000	1 a.m.....	18.67	14,000	10.....	8.65	3,870
4 p.m.....			2 a.m.....	19.26	14,800	12 p.m.....	8.49	3,740

100. Muskingum River at McConnellsville, Ohio

Location.--Lat 39°38'40", long 81°51'00", on left bank just upstream from Dam 7, at McConnellsville, Morgan County, and 3½ miles downstream from Oilspring Run.

Drainage area.--7,411 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 650.31 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 125,000 cfs.

Maxima.--January-February 1959: Discharge, 81,600 cfs 12:30 a.m. Jan. 23 (gage height, 14.38 ft).
1921 to December 1958: Discharge, 126,000 cfs Jan. 26, 1937 (gage height, 21.14 ft), affected by storage in partly completed reservoirs.
Maximum stage known, 33.5 ft Mar. 27, 1913 (discharge, 270,000 cfs, computed by Corps of Engineers).

Remarks.--Flow regulated, beginning in 1936, by 14 flood-control reservoirs (see stas. 58-61, 63-65, 67, 70, 73, 75, 82, 87, 88).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	3,840	29,800	11.....	3,790	49,400	21.....	27,100	28,700
2.....	7,650	28,700	12.....	3,600	34,900	22.....	64,300	28,300
3.....	10,000	27,800	13.....	3,470	30,600	23.....	67,400	28,400
4.....	12,900	27,200	14.....	3,700	32,600	24.....	30,900	29,100
5.....	10,100	25,900	15.....	5,470	34,600	25.....	20,700	28,300
6.....	6,480	24,800	16.....	7,770	32,600	26.....	26,400	27,200
7.....	5,200	23,700	17.....	8,340	31,300	27.....	28,100	24,600
8.....	4,970	22,500	18.....	7,370	30,600	28.....	28,500	22,500
9.....	4,730	21,400	19.....	8,560	30,600	29.....	28,700	-----
10.....	4,070	36,200	20.....	8,380	29,700	30.....	29,900	-----
						31.....	31,100	-----
Monthly mean discharge, in cubic feet per second.....							16,500	29,380

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 23			Feb. 11		
12 p.m.....	3.17	6,600	12:30 a.m....	14.38	81,600	2 a.m.....	10.35	49,000
Jan. 20				14.35	81,400	4.....	10.44	49,700
6 a.m.....	3.20	6,700	4.....	14.25	80,600	6.....	10.54	50,500
12 m.....	3.32	7,130	8.....	13.70	76,200	7.....	10.58	50,800
2 p.m.....	3.44	7,610	12 m.....	12.81	69,100	9.....	10.62	51,200
4.....	3.75	8,980	6 p.m.....	11.34	56,900	11.....	10.62	51,200
8.....	4.20	11,000	12 p.m.....	10.00	46,400	12 m.....	10.61	51,100
12 p.m.....	4.63	13,200				1 p.m.....	10.58	50,800
Jan. 21			Jan. 24			3.....	10.48	50,000
4 a.m.....	5.30	16,600	6 a.m.....	8.47	35,700	4.....	10.44	49,700
8.....	6.30	22,200	12 m.....	7.40	28,800	5.....	10.32	48,800
10.....	7.07	26,800	6 p.m.....	6.73	24,800	8.....	10.19	47,800
11.....	7.25	27,900	12 p.m.....	6.26	22,000	10.....	10.00	46,400
12 m.....	7.27	28,000				12 p.m.....	9.78	44,900
2 p.m.....	7.25	27,900	Feb. 9					
5.....	7.37	28,600	12 p.m.....	6.35	22,500	Feb. 12		
6.....	7.55	29,700				2 a.m.....	9.55	43,200
8.....	8.70	37,300	Feb. 10			4.....	9.28	41,400
10.....	9.65	44,000	2 a.m.....	6.48	23,300	6.....	8.96	39,100
12 p.m.....	10.18	47,800	4.....	6.62	24,100	8.....	8.64	36,900
Jan. 22			6.....	7.20	27,600	10.....	8.33	34,700
6 a.m.....	10.90	53,400	8.....	7.80	31,300	12 m.....	8.08	33,100
8.....	11.16	55,500	10.....	8.15	33,600	2 p.m.....	7.90	32,000
12 m.....	12.04	62,600	12 m.....	8.62	36,700	4.....	7.77	31,100
4 p.m.....	13.25	72,600	2 p.m.....	9.10	40,100	6.....	7.66	30,400
6.....	14.05	79,000	4.....	9.51	43,000	8.....	7.60	30,000
8.....	14.21	80,300	6.....	9.80	45,000	10.....	7.55	29,700
10.....	14.55	81,400	8.....	10.05	46,800	12 p.m.....	7.55	29,700
12 p.m.....			10.....	10.19	47,800			
			12 p.m.....	10.27	48,400			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A127

HOCKING RIVER BASIN

101. Hocking River at Athens, Ohio

Location.--Lat 39°19'45", long 82°05'17", on left bank at upstream side of Mill Street Bridge, three-quarters of a mile east of business section of Athens, Athens County, and $\frac{3}{2}$ miles downstream from Margaret Creek.

Drainage area.--944 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 615.59 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 2, 7-12, 16, 18-19. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 15,800 cfs 6 a.m. Jan. 23 (gage height, 19.38 ft).
1915 to December 1958: Discharge, 30,400 cfs Mar. 7, 1945 (gage height, 23.0 ft).
Maximum stage known, 26.7 ft in January 1907, from floodmark (discharge, 50,000 cfs, computed by Corps of Engineers).

Remarks.--Slight regulation by Tom Jenkins Reservoir (26,900 acre-ft, 32.8 sq mi) beginning in 1952.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	636	1,680	11.....	390	7,470	21.....	8,630	1,160
2.....	2,300	1,250	12.....	350	6,750	22.....	14,500	1,090
3.....	2,480	1,050	13.....	328	4,670	23.....	14,900	1,180
4.....	1,480	1,380	14.....	356	4,450	24.....	9,630	1,570
5.....	1,000	1,450	15.....	1,900	5,830	25.....	5,470	1,410
6.....	600	1,120	16.....	4,800	4,780	26.....	2,320	1,220
7.....	600	912	17.....	3,180	2,660	27.....	2,140	1,140
8.....	550	905	18.....	1,400	2,200	28.....	1,740	1,050
9.....	490	886	19.....	1,100	1,890	29.....	1,600	-----
10.....	440	3,170	20.....	2,040	1,440	30.....	2,220	-----
						31.....	-----	-----
Monthly mean discharge, in cubic feet per second.....							2,870	2,363

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 24--Con.			Feb. 12--Con.		
12 p.m.....	4.81	1,110	12 p.m.....	13.52	6,420	6 a.m.....	14.46	7,240
Jan. 20			Jan. 25			12 m.....	13.78	6,620
10 a.m.....	4.96	1,200	4 a.m.....	11.89	5,240	6 p.m.....	13.35	6,280
12 m.....	5.10	1,500	8.....	9.49	3,690	12 p.m.....	13.06	6,050
2 p.m.....	5.60	1,800	12 m.....	8.02	2,850	Feb. 13		
4.....	6.53	2,100	6 p.m.....	7.06	2,360	4 a.m.....	12.70	5,800
6.....	7.65	2,660	12 p.m.....	6.63	2,140	12 m.....	10.93	4,610
8.....	9.00	3,400	Feb. 9			2 p.m.....	10.56	4,390
10.....	10.65	4,430	12 p.m.....	4.49	898	4.....	10.34	4,230
12 p.m.....	11.85	5,210	Feb. 10			6.....	10.28	4,190
Jan. 21			4 a.m.....	4.66	1,120	8.....	10.28	4,190
2 a.m.....	13.35	6,280	6.....	4.91	1,200	12 p.m.....	10.47	4,320
4.....	14.40	7,180	9.....	5.45	1,560	Feb. 14		
6.....	14.95	7,730	11.....	6.10	1,880	2 a.m.....	10.54	4,360
8.....	15.35	8,160	12 m.....	7.00	2,330	8.....	10.56	4,370
12 m.....	15.83	8,710	1 p.m.....	7.90	2,780	5 p.m.....	10.48	4,320
5 p.m.....	16.27	9,260	2.....	8.95	3,370	8.....	10.85	4,560
8.....	16.92	10,200	3.....	9.95	3,980	12 p.m.....	11.74	5,140
12 p.m.....	17.65	11,500	4.....	10.70	4,460	Feb. 15		
Jan. 22			6.....	12.00	5,310	6 a.m.....	12.44	5,620
4 a.m.....	18.46	13,300	8.....	12.93	5,960	8.....	12.64	5,760
6.....	18.72	14,000	10.....	13.52	6,420	8 p.m.....	13.22	6,180
10.....	19.02	14,800	12 p.m.....	13.96	6,780	10.....	13.23	6,180
6 p.m.....	19.15	15,200	Feb. 11			12 p.m.....	13.15	6,120
12 p.m.....	19.29	15,600	2 a.m.....	14.24	7,040	Feb. 16		
Jan. 23			4.....	14.40	7,180	4 a.m.....	12.65	5,760
4 a.m.....	19.36	15,800	8.....	14.54	7,320	8.....	11.82	5,190
6.....	19.38	15,800	12 m.....	14.76	7,540	12 m.....	11.00	4,660
10.....	19.30	15,600	4 p.m.....	15.02	7,800	6 p.m.....	10.12	4,090
4 p.m.....	19.00	14,700	7.....	15.06	7,840	12 p.m.....	9.33	3,600
12 p.m.....	18.26	12,600	9.....	15.03	7,810	Feb. 17		
Jan. 24			10.....	14.67	7,450	12 m.....	7.90	2,780
6 a.m.....	17.47	11,200	11.....	14.81	7,590	6 p.m.....	7.37	2,520
12 m.....	16.42	9,470	12 p.m.....	14.85	7,630	12 p.m.....	7.02	2,340
6 p.m.....	15.43	8,240	Feb. 12					
			2 a.m.....	14.79	7,570			

RACCOON CREEK BASIN

102. Raccoon Creek at Adamsville, Ohio

Location.--Lat 38°52'31", long 82°21'18", on right bank at downstream side of bridge 480 ft upstream from U.S. Highway 35, at Adamsville, Gallia County, and 1.3 miles downstream from Indian Creek.

Drainage area.--587 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 570.85 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9,200 cfs.

Maxima.--January-February 1959: Discharge, 7,090 cfs 8-9 a.m. Jan. 24 (gage height, 19.42 ft).

1915-35, 1938 to December 1958: Discharge, 15,500 cfs Apr. 15, 1948 (gage height, 24.92 ft).

Maximum stage known, 25.2 ft in January 1937, from floodmark.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	244	818	11.....	334	1,560	21.....	3,610	806
2.....	546	693	12.....	261	2,030	22.....	4,990	660
3.....	748	526	13.....	199	2,200	23.....	6,280	667
4.....	864	605	14.....	173	2,680	24.....	7,000	757
5.....	748	682	15.....	520	3,030	25.....	5,930	780
6.....	587	656	16.....	1,460	2,910	26.....	4,380	737
7.....	544	542	17.....	1,780	2,740	27.....	2,320	653
8.....	466	476	18.....	1,770	2,240	28.....	909	603
9.....	444	460	19.....	1,490	1,520	29.....	735	-----
10.....	384	825	20.....	1,960	1,070	30.....	697	-----
						31.....	777	-----
Monthly mean discharge, in cubic feet per second.....							1,715	1,212
Runoff, in inches.....							3.37	2.14

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 24--Con.			Feb. 12--Con.		
12 p.m.....	8.53	1,430	2 p.m.....	19.38	7,050	9 a.m.....	10.45	2,020
			6.....	19.32	6,970	1 p.m.....	10.55	2,060
Jan. 20			12 p.m.....	19.13	6,750	4.....	10.60	2,070
4 a.m.....	8.31	1,370				6.....	10.60	2,070
7.....	8.17	1,330	Jan. 25			12 p.m.....	10.47	2,030
8.....	8.17	1,330	4 a.m.....	18.95	6,530			
10.....	8.23	1,340	12 m.....	18.46	5,940	Feb. 13		
11.....	8.33	1,370	6 p.m.....	18.05	5,480	2 a.m.....	10.46	2,030
12 m.....	8.52	1,430	12 p.m.....	17.61	5,050	8.....	10.65	2,090
2 p.m.....	9.80	1,820				12 m.....	10.72	2,110
4.....	11.45	2,350	Jan. 26			4 p.m.....	11.12	2,240
6.....	12.55	2,730	8 a.m.....	17.01	4,570	8.....	11.63	2,410
8.....	13.23	2,960	4 p.m.....	16.30	4,170	10.....	11.83	2,480
10.....	13.72	3,140	12 p.m.....	15.25	3,720	12 p.m.....	11.93	2,520
12 p.m.....	13.93	3,210						
Jan. 21			Jan. 27			Feb. 14		
4 a.m.....	14.13	3,290	4 a.m.....	14.37	3,380	12 m.....	12.11	2,580
7.....	14.23	3,330	12 m.....	11.11	2,240	2 p.m.....	12.18	2,600
12 m.....	14.77	3,530	8 p.m.....	8.05	1,290	4.....	12.34	2,660
2 p.m.....	14.90	3,580	12 p.m.....	7.38	1,110	8.....	13.16	2,940
5.....	15.27	3,750	Feb. 9			10.....	13.34	3,000
8.....	15.84	3,960	12 p.m.....	4.62	474	12 p.m.....	13.43	3,030
12 p.m.....	16.87	4,480						
Jan. 22			Feb. 10			Feb. 15		
3 a.m.....	17.20	4,700	8 a.m.....	5.00	550	2 a.m.....	13.52	3,070
8.....	17.36	4,830	10.....	5.28	612	4.....	13.54	3,070
12 m.....	17.46	4,910	12 m.....	6.20	818	6.....	13.53	3,070
6 p.m.....	17.78	5,200	2 p.m.....	7.02	1,020	2 p.m.....	13.39	3,020
12 p.m.....	18.15	5,580	4.....	7.05	1,020	12 p.m.....	13.23	2,960
			7.....	7.70	1,200			
Jan. 23			9.....	7.65	1,180	Feb. 16		
8 a.m.....	18.57	6,070	11.....	7.60	1,170	6 a.m.....	13.15	2,930
4 p.m.....	18.93	6,510	12 p.m.....	7.62	1,170	12 m.....	13.08	2,910
12 p.m.....	19.27	6,910				6 p.m.....	13.02	2,890
			Feb. 11			12 p.m.....	12.95	2,860
Jan. 24			6 a.m.....	8.23	1,340			
2 a.m.....	19.34	7,000	12 m.....	9.04	1,580	Feb. 17		
6.....	19.40	7,070	6 p.m.....	9.69	1,780	6 a.m.....	12.87	2,840
8.....	19.42	7,090	12 p.m.....	10.15	1,930	12 m.....	12.70	2,780
9.....	19.42	7,090	Feb. 12			6 p.m.....	12.34	2,660
12 m.....	19.41	7,080	6 a.m.....	10.40	2,010	12 p.m.....	11.88	2,500

SCIOTO RIVER BASIN

103. Scioto River at Foraker, Ohio

(Miscellaneous site)

Location.--Lat 40°41'05", long 83°43'45", 90 ft downstream from county highway bridge half a mile north of Foraker, Hardin County, and 0.4 mile upstream from McCoy Run.

Drainage area.--102 sq mi.

Maximum.--January-February 1959: Discharge, 4,420 cfs Jan. 21, from slope-area measurement.

104. Scioto River at LaRue, Ohio

(Gaging station, discontinued 1951)

Location.--Lat 40°34'28", long 83°23'15", on right bank 200 ft downstream from highway bridge, 500 ft downstream from Cleveland, Cincinnati, Chicago and St. Louis Railway bridge at LaRue, Marion County, and $3\frac{1}{2}$ miles upstream from Rush Creek.

Drainage area.--255 sq mi.

Gage-height record.--High-water mark in gage house and marks outside house. Datum of gage is 910.2 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,700 cfs and by contracted-opening measurement at 16,300 cfs.

Maxima.--January-February 1959: Discharge, 16,300 cfs Jan. 21 (gage height, 15.30 ft, from high-water marks outside, 14.24 ft from high-water marks in gage house).

1926-35, 1938-51: Discharge observed, 10,700 cfs Mar. 20, 1927 (gage height, 15.0 ft).

Maximum stage known, 17.8 ft Mar. 26, 1913.

105. Little Scioto River above Marion, Ohio

Location.--Lat 40°37'43", long 83°10'11", on left bank at downstream side of Chesapeake and Ohio Railway bridge, 1 mile downstream from Rock Fork and 3½ miles northwest of Marion, Marion County.

Drainage area.--70.0 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 909.43 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,830 cfs.

Maxima.--January-February 1959: Discharge, 5,160 cfs 3 a.m. Jan. 22 (gage height, 8.73 ft).

1938 to December 1958: Discharge, 3,720 cfs June 7, 1947 (gage height, 8.16 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Little Scioto River above Marion, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	1.64	63	11 p.m.....	7.52	2,480	12 m.....	6.01	1,080
			12 p.m.....	7.51	2,460	1 p.m.....	6.20	1,180
Jan. 20						2.....	6.40	1,300
4 p.m.....	1.62	61	Jan. 23			3.....	6.55	1,400
8.....	1.77	75	2 a.m.....	7.48	2,410	4.....	6.62	1,440
12 p.m.....	2.08	110	6.....	7.36	2,210	5.....	6.68	1,490
			12 m.....	7.29	2,100	6.....	6.70	1,500
Jan. 21			4 p.m.....	7.20	1,970	7.....	6.73	1,520
4 a.m.....	2.99	280	8.....	7.01	1,750	8.....	6.75	1,540
6.....	3.90	450	12 p.m.....	6.70	1,500	9.....	6.78	1,560
10.....	5.20	770				10.....	6.80	1,570
2 p.m.....	6.96	1,700	Jan. 24			11.....	6.83	1,590
6.....	8.07	3,550	6 a.m.....	6.16	1,160	12 p.m.....	6.83	1,590
8.....	8.37	4,230	12 m.....	5.75	970			
9.....	8.55	4,680	6 p.m.....	5.30	800	Feb. 11		
10.....	8.57	4,730	12 p.m.....	5.00	712	1 a.m.....	6.80	1,570
11.....	8.61	4,840				2.....	6.78	1,560
12 p.m.....	8.66	4,970	Jan. 25			3.....	6.74	1,530
			12 m.....	3.83	435	4.....	6.68	1,490
Jan. 22			12 p.m.....	3.20	302	5.....	6.62	1,440
1 a.m.....	8.72	5,140				6.....	6.55	1,400
2.....	8.72	5,140	Feb. 8			7.....	6.46	1,340
3.....	8.73	5,160	12 p.m.....	1.34	38	8.....	6.37	1,280
4.....	8.70	5,080				9.....	6.29	1,250
5.....	8.68	5,030	Feb. 9			10.....	6.22	1,190
6.....	8.64	4,920	8 a.m.....	1.32	37	11.....	6.15	1,160
7.....	8.60	4,810	12 m.....	1.33	37	12 m.....	6.07	1,120
8.....	8.60	4,810	4 p.m.....	1.35	39	1 p.m.....	5.97	1,070
9.....	8.53	4,630	6.....	1.38	41	2.....	5.88	1,030
10.....	8.45	4,420	7.....	1.42	45	3.....	5.77	978
11.....	8.37	4,230	8.....	1.47	49	4.....	5.64	926
12 m.....	8.32	4,110	9.....	1.56	58	5.....	5.37	824
1 p.m.....	8.25	3,940	10.....	1.80	83	6.....	5.07	732
2.....	8.17	3,760	11.....	2.13	123	7.....	4.37	553
3.....	8.12	3,650	12 p.m.....	2.80	225			
4.....	8.03	3,460				Feb. 12		
5.....	7.97	3,340	Feb. 10			2 a.m.....	4.04	481
6.....	7.85	3,100	1 a.m.....	3.28	318	6.....	3.60	385
7.....	7.77	2,940	2.....	3.60	385	6.....	3.45	354
8.....	7.68	2,770	3.....	3.84	437	10.....	3.34	350
9.....	7.62	2,660	4.....	4.88	679	12 m.....	3.27	316
10 p.m.....	7.56	2,550	10 a.m.....	5.43	846	6 p.m.....	3.15	292
						12 p.m.....	3.07	276

106. Scioto River near Prospect, Ohio

Location.--Lat 40°25'10", long 83°11'50", on downstream side of pier of Hoskins Bridge in Delaware County, 1.5 miles upstream from Ottawa Creek, 2 miles south of Prospect, Marion County, and 2½ miles downstream from Patton Run.

Drainage area.--571 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 886.9 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9,300 cfs. Backwater from ice Jan. 5-14.

Maxima.--January-February 1959: Discharge, 10,100 cfs 11 p.m. Jan. 21 (gage height, 15.30 ft).

1925-32, 1939 to December 1958: Discharge, 10,100 cfs Mar. 22, 1927 (gage height, 15.0 ft, at Prospect, at datum 4.8 ft higher).

Maximum stage known, 21.1 ft Mar. 25, 1913, at Prospect (discharge, 27,000 cfs, computed by Franklin County Conservancy District).

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A131

Mean discharge, in cubic feet per second, 1959, of Scioto River near Prospect, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	120	2,770	11.....	130	5,080	21.....	5,340	531
2.....	238	2,180	12.....	120	6,610	22.....	9,140	531
3.....	367	1,140	13.....	110	5,520	23.....	9,510	545
4.....	362	846	14.....	100	3,740	24.....	9,300	792
5.....	300	796	15.....	412	3,150	25.....	8,570	945
6.....	270	630	16.....	736	3,270	26.....	6,730	778
7.....	220	402	17.....	918	2,910	27.....	4,130	657
8.....	190	382	18.....	810	1,900	28.....	2,440	645
9.....	160	358	19.....	594	1,280	29.....	1,100	-----
10.....	140	3,190	20.....	380	818	30.....	1,530	-----
						31.....	2,210	-----
Monthly mean discharge, in cubic feet per second.....							2,151	1,871
Runoff, in inches.....							4.35	3.42

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 26--Con.			Feb. 11--Con.		
12 p.m.....	3.25	443	12 m.....	12.32	6,770	8 a.m.....	9.95	4,520
Jan. 21			6 p.m.....	11.62	6,040	12 m.....	10.48	4,960
2 a.m.....	3.55	546	12 p.m.....	10.90	5,340	4 p.m.....	11.01	5,440
4.....	4.30	850	Jan. 27			8.....	11.48	5,900
6.....	5.95	1,690	6 a.m.....	10.10	4,640	12 p.m.....	11.86	6,280
8.....	8.30	3,250	12 m.....	9.40	4,080	Feb. 12		
10.....	10.05	4,600	6 p.m.....	8.72	3,540	6 a.m.....	12.18	6,620
12 m.....	10.80	5,250	12 p.m.....	8.17	3,160	10.....	12.29	6,740
2 p.m.....	11.73	6,150	Jan. 28			1 p.m.....	12.30	6,750
4.....	13.25	7,800	10 a.m.....	7.27	2,530	4.....	12.28	6,730
6.....	14.40	9,060	1 p.m.....	7.20	2,480	8.....	12.18	6,620
8.....	14.88	9,640	12 p.m.....	5.85	1,640	12 p.m.....	12.02	6,440
10.....	15.20	10,000	Jan. 29			Feb. 13		
11.....	15.30	10,100	8 a.m.....	5.00	1,190	6 a.m.....	11.59	6,010
12 p.m.....	15.25	10,100	2 p.m.....	4.53	955	12 m.....	11.16	5,580
Jan. 22			10.....	4.20	805	12 p.m.....	9.89	4,470
3 a.m.....	15.00	9,780	12 p.m.....	4.23	818	Feb. 14		
6.....	14.63	9,340	Feb. 8			6 a.m.....	9.18	3,900
10.....	14.22	8,860	12 p.m.....	2.96	362	12 m.....	8.71	3,540
12 m.....	14.11	8,740	Feb. 9			3 p.m.....	8.64	3,490
2 p.m.....	14.08	8,710	12 m.....	2.86	334	7.....	8.76	3,570
6.....	14.22	8,860	6 p.m.....	2.84	329	12 p.m.....	8.65	3,500
12 p.m.....	14.57	9,260	10.....	3.04	385	Feb. 15		
Jan. 23			12 p.m.....	3.75	622	6 a.m.....	8.33	3,270
6 a.m.....	14.79	9,530	Feb. 10			12 m.....	8.05	3,080
9.....	14.86	9,610	2 a.m.....	4.85	1,120	6 p.m.....	7.94	3,000
12 m.....	14.83	9,580	4.....	5.87	1,650	12 p.m.....	7.99	3,030
12 p.m.....	14.74	9,470	6.....	6.85	2,240	Feb. 16		
Jan. 24			8.....	7.78	2,840	12 m.....	8.39	3,310
6 a.m.....	14.72	9,440	10.....	8.54	3,420	8 p.m.....	8.54	3,420
6 p.m.....	14.51	9,190	12 m.....	9.06	3,810	12 p.m.....	8.48	3,380
12 p.m.....	14.35	9,000	2 p.m.....	9.33	4,020	Feb. 17		
Jan. 25			4.....	9.48	4,140	6 a.m.....	8.23	3,200
12 m.....	14.01	8,630	8.....	9.56	4,210	6 p.m.....	7.44	2,650
6 p.m.....	13.75	8,340	12 p.m.....	9.59	4,230	12 p.m.....	7.02	2,350
12 p.m.....	13.42	7,980	Feb. 11			Feb. 18		
Jan. 26			4 a.m.....	9.68	4,300	12 m.....	6.23	1,850
6 a.m.....	12.95	7,460				12 p.m.....	5.66	1,530

107. Mill Creek near Bellepoint, Ohio

Location.--Lat 40°14'55", long 83°10'30", on left bank at upstream side of highway bridge, 1½ miles upstream from mouth and 1½ miles west of Bellepoint, Delaware County.

Drainage area.--181 sq mi.

Gage height record.--Water-stage recorder graph. Datum of gage is 865.14 ft above mean sea level, adjustment of 1912 (levels by students of Ohio State University, city of Columbus bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 13,700 cfs.

Maxima.--January-February 1959: Discharge, 20,300 cfs 8 p.m. Jan. 21 (gage height, 13.85 ft).

1942 to December 1958: Discharge, 7,170 cfs May 27, 1956 (gage height, 9.92 ft).

Maximum stage known, 18.0 ft in March 1913.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	100	160	11.....	30	3,830	21.....	10,700	95
2.....	360	110	12.....	25	492	22.....	12,600	73
3.....	200	100	13.....	25	340	23.....	1,900	105
4.....	120	180	14.....	45	1,220	24.....	330	265
5.....	90	195	15.....	500	1,860	25.....	221	190
6.....	75	87	16.....	440	579	26.....	120	133
7.....	60	66	17.....	200	346	27.....	100	135
8.....	50	57	18.....	160	282	28.....	90	143
9.....	40	61	19.....	120	171	29.....	85	-----
10.....	35	3,980	20.....	190	92	30.....	602	-----
						31.....	686	-----
Monthly mean discharge, in cubic feet per second.....							977	548
Runoff, in inches.....							6.23	3.16

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 10		
12 p.m.....	3.55	120	7 p.m.....	13.78	19,900	1 a.m.....	3.35	488
Jan. 20			8.....	13.85	20,300	2.....	3.70	656
10 a.m.....	3.26	110	10.....	13.80	20,000	4.....	4.46	1,120
5 p.m.....	3.25	150	12 p.m.....	13.66	19,200	6.....	5.60	2,040
8.....	4.10	310	Jan. 22			8.....	7.07	3,700
12 p.m.....	5.12	700	1 a.m.....	13.62	19,000	10.....	8.00	4,820
Jan. 21			4.....	13.76	19,800	12 m.....	8.37	5,300
2 a.m.....	5.85	1,000	6.....	13.59	18,800	2 p.m.....	8.45	5,400
4.....	7.24	1,500	8.....	13.12	16,600	4.....	8.66	5,680
5.....	6.10	2,000	10.....	11.77	11,900	6.....	8.67	5,700
6.....	7.30	3,980	6 p.m.....	9.80	7,380	8.....	8.63	5,640
7.....	10.25	4,900	12 p.m.....	8.18	5,050	9.....	8.35	5,280
8.....	9.80	6,400	Feb. 8			10.....	8.32	5,240
9.....	10.78	9,320	12 p.m.....	1.60	54	12 p.m.....	8.33	5,250
10.....	11.05	9,960	Feb. 9			Feb. 11		
11.....	11.12	10,100	2 p.m.....	1.57	48	2 a.m.....	8.35	5,280
12 m.....	11.44	11,000	3.....	1.60	52	4.....	8.30	5,210
1 p.m.....	11.42	10,900	5.....	1.62	55	6.....	8.19	5,070
2.....	11.67	11,600	9.....	1.78	81	8.....	8.03	4,860
3.....	11.99	12,600	10.....	2.10	135	12 m.....	7.54	4,270
4.....	12.50	14,200	11.....	2.74	285	6 p.m.....	6.33	2,820
6 p.m.....	13.59	18,800				8.....	5.73	2,170
						12 p.m.....	4.18	933

108. O'Shaughnessy Reservoir near Dublin, Ohio

Location.--Lat 40°09'15", long 83°07'34", in Delaware County, at dam on Scioto River, 4 miles north of Dublin, Franklin County.

Drainage area.--987 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is mean sea level (levels by city of Columbus).

Maxima.--January-February 1959: Total contents, 24,290 acre-ft 6 a.m. Jan. 22 (elevation, 854.40 ft).

1924 to December 1958: Total contents, 21,050 acre-ft Jan. 28, 1952 (elevation, 851.74 ft).

Remarks--Reservoir is formed by concrete dam; dam completed and storage begun in 1924. Available capacity, 14,490 acre-ft. between elevations 789.5 ft (sill of outlet gate) and 845 ft crest of spillway, based on survey made in 1942. Flashboards installed May 8, 1945, additional capacity, 2,450 acre-ft. between elevation 845 ft (crest of spillway) and 847.9 ft (crest of flashboards). Dead storage, 55 acre-ft. Records given herein represent total contents. Water used for municipal supply of city of Columbus. Capacity table computed from data furnished by city of Columbus.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959-Con.			
Nov. 30.....	12 p.m....	848.21	17,370	Jan. 22.....	6 a.m....	854.40	24,290
Dec. 31.....	12 p.m....	848.19	17,310	Jan. 31.....	12 p.m....	849.18	18,290
				Feb. 28.....	12 p.m....	848.56	17,680
1959							
Jan. 20.....	5 p.m....	848.43	17,550				

109. Scioto River below O'Shaughnessy Dam, near Dublin, Ohio

Location.--Lat 40°08'36", long 83°07'14", on left bank in Delaware County, a quarter of a mile north of county line, three-quarters of a mile downstream from O'Shaughnessy Dam, and 3 miles north of Dublin, Franklin County.

Drainage area.--988 sq mi.

Gage-height record.--Water-stage recorder graph, except 11 a.m. Jan. 5 to 5 p.m. Jan. 24 for which graph was reconstructed on basis of high-water mark in gage house, telemark readings and engineer's readings. Datum of gage is 775.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 33,000 cfs and extended above on basis of computations of flow over Griggs Dam.

Maxima.--January-February 1959: Discharge, 55,200 cfs 6 a.m. Jan. 22 (gage height, 22.04 ft. from high-water mark).

1921 to December 1958: Discharge, 27,000 cfs Jan. 15, 1937 (gage height, 15.45 ft).

Maximum stage known, 24.6 ft Mar. 25, 1913 (discharge, 74,500 cfs at Griggs Dam, 9 miles below gage, computed by C. E. Sherman, Ohio State University).

Remarks.--Flow regulated by O'Shaughnessy Reservoir (see sta. 108).

Mean discharge, in cubic feet per second, 1959

[illegible]

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Scioto River below O'Shaughnessy Dam, near Dublin, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 23			Feb. 10--Con.		
12 p.m.....	4.90	785	6 a.m.....	13.00	18,000	7 p.m.....	11.90	15,100
Jan. 21			12 m.....	12.00	15,000	12 p.m.....	11.72	14,600
8 a.m.....	11.30	13,400	12 p.m.....	10.80	12,000	Feb. 11		
10.....	14.50	23,200	Feb. 8			6 a.m.....	11.55	14,100
11.....	15.45	26,400	12 p.m.....	4.65	588	12 m.....	11.38	13,500
12 m.....	15.70	27,400	Feb. 9			6 p.m.....	10.84	12,100
2 p.m.....	16.60	30,900	9 p.m.....	4.60	550	12 p.m.....	10.10	10,200
4.....	18.00	36,500	12 p.m.....	4.85	745	Feb. 12		
6.....	20.00	45,000	Feb. 10			2 a.m.....	9.87	9,580
8.....	21.00	50,000	2 a.m.....	5.10	960	4.....	9.70	9,160
10.....	21.60	53,000	4.....	5.62	1,470	8.....	9.49	8,640
12 p.m.....	21.80	54,000	6.....	6.34	2,320	12 m.....	9.30	8,170
Jan. 22			8.....	7.75	4,680	12 p.m.....	9.16	7,830
2 a.m.....	21.90	54,500	9.....	8.85	7,100	Feb. 13		
4.....	22.02	55,100	10.....	9.70	9,160	6 a.m.....	9.07	7,620
6.....	22.04	55,200	11.....	10.70	11,800	12 m.....	8.90	7,210
7.....	21.90	54,500	12 m.....	11.40	13,700	6 p.m.....	8.70	6,750
8.....	21.60	53,000	1 p.m.....	11.74	14,600	12 p.m.....	8.45	6,180
12 m.....	19.90	44,500	2.....	11.85	15,000			
4 p.m.....	18.00	36,000	3.....	11.88	15,000			
8.....	16.20	29,000	5 p.m.....	11.85	15,000			
12 p.m.....	14.70	24,000						

110. Griggs Reservoir near Columbus, Ohio

Location.--Lat 40°00'54", long 83°05'38", at dam on Scioto River, 5½ miles northwest of Columbus, Franklin County, and 6½ miles upstream from Olentangy River.

Drainage area.--1,052 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 680.3 ft above mean sea level, adjustment of 1912 (levels by city of Columbus); gage readings have been reduced to elevations above mean sea level.

Maxima.--January-February 1959: Total contents, 7,730 acre-ft 4 a.m. Jan. 22 (elevation, 763.91 ft).

1921 to December 1958: Total contents, 6,490 acre-ft Jan. 27, 1952 (elevation, 760.63 ft).

Flood of Mar. 25, 1913, reached an elevation of 766.2 ft.

Remarks.--Reservoir is formed by concrete dam; dam completed and storage began in 1905. Available capacity, 3,680 acre-ft between elevations 735.4 ft and 753.4 ft (crest of spillway), based on survey made in 1935. Flashboards installed July 28, 1945, additional capacity, 735 acre-ft, between elevations 753.4 ft (crest of spillway) and 755.6 ft (crest of flashboards). Dead storage, 250 acre-ft. Records given herein represent total contents. Water is used for municipal supply of city of Columbus. Capacity table computed from data furnished by city of Columbus.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	755.56	4,670	Jan. 22.....	4 a.m.....	763.91	7,730
Dec. 31.....	12 p.m....	755.54	4,660	Jan. 31.....	12 p.m....	756.89	5,130
1959				Feb. 28.....	12 p.m....	756.15	4,870
Jan. 20.....	12 m.....	755.84	4,770				

111. Olentangy River at Claridon, Ohio

Location.--Lat 40°35'05", long 82°59'20", on left bank at downstream side of bridge on State Highway 95, half a mile east of Claridon, Marion County, half a mile downstream from Otter Creek, and 7½ miles east of Marion.

Drainage area.--156 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 962.25 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,630 cfs and by contracted-opening measurement at 14,900 cfs.

Maxima.--January-February 1959: Discharge, 14,900 cfs 5 a.m. Jan. 22 (gage height, 16.77 ft).

1946 to December 1958: Discharge, 6,800 cfs June 7, 1947 (gage height, 13.57 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	70	327	11.....	41	3,450	21.....	4,590	160
2.....	320	223	12.....	38	1,620	22.....	11,900	127
3.....	300	182	13.....	41	556	23.....	3,800	184
4.....	167	207	14.....	49	652	24.....	1,200	385
5.....	126	174	15.....	332	1,550	25.....	523	237
6.....	104	110	16.....	607	1,160	26.....	333	167
7.....	85	100	17.....	367	502	27.....	246	167
8.....	71	88	18.....	222	378	28.....	209	189
9.....	57	94	19.....	150	262	29.....	174	-----
10.....	48	2,090	20.....	126	183	30.....	826	-----
						31.....	800	-----
Monthly mean discharge, in cubic feet per second.....							901	554
Runoff, in inches.....							6.66	3.70

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 25			Feb. 10--Con.		
12 p.m.....	3.26	131	6 a.m.....	5.52	588	9 p.m.....	11.29	3,630
Jan. 20			12 m.....	5.20	509	10.....	11.37	3,720
4 p.m.....	3.04	108	6 p.m.....	4.91	440	11.....	11.44	3,810
8.....	3.20	124	12 p.m.....	4.72	397	12 p.m.....	11.48	3,860
12 p.m.....	3.82	197						
Jan. 21			Feb. 8			Feb. 11		
2 a.m.....	4.36	290	12 p.m.....	2.72	80	12:30 a.m....	11.49	3,870
4.....	5.34	502				2.....	11.46	3,830
6.....	6.95	900	Feb. 9			3.....	11.42	3,780
8.....	8.54	1,410	6 a.m.....	2.70	78	4.....	11.36	3,710
10.....	9.49	1,880	12 m.....	2.70	78	5.....	11.30	3,640
12 m.....	10.05	2,300	2 p.m.....	2.72	80	6.....	11.25	3,540
2 p.m.....	11.15	3,460	4.....	2.77	85	7.....	11.22	3,540
4.....	12.98	5,840	6.....	2.84	92	8.....	11.20	3,520
6.....	14.62	8,680	7.....	2.88	97	10.....	11.20	3,520
8.....	15.53	10,900	8.....	2.96	106	12 m.....	11.22	3,540
12 p.m.....	16.35	13,400	9.....	3.07	118	2 p.m.....	11.22	3,540
			10.....	3.20	134	4.....	11.16	3,470
Jan. 22			11.....	3.50	174	6.....	11.05	3,340
3 a.m.....	16.72	14,700	12 p.m.....	4.00	255	8.....	10.88	3,150
4.....	16.76	14,900				10.....	10.66	2,910
5.....	16.77	14,900	Feb. 10			12 p.m.....	10.42	2,670
6.....	16.75	14,800	1 a.m.....	4.60	372			
7.....	16.69	14,600	2.....	5.23	516	Feb. 12		
8.....	16.81	14,300	3.....	5.87	678	2 a.m.....	10.14	2,410
12 m.....	16.14	12,700	4.....	6.53	856	4.....	9.90	2,200
4 p.m.....	15.43	10,600	5.....	7.17	1,040	6.....	9.70	2,050
8.....	14.58	8,600	6.....	7.68	1,190	8.....	9.50	1,920
12 p.m.....	13.67	6,920	7.....	8.15	1,360	10.....	9.26	1,800
			8.....	8.55	1,500	12 m.....	9.02	1,680
Jan. 23			9.....	8.85	1,620	2 p.m.....	8.60	1,520
6 a.m.....	12.30	4,900	10.....	9.10	1,720	4.....	8.05	1,320
12 m.....	11.10	3,400	11.....	9.33	1,830	6.....	7.42	1,120
6 p.m.....	10.24	2,500	12 m.....	9.56	1,960	8.....	6.88	955
12 p.m.....	9.45	1,890	1 p.m.....	9.78	2,110	10.....	6.42	826
			2 p.m.....	10.00	2,280	12 p.m.....	6.07	731
Jan. 24			3.....	10.22	2,480			
6 a.m.....	8.20	1,380	4.....	10.44	2,690	Feb. 13		
12 m.....	7.30	920	5.....	10.65	2,900	4 a.m.....	5.65	621
12 p.m.....	6.00	712	6.....	10.85	3,120	8.....	5.41	560
			7.....	11.03	3,320	12 m.....	5.29	531
			8 p.m.....	11.17	3,480	6 p.m.....	5.18	504
						12 p.m.....	5.12	490

112. Shaw Creek at Shawtown, Ohio

(Gaging station, discontinued 1955)

Location.--Lat 40°29'00", long 82°57'25", at highway bridge half a mile east of Shawtown, Morrow County, 1½ miles upstream from mouth and 3½ miles southwest of Cardington.

Drainage area.--25.2 sq mi.

Gage-height record.--High-water marks at gage site. Datum of gage is 954.99 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 920 cfs and by contracted-opening measurement at 4,120 cfs.

Maxima.--January-February 1959: Discharge, 4,120 cfs Jan. 21 (gage height, 8.12 ft, from high-water marks).
1946-55: Discharge, 1,250 cfs Apr. 12, 1948 (gage height, 6.05 ft).

113. Whetstone Creek near Ashley, Ohio

Location.--Lat 40°27'20", long 82°57'25", on left bank 800 ft upstream from bridge on State Highway 746 in Morrow County, 0.6 mile downstream from Shaw Creek, and 3¼ miles north of Ashley, Delaware County.

Drainage area.--98.5 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 942.77 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,840 cfs and by slope-area measurement at 19,100 cfs.

Maxima.--January-February 1959: Discharge, 19,100 cfs 7 p.m. Jan. 21 (gage height, 14.34 ft).
1954 to December 1958: Discharge, 4,020 cfs Feb. 25, 1956 (gage height, 8.54 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	100	120	11.....	30	1,240	21.....	9,280	95
2.....	350	90	12.....	25	270	22.....	5,300	75
3.....	173	80	13.....	24	230	23.....	559	150
4.....	113	90	14.....	43	632	24.....	300	246
5.....	90	80	15.....	400	1,410	25.....	169	120
6.....	75	65	16.....	382	347	26.....	110	105
7.....	60	50	17.....	170	233	27.....	90	106
8.....	48	43	18.....	140	193	28.....	80	111
9.....	40	44	19.....	120	134	29.....	70	-----
10.....	35	2,620	20.....	100	100	30.....	570	-----
						31.....	325	-----
Monthly mean discharge, in cubic feet per second.....							625	324
Runoff, in inches.....							7.32	3.43

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22			Feb. 9--Con.		
12 p.m.....	3.34	306	4 a.m.....	11.76	10,600	8 p.m.....	1.98	44
			8.....	9.85	6,500	10.....	2.06	53
Jan. 21			12 m.....	8.00	3,450	11.....	2.19	70
2 a.m.....	4.20	592	6 p.m.....	6.10	1,670	12 p.m.....	2.58	130
4.....	5.86	1,450	12 p.m.....	5.00	1,000			
6.....	7.35	2,690				Feb. 10		
8.....	8.32	3,880	Jan. 23			1 a.m.....	3.25	292
10.....	10.22	7,040	6 a.m.....	4.40	700	2.....	3.85	478
12 m.....	11.28	9,450	12 m.....	3.85	478	4.....	5.00	1,000
2 p.m.....	11.91	11,000	6 p.m.....	3.58	389	6.....	5.95	1,560
3.....	12.32	12,300	12 p.m.....	3.40	335	8.....	6.68	2,100
4.....	13.00	14,300				9.....	7.10	2,470
5.....	13.68	16,400	Feb. 8			10.....	7.20	2,570
6.....	14.14	18,300	12 p.m.....	1.93	39	11.....	7.38	2,750
7.....	14.34	19,100				12 m.....	7.60	2,970
8.....	14.27	18,800	Feb. 9			1 p.m.....	7.83	3,240
10.....	13.68	16,400	12 m.....	1.93	39	2.....	8.00	3,450
12 p.m.....	13.00	14,300	6 p.m.....	1.96	42	3 p.m.....	8.20	3,710

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A137

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Whetstone Creek near Ashley, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 10--Con.			Feb. 11			Feb. 12		
4 p.m.....	8.30	3,850	2 a.m.....	7.37	2,740	6 a.m.....	3.33	315
5.....	8.40	3,990	4.....	6.81	2,210	10.....	3.10	251
6.....	8.47	4,090	6.....	6.13	1,690	12 m.....	3.12	256
8.....	8.40	3,990	8.....	5.61	1,350	6 p.m.....	2.94	210
10.....	8.10	3,580	10.....	5.22	1,110	8.....	2.94	210
12 p.m.....	7.76	3,150	12 m.....	4.89	945	12 p.m.....	3.04	235
			6 p.m.....	4.10	570			
			12 p.m.....	3.61	398			

114. Delaware Reservoir near Delaware, Ohio

Location--Lat 40°21'25", long 83°04'05", at dam on Olentangy River, 4 miles north of Delaware, Delaware County.

Drainage area--381 sq mi (Corps of Engineers).

Gage-height record--Water-stage recorder graph. Datum of gage is at mean sea level, Sandy Hook datum (levels by Corps of Engineers).

Maxima--January-February 1959: Total contents, 113,000 acre-ft 1:30-4 p.m.

Jan. 25 (elevation, 944.75 ft).

1951 to December 1958: Total contents, 45,300 acre-ft Apr. 6, 1957 (elevation, 931.14 ft).

Remarks--Reservoir formed by earth dam with concrete spillway; closure of dam made Aug. 12, 1947; storage to maintain conservation pool began Mar. 20, 1951. Capacity at top of crest gates (elevation, 947.00 ft), 132,000 acre-ft of which 8,400 acre-ft (winter) and 14,000 acre-ft (summer) is in conservation pool. Reservoir is used primarily for flood control, although the conservation pool is operated for increased low flow for water supply and pollution abatement to downstream areas and for recreational and wildlife conservation purposes. Outflow is controlled mostly by operation of gates in sluiceways through dam, but above spillway level taintor gates on spillway can be used. Gage-height record and capacity curve used to compute data contained herein furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	910.57	8,970	Jan. 25.....	1:30-4 p.m..	944.75	113,000
Dec. 31.....	12 p.m....	910.30	8,700	Jan. 31.....	12 p.m....	932.97	51,100
				Feb. 28.....	12 p.m....	910.57	8,970
1959							
Jan. 20.....	5 p.m.....	910.18	8,580				

115. Olentangy River near Delaware, Ohio

Location--Lat 40°21'20", long 83°04'05", on left bank 500 ft upstream from highway bridge, 1,000 ft downstream from Delaware Dam, 1,300 ft upstream from Pennsylvania Railroad bridge, and 4 miles north of Delaware, Delaware County.

Drainage area--387 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 800.00 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Discharge record--Stage-discharge relation defined by current-meter measurements.

Maxima--January-February 1959: Discharge, 6,000 cfs 10 a.m. Jan. 31 (gage height, 88.11 ft).

1923-34, 1938 to December 1958: Discharge, 14,100 cfs Mar. 21, 1927 (gage height, 16.9 ft, at site 500 ft downstream at datum 76.7 ft higher).

Remarks--Flow regulated by temporary storage in Delaware Reservoir from 1947 to 1951 and completely regulated after March 1951.

Mean discharge, in cubic feet per second, 1959, of Olentangy River near Delaware, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	134	5,940	11.....	153	1,280	21.....	726	367
2.....	550	5,820	12.....	128	4,170	22.....	152	244
3.....	825	5,310	13.....	105	4,480	23.....	55	375
4.....	815	4,410	14.....	108	3,100	24.....	29	646
5.....	299	1,850	15.....	381	3,220	25.....	1,500	954
6.....	50	192	16.....	1,030	4,400	26.....	5,190	539
7.....	50	250	17.....	809	4,280	27.....	5,870	379
8.....	148	251	18.....	408	3,190	28.....	5,860	436
9.....	194	286	19.....	308	449	29.....	5,840	---
10.....	194	584	20.....	343	625	30.....	5,340	---
						31.....	5,740	---
Monthly mean discharge, in cubic feet per second.....							1,398	2,073

116. Delaware Run near Delaware, Ohio

(Crest-stage station)

Location.--Lat 40°18'30", long 83°06'35", on left upstream wingwall of bridge on Houk Road, 23 miles west of center of Delaware, Delaware County.

Drainage area.--3.33 sq mi.

Gage-height record.--Crest stages only. Altitude of gage is 905 ft above mean sea level (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 1,050 cfs Jan. 21 (gage height, 13.01 ft).
1947 to December 1958: Discharge, 780 cfs Feb. 14, 1948 (gage height, 12.42 ft).

117. Olentangy River at Stratford, Ohio

(Gaging station; partial-record station beginning 1959)

Location.--Lat 40°15'29", long 83°03'44", on left bank 0.2 mile upstream from bridge on U.S. Highway 23 at Stratford, Delaware County, and 3 miles downstream from Delaware Run.

Drainage area.--438 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 823.63 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 12,200 cfs.

Maxima.--January-February 1959: Discharge, 9,600 cfs 6 p.m. Jan. 21 (gage height, 6.75 ft).
1934-35, 1938 to December 1958: Discharge, 15,600 cfs June 19, 1939 (gage height, 8.77 ft).

Remarks.--Flow regulated by Delaware Reservoir beginning in 1951 (see sta. 114).

118. Olentangy River near Worthington, Ohio

Location.--Lat 40°06'35", long 83°01'55", on right bank 30 ft downstream from Wilson bridge, 1½ miles northwest of Worthington, Franklin County, and 2½ miles upstream from Rush Run.

Drainage area.--493 sq mi.

Gage-height record.--Water-stage recorder graph, except 6:30 a.m. to 1 p.m. Jan. 21 for which graph was reconstructed on basis of high-water mark in well. Datum of gage is 743.20 ft above mean sea level, datum of 1929, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 13,600 cfs. Backwater from ice Jan. 18-20.

Maxima.--January-February 1959: Discharge, 16,500 cfs 11 a.m. Jan. 21 (gage height, 15.68 ft, from high-water mark).

1955 to December 1959: Discharge, 6,620 cfs May 20, 1957 (gage height, 11.58 ft in gage well, 11.82 ft, from outside high-water mark).

Flood of January 1952 reached a stage of 15.3 ft (discharge, 15,100 cfs), from information by Corps Engineers.

Remarks.--Flow regulated by Delaware Reservoir (see sta. 114).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	252	5,970	11.....	178	1,320	21.....	10,800	580
2.....	585	5,790	12.....	111	3,860	22.....	3,330	287
3.....	1,070	5,750	13.....	111	4,650	23.....	562	408
4.....	914	4,330	14.....	120	4,540	24.....	263	695
5.....	654	2,970	15.....	432	3,110	25.....	370	944
6.....	95	247	16.....	1,590	4,510	26.....	4,190	830
7.....	87	262	17.....	1,800	4,440	27.....	5,750	382
8.....	79	310	18.....	950	4,060	28.....	5,830	495
9.....	194	326	19.....	600	638	29.....	5,860	---
10.....	191	3,890	20.....	700	720	30.....	5,850	---
						31.....	5,780	---
Monthly mean discharge, in cubic feet per second.....							1,913	2,368

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 21			Jan. 23			Feb. 10--Con.		
2 a.m.....	7.34	2,430	12 m.....	4.31	500	10 a.m.....	9.82	5,090
3.....	7.65	2,730	6 p.m.....	4.22	459	11.....	10.57	5,990
4.....	8.20	3,500	12 p.m.....	3.95	352	12 m.....	11.30	6,870
5.....	8.95	4,120				1 p.m.....	11.82	7,530
6.....	11.15	6,690	Jan. 24			2.....	11.91	7,640
7.....	12.65	8,630	6 a.m.....	3.70	265	3.....	11.65	7,300
8.....	13.70	10,600	12 m.....	3.66	256	4.....	11.12	6,650
9.....	14.70	13,300	12 p.m.....	3.55	224	5.....	10.52	5,930
10.....	15.50	15,800				6.....	9.85	5,130
11.....	15.68	16,500	Feb. 8			7.....	9.00	4,180
12 m.....	15.66	16,400	12 p.m.....	3.81	304	8.....	8.22	3,320
2 p.m.....	15.33	15,200				9.....	7.66	2,740
5.....	14.73	13,400	Feb. 9			10.....	7.28	2,370
8.....	14.90	13,900	1 p.m.....	3.81	304	12 p.m.....	6.76	1,920
10.....	14.40	12,400	5.....	3.88	328			
12 p.m.....	13.56	10,200	6.....	3.85	318	Feb. 11		
			8.....	3.85	318	4 a.m.....	5.90	1,350
Jan. 22			9.....	3.90	335	8.....	5.28	994
2 a.m.....	12.55	8,490	10.....	4.05	390	12 m.....	4.83	755
4.....	11.00	6,510	12 p.m.....	4.44	560	5 p.m.....	4.50	590
6.....	9.17	4,370				6.....	5.20	950
8.....	8.22	3,320	Feb. 10			7.....	6.75	1,910
10.....	7.50	2,580	2 a.m.....	5.10	895	8.....	7.15	2,260
12 m.....	6.99	2,110	4.....	6.05	1,440	9.....	7.25	2,340
4 p.m.....	6.18	2,020	6.....	7.12	2,230	10.....	7.27	2,360
8.....	5.66	1,210	7.....	7.80	2,880	12 p.m.....	7.27	2,360
12 p.m.....	5.18	939	8 a.m.....	8.55	3,680			

119. Scioto River at Columbus, Ohio

(U.S. Weather Bureau gage)

Location.--Lat 39°57'41", long 83°00'20", at upstream side of pier of Broad Street Bridge in Columbus, Franklin County.

Drainage area.--1,613 sq mi.

Gage-height record.--Twice daily Telemark readings supplemented by hourly readings on floods. Datum of gage is 700.3 ft above mean sea level.

Maxima.--January-February 1959: Gage height, 16.2 ft 12 p.m. Jan. 21 to 2 a.m. Jan. 22.
1897 to December 1958: Gage height, 16.2 ft Mar. 25, 1913 (at Mound St., present datum).

Remarks.--Records furnished by U.S. Weather Bureau.

120. Scioto River at Columbus, Ohio

Location.--Lat 39°54'34", long 83°00'33", on right bank at sewage-treatment works of city of Columbus, Franklin County, 0.4 mile downstream from bridge on Frank Road.

Drainage area.--1,624 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 1 when intake was partly plugged and 1 p.m. Jan. 21 to 8 a.m. Jan. 22 for which graph was reconstructed on basis of high-water mark in gage house and Weather Bureau gage readings $4\frac{1}{2}$ miles upstream. Datum of gage is 680.40 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 45,100 cfs.

Maxima.--January-February 1959: Discharge, 68,200 cfs 1 a.m. Jan. 22 (gage height, 27.22 ft, from high-water mark).
1920 to December 1958: Discharge, 40,300 cfs Jan. 27, 1952; maximum gage height, 24.70 ft Mar. 21, 1927, Jan. 27, 1952.
Maximum stage previously known, 25.9 ft Mar. 25, 1913 (discharge, 138,000 cfs, estimated by Franklin County Conservancy District). This stage is not comparable with present gage heights because of subsequent channel improvement and levee construction.

Remarks.--Flow regulated by Griggs Reservoir and by O'Shaughnessy Reservoir beginning in 1924, and by Delaware Reservoir beginning in 1947 (see stas. 108, 110, 114).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	600	9,310	11.....	440	15,500	21.....	34,000	2,000
2.....	1,220	8,660	12.....	380	12,100	22.....	48,200	1,470
3.....	1,810	7,860	13.....	329	11,800	23.....	18,000	1,580
4.....	1,930	6,220	14.....	400	10,900	24.....	11,900	2,140
5.....	1,440	5,460	15.....	1,030	11,000	25.....	10,700	2,720
6.....	625	2,000	16.....	2,440	9,920	26.....	11,900	2,840
7.....	535	1,410	17.....	2,640	8,900	27.....	11,100	1,870
8.....	475	1,330	18.....	1,770	7,740	28.....	9,310	1,860
9.....	465	1,280	19.....	1,230	3,930	29.....	8,100	-----
10.....	475	12,900	20.....	1,240	2,580	30.....	8,070	-----
						31.....	9,490	-----
Monthly mean discharge, in cubic feet per second.....							6,524	5,974

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 21--Con.		
12 p.m.....	7.90	1,100	2 a.m.....	9.00	2,050	1 p.m.....	25.40	49,200
Jan. 20			3.....	9.40	2,450	2.....	25.85	53,500
4 a.m.....	7.95	1,140	4.....	9.70	2,780	4.....	26.25	57,600
12 m.....	7.98	1,160	5.....	10.06	3,180	6.....	26.60	61,400
6 p.m.....	8.26	1,380	7.....	10.45	3,620	8.....	26.90	64,700
12 p.m.....	8.36	1,460	8.....	11.20	4,520	10.....	27.12	67,100
Jan. 21			9.....	16.40	11,700	12 p.m.....	27.20	68,000
1 a.m.....	8.43	1,520	10.....	19.60	18,400			
			11.....	21.70	25,600	Jan. 22		
			12 m.....	23.95	37,600	1 a.m.....	27.22	68,200

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY

A141

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959 of
Scioto River at Columbus, Ohio--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 22--Con.			Feb. 8			Feb. 13--Con.		
2 a.m.	27.10	66,900	12 p.m.	8.16	1,300	12 p.m.	16.08	11,200
4.....	26.70	62,500						
6.....	26.25	57,600	Feb. 9			Feb. 14		
8.....	25.85	53,500	12 m.	8.10	1,230	12 m.	15.48	10,300
10.....	25.47	49,800	9 p.m.	8.15	1,270	2 p.m.	15.39	10,200
12 m.	25.20	47,400	10.....	8.20	1,310	4.....	15.45	10,300
2 p.m.	24.91	44,900	12 p.m.	8.66	1,700	8.....	16.10	11,300
4.....	24.60	42,400	Feb. 10			12 p.m.	17.10	12,900
6.....	23.50	34,800	3 a.m.	8.96	1,990			
12 p.m.	22.53	28,400	4.....	9.34	2,380	Feb. 15		
			5.....	9.80	2,880	1:30 a.m.	17.24	13,100
Jan. 23			6.....	10.12	3,230	4.....	16.82	12,400
6 a.m.	20.40	20,800	8.....	11.70	5,120	6.....	16.40	11,700
12 m.	18.82	16,400	10.....	14.30	8,590	12 m.	15.55	10,400
6 p.m.	17.75	14,100	12 m.	16.95	12,600	4 p.m.	15.14	9,820
8.....	17.53	13,700	2 p.m.	18.80	16,300	6.....	15.06	9,700
12 p.m.	17.26	13,200	4.....	20.35	20,600	8.....	15.40	10,200
			6.....	21.16	23,400	10.....	15.60	10,500
Jan. 24			7.....	21.40	24,400	12 p.m.	15.85	10,900
6 a.m.	16.92	12,600	8.....	21.52	24,900			
12 m.	16.44	11,800	8:30.....	21.54	25,000	Feb. 16		
4 p.m.	16.14	11,300	10.....	21.35	24,200	2 a.m.	15.81	10,800
6.....	16.05	11,200	11.....	21.06	23,100	6.....	15.54	10,400
12 p.m.	16.00	11,100	12 p.m.	20.67	21,700	2 p.m.	15.03	9,660
						6.....	14.80	9,310
Jan. 25			Feb. 11			12 p.m.	14.79	9,300
6 a.m.	15.90	11,000	2 a.m.	19.95	19,400			
12 m.	15.75	10,700	4.....	19.36	17,700	Feb. 17		
12 p.m.	15.40	10,200	8.....	18.62	15,900	12 m.	14.56	8,950
			12 m.	18.15	14,900	12 p.m.	14.15	8,380
Jan. 26			6 p.m.	17.55	13,700			
2 a.m.	15.40	10,200	11.....	17.00	12,700	Feb. 18		
6.....	16.75	12,300	12 p.m.	17.06	12,800	12 m.	13.70	7,750
8.....	16.95	12,600				6 p.m.	13.44	7,390
10.....	16.95	12,600	Feb. 12			12 p.m.	13.27	7,150
12 m.	16.83	12,400	2 a.m.	17.15	13,000			
6 p.m.	16.56	12,000	6.....	16.70	12,200	Feb. 19		
8.....	16.48	11,900	12 m.	16.45	11,800	2 a.m.	12.90	6,670
12 p.m.	16.51	11,900	4 p.m.	16.28	11,500	4.....	12.24	5,810
			10.....	16.69	12,200	6.....	11.48	4,860
Jan. 27			12 p.m.	16.71	12,200	8.....	10.87	4,120
2 a.m.	16.53	11,900				10.....	10.50	3,680
6.....	16.40	11,700	Feb. 13			12 m.	10.25	3,380
6 p.m.	15.64	10,600	6 a.m.	16.66	12,200	4 p.m.	9.97	3,070
12 p.m.	15.44	10,300	12 m.	16.52	11,900	10.....	9.27	2,300
						12 p.m.	9.25	2,280

121. Scioto Big Run at Briggsdale, Ohio

(Gaging station; partial-record station beginning 1959)

Location.--Lat 39°54'55", long 83°03'55", at bridge on U.S. Highway 62 at Briggsdale, Franklin County, 2½ miles northeast of Grove City, and 4 miles upstream from mouth.

Drainage area.--11.0 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 729.06 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,790 cfs.

Maxima.--January-February 1959: Discharge, 2,920 cfs 12 m. Jan. 21 (gage height, 12.09 ft).
1947 to December 1958: Discharge, 2,790 cfs July 20, 1954 (gage height, 11.92 ft).

122. Hoover Reservoir at Central College, Ohio

Location.--Lat 40°06'30", long 82°53'00", at dam on Big Walnut Creek, half a mile northeast of Central College, Franklin County, and 12 miles northeast of Columbus.

Drainage area.--190 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is at mean sea level.

Maxima,--January-February 1959: Total contents, 74,680 acre-ft 8:30 p.m Jan. 21 (elevation, 894.76 ft).
1955 to December 1958: Total contents, 65,600 acre-ft Apr. 4, 1957 (elevation, 891.90 ft).

Remarks.--Reservoir formed by earth dam with concrete spillway; dam completed in 1954 and storage began in March 1955. Available capacity, 60,340 acre-ft at elevation 890 ft (crest of spillway). Dead storage, 214 acre-ft at elevation 830 ft (sill of two 4- by 6-foot gates). Records given herein represent total contents. Water is used for municipal supply of city of Columbus. Capacity table computed from data furnished by city of Columbus.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959--Con.			
Nov. 30.....	12 p.m....	887.27	53,100	Jan. 21.....	8:30 p.m..	894.76	74,680
Dec. 31.....	12 p.m....	886.88	52,080	Jan. 31.....	12 p.m....	890.02	60,390
				Feb. 28.....	12 p.m....	889.76	59,700
1959							
Jan. 20.....	12 m.....	887.64	54,070				

123. Big Walnut Creek at Central College, Ohio

Location.--Lat 40°06'13", long 82°53'03", a quarter of a mile east of Central College, Franklin County, 0.4 mile downstream from Hoover Dam, and 3 miles south-east of Westerville.

Drainage area.--190 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 814.96 ft above mean sea level.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 13,200 cfs and extended on basis of computations of flow over Hoover Dam. Backwater from ice Jan. 5, 21 (2-7 a.m.), 27, Jan. 30 to Feb. 1.

Maxima,--January-February 1959: Discharge, 23,800 cfs 10 p.m. Jan. 21 (gage height, 19.75 ft).
1938 to December 1958: Discharge, 14,400 cfs Aug. 4, 1943 (gage height, 16.6 ft).

Remarks.--Flow completely regulated by Hoover Dam beginning September 1954 (see sta. 122).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	62	264	11.....	134	3,410	21.....	9,500	141
2.....	58	193	12.....	134	1,030	22.....	10,600	187
3.....	55	163	13.....	162	584	23.....	1,690	232
4.....	55	149	14.....	190	642	24.....	696	230
5.....	55	138	15.....	215	1,430	25.....	410	230
6.....	55	158	16.....	227	855	26.....	301	230
7.....	53	218	17.....	224	486	27.....	245	197
8.....	53	218	18.....	221	458	28.....	225	235
9.....	85	214	19.....	221	238	29.....	225	- - - - -
10.....	134	3,200	20.....	227	162	30.....	230	- - - - -
						31.....	248	- - - - -
Monthly mean discharge, in cubic feet per second.....							871	564

A143

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Big Walnut Creek at Central College, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 10--Con.		
12 p.m.....	3.65	221	12 p.m.....	19.14	21,500	8 a.m.....	4.29	446
Jan. 20			Jan. 22			9.....	4.60	570
4 p.m.....	3.65	221	2 a.m.....	18.48	19,400	10.....	5.40	946
6.....	3.68	231	4.....	17.75	17,400	11.....	6.60	1,570
9.....	3.70	237	6.....	17.00	15,400	12 m.....	7.70	2,210
12 p.m.....	3.79	267	8.....	16.17	13,500	1 p.m.....	8.95	3,070
Jan. 21			12 m.....	14.55	9,680	3.....	10.95	4,760
1 a.m.....	3.83	280	6 p.m.....	11.48	5,290	4.....	11.72	5,530
2.....	3.96	290	12 p.m.....	9.04	3,140	5.....	12.35	6,210
3.....	4.03	320	Jan. 23			6.....	12.74	6,720
4.....	4.00	337	4 a.m.....	7.94	2,360	7.....	12.97	7,040
5.....	4.40	360	8.....	7.10	1,850	8.....	13.09	7,210
6.....	4.70	390	12 m.....	6.49	1,510	10.....	12.98	7,050
7.....	4.37	450	6 p.m.....	5.85	1,160	12 p.m.....	12.60	6,540
8.....	4.68	577	12 p.m.....	5.45	965	Feb. 11		
9.....	4.87	648	Jan. 24			2 a.m.....	12.08	5,920
10.....	5.24	794	6 a.m.....	5.09	790	4.....	11.44	5,250
11.....	6.70	1,500	12 m.....	4.82	669	6.....	10.75	4,580
12 m.....	10.20	4,090	12 p.m.....	4.45	510	8.....	10.02	3,930
1 p.m.....	12.95	7,010	Feb. 9			12 m.....	8.87	3,010
2.....	15.05	10,700	12 p.m.....	3.69	248	4 p.m.....	7.91	2,340
3.....	16.35	13,700	Feb. 10			8.....	7.11	1,860
4.....	17.65	17,100	2 a.m.....	3.65	238	12 p.m.....	6.60	1,570
5.....	18.67	20,000	4.....	3.85	292	Feb. 12		
6.....	19.10	21,400	5.....	3.88	286	6 a.m.....	5.98	1,230
7.....	19.62	23,500	6.....	4.10	375	12 m.....	5.45	965
8.....	19.58	23,100	7 a.m.....	4.47	518	8 p.m.....	5.00	750
9.....	19.67	23,500				12 p.m.....	4.84	678
10.....	19.75	23,800						
11 p.m.....	19.55	23,000						

124. Alum Creek at Columbus, Ohio

Location.--Lat 39°56'42", long 82°56'28", on left bank a quarter of a mile downstream from Livingston Avenue Bridge in Columbus, Franklin County, and 6 miles upstream from mouth.

Drainage area.--190 sq mi.

Gage-height record.--Water-stage recorder graph, except 10:30 p.m. Jan. 21 to 8 a.m. Jan. 25 (recorder overtopped) for which graph was reconstructed on basis of high-water mark in gage house and engineer's readings. Datum of gage is 733.62 ft above mean sea level.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 16,400 cfs and by contracted-opening measurement at 26,400 cfs. Backwater from ice Jan. 5-10, 18-19. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 26,400 cfs 4 a.m. Jan. 22 (gage height, 19.59 ft. from high-water mark).
1923-35, 1938 to December 1958: Discharge, 8,800 cfs Feb. 27, 1929 (gage height, 13.6 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	120	226	11....	41	5,130	21.....	8,030	114
2.....	303	143	12....	33	659	22.....	16,600	117
3.....	326	130	13....	30	464	23.....	1,970	170
4.....	212	161	14....	49	690	24.....	550	392
5.....	160	152	15....	219	1,920	25.....	332	252
6.....	110	117	16....	347	705	26.....	230	188
7.....	75	112	17....	310	405	27.....	164	-164
8.....	75	112	18....	180	340	28.....	132	--
9.....	65	116	19....	150	233	29.....	130	--
10.....	45	3,410	20....	150	135	30.....	312	--
						31.....	513	--
Monthly mean discharge, in cubic feet per second.....							1,032	604
Runnoff, in inches.....							6.26	3.31

FLOODS OF 1959 IN THE UNITED STATES

Gage-height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Alum Creek at Columbus, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22			Feb. 10--Con.		
12 p.m.....	2.48	158	2 a.m.....	19.13	24,500	9 a.m.....	9.30	3,220
			4.....	19.59	26,400	10.....	9.70	3,500
Jan. 20			6.....	19.32	25,300	11.....	9.93	3,680
10 a.m.....	2.35	131	8.....	18.40	22,000	12 m.....	10.16	3,870
3 p.m.....	2.43	147	10.....	17.45	18,800	4 p.m.....	10.94	4,620
6.....	2.41	143	12 m.....	16.50	15,900	8.....	11.70	5,600
11.....	2.61	185	6 p.m.....	14.12	10,200	12 p.m.....	12.38	6,750
12 p.m.....	2.79	225	12 p.m.....	11.92	5,950			
Jan. 21			Jan. 23			Feb. 11		
2 a.m.....	3.45	392	6 a.m.....	9.15	3,120	2 a.m.....	12.64	7,230
3.....	3.40	377	8.....	7.00	1,670	4.....	12.77	7,470
4.....	4.65	782	10.....	6.30	1,250	5.....	12.80	7,530
5.....	6.22	1,460	12 m.....	5.98	1,060	6.....	12.79	7,510
6.....	6.45	1,580	6 p.m.....	5.52	806	8.....	12.70	7,340
7.....	7.15	1,930	12 p.m.....	5.35	715	12 m.....	12.28	6,570
8.....	8.80	2,920				2 p.m.....	11.92	5,790
9.....	11.00	4,690	Feb. 8			3.....	11.33	5,080
10.....	12.05	6,180	12 p.m.....	3.95	110	4.....	10.38	4,050
11.....	12.55	7,060				5.....	9.00	3,010
12 m.....	12.92	7,760	Feb. 9			6.....	7.78	2,160
1 p.m.....	13.15	8,200	9 p.m.....	3.93	105	7.....	7.05	1,700
2.....	13.75	9,400	10.....	4.15	170	8.....	6.66	1,470
3.....	14.12	10,200	11.....	4.22	202	9.....	6.58	1,300
4.....	14.60	11,200	12 p.m.....	4.20	205	10.....	6.18	1,180
5.....	15.15	12,400				12 p.m.....	5.92	1,030
6.....	15.62	13,600	Feb. 10					
7.....	15.90	14,300	3 a.m.....	4.50	320	Feb. 12		
8.....	16.25	15,200	4.....	5.15	615	4 a.m.....	5.58	839
9.....	16.55	16,000	5.....	5.10	590	8.....	5.35	715
10.....	16.95	17,200	6.....	5.96	1,050	12 m.....	5.16	620
12 p.m.....	18.06	20,800	7.....	7.58	2,020	6 p.m.....	4.95	518
			8 a.m.....	8.40	2,590	8.....	4.87	482
						12 p.m.....	4.83	464

125. Blacklick Creek near Groveport, Ohio

(Miscellaneous site)

Location.--Lat 39°53'25", long 82°51'50", at bridge on U.S. Highway 33, 2 miles upstream from mouth and 2½ miles northeast of Groveport, Franklin County.

Drainage area.--58.5 sq mi.

Maxima.--January-February 1959: Discharge, 10,300 cfs Jan. 21, from contracted-opening measurement.

Flood of June 22, 1956, reached a discharge of 12,300 cfs at bridge on Long Road near Brice, drainage area, 51.9 sq mi, from contracted-opening measurement.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A145

126. Big Walnut Creek at Rees, Ohio

Location--Lat 39°51'24", long 82°57'26", on right bank at downstream side of highway bridge, half a mile southwest of Rees, Franklin County, and 4½ miles downstream from Alum Creek.

Drainage area--544 sq mi.

Gage-height record--Water-stage recorder graph, except 3 a.m. Jan. 22 to 12:30 p.m. Jan. 26 for which graph was reconstructed on basis of high-water mark in gage house and outside gage readings. Datum of gage is 698.20 ft above mean sea level, adjustment of 1912.

Discharge record--Stage-discharge relation defined by current-meter measurements below 16,800 cfs and by contracted-opening measurement at 59,800 cfs. Backwater from ice Jan. 7, 8. Shifting-control method used at times.

Maxima--January-February 1959: Discharge, 59,800 cfs 1 p.m. Jan. 22 (gage height, 22.03 ft, from high-water mark).

1921-35, 1938 to December 1958: Discharge, 21,800 cfs Feb. 27, 1929 (gage height, 18.0 ft).

Maximum stage known prior to 1959, 20.5 ft Mar. 25, 1913, present datum, at site 0.3 mile upstream.

Remarks--Flow regulated by Hoover Reservoir beginning September 1954 (see sta. 122). Diversion above station for part of municipal supply of city of Columbus beginning June 15, 1956.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	353	942	11.....	220	12,400	21.....	8,790	422
2.....	1,150	725	12.....	212	3,330	22.....	44,600	430
3.....	712	625	13.....	204	1,740	23.....	12,400	625
4.....	476	745	14.....	259	1,890	24.....	2,200	976
5.....	253	670	15.....	814	4,020	25.....	1,600	805
6.....	204	529	16.....	1,030	2,470	26.....	1,190	655
7.....	190	520	17.....	761	1,460	27.....	915	610
8.....	170	575	18.....	480	1,220	28.....	775	552
9.....	161	575	19.....	452	870	29.....	735	- - - - -
10.....	156	5,630	20.....	481	560	30.....	1,020	- - - - -
						31.....	1,310	- - - - -
Monthly mean discharge, in cubic feet per second.....							2,718	1,663

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.90	468	1 p.m.....	22.03	59,800	12 m.....	9.80	5,500
Jan. 20			2.....	21.90	58,000	1 p.m.....	10.57	6,330
12 p.m.....	2.84	444	6.....	20.50	41,400	3.....	11.86	7,920
4 p.m.....	2.86	452	12 p.m.....	18.70	27,000	5.....	12.80	9,220
6.....	2.89	464				7.....	13.46	10,300
8.....	3.00	508	Jan. 23			9.....	13.88	11,000
12 p.m.....	3.42	689	6 a.m.....	17.00	18,400	12 p.m.....	14.30	11,800
Jan. 21			10.....	15.40	14,000			
2 a.m.....	3.82	860	12 m.....	13.90	11,000	Feb. 11		
4.....	4.40	1,190	2 p.m.....	12.30	8,520	6 a.m.....	14.76	12,600
6.....	5.73	2,030	8.....	9.40	5,100	10.....	15.10	13,300
8.....	7.05	3,020	10.....	8.00	3,810	12 m.....	15.20	13,500
10.....	9.06	4,760	12 p.m.....	7.50	3,420	1 p.m.....	15.22	13,500
12 p.m.....	11.14	7,020	Jan. 24			2.....	15.21	13,500
2.....	12.69	9,070	6 a.m.....	6.25	2,510	3.....	15.17	13,400
4.....	14.08	11,400	12 m.....	5.40	1,960	4.....	15.10	13,300
6.....	15.40	14,000	12 p.m.....	4.80	1,640	6.....	14.82	12,700
8.....	16.60	17,100	Feb. 9			8.....	14.33	11,800
10.....	17.70	21,400	12 p.m.....	2.88	625	10.....	13.40	10,200
12 p.m.....	18.62	26,500				12 p.m.....	12.00	8,100
Jan. 22			Feb. 10			Feb. 12		
2 a.m.....	19.47	32,500	2 a.m.....	3.00	679	2 a.m.....	10.37	6,110
4.....	20.40	40,400	4.....	3.50	926	4.....	8.93	4,630
6.....	21.00	46,400	6.....	4.02	1,200	6.....	7.98	3,760
8.....	21.60	53,800	7.....	4.55	1,500	8.....	7.43	3,320
10.....	21.90	58,000	8.....	5.40	1,960	12 m.....	6.73	2,760
12 m.....	22.00	59,400	9.....	6.50	2,670	4 p.m.....	6.22	2,400
			10 a.m.....	7.80	3,640	8.....	5.82	2,120
						12 p.m.....	5.50	1,910

127. Scioto River near Circleville, Ohio

(Gaging station, discontinued 1956)

Location.--Lat 39°38'00", long 82°57'45", on left bank 40 ft downstream from highway bridge, 1½ miles upstream from Darby Creek, and 2½ miles northwest of Circleville, Pickaway County.

Drainage area.--2,635 sq mi.

Gage-height record.--High-water mark in well. Datum of gage is 644.46 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 61,000 cfs.

Maxima.--January-February 1959: Discharge, about 100,000 cfs Jan. 22 (gage height, 27.2 ft, from high-water mark in well).

1939-56: Discharge, 69,200 cfs Mar. 7, 1945 (gage height, 23.13 ft). Gage height, 24.07 ft Jan. 28, 1952.

Maximum stage known, about 34 ft Mar. 26, 1913.

Remarks.--Flow regulated by Delaware Reservoir beginning 1951, Hoover Reservoir beginning 1954, and by O'Shaughnessy and Griggs Reservoirs (see stas. 114, 122, 108, 110).

128. Darby Creek at Darbyville, Ohio

Location.--Lat 39°42'05", long 83°06'35", near right bank on downstream side of pier of bridge on State Highway 316, three-eighths of a mile northeast of Darbyville, Pickaway County, and 3 miles downstream from Greenbrier Creek.

Drainage area.--533 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 713.6 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 21,300 cfs and by contracted-opening measurement at 49,000 cfs.

Maxima.--January-February 1959: Discharge, 49,000 cfs 12 m. Jan. 22 (gage height, 17.94 ft).

1921-35, 1938 to December 1958: Discharge, 22,600 cfs Feb. 27, 1929 (gage height, 14.9 ft); gage height observed, 15.9 ft Feb. 27, 1929 (backwater from ice).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	177	1,480	11.....	200	11,900	21.....	6,600	612
2.....	602	950	12.....	190	6,050	22.....	38,400	640
3.....	1,120	804	13.....	180	2,400	23.....	15,200	608
4.....	710	940	14.....	199	2,320	24.....	4,890	782
5.....	511	1,160	15.....	352	3,990	25.....	2,660	782
6.....	350	754	16.....	1,560	3,120	26.....	1,720	660
7.....	310	540	17.....	1,500	1,780	27.....	1,300	592
8.....	270	532	18.....	850	1,420	28.....	1,000	552
9.....	240	493	19.....	700	1,100	29.....	850	-----
10.....	220	3,820	20.....	650	790	30.....	1,100	-----
						31.....	2,430	-----
Monthly mean discharge, in cubic feet per second.....							2,808	1,842
Runoff, in inches.....							6.08	3.60

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 21--Con.			Jan. 23		
12 p.m.....	3.80	920	10 p.m.....	13.45	15,700	6 a.m.....	14.38	19,800
			12 p.m.....	14.22	19,000	10.....	13.05	14,200
Jan. 21						8 p.m.....	11.18	9,590
2 a.m.....	4.30	1,200	Jan. 22			12 p.m.....	10.10	7,250
4.....	5.42	1,600	2 a.m.....	15.05	23,200	Jan. 24		
6.....	6.45	2,200	4.....	16.40	33,500	12 m.....	8.33	4,410
8.....	9.82	2,900	6.....	17.06	39,400	4 p.m.....	8.13	4,150
10.....	8.34	3,800	8.....	17.50	44,200	12 p.m.....	7.55	3,440
12 m.....	8.95	4,900	10.....	19.80	47,500	Jan. 25		
1 p.m.....	8.57	5,500	12 m.....	17.94	49,000	6 a.m.....	7.15	3,010
2.....	9.00	6,140	1 p.m.....	17.92	48,800	12 m.....	6.80	2,660
4.....	10.15	8,020	4.....	17.46	43,800	6 p.m.....	6.36	2,260
6.....	11.32	10,100	8.....	16.72	36,400	12 p.m.....	6.04	1,990
8 p.m.....	12.50	12,600	12 p.m.....	15.80	28,500			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A147**

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Darby Creek at Darbyville, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 26			Feb. 10--Con.			Feb. 11--Con.		
12 m.....	5.63	1,690	12 m.....	7.86	3,810	12 p.m.....	11.88	11,000
12 p.m.....	5.32	1,500	2 p.m.....	8.45	4,580			
Feb. 8			4.....	8.98	5,370	Feb. 12		
12 p.m.....	3.32	508	8.....	9.89	6,850	6 a.m.....	10.63	8,260
Feb. 9			12 p.m.....	10.46	7,920	12 m.....	8.85	5,180
8 p.m.....	3.23	472	Feb. 11			4 p.m.....	8.14	4,160
12 p.m.....	3.42	548	4 a.m.....	11.00	9,010	8.....	7.62	3,520
			8.....	12.12	11,600	12 p.m.....	7.17	3,030
Feb. 10			10.....	12.67	13,000	Feb. 13		
4 a.m.....	3.91	754	12 m.....	13.00	14,000	6 a.m.....	6.67	2,540
6.....	4.92	1,260	2 p.m.....	13.12	14,400	10.....	6.45	2,340
8.....	6.05	2,000	4.....	13.07	14,200	2 p.m.....	6.33	2,240
10 a.m.....	7.03	2,890	8 p.m.....	12.60	12,800	8.....	6.26	2,170
						12 p.m.....	6.26	2,170

129. Deer Creek at Williamsport, Ohio

(Gaging station, discontinued 1956)

Location--Lat 39°35'09", long 83°07'22", on downstream side of bridge on U.S. Highway 22 at Williamsport, Pickaway County, 2 miles downstream from Dry Run.

Drainage area--331 sq mi.

Gage-height record--High-water marks at gage site. Datum of gage is 718.7 ft above mean sea level, adjustment of 1912.

Discharge record--Stage-discharge relation defined by current-meter measurements below 23,500 cfs and by contracted-opening measurement at 39,600 cfs.

Maxima--January-February 1959: Discharge, 39,600 cfs Jan. 22 (gage height, 17.68 ft, from high-water marks).

1926-35, 1938-56: Discharge, 29,300 cfs Feb. 26, 1929 (gage height, 14.7 ft, from rating curve extended above 15,000 cfs on basis of velocity-area studies; gage height, 15.49 ft Jan. 27, 1952).

130. Scioto River at Chillicothe, Ohio

Location--Lat 39°20'31", long 82°58'27", on right bank at north end of Chillicothe, Ross County, 450 ft downstream from Bridge Street Bridge on U.S. Highway 23.

Drainage area--3,847 sq mi.

Gage-height record--Water-stage recorder graph, except 3 a.m. to 2 p.m. and 5-9 p.m. Jan. 23 for which graph was reconstructed on basis of high-water mark in gage house. Datum of gage is 594.0 ft above mean sea level, adjustment of 1912.

Discharge record--Stage-discharge relation defined by current-meter measurements below 122,000 cfs. Backwater from ice Jan. 9-12.

Maxima--January-February 1959: Discharge, 144,000 cfs 8 a.m. Jan. 23 (gage height, 32.50 ft, from high-water mark).

1920 to December 1958: Discharge, 101,000 cfs Jan. 23, 1937 (gage height, 27.68 ft).

Maximum stage known, 39.8 ft Mar. 26, 1913 (discharge, 260,000 cfs, estimated by Franklin County Conservancy District).

Remarks--Flow regulated by Griggs Reservoir, by O'Shaughnessy Reservoir beginning in 1924, by Delaware Reservoir beginning in 1947, and by Hoover Reservoir beginning in 1954 (see stas. 108, 110, 114, 122).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,020	13,600	11.....	1,200	18,400	21.....	11,800	4,910
2.....	2,840	12,700	12.....	1,200	36,700	22.....	35,700	4,140
3.....	4,720	11,200	13.....	1,180	34,700	23.....	127,000	3,750
4.....	4,390	10,200	14.....	1,100	23,000	24.....	71,700	4,380
5.....	3,440	8,870	15.....	1,720	21,200	25.....	35,100	5,200
6.....	2,560	7,440	16.....	3,820	21,800	26.....	21,200	5,220
7.....	1,920	4,140	17.....	5,690	20,100	27.....	16,500	4,850
8.....	1,740	3,430	18.....	5,060	15,400	28.....	15,400	4,020
9.....	1,500	3,310	19.....	3,610	12,100	29.....	13,100	-----
10.....	1,300	6,790	20.....	3,510	7,030	30.....	11,500	-----
						31.....	12,400	-----

Monthly mean discharge, in cubic feet per second..... 13,710 11,740

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Scioto River at Chillicothe, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 25--Con.			Feb. 12--Con.		
12 p.m.....	4.31	3,160	12 p.m.....	15.72	25,800	12 m.....	18.92	38,600
Jan. 20			Jan. 26			2 p.m.....	19.32	40,600
8 a.m.....	4.16	2,980	6 a.m.....	14.80	23,100	4.....	19.60	42,000
12 m.....	4.19	3,020	12 m.....	13.99	20,900	6.....	19.76	42,800
4 p.m.....	4.40	3,270	6 p.m.....	13.28	19,000	9.....	19.82	43,100
8.....	5.22	4,330	12 p.m.....	12.72	17,600	12 p.m.....	19.73	42,600
12 p.m.....	6.17	5,650	Jan. 27			Feb. 13		
Jan. 21			6 a.m.....	12.36	16,700	4 a.m.....	19.37	40,800
4 a.m.....	7.58	7,720	12 m.....	12.20	16,300	8.....	18.75	37,800
8.....	8.43	9,070	12 p.m.....	12.10	16,000	12 m.....	18.08	34,500
12 m.....	9.76	11,400	Jan. 28			6 p.m.....	16.97	30,100
6 p.m.....	11.58	15,200	6 a.m.....	12.02	15,800	12 p.m.....	16.00	26,600
10.....	12.72	17,700	12 m.....	11.85	15,500	Feb. 14		
12 p.m.....	13.08	18,600	6 p.m.....	11.67	15,100	6 a.m.....	15.15	24,100
Jan. 22			12 p.m.....	11.42	14,500	12 m.....	14.53	22,500
6 a.m.....	14.30	21,700	Jan. 29			4 p.m.....	14.25	21,600
10.....	15.20	24,200	12 m.....	10.70	13,000	12 p.m.....	14.26	21,600
12 m.....	15.73	25,800	12 p.m.....	10.17	11,900	Feb. 15		
2 p.m.....	16.60	28,600	Feb. 9			4 a.m.....	14.30	21,700
4.....	17.93	33,900	12 p.m.....	4.60	3,240	12 m.....	14.10	21,200
6.....	19.75	42,800	Feb. 10			4 p.m.....	14.00	20,900
8.....	21.95	54,700	2 a.m.....	4.62	3,260	8.....	14.00	20,900
10.....	24.95	74,600	6.....	4.77	3,480	12 p.m.....	14.06	21,100
12 p.m.....	28.10	99,900	7.....	4.86	3,540	Feb. 16		
Jan. 23			8.....	5.05	3,770	12 m.....	14.36	21,900
2 a.m.....	30.24	119,000	10.....	5.82	4,730	6 a.m.....	14.44	22,100
4.....	31.55	133,000	12 m.....	6.50	5,680	12 p.m.....	14.38	21,900
6.....	32.15	140,000	2 p.m.....	7.42	7,030	Feb. 17		
8.....	32.50	144,000	4.....	8.20	8,260	6 a.m.....	14.17	21,400
10.....	32.35	142,000	6.....	9.00	9,660	12 m.....	13.78	20,500
12 m.....	32.00	138,000	8.....	9.82	11,200	12 p.m.....	12.70	17,500
4 p.m.....	31.09	128,000	10.....	10.54	12,700	Feb. 18		
8.....	29.60	113,000	12 p.m.....	11.00	13,600	8 a.m.....	12.05	15,900
12 p.m.....	28.40	103,000	Feb. 11			12 p.m.....	11.00	13,600
Jan. 24			6 a.m.....	11.92	15,600	Feb. 19		
4 a.m.....	27.05	91,400	12 m.....	12.84	17,900	12 m.....	10.34	12,300
8.....	25.58	79,600	4 p.m.....	15.52	19,700	6 p.m.....	9.90	11,400
12 m.....	24.15	69,000	8.....	14.40	22,000	12 p.m.....	9.10	9,840
6 p.m.....	22.36	57,200	12 p.m.....	15.45	25,000	Feb. 20		
12 p.m.....	20.70	47,500	Feb. 12			6 a.m.....	7.96	7,880
Jan. 25			4 a.m.....	16.60	28,600	12 m.....	7.10	6,550
6 a.m.....	19.29	40,400	8 a.m.....	17.88	33,700	12 p.m.....	6.36	5,480
12 m.....	18.00	34,200						
6 p.m.....	16.77	29,300						

131. East Fork Paint Creek near Sedalia, Ohio

(Crest-stage station)

Location--Lat 39°42'35", long 83°27'45", at culvert on State Highway 38, 1.8 miles southeast of junction of State Highways 38 and 323 in Sedalia, Madison County.

Drainage area--4.23 sq mi.

Gage-height record--Crest stages only. Altitude of gage is 1,013 ft (from topographic map).

Discharge record--Stage-discharge relation defined by current-meter measurements below 78 cfs and by contracted-opening measurements at 253 and 515 cfs.

Maxima--January-February 1959: Discharge, 515 cfs Jan. 21 (gage height, 14.47 ft). 1947 to December 1958: Discharge, 292 cfs Mar. 22, 1948 (gage height, 13.77 ft).

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A149

132. Paint Creek near Greenfield, Ohio

(Gaging station, discontinued 1956)

Location.--Lat 39°22'50", long 83°22'30", on upstream side of highway bridge in Fayette County, a quarter of a mile north of county line, 0.6 mile upstream from Stone Run, and 2 miles north of Greenfield, Highland County.

Drainage area.--251 sq mi.

Gage-height record.--High-water marks at gage site. Datum of gage is 845.30 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 13,800 cfs.

Maxima.--January-February 1959: Discharge, 14,500 cfs Jan. 21 (gage height, 11.0 ft). 1926-35, 1939-56: Discharge, 13,900 cfs Apr. 20, 1940 (gage height, 10.8 ft).

133. Paint Creek near Bourneville, Ohio

Location.--Lat 39°15'49", long 83°10'01", on downstream side of left pier of highway bridge, 1¼ miles southwest of Bourneville, Ross County, and 1¼ miles upstream from Upper Twin Creek.

Drainage area.--808 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 665.2 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 7-9.

Maxima.--January-February 1959: Discharge, 24,700 cfs 6 a.m. Jan. 22 (gage height, 16.63 ft). 1921-37, 1938 to December 1958: Discharge, 52,100 cfs Mar. 6, 1945 (gage height, 19.2 ft).

Remarks.--Flow slightly regulated by Rocky Fork Reservoir (34,100 acre-ft, 115 sq mi) beginning in 1952.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	442	2,200	11.....	284	5,970	21.....	13,800	1,150
2.....	1,320	1,730	12.....	292	4,160	22.....	22,200	1,100
3.....	1,280	1,460	13.....	327	5,130	23.....	18,300	1,150
4.....	1,070	1,730	14.....	340	4,350	24.....	5,780	1,360
5.....	770	1,630	15.....	2,040	5,510	25.....	3,480	1,330
6.....	574	1,370	16.....	2,480	3,670	26.....	2,580	1,220
7.....	490	1,130	17.....	1,380	2,680	27.....	2,200	1,110
8.....	420	1,060	18.....	1,120	2,260	28.....	1,850	1,030
9.....	370	1,030	19.....	1,470	1,740	29.....	1,640	-----
10.....	320	5,850	20.....	2,120	1,400	30.....	2,130	-----
						31.....	2,550	-----
Monthly mean discharge, in cubic feet per second.....							3,078	2,267
Runoff, in inches.....							4.39	2.93

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	4.02	889	3 p.m.....	13.88	14,500	8 a.m.....	16.25	23,000
			6.....	14.38	15,900	10.....	15.92	21,600
Jan. 20			12 p.m.....	15.63	20,400	12.....	15.58	20,200
6 a.m.....	4.19	1,010				2 p.m.....	15.02	18,100
10.....	4.26	1,060	Jan. 22			4.....	14.25	15,600
12 m.....	4.30	1,100	2 a.m.....	16.08	22,300	6.....	13.16	12,600
2 p.m.....	4.55	1,280	4.....	16.50	24,200	8.....	12.30	10,700
4.....	5.18	1,790	6.....	16.63	24,700	10.....	11.42	9,050
6.....	5.95	2,440	8.....	16.57	24,500	12 p.m.....	10.88	8,140
8.....	7.55	3,960	10.....	16.30	23,200			
10.....	9.28	5,870	2 p.m.....	15.60	20,300	Jan. 24		
12 p.m.....	10.16	7,030	4.....	15.43	19,600	4 a.m.....	10.10	6,950
			6.....	15.50	19,900	8.....	9.50	6,140
Jan. 21			12 p.m.....	16.37	23,600	12 m.....	9.02	5,550
3 a.m.....	11.36	8,940				6 p.m.....	8.40	4,850
6.....	12.77	11,700	Jan. 23			12 p.m.....	8.00	4,410
8.....	13.25	12,800	2 a.m.....	16.55	24,400			
10.....	13.54	13,600	3.....	16.58	24,500	Jan. 25		
12 m.....	13.69	14,000	6 a.m.....	16.42	23,800	6 a.m.....	7.43	3,780

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Paint Creek near Bourneville, Ohio--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 25--Con.			Feb. 10--Con.			Feb. 11--Con.		
12 m.....	7.09	3,410	12 m.....	9.45	6,080	4 a.m.....	10.00	6,810
6 p.m.....	6.78	3,070	2 p.m.....	10.98	8,300	6.....	9.46	6,090
12 p.m.....	6.60	2,870	3.....	11.36	8,940	8.....	9.16	5,720
Feb. 9			4.....	11.58	9,530	10.....	8.95	5,470
12 p.m.....	4.85	1,100	5.....	11.69	9,530	12 m.....	8.83	5,330
Feb. 10			6.....	11.75	9,640	4 p.m.....	8.70	5,180
2 a.m.....	5.13	1,380	8.....	11.78	9,690	12 p.m.....	8.56	5,030
4.....	5.34	1,590	9.....	11.80	9,730	Feb. 12		
6.....	5.88	2,130	10.....	11.78	9,690	4 a.m.....	8.44	4,890
8.....	6.90	3,200	11.....	11.70	9,550	8.....	8.20	4,630
10.....	7.58	3,950	12 p.m.....	11.52	9,230	12 m.....	7.78	4,170
11 a.m.....	8.35	4,800	Feb. 11			6 p.m.....	7.21	3,540
			2 a.m.....	10.90	8,170	12 p.m.....	6.88	3,180

134. Scioto River at Higby, Ohio

Location.--Lat 39°12'44", long 82°51'35", on left bank at downstream side of highway bridge, three-quarters of a mile downstream from Walnut Creek and $1\frac{1}{4}$ miles north of Higby, Ross County.

Drainage area.--5,129 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 567.6 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 115,000 cfs.

Maxima.--January-February 1959: Discharge, 160,000 cfs 6 p.m. Jan. 23 (gage height, 26.40 ft).

1930 to December 1958: Discharge, 177,000 cfs Jan. 23, 1937 (gage height, 26.4 ft, from floodmarks).

Maximum stage known, 31.6 ft Mar. 26, 1913.

Remarks.--Flow slightly regulated by O'Shaughnessy, Griggs, Delaware and Hoover Reservoirs (see stas. 108, 110, 114, 122).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,690	16,200	11.....	1,690	26,300	21.....	24,800	7,030
2.....	3,890	14,900	12.....	1,660	36,200	22.....	45,900	6,150
3.....	6,070	13,200	13.....	1,660	41,900	23.....	127,000	5,690
4.....	5,730	12,600	14.....	1,600	31,500	24.....	106,000	6,250
5.....	4,440	11,500	15.....	3,570	31,300	25.....	52,200	6,900
6.....	3,080	10,000	16.....	6,710	27,200	26.....	28,600	6,840
7.....	2,480	6,610	17.....	6,950	25,000	27.....	19,900	6,440
8.....	2,570	5,570	18.....	6,130	19,400	28.....	18,300	5,610
9.....	2,080	5,210	19.....	4,760	15,300	29.....	15,700	- - - - -
10.....	1,800	11,600	20.....	6,080	9,890	30.....	14,300	- - - - -
						31.....	15,300	- - - - -

Monthly mean discharge, in cubic feet per second..... 17,490 15,080

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	4.32	4,580	12 p.m.....	16.78	37,900	6 p.m.....	26.40	160,000
Jan. 20			Jan. 22			8.....	26.37	159,000
8 a.m.....	4.10	4,230	4 a.m.....	17.19	40,500	10.....	26.20	155,000
12 m.....	4.22	4,420	8.....	17.45	42,400	12 p.m.....	25.92	149,000
2 p.m.....	4.74	5,290	12 m.....	17.77	44,700	Jan. 24		
4.....	5.38	6,410	6 p.m.....	18.36	49,400	6 a.m.....	24.86	127,000
8.....	6.64	8,860	10.....	18.97	54,600	12 m.....	23.38	103,000
12 p.m.....	8.05	11,800	12 p.m.....	19.50	59,400	6 p.m.....	21.85	83,400
Jan. 21			Jan. 23			12 p.m.....	20.63	70,300
2 a.m.....	8.95	13,700	2 a.m.....	20.40	68,000	Jan. 25		
4.....	9.65	15,300	4.....	21.70	81,700	6 a.m.....	19.52	59,600
8.....	11.80	20,200	8.....	24.10	113,000	12 m.....	18.62	51,500
12 m.....	13.72	25,200	10.....	25.00	129,000	6 p.m.....	17.69	44,000
4 p.m.....	14.92	29,100	12 m.....	25.68	143,000	12 p.m.....	16.72	37,500
8.....	16.08	34,000	2 p.m.....	26.13	154,000	Jan. 26		
10 p.m.....	16.47	36,000	4 p.m.....	26.35	159,000	12 m.....	14.41	27,300

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A151

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Scioto River at Higby, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 26--Con.			Feb. 11			Feb. 13--Con.		
12 p.m.....	12.56	22,100	4 a.m.....	14.12	26,400	6 p.m.....	17.14	40,200
			6.....	14.28	26,800	12 p.m.....	16.59	36,700
Jan. 27			7.....	14.30	26,900	Feb. 14		
6 a.m.....	11.95	20,500	10.....	14.19	26,600	6 a.m.....	15.90	33,100
12 m.....	11.56	19,500	2 p.m.....	13.97	25,900	12 m.....	15.20	30,200
4 p.m.....	11.42	19,100	4.....	13.95	25,800	4 p.m.....	14.90	29,000
12 p.m.....	11.28	18,800	6.....	14.00	26,000	6.....	14.88	28,900
			12 p.m.....	14.61	28,000	8.....	15.08	29,700
Feb. 9			Feb. 12			12 p.m.....	15.48	31,300
12 p.m.....	5.55	5,070	6 a.m.....	15.50	31,400	Feb. 15		
Feb. 10			12 m.....	16.52	36,300	6 a.m.....	15.90	33,100
9 a.m.....	6.29	6,300	4 p.m.....	17.07	39,700	8.....	15.92	33,200
10.....	6.53	7,010	8.....	17.42	42,100	10.....	15.85	32,800
12 m.....	7.38	9,050	12 p.m.....	17.64	43,700	2 p.m.....	15.49	31,400
2 p.m.....	8.65	12,200	Feb. 13			12 p.m.....	14.61	28,000
4.....	9.65	14,700	2 a.m.....	17.69	44,000	Feb. 16		
6.....	10.68	17,300	4.....	17.70	44,100	6 a.m.....	14.42	27,300
8.....	11.70	19,800	6.....	17.69	44,000	6 p.m.....	14.35	27,100
10.....	12.45	21,700	8.....	17.65	43,800	12 p.m.....	14.25	26,800
12 p.m.....	13.35	24,100	12 m.....	17.52	42,800			

LITTLE MIAMI RIVER BASIN

135. Little Miami River near Selma, Ohio

(Gaging station; partial-record station beginning 1959)

Location--Lat 39°48'40", long 83°44'20", on left bank at downstream side of bridge on Selma Pike, 2.3 miles northwest of Selma, Clark County, and 3.1 miles upstream from North Fork.

Drainage area--50.6 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 1,019.79 ft above mean sea level, unadjusted.

Discharge record--Stage-discharge relation defined by current-meter measurements below 2,260 cfs and by contracted-opening measurement at 7,920 cfs.

Maxima--January-February 1959: Discharge, 7,920 cfs 4 p.m. Jan. 21 (gage height, 9.42 ft).
1952 to December 1958: Discharge, 3,500 cfs Aug. 3, 1958 (gage height, 8.59 ft).

136. North Fork Little Miami River near Pitchin, Ohio

(Gaging station; partial-record station beginning 1959)

Location--Lat 39°49'40", long 83°46'25", on right bank at upstream side of county highway bridge, 1.1 miles upstream from Goose Creek, and 1.3 miles southwest of Pitchin, Clark County.

Drainage area--29.1 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 1,011.46 ft above mean sea level, unadjusted.

Discharge record--Stage-discharge relation defined by current-meter measurements below 885 cfs and by contracted-opening measurement at 3,350 cfs.

Maxima--January-February 1959: Discharge, 3,350 cfs 6 p.m. Jan. 21 (gage height, 7.58 ft).
1952 to December 1958: Discharge, 955 cfs Aug. 3, 1958 (gage height, 6.04 ft).

137. Little Miami River near Oldtown, Ohio

Location.--Lat 39°44'55", long 83°55'50", on right bank at downstream side of bridge on U.S. Highway 68, 0.9 mile upstream from Massie Creek, 1.3 miles northeast of Oldtown, Greene County, and 4.5 miles north of Xenia.

Drainage area.--129 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 816.56 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,340 cfs and by slope-area measurement at 14,800 cfs.

Maxima.--January-February 1959: Discharge, 14,800 cfs 6 p.m. Jan. 21 (gage height, 12.20 ft).
1952 to December 1958: Discharge, 4,720 cfs June 8, 1954 (gage height, 10.2 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	71	223	11.....	53	963	21.....	6,140	165
2.....	146	183	12.....	52	373	22.....	4,190	160
3.....	116	178	13.....	52	331	23.....	789	180
4.....	97	242	14.....	58	492	24.....	420	188
5.....	55	204	15.....	234	644	25.....	329	166
6.....	75	160	16.....	237	371	26.....	281	161
7.....	74	144	17.....	141	298	27.....	236	152
8.....	68	144	18.....	136	260	28.....	205	146
9.....	60	143	19.....	126	212	29.....	193	-----
10.....	54	1,350	20.....	114	180	30.....	308	-----
						31.....	292	-----
Monthly mean discharge, in cubic feet per second.....							497	300
Runoff, in inches.....							4.44	2.43

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.52	160	12 p.m.....	6.07	1,290	4 p.m.....	7.00	1,710
Jan. 21			Jan. 23			6.....	7.57	2,050
2 a.m.....	3.04	261	4 a.m.....	5.33	1,010	7.....	7.70	2,130
4.....	3.78	469	8.....	4.82	827	8.....	7.76	2,170
6.....	5.70	1,140	12 m.....	4.40	680	9.....	7.78	2,180
7.....	7.40	1,950	4 p.m.....	4.30	650	10.....	7.72	2,140
8.....	8.35	2,560	6.....	4.34	662	12 p.m.....	7.56	2,050
9.....	8.73	2,860	8.....	4.26	633	Feb. 11		
10.....	9.35	3,480	12 p.m.....	3.95	545	2 a.m.....	7.22	1,840
11.....	9.80	4,140	Feb. 9			4.....	6.78	1,600
12 m.....	10.25	5,000	12 p.m.....	2.42	192	8.....	5.54	1,080
2 p.m.....	10.81	6,430	Feb. 10			10.....	5.00	890
3.....	11.23	8,050	1 a.m.....	2.60	225	12 m.....	4.62	757
4.....	11.80	11,500	2.....	2.70	244	2 p.m.....	4.33	659
5.....	12.09	13,800	4.....	3.11	331	3.....	4.20	620
6.....	12.20	14,800	5.....	3.43	408	6.....	3.95	545
7.....	12.12	14,100	6.....	4.10	590	10.....	3.73	482
10.....	11.67	10,600	8.....	5.85	1,200	12 p.m.....	3.65	462
12 p.m.....	11.44	9,140	9.....	6.36	1,400	Feb. 12		
Jan. 22			12 m.....	6.68	1,550	6 a.m.....	3.42	405
6 a.m.....	10.58	5,740	2 p.m.....	6.81	1,620	12 m.....	3.23	359
12 m.....	9.53	3,720	3 p.m.....	6.83	1,620	6 p.m.....	3.12	334
6 p.m.....	7.64	2,090				12 p.m.....	3.10	329

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A153

138. North Fork Massie Creek at Cedarville, Ohio

Location.--Lat 39°45'25", long 83°47'25", on left bank at downstream side of bridge on James Barber Road, 1 mile upstream from confluence with South Fork, and 1 mile northeast of Cedarville, Greene County.

Drainage area.--25.6 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,028.00 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 900 cfs and by slope-area measurement at 2,960 cfs.

Maxima.--January-February 1959: Discharge, 2,960 cfs 6 p.m. Jan. 21 (gage height, 8.55 ft).
1954 to December 1958: Discharge, 1,620 cfs Aug. 2, 1958 (gage height, 7.62 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	26	52	11.....	12	161	21.....	1,550	35
2.....	44	41	12.....	12	89	22.....	893	32
3.....	33	39	13.....	12	88	23.....	150	38
4.....	25	56	14.....	16	136	24.....	85	40
5.....	20	42	15.....	64	152	25.....	70	56
6.....	20	36	16.....	50	89	26.....	6	34
7.....	18	30	17.....	50	74	27.....	49	32
8.....	15	29	18.....	35	62	28.....	41	30
9.....	14	29	19.....	32	53	29.....	39	---
10.....	13	240	20.....	31	40	30.....	82	---
						31.....	68	---
Monthly mean discharge, in cubic feet per second.....							118	64.8
Runoff, in inches.....							5.32	2.64

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 10--Con.		
12 p.m.....	2.76	28	7 p.m.....	8.53	2,920	10 a.m.....	5.73	286
			8.....	8.42	2,760	12 m.....	5.79	301
Jan. 20			12 p.m.....	7.98	2,130	4 p.m.....	5.84	315
6 a.m.....	2.71	26				5.....	5.85	318
12 m.....	2.73	27	Jan. 22			7.....	5.85	318
4 p.m.....	2.80	29	4 a.m.....	7.63	1,660	8.....	5.84	315
9.....	3.04	37	8.....	7.13	1,040	10.....	5.81	307
12 p.m.....	3.77	67	12 m.....	6.70	670	12 p.m.....	5.76	294
			6 p.m.....	6.05	378			
Jan. 21			12 p.m.....	5.60	254	Feb. 11		
2 a.m.....	4.36	98				2 a.m.....	5.65	266
4.....	5.22	181	Feb. 9			4.....	5.47	226
6.....	5.94	344	12 p.m.....	3.53	52	6.....	5.29	192
10.....	7.42	1,390				8.....	5.12	167
11.....	7.64	1,670	Feb. 10			10.....	4.96	148
12 m.....	7.77	1,840	2 a.m.....	3.71	60	12 m.....	4.84	135
2 p.m.....	7.90	2,020	4.....	4.37	92	4 p.m.....	4.70	122
3.....	8.04	2,220	6.....	5.13	163	8.....	4.63	116
5.....	8.50	2,880	8.....	5.52	232	12 p.m.....	4.47	105
6 p.m.....	8.55	2,960	9 a.m.....	5.64	264			

139. South Fork Massie Creek near Cedarville, Ohio

Location.--Lat 39°44'20", long 83°45'50", on right bank at downstream side of bridge on Weimer Road, 2.3 miles east of Cedarville, Greene County, and 2.4 miles upstream from confluence with North Fork.

Drainage area.--20.2 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,039.14 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 490 cfs and by slope-area measurement at 2,440 cfs.

Maxima.--January-February 1959: Discharge, 2,440 cfs 5 p.m. Jan. 21 (gage height, 8.27 ft).
1954 to December 1958: Discharge, 1,130 cfs Aug. 2, 1958 (gage height, 7.24 ft).

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of South Fork Massie Creek
near Cedarville, Ohio

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 10--Con.		
12 p.m.....	2.17	15	7 p.m.....	8.19	2,280	6 a.m.....	4.53	194
			10.....	7.95	1,890	7.....	5.00	252
Jan. 20			12 p.m.....	7.74	1,610	8.....	5.39	328
8 a.m.....	2.12	14				9.....	5.63	350
12 m.....	2.14	15	Jan. 22			10.....	5.78	420
7 p.m.....	2.25	18	6 a.m.....	6.88	888	11.....	5.86	441
9.....	2.39	22	12 p.m.....	4.50	184	12 m.....	5.94	464
10.....	2.50	26				1 p.m.....	5.99	478
12 p.m.....	2.90	45	Feb. 8			1:30.....	6.01	484
			12 p.m.....	2.11	14	3.....	5.99	478
Jan. 21						4.....	5.93	461
2 a.m.....	3.70	105	Feb. 9			5.....	5.83	433
4.....	4.85	228	1 p.m.....	2.11	14	9.....	5.27	303
6.....	5.93	461	2.....	2.12	14	12 p.m.....	4.89	234
8.....	6.08	507	7.....	2.13	14			
10.....	7.07	1,010	8.....	2.14	15	Feb. 11		
12.....	7.52	1,370	9.....	2.19	16	6 a.m.....	4.44	177
1 p.m.....	7.76	1,630	11.....	2.40	23	12 m.....	4.07	140
3.....	7.90	1,820	12 p.m.....	2.64	32	3 p.m.....	3.92	125
5.....	8.14	2,190				6.....	3.84	118
4.....	8.21	2,320	Feb. 10			12 p.m.....	3.70	105
5 p.m.....	8.27	2,440	4 a.m.....	4.00	133			

140. Massie Creek at Wilberforce, Ohio

Location.--Lat 39°43'20", long 83°52'55", on right bank at upstream side of bridge on Wilberforce-Clinton Road, 0.5 mile northwest of Wilberforce, Greene County, 1.7 miles upstream from Clark Run, and 3.5 miles northeast of Xenia.

Drainage area.--64.3 sq mi.

Gage-height record.--Water-stage recorder. Datum of gage is 865.30 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,040 cfs and by contracted-opening measurement at 7,300 cfs.

Maxima.--January-February 1959: Discharge, 7,300 cfs 5:30 p.m. Jan. 21 (gage height, 11.25 ft).
1952 to December 1958: Discharge, 4,300 cfs Aug. 2, 1958 (gage height, 10.35 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Massie Creek at Wilberforce, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 9--Con.		
12 p.m.....	2.69	64	8 p.m.....	10.78	5,730	8 p.m.....	2.50	56
			10.....	10.68	5,460	10.....	2.65	68
Jan. 20			12 p.m.....	10.43	4,860	12 p.m.....	3.20	127
6 a.m.....	2.61	57				Feb. 10		
12 m.....	2.62	58	Jan. 22			1 a.m.....	3.29	139
6 p.m.....	2.70	65	4 a.m.....	9.85	3,790	2.....	3.32	143
8.....	2.77	72	8.....	9.05	2,820	3.....	3.44	161
10.....	2.98	96	12 m.....	7.89	1,860	6.....	5.11	584
12 p.m.....	3.68	199	6 p.m.....	7.00	1,360	7.....	5.43	696
			12 p.m.....	5.64	771	8.....	5.32	657
Jan. 21			Jan. 23			10.....	5.12	587
2 a.m.....	4.38	363	6 a.m.....	4.77	478	12 m.....	5.49	716
4.....	4.96	536	10.....	4.37	360	2 p.m.....	5.78	827
5.....	5.85	855	12 m.....	4.27	332	4.....	5.92	883
6.....	7.25	1,480	4 p.m.....	4.20	312	5.....	5.95	895
7.....	7.80	1,800	6.....	4.02	265	6.....	5.93	887
8.....	8.25	2,120	8.....	3.86	230	8.....	5.87	863
9.....	8.90	2,680	12 p.m.....	3.70	202	10.....	5.69	791
10.....	9.63	3,470				12 p.m.....	5.46	706
11.....	9.95	3,950	Feb. 8			Feb. 11		
12 m.....	10.12	4,250	12 p.m.....	2.49	55	3 a.m.....	5.61	759
2 p.m.....	10.28	4,550				8.....	4.46	366
3.....	10.40	4,790	Feb. 9			10.....	4.26	329
4.....	10.80	5,790	2 a.m.....	2.48	54	12 m.....	4.11	288
5.....	11.18	7,040	4 p.m.....	2.48	54	6 p.m.....	3.86	230
5:30.....	11.25	7,300	6 p.m.....	2.49	55	12 p.m.....	3.74	209
7 p.m.....	11.00	6,410						

141. Shawnee Creek at Xenia, Ohio

(Crest-stage station)

Location--Lat 39°40'35", long 83°55'30", at bridge on U.S. Highway 68, 0.7 mile southeast of intersection of U.S. Highways 68 and 42, in Xenia, Greene County.

Drainage area--4.21 sq mi.

Gage-height record--Crest stages only. Altitude of gage is 914 ft (from topographic map).

Discharge record--Stage-discharge relation defined by current-meter measurements below 150 cfs and by slope-area measurements at 401 and 795 cfs.

Maxima--January-February 1959: Discharge, 855 cfs Jan. 21 (gage height, 16.02 ft). 1948 to December 1958: Discharge, 790 cfs Feb. 15, 1949 (gage height, 15.71 ft).

142. Little Miami River at Spring Valley, Ohio

(Gaging station, discontinued 1951)

Location--Lat 39°36'20", long 84°00'50", on right bank at downstream side of bridge on U.S. Highway 42, three-eighths of a mile southwest of Spring Valley, Greene County, and 2½ miles downstream from Sugar Creek.

Drainage area--361 sq mi.

Gage-height record--High-water marks at gage site. Datum of gage is 737.9 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers).

Discharge record--Stage-discharge relation defined below 12,400 cfs and by contracted-opening measurement at 36,400 cfs.

Maxima--January-February 1959: Discharge, 36,400 cfs Jan. 21-22 (gage height, 19.0 ft, from high-water marks). 1925-35, 1939-51: Discharge observed, 18,400 cfs Feb. 26, 1929 (gage height, 16.8 ft). The flood of January 27, 1952, reached a stage of 16.75 ft (discharge, 18,600 cfs).

143. Caesar Creek near Xenia, Ohio

(Miscellaneous site)

Location.--Lat 39°37'25", long 83°53'40", at bridge on U.S. Highway 68, and $4\frac{3}{4}$ miles southeast of Xenia, Greene County.

Drainage area.--66.8 sq mi.

Maximum.--January-February 1959: Discharge, 10,600 cfs Jan. 21, from contracted-opening measurement.

144. Anderson Fork near Lumberton, Ohio

(Miscellaneous site)

Location.--Lat 39°32'35", long 83°51'00", at bridge on U.S. Highway 68, 0.9 mile south of Lumberton, Clinton County, and $1\frac{1}{2}$ miles downstream from Grog Run.

Drainage area.--58.0 sq mi.

Maximum.--January-February 1959: Discharge, 7,600 cfs Jan. 21, from contracted-opening measurement.

145. Little Miami River near Fort Ancient, Ohio

(Gaging station, discontinued 1951)

Location.--Lat 39°22'42", long 84°05'32", on right bank at downstream side of county highway bridge, $\frac{2}{3}$ miles south of Fort Ancient, Warren County, $2\frac{1}{2}$ miles northeast of Morrow, and $2\frac{1}{4}$ miles upstream from Todd Fork.

Drainage area.--677 sq mi.

Gage-height record.--High-water marks upstream and downstream from gage site. Datum of gage is 643.65 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 25,700 cfs.

Maxima.--January-February 1959: Discharge, about 67,000 cfs Jan. 21 (gage height, 21.9 ft).

1938-51: Discharge, 32,900 cfs Mar. 7, 1945 (gage height, 16.80 ft).

March 1913 flood reached a stage of about 20 ft (from information by local residents in 1959).

146. Todd Fork near Roachester, Ohio

Location.--Lat 39°20'05", long 84°05'10", on right bank at downstream side of bridge on State Highway 123, 0.3 mile downstream from Lick Run, 1.6 miles southeast of Roachester, Warren County, $2\frac{3}{4}$ miles southeast of Morrow, and 4 miles upstream from mouth.

Drainage area.--219 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 679.40 ft above mean sea level, adjustment of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 11,900 cfs and by slope-area measurement at 25,500 cfs.

Maxima.--January-February 1959: Discharge, 25,500 cfs 5 p.m. Jan. 21 (gage height, 19.50 ft).

1952 to December 1958: Discharge, 14,500 cfs July 22, 1958 (gage height, 17.55 ft).

Remarks.--Some regulation by Cowan Lake on Cowan Creek (capacity, 12,000 acre-ft).

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A157

Mean discharge, in cubic feet per second, 1959, of Todd Fork near Roachester, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	180	199	11.....	42	986	21.....	14,900	126
2.....	377	141	12.....	37	822	22.....	6,210	121
3.....	218	192	13.....	39	828	23.....	810	329
4.....	132	308	14.....	48	961	24.....	403	760
5.....	96	656	15.....	855	926	25.....	299	651
6.....	140	530	16.....	456	403	26.....	248	576
7.....	726	106	17.....	175	485	27.....	259	182
8.....	375	109	18.....	159	770	28.....	407	154
9.....	53	132	19.....	159	642	29.....	535	---
10.....	47	3,290	20.....	822	502	30.....	370	---
						31.....	310	---
Monthly mean discharge, in cubic feet per second.....							964	567

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 10--Con.		
12 p.m.....	6.56	127	12 p.m.....	18.48	18,600	2 a.m.....	8.50	1,110
Jan. 20			Jan. 22			3.....	9.10	1,530
10 a.m.....	6.50	113	2 a.m.....	17.92	16,000	4.....	10.00	2,220
12 m.....	6.60	137	4.....	17.02	13,000	5.....	10.75	2,910
1 p.m.....	6.88	225	6.....	16.08	10,700	6.....	11.30	3,480
3.....	7.70	580	8.....	14.10	6,940	7.....	11.55	3,760
4.....	8.18	838	9.....	12.85	5,250	8.....	12.10	4,360
6.....	8.61	1,120	10.....	12.08	4,340	9.....	12.45	4,770
7.....	8.76	1,220	12 m.....	11.22	3,390	10:30.....	12.52	4,850
8.....	9.30	1,610	2 p.m.....	10.58	2,740	11.....	12.50	4,830
9.....	10.64	2,790	4.....	10.12	2,330	12 m.....	12.42	4,730
10.....	10.87	3,020	8.....	9.40	1,740	1 p.m.....	12.16	4,430
11.....	11.26	3,440	12 p.m.....	8.89	1,380	2.....	12.00	4,250
12 p.m.....	11.75	3,980				3.....	11.93	4,170
Jan. 21			Jan. 23			4.....	11.81	4,040
2 a.m.....	12.85	5,250	6 a.m.....	8.23	948	5.....	11.61	3,820
3.....	13.50	6,080	12 m.....	7.80	710	6.....	11.35	3,540
4.....	14.45	7,520	4 p.m.....	7.66	642	8.....	10.89	3,050
5.....	15.00	8,480	8.....	7.58	607	9.....	10.68	2,840
7.....	15.30	9,050	12 p.m.....	7.40	535	10.....	10.37	2,550
8.....	15.55	9,540	Feb. 8			11.....	9.92	2,160
9.....	16.10	10,700	12 p.m.....	6.17	102	12 p.m.....	9.50	1,820
10.....	17.25	13,600	Feb. 9			Feb. 11		
11.....	17.54	14,600	2 p.m.....	6.15	96	2 a.m.....	8.95	1,420
2 p.m.....	17.96	16,100	8.....	6.17	102	4.....	8.58	1,170
3.....	18.75	20,200	9.....	6.21	112	6.....	8.29	984
4.....	19.30	24,009	10.....	6.40	171	9.....	7.96	790
5.....	19.50	25,500	11.....	7.12	429	12 m.....	7.69	656
6.....	19.35	24,300	12 p.m.....	8.05	840	1 p.m.....	7.65	638
7.....	19.04	22,100	Feb. 10			2.....	7.72	670
8.....	19.10	22,500	1 a.m.....	8.14	894	3.....	8.28	978
9.....	19.10	22,500				4.....	8.38	1,040
10 p.m.....	18.90	21,200				8.....	8.24	954
						12 p.m.....	8.17	912

147. Little Miami River at Kings Mills, Ohio

(U.S. Weather Bureau gage)

Location--Lat 39°21'06", long 84°14'33", at Grandin Road Bridge in Kings Mills, Warren County.Drainage area--1,048 sq mi.Gage-height record--Daily wire-weight gage readings supplemented by floodmarks. Datum of gage is 587.10 ft above mean sea level.Maxima--January-February 1959: Gage height, 31.80 ft 9 a.m. Jan. 22 (from floodmarks)
1912 to December 1958: Gage height, 33.7 ft Mar. 26, 1913.Remarks--Records furnished by U.S. Weather Bureau.

148. Little Miami River at Milford, Ohio

Location.--Lat 39°10'17", long 84°17'53", on right bank 500 ft downstream from Wooster Pike Bridge in Milford, Clermont County, and 1½ miles upstream from East Fork.

Drainage area.--1.195 sq mi.

Gage-height record.--Water-stage recorder graph, except 11 a.m. Jan. 23 to 12 m. Jan. 24 for which graph was reconstructed on basis of graph before and after this period. Datum of gage is 499.35 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 59,700 cfs and by slope-area measurement at 84,100 cfs. Backwater from ice Jan. 20.

Maxima.--January-February 1959: Discharge, 84,100 cfs 9 a.m. Jan. 22 (gage height, 22.30 ft).
1915-17, 1925-36, 1938 to December 1958: Discharge, 69,900 cfs Mar. 6, 1945 (gage height, 20.90 ft).
Flood of March 1913 reached a stage of 25.5 ft, from information from Corps of Engineers.

Remarks.--Some regulation by Cowan Lake on Cowan Creek, tributary to Todd Fork.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	770	2,020	11.....	383	8,500	21.....	48,200	1,360
2.....	2,150	1,560	12.....	378	4,880	22.....	72,400	1,120
3.....	1,470	1,330	13.....	373	3,620	23.....	17,600	1,540
4.....	1,020	1,790	14.....	407	4,290	24.....	5,300	2,480
5.....	584	2,110	15.....	3,860	6,020	25.....	2,980	2,120
6.....	407	1,880	16.....	3,730	3,610	26.....	2,410	1,910
7.....	719	1,340	17.....	1,520	2,570	27.....	2,050	1,510
8.....	1,030	1,100	18.....	892	2,980	28.....	2,020	1,220
9.....	589	1,120	19.....	836	2,370	29.....	2,000	-----
10.....	441	11,200	20.....	2,900	1,870	30.....	2,470	-----
						31.....	2,600	-----
Monthly mean discharge, in cubic feet per second.....							5,951	2,829

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Feb. 8		
12 p.m.....	1.70	960	12 p.m.....	21.75	78,800	12 p.m.....	2.12	1,090
Jan. 20			Jan. 22			Feb. 9		
9 a.m.....	1.68	943	1 a.m.....	21.73	78,600	6 p.m.....	2.08	1,050
10.....	1.70	960	2.....	21.75	78,800	8.....	2.10	1,070
11.....	1.80	1,050	6.....	22.12	82,300	10.....	2.25	1,210
12 m.....	2.05	1,300	8.....	22.25	83,600	11.....	2.70	1,660
1 p.m.....	2.46	1,760	9.....	22.30	84,100	12 p.m.....	2.90	1,860
2.....	2.80	2,170	10.....	22.26	83,700			
3.....	2.94	2,350	12 m.....	22.09	82,000	Feb. 10.		
4.....	3.76	3,480	2 p.m.....	21.64	77,800	1 a.m.....	3.35	2,360
5.....	5.85	4,000	4.....	21.05	72,400	2.....	4.50	4,080
6.....	5.54	4,900	6.....	20.10	64,800	3.....	4.92	4,880
7.....	5.82	6,000	7.....	19.50	60,000	5.....	5.42	5,950
8.....	6.07	6,800	8.....	18.90	55,800	7.....	6.20	7,900
9.....	6.26	8,660	9.....	18.25	51,700	8.....	6.75	9,400
10.....	6.70	9,800	10.....	17.50	47,900	9.....	7.30	11,000
Jan. 21			11.....	16.45	43,500	10.....	7.70	12,200
1 a.m.....	7.52	12,100	12 p.m.....	15.30	39,100	12 m.....	8.04	13,500
2.....	8.35	14,500				1 p.m.....	8.41	14,500
3.....	9.05	16,700	Jan. 23			2.....	8.75	15,600
4.....	9.68	18,900	2 a.m.....	13.60	32,900	3.....	8.99	16,400
5.....	10.15	20,500	4 a.m.....	12.05	27,300	4.....	8.03	16,600
6.....	11.20	24,300	6.....	10.78	22,800	5.....	8.95	16,300
7.....	15.55	40,000	8.....	9.80	19,200	7.....	8.61	15,200
8.....	17.20	46,500	10.....	8.98	16,400	12 p.m.....	7.80	12,500
9.....	18.30	52,000	12 m.....	8.55	15,000			
10.....	19.03	56,700	2 p.m.....	8.05	13,300	Feb. 11		
11.....	19.45	59,600	4.....	7.20	10,700	6 a.m.....	6.84	9,650
12 p.m.....	20.10	64,800	6.....	6.50	8,700	12 m.....	6.11	7,670
1.....	20.55	68,400	12 p.m.....	6.20	7,900	4 p.m.....	5.78	6,810
2.....	20.88	71,000				7.....	5.60	6,380
3.....	21.15	73,400	Jan. 24			11.....	5.61	6,400
4.....	21.65	77,800	6 a.m.....	5.53	6,210	12 p.m.....	5.58	6,330
5.....	21.92	80,300	12 m.....	4.98	5,000			
6 p.m.....	22.01	81,200	6 p.m.....	4.59	4,240			
			12 p.m.....	4.24	3,620			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A159

149. East Fork Little Miami River at Perintown, Ohio

Location.--Lat 39°08'13", long 84°14'17", on left bank at downstream side of highway bridge at Perintown, Clermont County, 5 miles upstream from mouth.

Drainage area.--477 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 507.28 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 32,000 cfs 7 p.m. Jan. 21 (gage height, 21.24 ft).
1915-20, 1925 to December 1958: Discharge, 39,400 cfs Mar. 6, 1945 (gage height, 23.42 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	827	630	11.....	68	3,670	21.....	21,600	266
2.....	1,790	335	12.....	63	934	22.....	15,800	236
3.....	840	236	13.....	63	1,800	23.....	1,990	460
4.....	425	615	14.....	103	4,040	24.....	552	882
5.....	193	706	15.....	5,030	4,240	25.....	430	640
6.....	143	420	16.....	3,050	1,270	26.....	360	430
7.....	120	266	17.....	763	701	27.....	335	360
8.....	126	246	18.....	326	976	28.....	274	308
9.....	88	358	19.....	248	954	29.....	278	- - - - -
10.....	77	6,420	20.....	4,700	430	30.....	1,270	- - - - -
						31.....	1,390	- - - - -
Monthly mean discharge, in cubic feet per second.....							2,043	1,172
Runoff, in inches.....							4.93	2.56

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.65	248	4 a.m.....	19.24	24,600	4 a.m.....	7.02	2,930
Jan. 20			6.....	18.30	21,400	5.....	7.60	3,340
6 a.m.....	2.69	262	8.....	17.23	18,100	6.....	8.28	3,880
8.....	2.72	274	10.....	16.32	15,500	7.....	8.58	4,120
10.....	2.92	356	12 m.....	15.60	13,800	8.....	8.65	4,180
12 m.....	4.25	1,040	4 p.m.....	14.33	11,200	9.....	9.00	4,460
1 p.m.....	6.45	2,480	8.....	13.30	9,360	10.....	9.95	5,240
2.....	9.20	4,620	12 p.m.....	11.98	7,390	11.....	11.25	6,520
3.....	11.05	6,300				12 m.....	12.58	8,220
4.....	12.30	7,820	Jan. 23			1 p.m.....	12.90	8,710
5.....	13.40	9,530	2 a.m.....	9.55	4,900	2.....	12.87	8,660
6.....	14.35	11,200	4.....	7.25	3,100	3.....	13.14	9,090
7.....	14.82	12,100	6.....	6.00	2,220	4.....	13.42	9,560
8.....	14.91	12,300	8.....	5.36	1,770	5.....	13.56	9,800
10.....	14.74	12,000	10.....	4.90	1,490	6.....	13.50	9,700
12 p.m.....	14.63	11,800	12 m.....	4.56	1,290	8.....	13.10	9,030
Jan. 21			6 p.m.....	4.07	1,000	10.....	12.35	7,890
2 a.m.....	15.90	14,500	12 p.m.....	3.68	789	12 p.m.....	11.45	6,740
4.....	16.95	17,300	Jan. 24			Feb. 11		
6.....	17.37	18,500	12 m.....	3.10	485	2 a.m.....	10.67	5,900
7.....	17.38	18,500	6 p.m.....	3.01	440	4.....	10.08	5,350
10.....	17.16	17,900	12 p.m.....	3.14	505	6.....	9.60	4,940
11.....	17.15	17,800	Feb. 8			8.....	9.17	4,600
12 m.....	17.43	18,700	12 p.m.....	2.55	232	10.....	8.71	4,230
2 p.m.....	17.71	19,600	Feb. 9			12 m.....	8.00	3,660
3.....	17.82	19,900	3 a.m.....	2.54	228	2 p.m.....	7.20	3,060
4.....	18.95	23,600	4 p.m.....	2.60	250	4.....	6.47	2,550
5.....	19.82	26,700	8.....	2.69	266	6.....	5.90	2,150
6.....	20.70	29,900	9.....	2.78	326	9.....	5.27	1,710
7.....	21.24	32,000	10.....	3.40	635	12 p.m.....	4.83	1,450
8.....	21.20	31,800	11.....	4.60	1,310	Feb. 12		
9.....	20.90	30,700	12 p.m.....	6.60	2,640	6 a.m.....	4.23	1,090
10.....	20.55	29,400	Feb. 10			12 m.....	3.83	872
12 p.m.....	20.23	28,200	1 a.m.....	7.12	3,000	6 p.m.....	3.56	723
Jan. 22			2 a.m.....	7.12	3,000	8.....	3.50	690
2 a.m.....	19.93	27,100				12 p.m.....	3.45	662

FLOODS OF 1959 IN THE UNITED STATES

MILL CREEK BASIN

150. Mill Creek at Reading, Ohio

Location.--Lat 39°13'15", long 84°26'50", on right bank at upstream side of Koehler Street Bridge at Reading, Hamilton County, 1 mile upstream from West Fork Mill Creek and 13 miles upstream from mouth.

Drainage area.--73.1 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 527.00 ft above mean sea level, Ohio River datum. Twice-daily wire-weight readings used during periods of lagging intake, Dec. 10-23 and Jan. 5-13, 17-19.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,560 cfs and by slope-area measurement at 5,640 cfs. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 5,640 cfs 5 p.m. Jan. 21 (gage height, 19.67 ft).
1938 to December 1958: Discharge, 5,780 cfs Mar. 6, 1945 (gage height, 20.00 ft, present datum).

Remarks.--Low-water flows affected by diversion by industrial plants and by ground-water pumpage and diversion.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	159	62	11.....	20	305	21.....	3,980	74
2.....	102	43	12.....	26	185	22.....	2,190	64
3.....	58	48	13.....	26	209	23.....	299	199
4.....	44	90	14.....	46	380	24.....	163	157
5.....	29	53	15.....	320	338	25.....	109	103
6.....	28	39	16.....	131	179	26.....	98	92
7.....	29	32	17.....	54	143	27.....	76	82
8.....	33	33	18.....	37	205	28.....	61	74
9.....	29	69	19.....	47	120	29.....	74	-----
10.....	24	1,050	20.....	436	90	30.....	195	-----
						31.....	107	-----
Monthly mean discharge, in cubic feet per second.....							291	161

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Jan. 19			Jan. 21--Con.			Feb. 9		
12 p.m.....	6.28	52	4 p.m.....	19.24	5,400	7 p.m.....	6.04	44
			5.....	19.67	5,640	8.....	6.10	50
Jan. 20			6.....	19.59	5,480	9.....	6.45	98
6 a.m.....	6.25	49	7.....	19.12	5,340	10.....	6.90	197
9.....	6.35	60	8.....	19.08	5,310	12 p.m.....	7.80	459
11.....	6.70	112	9.....	19.23	5,400			
12 m.....	7.20	236	10.....	19.10	5,320	Feb. 10		
1 p.m.....	7.63	372	11.....	19.23	5,080	2 a.m.....	8.70	762
2.....	8.12	532	12 p.m.....	18.66	5,080	4.....	9.10	891
4.....	8.48	650				6.....	10.00	1,180
6.....	9.20	895	Jan. 22			7.....	10.38	1,310
7.....	9.42	972	2 a.m.....	17.58	4,540	8.....	10.41	1,320
11.....	9.74	1,080	4.....	16.27	3,880	9.....	10.32	1,290
12 p.m.....	10.00	1,180	6.....	15.05	3,280	10.....	10.34	1,290
			8.....	13.94	2,770	11.....	10.72	1,430
Jan. 21			10.....	13.00	2,550	12 m.....	11.03	1,540
2 a.m.....	11.65	1,780	12 m.....	12.08	1,940	1 p.m.....	11.06	1,550
3.....	12.44	2,100	2 p.m.....	10.93	1,480	2.....	10.89	1,490
4.....	12.80	2,260	4.....	9.78	1,080	4.....	10.15	1,230
5.....	13.60	2,620	6.....	9.14	867	6.....	9.22	951
6.....	13.65	2,640	8.....	8.74	738	7.....	8.50	735
7.....	13.54	2,590	12 p.m.....	8.00	495	12 p.m.....	7.74	507
8.....	13.82	2,720						
9.....	14.80	3,160	Jan. 23			Feb. 11		
10.....	17.50	4,500	2 a.m.....	7.70	400	6 a.m.....	7.16	345
11.....	16.80	4,150	6.....	7.45	332	12 m.....	6.85	268
12 m.....	17.82	4,660	12 m.....	7.25	278	4 p.m.....	6.72	239
1 p.m.....	17.60	4,550	12 p.m.....	7.00	219	8.....	6.72	239
2.....	18.12	4,810	Feb. 8			10.....	6.73	241
3 p.m.....	18.70	5,100	12 p.m.....	5.92	33	12 p.m.....	6.70	235

A161

151. West Fork Mill Creek Reservoir near Greenhills, Ohio

Location.--Lat 39°15'40", long 84°29'40", at dam on West Fork Mill Creek, 1 $\frac{1}{4}$ miles east of Greenhills, Hamilton County.

Drainage area.--29.5 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 600.00 ft above mean sea level, adjustment of 1912 (levels by Corps of Engineers); gage readings have been reduced to elevations above mean sea level.

Maxima.--January-February 1959: Total contents, 9,750 acre-ft 4:25 p.m. Jan. 22 (elevation, 698.95 ft).

April 1953 to December 1958: Total contents, 5,720 acre-ft Apr. 5, 1957 (elevation 689.76 ft).

Remarks.--Reservoir is formed by earth dam with concrete spillway; operation for flood control began Dec. 20, 1952; storage to maintain conservation pool began Apr. 19, 1953. Capacity at spillway level (elevation, 702.38 feet), 1,380 acre-ft, of which 1,530 acre-ft is in conservation pool. Dead storage, 65 acre-ft. Records given herein represent total contents. Reservoir used for flood control and recreation. No gates are on spillway, and all regulation is done by gates in conduit through dam. Gage-height record and capacity table furnished by Corps of Engineers.

Elevation, in feet, and contents, in acre-feet

Date	Time	Elevation	Contents	Date	Time	Elevation	Contents
1958				1959-Con.			
Nov. 30.....	12 p.m....	675.09	1,550	Jan. 22.....	4:25 p.m..	698.95	9,750
Dec. 31.....	12 p.m....	675.06	1,540	Jan. 31.....	12 p.m....	675.55	1,640
				Feb. 28.....	12 p.m....	675.13	1,560
1959							
Jan. 19.....	12 p.m....	675.16	1,560				

152. West Fork Mill Creek at Woodlawn, Ohio

Location.--Lat 39°15'15", long 84°28'15", on left bank at upstream side of Riddle Road Bridge in Woodlawn, Hamilton County, 0.5 mile upstream from small tributary, 1.9 miles downstream from West Fork Mill Creek Dam, and 4.0 miles upstream from mouth.

Drainage area.--31.9 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 570.00 ft above mean sea level, adjustment of 1912 (Corps of Engineers bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 1,290 cfs 6:30 p.m. Jan. 23 (gage height, 5.56 ft).

1952 to December 1958: Discharge, 2,000 cfs Apr. 4, 1956 (gage height, 6.82 ft).

Remarks.--Flow regulated by West Fork Mill Creek Reservoir beginning in 1953 (see sta. 151).

Mean discharge, in cubic feet per second, 1959

[illegible]

153. West Fork Mill Creek at Lockland, Ohio

(Gaging station; partial-record station beginning 1958)

Location.--Lat 39°13'35", long 84°27'20", on downstream side of pier of Lock Street Bridge in Lockland, Hamilton County, 1.2 miles upstream from mouth.

Drainage area.--35.6 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 539.00 ft above mean sea level, Ohio River datum.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,100 cfs.

Maxima.--January-February 1959: Discharge, 1,700 cfs 10 a.m. Jan. 21 (gage height, 10.63 ft).
1938 to December 1958: Discharge, 6,310 cfs May 25, 1947 (gage height, 16.93 ft).

Remarks.--Flood flow regulated by West Fork Mill Creek Reservoir beginning December 1952 (see sta. 151).

154. Mill Creek at Carthage, Ohio

Location.--Lat 39°12'05", long 84°28'10", on right bank 100 ft downstream from Anthony Wayne Avenue Bridge in Carthage, Hamilton County, 1 mile downstream from West Fork Mill Creek, and 11 miles upstream from mouth.

Drainage area.--116 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 512.00 ft above mean sea level, Ohio River datum.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 2,800 cfs and by slope-area measurement at 8,900 cfs.

Maxima.--January-February 1959: Discharge, 8,900 cfs 5 p.m. Jan. 21 (gage height, 16.17 ft).
1946 to December 1958: Discharge, 8,300 cfs May 25, 1947 (gage height, 14.21 ft).

Remarks.--Flow regulated by West Fork Mill Creek Reservoir beginning 1953 (see sta. 151). Low-water flows affected by diversion by industrial plants and by ground-water pumpage and diversion.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	221	113	11.....	19	568	21.....	5,080	64
2.....	157	94	12.....	22	218	22.....	2,730	57
3.....	68	76	13.....	24	191	23.....	1,400	253
4.....	48	125	14.....	54	379	24.....	1,300	186
5.....	43	98	15.....	474	394	25.....	1,080	110
6.....	26	64	16.....	273	173	26.....	572	107
7.....	29	49	17.....	83	136	27.....	91	90
8.....	32	52	18.....	54	198	28.....	72	74
9.....	32	100	19.....	53	129	29.....	80	---
10.....	22	1,060	20.....	678	91	30.....	226	---
						31.....	237	---
Monthly mean discharge, in cubic feet per second.....							493	187

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 20--Con.			Jan. 21--Con.		
12 p.m.....	0.87	72	12 p.m.....	5.82	1,730	1 p.m.....	13.96	6,140
Jan. 20			Jan. 21			2.....	13.90	6,090
6 a.m.....	.84	68	1 a.m.....	6.85	2,180	3.....	14.80	7,000
8.....	.93	80	2.....	7.80	2,610	4.....	15.62	8,060
10.....	1.12	108	3.....	8.50	2,950	5.....	16.17	8,900
11.....	1.44	168	4.....	8.62	3,010	6.....	15.76	8,260
12 m.....	1.98	328	5.....	8.95	3,180	7.....	14.80	7,000
1 p.m.....	2.90	610	6.....	9.45	3,420	8.....	14.18	6,350
2.....	3.55	832	7.....	9.58	3,490	9.....	13.85	6,040
3.....	3.82	928	8.....	9.47	3,440	10.....	13.72	5,930
4.....	3.92	968	9.....	9.60	3,500	11.....	13.60	5,830
5.....	4.50	1,200	10.....	13.20	5,510	12 p.m.....	13.34	5,620
6.....	5.53	1,610	11.....	12.40	4,980	Jan. 22		
7.....	5.53	1,610	12 m.....	14.20	6,370	1 a.m.....	12.85	5,260
10 p.m.....	5.57	1,630						

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A163

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Mill Creek at Carthage, Ohio--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 22--Con.			Jan. 23--Con.			Feb. 10--Con.		
2 a.m.....	12.28	4,910	8 p.m.....	5.11	1,440	10 a.m.....	4.87	1,350
4.....	11.05	4,230	12 p.m.....	5.05	1,420	11.....	5.25	1,500
6.....	10.08	3,740	Feb. 8			12 m.....	5.61	1,640
8.....	9.24	3,320	12 p.m.....	.64	52	2 p.m.....	5.34	1,540
10.....	8.50	2,950	Feb. 9			6.....	3.99	996
12 m.....	7.86	2,640	7 p.m.....	.80	71	7.....	3.98	992
2 p.m.....	6.50	2,020	8.....	.95	91	9.....	3.35	762
4.....	5.18	1,470	9.....	1.45	176	12 p.m.....	2.84	592
6.....	4.46	1,180	10.....	1.70	234	Feb. 11		
7.....	4.20	1,080	11.....	2.30	430	6 a.m.....	2.30	430
8.....	4.65	1,260	12 p.m.....	2.48	484	10.....	2.15	385
10.....	5.15	1,460	Feb. 10			11.....	3.10	675
12 p.m.....	5.93	1,770	1 a.m.....	2.55	505	12 m.....	4.10	1,040
Jan. 23			3.....	3.15	692	1 p.m.....	4.15	1,020
6 a.m.....	4.82	1,330	5.....	3.50	815	4.....	4.05	1,020
11.....	4.59	1,240	6.....	4.08	1,030	5.....	3.55	832
2 p.m.....	4.96	1,400	8 a.m.....	4.70	1,280	6.....	2.30	430
4.....	4.89	1,360				7.....	1.87	290
6 p.m.....	4.91	1,360				12 p.m.....	1.88	293

MIAMI RIVER BASIN

155. Indian Lake at Russells Point, Ohio

Location.--Lat 40°28'05", long 83°53'20", on backwall of concrete intake well for State fish hatchery on U.S. Highway 33, a quarter of a mile east of Russells Point, Logan County, and half a mile west of outlet into Miami River.

Drainage area.--109 sq mi.

Gage-height record.--Staff gage read once daily.

Maxima.--January-February 1959: Gage height observed, 3.58 ft 2:35 p.m. Jan. 22.
1946 to December 1958: Gage height observed, 3.23 ft June 29, 1957.
March 1913 flood reached a stage of 5.3 ft.

Remarks.--Lake level controlled by dam with 2 gates 4 by 5 ft. Capacity at spillway level (gage height, 2.15 ft), 45,900 acre-ft. Surface area at spillway level 6,134 acres.

Gage height, in feet, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	-	2.26	11.....	1.96	2.58	21.....	3.12	2.00
2.....	2.16	-	12.....	1.96	2.34	22.....	3.58	1.70
3.....	2.16	-	13.....	1.94	2.32	23.....	3.06	1.54
4.....	2.16	2.17	14.....	1.94	2.30	24.....	2.58	1.42
5.....	2.12	2.00	15.....	1.92	2.26	25.....	2.50	1.30
6.....	2.10	1.84	16.....	1.92	2.24	26.....	2.40	1.18
7.....	2.08	1.62	17.....	1.90	2.22	27.....	2.31	1.10
8.....	2.06	1.60	18.....	1.90	2.20	28.....	2.22	1.04
9.....	2.02	1.60	19.....	1.90	2.18	29.....	2.30	- - - - -
10.....	1.98	2.90	20.....	1.90	2.10	30.....	2.30	- - - - -
						31.....	2.28	- - - - -

156. Buckongahelas Creek near Degraff, Ohio

Location.--Lat 40°20'50", long 83°53'30", on right bank at downstream side of highway bridge, 2 miles downstream from Bluejacket Creek, 2½ miles northeast of Degraff, Logan County, and 4 miles upstream from mouth.

Drainage area.--37.5 sq mi.

Gage-height record.--Water-stage recorder graph, except 4 a.m. Jan. 22 to 1 p.m. Jan. 24 for which graph was reconstructed on basis of record before and after this period. Datum of gage is 1,008.76 ft above mean sea level, adjustment of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,440 cfs.

Maxima.--January-February 1959: Discharge, 1,780 cfs 7 p.m. Jan. 21 (gage height, 6.83 ft).
1957 to December 1958: Discharge, 740 cfs June 10, 1958 (gage height, 5.24 ft).

Remarks.--Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	26	65	11.....	16	202	21.....	1,040	55
2.....	31	55	12.....	16	120	22.....	1,100	52
3.....	25	55	13.....	16	108	23.....	220	69
4.....	21	69	14.....	17	145	24.....	141	68
5.....	25	52	15.....	60	179	25.....	119	56
6.....	20	46	16.....	40	107	26.....	97	55
7.....	20	42	17.....	35	92	27.....	82	52
8.....	18	42	18.....	30	80	28.....	72	52
9.....	17	46	19.....	30	66	29.....	71	---
10.....	16	721	20.....	40	60	30.....	150	---
						31.....	89	---
Monthly mean discharge, in cubic feet per second.....							119	100
Runoff, in inches.....							3.66	2.78

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	1.67	30	8 a.m.....	-	1,440	10 a.m.....	5.83	1,050
Jan. 20			12 m.....	-	1,160	11.....	5.85	1,060
3 p.m.....	1.62	30	4 p.m.....	-	795	12 m.....	5.85	1,060
9.....	1.92	55	8.....	-	465	1 p.m.....	5.84	1,050
10.....	2.14	70	12 p.m.....	-	338	2.....	5.74	994
12 p.m.....	2.69	140				3.....	5.64	940
Jan. 21			Jan. 23			4.....	5.56	900
1 a.m.....	2.70	168	6 a.m.....	-	251	5.....	5.47	855
2.....	2.77	178	12 m.....	-	205	6.....	5.37	805
3.....	2.91	199	6 p.m.....	-	177	8.....	5.11	684
4.....	2.99	212	12 p.m.....	-	159	10.....	4.70	530
5.....	3.50	294				12 p.m.....	4.23	384
6.....	4.38	458	Feb. 8					
8.....	5.50	870	12 p.m.....	1.90	40			
10.....	5.95	1,120	Feb. 9			Feb. 11		
11.....	6.12	1,220	12 m.....	1.90	40	2 a.m.....	3.91	307
12 m.....	6.12	1,220	6 p.m.....	1.95	44	3.....	3.67	259
1 p.m.....	6.32	1,340	8.....	2.00	47	4.....	3.46	224
2.....	6.41	1,410	10.....	2.15	61	5.....	3.26	196
3.....	6.62	1,570	11.....	2.40	86	6.....	3.19	187
4.....	6.74	1,680	12 p.m.....	2.83	136	7.....	3.23	192
5.....	6.78	1,720				8.....	3.18	185
6.....	6.83	1,780	Feb. 10			9.....	3.09	173
7.....	6.80	1,740	1 a.m.....	3.50	230	10.....	3.04	166
8.....	6.79	1,730	2.....	3.84	292	11.....	3.00	160
9.....	6.77	1,710	3.....	4.52	471	12 p.m.....	2.86	141
10.....			4.....	5.05	660			
Jan. 22			5.....	5.57	905			
4 a.m.....	-	1,600	6.....	5.76	1,010			
			7.....					
			8.....					
			9.....					
			10.....					
			11.....					
			12.....					

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A165

157. Miami River at Quincy, Ohio

(Gaging station, discontinued 1949)

Location.--Lat 40°18'10", long 83°58'10", at bridge on State Highway 69, a quarter of a mile north of Quincy and 2½ miles downstream from Graves Creek.

Drainage area.--408 sq mi.

Gage-height record.--Floodmarks at gage site.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,280 cfs.

Maxima.--January-February 1959: Gage height, 16.5 ft, from floodmarks (discharge not determined).

1946-49: Discharge, 4,860 cfs June 3, 1947 (gage height, 12.1 ft, from graph based on gage readings).

Remarks.--Flow regulated by Indian Lake (see sta. 155).

158. Miami River at Sidney, Ohio

Location.--Lat 40°17'14", long 84°08'57", on right bank 100 ft upstream from North Street Bridge in Sidney, Shelby County, and half a mile downstream from Tawawa Creek.

Drainage area.--545 sq mi.

Gage-height record.--Water-stage recorder graph, except 10 a.m. Jan. 23 to 1 p.m. Jan. 28 for which graph was reconstructed on basis of recession graphs of other peaks or discharge estimated on basis of comparison with nearby stations. Datum of gage is 924.70 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9,200 cfs and extended above on basis of velocity-area studies. Backwater from ice Jan. 6-12, 18, 19.

Maxima.--January-February 1959: Discharge, 16,800 cfs 11 p.m. Jan. 21 (gage height, 15.91 ft).

1914 to December 1958: Discharge, 20,700 cfs Mar. 20, 1927 (gage height, 14.4 ft).

Maximum stage known, 19.6 ft, present datum, Mar. 25, 1913 (discharge, 44,000 cfs, computed by Miami Conservancy District).

Remarks.--Some regulation by Indian Lake (see sta. 155). Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	276	1,480	11.....	210	5,790	21.....	9,880	796
2.....	692	917	12.....	210	3,600	22.....	12,900	755
3.....	523	737	13.....	203	2,560	23.....	7,180	876
4.....	397	971	14.....	219	2,440	24.....	6,230	1,180
5.....	272	868	15.....	1,100	3,050	25.....	4,680	962
6.....	240	701	16.....	1,160	2,320	26.....	2,750	863
7.....	330	645	17.....	484	1,740	27.....	1,760	832
8.....	260	637	18.....	420	1,420	28.....	1,060	818
9.....	240	632	19.....	400	1,120	29.....	768	-----
10.....	220	5,160	20.....	426	876	30.....	1,850	-----
						31.....	2,170	-----
Monthly mean discharge, in cubic feet per second.....							1,920	1,598

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 21--Con.		
12 p.m.....	2.19	431	3 a.m.....	5.11	1,860	4 p.m.....	14.98	14,700
Jan. 20			4.....	5.97	2,450	5.....	15.32	15,500
10 a.m.....	2.05	384	5.....	6.86	3,150	6.....	15.52	15,900
12 m.....	1.97	358	6.....	7.65	3,900	8.....	15.67	16,200
2 p.m.....	1.96	355	7.....	8.55	4,870	10.....	15.83	16,600
6.....	2.16	420	8.....	9.31	5,780	11.....	15.91	16,800
9.....	2.23	444	9.....	10.70	7,570	12 p.m.....	15.89	16,700
10.....	2.49	540	10.....	11.65	8,890			
12 p.m.....	3.02	764	11.....	12.28	9,820	Jan. 22		
Jan. 21			12 m.....	12.90	10,800	2 a.m.....	15.68	16,300
2 a.m.....	4.25	1,360	2 p.m.....	14.08	12,900	4.....	15.34	15,500
			3 p.m.....	14.62	14,000	8 a.m.....	14.52	13,800

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Miami River at Sidney, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 22--Con.			Feb. 10			Feb. 11--Con.		
12 m.....	13.90	12,600	1 a.m.....	4.10	1,280	4 a.m.....	9.93	6,570
6 p.m.....	13.15	11,200	2.....	4.72	1,620	6.....	9.84	6,450
12 p.m.....	12.18	9,670	3.....	5.40	2,050	12 m.....	9.40	5,890
Jan. 23			4.....	6.15	2,580	6 p.m.....	8.80	5,170
10 a.m.....	10.50	6,920	6.....	7.28	3,530	12 p.m.....	8.28	4,570
2 p.m.....	9.80	6,400	8.....	8.30	4,590			
12 p.m.....	9.59	6,130	9.....	8.85	5,230	Feb. 12		
Feb. 8			10.....	9.28	5,750	6 a.m.....	7.77	4,020
12 p.m.....	2.68	616	12 m.....	9.60	6,140	12 m.....	7.27	3,520
Feb. 9			2 p.m.....	9.95	6,600	6 p.m.....	6.84	3,140
6 p.m.....	2.65	604	4.....	10.18	6,890	12 p.m.....	6.52	2,880
8.....	2.70	624	5.....	10.24	6,970	Feb. 13		
10.....	2.90	710	6.....	10.20	6,920	8 a.m.....	6.22	2,640
11.....	3.08	791	10.....	10.01	6,670	4 p.m.....	5.97	2,450
12 p.m.....	3.48	971	12 p.m.....	9.97	6,620	12 p.m.....	5.80	2,350
			Feb. 11					
			2 a.m.....	9.96	6,610			

159. Lockington retarding basin at Lockington, Ohio

Location.--Lat 40°12'50", long 84°14'40", at dam on Loramie Creek, three-quarters of a mile northwest of Lockington, Shelby County, and $1\frac{1}{2}$ miles upstream from mouth.

Drainage area.--261 sq mi.

Gage-height record.--Staff-gage readings. Datum of gage is mean sea level (levels by Miami Conservancy District).

Maxima.--January 1959: Contents, 9,500 acre-ft 6 a.m. Jan. 22 (elevation, 909.8 ft). February 1959: Contents, 1,720 acre-ft 8 p.m. Feb. 10 (elevation, 897.0 ft). 1922 to December 1958: Contents, 12,000 acre-ft June 11, 1958 (elevation, 912.2 ft).

Remarks.--Retarding basin is formed by earth dam with concrete spillway and two concrete conduits. The elevation of the floor of the conduits is 876 ft, that of the spillway is 938 ft, and that of the top of dam is 954 ft. There are no movable gates. Capacity at spillway level is 70,000 acre-ft. Retarding basin is for flood control only. Gage-height and storage records furnished by Miami Conservancy District.

160. Loramie Creek at Lockington, Ohio

Location.--Lat 40°12'35", long 84°14'32", on left bank at downstream side of highway bridge, 1,300 ft downstream from Lockington Dam, half a mile northwest of Lockington, Shelby County, and $1\frac{1}{2}$ miles upstream from mouth.

Drainage area.--261 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 18-19 for which graph was reconstructed on basis of weather records and nearby stations. Datum of gage is 800.03 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice at times on Jan. 21.

Maxima.--January-February 1959: Discharge, 5,750 cfs 6 a.m. Jan. 22 (gage height, 84.43 ft). 1915 to December 1958: Discharge, 10,400 cfs May 7, 1916 (gage height, 86.4 ft). Maximum stage known, 91.6 ft Mar. 25, 1913 (discharge, 25,600 cfs, at site above Turtle Creek, drainage area, 208 sq mi, computed by Miami Conservancy District).

Remarks.--Slight regulation by Lake Loramie (about 13,000 acre-ft, 70 sq mi). Flood-flow regulated by Lockington retarding basin beginning in 1921 (see sta. 159). Data furnished by Miami Conservancy District.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A167

Mean discharge, in cubic feet per second, 1959, of Loramie Creek at Lockington, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	148	497	11.....	35	3,640	21.....	4,000	272
2.....	374	272	12.....	32	1,750	22.....	5,680	266
3.....	190	201	13.....	32	843	23.....	5,240	435
4.....	109	348	14.....	41	1,310	24.....	3,620	633
5.....	56	218	15.....	745	2,080	25.....	1,040	424
6.....	66	159	16.....	419	1,100	26.....	488	363
7.....	57	135	17.....	162	695	27.....	326	356
8.....	53	131	18.....	110	599	28.....	213	299
9.....	46	146	19.....	80	385	29.....	182	-----
10.....	40	3,290	20.....	111	306	30.....	1,270	-----
						31.....	1,040	-----
Monthly mean discharge, in cubic feet per second.....							839	754

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 23--Con.			Feb. 10--Con.		
12 p.m.....	78.21	72	12 m.....	84.07	5,300	3 a.m.....	80.18	1,590
Jan. 20			12 p.m.....	83.60	4,790	4.....	80.65	2,040
6 p.m.....	78.18	67				6.....	81.35	2,680
12 p.m.....	78.94	402	Jan. 24			8.....	81.84	3,120
Jan. 21			4 a.m.....	83.35	4,540	10.....	82.35	3,580
1 a.m.....	79.26	654	8.....	83.02	4,210	12 m.....	82.64	3,840
2.....	81.60	1,700	12 m.....	82.58	3,780	2 p.m.....	82.87	4,060
3.....	83.30	2,200	4 p.m.....	82.10	3,350	4.....	83.00	4,190
4.....	82.30	2,400	8.....	81.25	2,580	7.....	83.07	4,260
5.....	83.20	2,600	10.....	80.75	2,140	12 p.m.....	82.95	4,140
6.....	81.85	2,800	12 p.m.....	80.34	1,750			
8.....	82.34	3,320	Jan. 25			Feb. 11		
10.....	82.94	3,950	6 a.m.....	79.85	1,260	12 m.....	82.53	3,740
12 m.....	83.44	4,510	12 m.....	79.53	947	6 p.m.....	82.16	3,400
2 p.m.....	83.72	4,840	6 p.m.....	79.32	758	12 p.m.....	81.52	2,830
4.....	83.95	5,120	12 p.m.....	79.17	624	Feb. 12		
6.....	84.22	5,480	Feb. 8			6 a.m.....	80.74	2,130
12 p.m.....	84.37	5,670	12 p.m.....	78.45	135	12 m.....	80.17	1,580
Jan. 22						6 p.m.....	79.87	1,280
4 a.m.....	84.42	5,740	Feb. 9			12 p.m.....	79.64	1,050
6.....	84.45	5,750	8 p.m.....	78.45	135	Feb. 13		
12 m.....	84.40	5,710	10.....	78.50	153	6 a.m.....	79.49	911
12 p.m.....	84.30	5,580	12 p.m.....	78.86	370	12 m.....	79.39	821
Jan. 23			Feb. 10			6 p.m.....	79.31	749
6 a.m.....	84.20	5,450	2 a.m.....	79.65	1,060	12 p.m.....	79.29	731

161. Miami River at Piqua, Ohio

(U.S. Weather Bureau gage)

Location.--Lat 40°09'05", long 84°13'45", on downstream left pier of Ash Street (State Highway 36) bridge in Piqua, Miami County.Drainage area.--842 sq mi.Gage-height record.--Once- or twice-daily staff-gage readings. Datum of gage is 844.0 ft above mean sea level.Maxima.--January-February 1959: Gage height, 14.8 ft 11:30 p.m. Jan. 21.
1910 to December 1958: Gage height, 29.1 ft Mar. 25, 1913.

162. Lost Creek near Troy, Ohio

(Miscellaneous site)

Location.--Lat 40°01'05", long 84°09'25", at county bridge 0.2 mile south of State Highway 70, 2.8 miles southeast of Troy, Miami County, 2.8 miles southwest of Casstown, and 4.3 miles upstream from mouth.Drainage area.--55.3 sq mi.Maxima.--January-February 1959: Discharge, 5,650 cfs Jan. 21.

Flood of March 1913 reached a discharge of 29,700 cfs at a site upstream, with a drainage area of 52 sq mi.

Remarks.--Data furnished by Miami Conservancy District.

163. Taylorsville retarding basin at Taylorsville, Ohio

Location.--Lat 39°52'25", long 84°09'45", at dam on Miami River, three-quarters of a mile north of Taylorsville, Montgomery County, and 9½ miles upstream from Stillwater River.

Drainage area.--1,155 sq mi.

Gage-height record.--Staff-gage readings. Datum of gage is mean sea level (levels by Miami Conservancy District).

Maxima.--January 1959: Contents, 21,500 acre-ft 10 a.m. Jan. 22 (elevation, 791.5 ft).

February 1959: Contents, 6,100 acre-ft 2-4 p.m. Feb. 11 (elevation, 781.5 ft).

1922 to December 1958: Contents, 12,800 acre-ft May 14, 1933 (elevation, 787.1 ft).

Remarks.--Retarding basin formed by earth dam with concrete spillway and four concrete conduits. The elevation of the floor of the conduits is 760 ft, that of the spillway is 818 ft, and that of the top of dam is 837 ft. There are no movable gates. Capacity of spillway level is 186,000 acre-ft. Retarding basin is for flood control only. Gage height and storage records furnished by Miami Conservancy District.

164. Miami River at Taylorsville, Ohio

Location.--Lat 39°52'22", long 84°09'51", on left bank 600 ft downstream from Taylorsville Dam, three-quarters of a mile north of Taylorsville, Montgomery County, and 9½ miles upstream from Stillwater River.

Drainage area.--1,155 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 700.08 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 23,200 cfs. Backwater from ice Jan. 5-13, 18-21.

Maxima.--January-February 1959: Discharge, 31,400 cfs 12 m. Jan. 22 (gage height, 75.44 ft).

1914-17, 1922 to December 1958: Discharge, 26,400 cfs Jan. 2, 1916 (gage height, 15.4 ft at site 1½ miles upstream at Tadmor at different datum).

Flood of March 1913 reached a stage of 25.4 ft at site at Tadmor (discharge, 127,000 cfs, computed by Miami Conservancy District).

Remarks.--Floodflow regulated by Taylorsville retarding basin just above station (see sta. 163) and by Lockington retarding basin on Loramie Creek (see sta. 159). Flow slightly regulated by Indian Lake (see sta. 155) and by Lake Loramie (about 13,000 acre-ft, 70 sq mi). Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	408	3,020	11.....	380	16,400	21.....	11,700	1,530
2.....	1,080	1,940	12.....	380	10,400	22.....	30,200	1,510
3.....	1,130	1,500	13.....	380	5,250	23.....	24,500	1,560
4.....	820	1,750	14.....	408	4,630	24.....	16,400	2,240
5.....	500	1,680	15.....	1,310	7,500	25.....	9,770	2,000
6.....	420	1,350	16.....	2,510	5,360	26.....	4,760	1,720
7.....	500	1,160	17.....	1,370	3,610	27.....	3,170	1,610
8.....	550	1,130	18.....	750	2,940	28.....	2,190	1,520
9.....	470	1,110	19.....	750	2,340	29.....	1,620	-----
10.....	410	9,490	20.....	900	1,750	30.....	3,060	-----
						31.....	4,310	-----
Monthly mean discharge, in cubic feet per second.....							4,100	3,499
Runoff, in inches.....							4.09	3.16

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 21--Con.		
12 p.m.....	64.76	750	4 a.m.....	66.97	4,300	1 p.m.....	70.00	10,400
			5.....	67.26	5,200		71.25	13,800
Jan. 20			6.....	67.65	5,600	5.....	72.20	17,000
6 p.m.....	64.57	900	7.....	67.85	6,000	6.....	73.25	20,800
12 p.m.....	65.20	1,400	8.....	69.10	6,000	10.....	74.02	23,900
			9.....	68.50	7,290	12 p.m.....	74.60	26,800
Jan. 21			10.....	68.82	7,870			
2 a.m.....	65.99	2,600	11.....	69.08	8,360	Jan. 22		
3 a.m.....	66.28	3,400	12 m.....	69.58	8,960	2 a.m.....	74.95	28,600

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A169

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Miami River at Taylorsville, Ohio--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 22--Con.			Feb. 9			Feb. 13		
4 a.m.....	75.15	29,700	8 p.m.....	63.32	1,090	6 a.m.....	67.50	5,670
6.....	75.37	31,000	10.....	63.40	1,150	12 m.....	67.04	5,020
9.....	75.43	31,400	12 p.m.....	63.62	1,330	6 p.m.....	66.78	4,670
12 m.....	75.44	31,400				12 p.m.....	66.62	4,470
6 p.m.....	75.24	30,200	Feb. 10					
12 p.m.....	75.00	28,800	2 a.m.....	63.82	1,500	Feb. 14		
Jan. 23			3.....	64.27	1,900	12 m.....	66.40	4,190
6 a.m.....	74.66	27,100	4.....	65.50	3,160	2 p.m.....	66.44	4,240
12 m.....	74.08	24,200	5.....	66.42	4,210	6.....	66.80	4,700
12 p.m.....	75.10	20,200	6.....	67.10	5,100	12 p.m.....	67.86	6,220
Jan. 24			7.....	67.80	6,120			
12 m.....	71.84	15,700	8.....	68.16	6,700	Feb. 15		
4 p.m.....	71.66	15,100	10.....	68.78	7,790	4 a.m.....	68.55	7,380
8.....	71.51	14,600	12 m.....	69.45	9,100	8.....	68.90	8,020
12 p.m.....	71.22	13,800	2 p.m.....	70.10	10,600	10.....	68.98	8,170
Jan. 25			4.....	70.85	12,600	12 m.....	68.99	8,190
6 a.m.....	70.60	11,900	6.....	71.50	14,600	2 p.m.....	68.94	8,100
12 m.....	69.66	9,550	8.....	71.95	16,100	6.....	68.60	7,470
6 p.m.....	68.69	7,630	10.....	72.25	17,200	12 p.m.....	68.08	6,570
12 p.m.....	67.85	6,200	12 p.m.....	72.40	17,700	Feb. 16		
Jan. 26			Feb. 11			12 m.....	67.28	5,350
6 a.m.....	67.21	5,250	3 a.m.....	72.48	18,000	12 p.m.....	66.40	4,190
12 m.....	66.74	4,620	6.....	72.42	17,800			
12 p.m.....	66.04	3,760	12 m.....	72.12	16,700	Feb. 17		
Feb. 8			12 p.m.....	71.25	13,800	6 a.m.....	66.09	3,820
12 p.m.....	63.34	1,100	Feb. 12			4 p.m.....	65.77	3,460
			6 a.m.....	70.71	12,200	6.....	65.60	3,270
			12 m.....	70.06	10,500	8.....	65.62	3,290
			12 p.m.....	68.22	6,800	12 p.m.....	65.53	3,190

165. Poplar Creek near Vandalia, Ohio

(Partial-record station)

Location--Lat 39°52'15", long 84°11'15", at culvert on U.S. Highway 25, 1½ miles southeast of Vandalia, Montgomery County, and 1.3 miles upstream from mouth.

Drainage area--3.16 sq mi.

Gage-height record--Water-stage recorder graph. Altitude of gage is 816 ft (from topographic map).

Discharge record--Stage-discharge relation defined by current-meter measurements below 130 cfs and extended above by slope-area measurements.

Maxima--January-February 1959: Discharge, 1,130 cfs 12:45 p.m. Jan. 21 (gage height, 6.10 ft).
1947 to December 1958: Discharge, 1,110 cfs Nov. 16, 1955 (gage height, 6.07 ft).

166. Greenville Creek near Bradford, Ohio

Location--Lat 40°06'08", long 84°25'48", on left bank at downstream side of bridge on State Highway 721, 1½ miles south of Bradford, on line between Darke and Miami Counties, and 6 miles upstream from mouth.

Drainage area--195 sq mi.

Gage-height record--Water-stage recorder graph, except 5 p.m. Jan. 22 to 1 p.m. Jan. 24 for which graph was reconstructed on basis of normal recession. Datum of gage is 948.9 ft above mean sea level, adjustment of 1912.

Discharge record--Stage-discharge relation defined by current-meter measurements below 5,520 cfs.

Maxima--January-February 1959: Discharge, 5,990 cfs 10 p.m. Jan. 21 (gage height, 8.93 ft).
1930 to December 1958: Discharge, 9,320 cfs May 14, 1933 (gage height, 9.2 ft).

Flood in March 1913 reached a stage of 12.1 ft (discharge, 18,200 cfs, at site with drainage area of 213 sq mi, computed by Miami Conservancy District).

Remarks--Data furnished by Miami Conservancy District.

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of Greenville Creek near Bradford, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	198	362	11.....	82	2,780	21.....	3,510	230
2.....	402	250	12.....	87	1,000	22.....	5,140	217
3.....	211	230	13.....	84	620	23.....	2,400	295
4.....	164	311	14.....	95	792	24.....	1,030	397
5.....	93	232	15.....	388	1,500	25.....	540	311
6.....	152	157	16.....	343	792	26.....	428	274
7.....	131	140	17.....	160	544	27.....	328	245
8.....	120	140	18.....	150	453	28.....	257	229
9.....	100	150	19.....	142	348	29.....	226	---
10.....	90	1,970	20.....	153	270	30.....	754	---
						31.....	607	---
Monthly mean discharge, in cubic feet per second.....							599	544
Runoff, in inches.....							3.54	2.90

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.11	135	12 m.....	8.49	5,240	7 p.m.....	6.61	2,930
Jan. 20				8.46	5,200	8.....	6.63	2,950
9 a.m.....	2.06	126	4.....	8.40	5,100	12 p.m.....	6.68	3,000
11.....	2.02	119	6.....	8.25	4,890			
4 p.m.....	2.05	124	12 p.m.....	7.55	3,970	Feb. 11		
6.....	2.23	158				4 a.m.....	6.78	3,100
10.....	2.56	232	Jan. 23			6.....	6.80	3,120
12 p.m.....	2.94	357	6 a.m.....	6.85	-	7.....	6.81	3,130
Jan. 21			12 p.m.....	5.95	-	8.....	6.79	3,110
2 a.m.....	3.65	658	6 p.m.....	5.03	-	10.....	6.75	3,070
4.....	4.58	1,130	12 p.m.....	4.79	-	12 m.....	6.68	3,000
6.....	5.28	1,560	Feb. 9			2 p.m.....	6.57	2,890
8.....	6.00	2,090	12 p.m.....	2.55	270	4.....	6.41	2,730
10.....	6.64	2,700	Feb. 10			6.....	6.21	2,540
12 m.....	7.43	3,650	1 a.m.....	2.71	324	8.....	5.97	2,320
2 p.m.....	8.18	4,750	2.....	2.96	411	12 p.m.....	5.38	1,810
4.....	8.54	5,300	6.....	4.23	1,010	Feb. 12		
6.....	8.68	5,540	8.....	5.05	1,550	6 a.m.....	4.50	1,170
8.....	8.76	5,680	10.....	5.41	1,840	8.....	4.28	1,040
10.....	8.93	5,950	12 m.....	5.88	2,240	10.....	4.12	945
12 p.m.....	8.89	5,920	2 p.m.....	6.24	2,570	12 m.....	3.98	869
Jan. 22			3.....	6.38	2,700	2 p.m.....	3.89	820
6 a.m.....	8.61	5,440	4.....	6.47	2,790	6.....	3.75	745
10 a.m.....	8.50	5,260	5.....	6.54	2,860	8.....	3.69	715
			6 p.m.....	6.59	2,910	12 p.m.....	3.62	680

167. Stillwater River at Pleasant Hill, Ohio

Location.--Lat 40°03'28", long 84°21'22", on left bank at downstream side of highway bridge three-quarters of a mile northwest of Pleasant Hill, Miami County, and 2 miles downstream from Painter Creek.

Drainage area.--502 sq mi.

Gage-height record.--Water-stage recorder graph, except 10 p.m. Jan. 22 to 12 m. Jan. 23 for which graph was reconstructed on basis of graph before and after this period. Datum of gage is 846.73 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 14,800 cfs and by contracted-opening measurements at 18,100 and 19,200 cfs.

Maxima.--January-February 1959: Discharge, 19,300 cfs 8 p.m. Jan. 21 (gage height, 17.98 ft).

1916-28, 1934 to December 1958: Discharge, 26,400 cfs Jan. 14, 1937 (gage height, 17.32 ft).

Maximum stage known, 17.5 ft Mar. 25, 1913 (discharge, 51,400 cfs, at site about 3 miles upstream computed by Miami Conservancy District). This stage is not comparable with present gage heights because of failure of levee in 1913.

Remarks.--Data furnished by Miami Conservancy District.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A171

Mean discharge, in cubic feet per second, 1959, of Stillwater River at Pleasant Hill, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	355	864	11.....	157	6,960	21.....	11,700	464
2.....	1,310	533	12.....	162	2,510	22.....	14,600	432
3.....	632	484	13.....	166	1,590	23.....	6,580	640
4.....	408	705	14.....	191	2,360	24.....	2,690	1,160
5.....	205	489	15.....	1,260	4,430	25.....	1,320	786
6.....	260	329	16.....	1,150	2,130	26.....	1,040	640
7.....	282	276	17.....	479	1,400	27.....	720	586
8.....	246	282	18.....	419	1,160	28.....	538	543
9.....	202	297	19.....	364	814	29.....	464	---
10.....	175	6,080	20.....	364	562	30.....	2,310	---
						31.....	1,780	---
Monthly mean discharge, in cubic feet per second.....							1,694	1,411
Runoff, in inches.....							3.88	2.93

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	2.77	326	12 m.....	15.78	14,400	2 a.m.....	4.75	1,340
			6.....	14.37	11,600	3.....	5.32	1,730
Jan. 20			12 p.m.....	12.90	9,260	4.....	5.78	2,090
4 a.m.....	2.68	299				5.....	6.52	2,690
2 p.m.....	2.63	285	Jan. 23			6.....	7.25	3,320
4.....	2.72	311	12 m.....	10.40	6,400	7.....	8.25	4,250
8.....	3.10	437	12 p.m.....	8.28	4,280	8.....	9.20	5,200
10.....	3.38	549				9.....	10.00	6,000
12 p.m.....	4.20	930	Jan. 24			10.....	10.80	6,800
Jan. 21			6 a.m.....	7.17	3,250	11.....	11.27	7,300
2 a.m.....	5.40	1,660	12 m.....	6.28	2,490	12 m.....	11.53	7,580
3.....	6.50	2,490	2 p.m.....	6.10	2,350	2 p.m.....	11.82	7,910
4.....	7.70	3,480	4.....	6.04	2,300	4.....	12.02	8,150
5.....	8.80	4,470	8.....	5.50	1,870	6.....	12.20	8,370
6.....	9.85	5,510	12 p.m.....	5.13	1,600	8.....	12.40	8,610
7.....	10.80	6,510				10.....	12.57	8,830
8.....	11.20	6,950	Jan. 25			12 p.m.....	12.63	8,910
9.....	12.00	7,900	6 a.m.....	4.84	1,400			
10.....	13.00	9,250	12 m.....	4.67	1,280	Feb. 11		
12 m.....	15.10	13,000	6 p.m.....	4.56	1,220	4 a.m.....	12.31	8,500
2 p.m.....	16.20	15,300	12 p.m.....	4.48	1,170	8.....	11.78	7,870
3.....	16.50	16,000	Feb. 8			12 m.....	11.15	7,160
4.....	17.30	17,600	12 p.m.....	2.60	276	6 p.m.....	9.77	5,770
6.....	17.90	19,100	Feb. 9			12 p.m.....	8.40	4,400
8.....	17.98	19,300	6 p.m.....	2.56	265			
11.....	17.94	19,200	9.....	2.61	279	Feb. 12		
12 p.m.....	17.95	19,200	10.....	2.95	394	4 a.m.....	7.33	3,400
Jan. 22			11.....	3.44	575	8.....	6.51	2,680
2 a.m.....	17.96	19,200	12 p.m.....	3.70	720	12 m.....	5.92	2,210
4.....	17.73	18,700	Feb. 10			4 p.m.....	5.60	1,950
8 a.m.....	16.85	16,800	1 a.m.....	4.10	940	8.....	5.40	1,790
						12 p.m.....	5.26	1,690

168. Hog Run tributary at Laura, Ohio

(Partial-record station)

Location.--Lat 40°00'30", long 84°25'25", at culvert on State Highway 71, 0.3 mile upstream from mouth and 1 mile northwest of Laura, Miami County.Drainage area.--0.46 sq mi (296 acres).Gage-height record.--Water-stage recorder graph. Altitude of gage is 983 ft (from topographic map).Discharge record.--Stage-discharge relation defined by current-meter measurements below 19.1 cfs and by measurement of flow through culvert at 204 cfs.Maxima.--January-February 1959: Discharge, 54 cfs 8:45 a.m. Jan. 21 (gage height, 6.00 ft).
1950 to December 1958: Discharge, 204 cfs May 22, 1953 (gage height, 7.65 ft).

169. Englewood retarding basin at Englewood, Ohio

Location.--Lat 39°52'10", long 84°17'05", at dam on Stillwater River, 1 mile south-east of Englewood, Montgomery County, and 8½ miles upstream from mouth.

Drainage area.--646 sq mi.

Gage-height record.--Staff-gage readings. Datum of gage is mean sea level (levels by Miami Conservancy District).

Maxima.--January 1959: Contents, 48,000 acre-ft 4-10 a.m. Jan. 23 (elevation, 825.1 ft).

February 1959: Contents, 15,500 acre-ft 8-10 p.m. Feb. 11 (elevation, 807.6 ft).

1922 to December 1958: Contents, 65,800 acre-ft June 15, 1958 (elevation, 831.3 ft).

Remarks.--Retarding basin formed by earth dam with concrete spillway and two concrete conduits. The elevation of the floor of the conduits is 772 ft, that of the spillway is 876 ft, and that of the top of dam is 892.5 ft. There are no movable gates. Capacity at spillway level is 312,000 acre-ft. Retarding basin is for flood control only. Gage height and storage records furnished by Miami Conservancy District.

170. Stillwater River at Englewood, Ohio

Location.--Lat 39°52'10", long 84°16'57", on right bank 1,000 ft downstream from Englewood Dam, 1 mile southeast of Englewood, Montgomery County, and 8½ miles upstream from mouth.

Drainage area.--646 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 699.97 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 9,450 cfs 8 a.m. Jan. 23 (gage height, 80.21 ft).

1925 to December 1958: Discharge, 9,980 cfs June 15, 1958 (gage height, 80.88 ft).

Maximum discharge during flood in March 1913, 85,400 cfs, at site 1 mile downstream, computed by Miami Conservancy District.

Remarks.--Floodflow regulated by Englewood retarding basin (see sta. 169). Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	279	1,440	11.....	226	7,040	21.....	4,680	730
2.....	1,540	958	12.....	214	6,870	22.....	8,900	748
3.....	1,120	792	13.....	226	5,670	23.....	9,400	748
4.....	712	1,030	14.....	236	4,000	24.....	9,000	1,400
5.....	381	940	15.....	1,040	4,580	25.....	8,230	1,240
6.....	372	609	16.....	1,780	4,240	26.....	7,170	1,000
7.....	405	477	17.....	818	2,250	27.....	5,660	892
8.....	397	477	18.....	533	1,600	28.....	2,600	818
9.....	311	464	19.....	542	1,300	29.....	818	-----
10.....	255	4,340	20.....	507	932	30.....	1,930	-----
						31.....	2,910	-----
Monthly mean discharge, in cubic feet per second.....							2,355	2,056
Runoff, in inches.....							4.21	3.31

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 21--Con.		
12 p.m.....	72.95	542	3 a.m.....	73.71	1,170	3 p.m.....	78.45	6,460
			4.....	74.14	1,430	4.....	78.60	6,700
Jan. 20			5.....	74.75	1,860	8.....	78.96	7,300
4 p.m.....	72.85	450	6.....	75.68	2,700	12 p.m.....	79.35	7,960
12 p.m.....	75.02	609	7.....	76.20	3,230			
			8.....	76.52	3,580	Jan. 22		
Jan. 21			10.....	76.90	4,050	6 a.m.....	79.75	8,640
1 a.m.....	73.15	730	12 m.....	77.40	4,780	12 m.....	79.95	8,980
2 a.m.....	73.38	924	2 p.m.....	78.05	5,820	4 p.m.....	80.08	9,210

A173

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Stillwater River at Englewood, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 22--Con.			Jan. 28--Con.			Feb. 12--Con.		
8 p.m.....	80.15	9,340	4 p.m.....	74.10	1,410	12 m.....	78.74	6,930
12 p.m.....	80.19	9,410	6.....	73.72	1,180	12 p.m.....	78.40	6,380
			8.....	73.53	1,040			
Jan. 23			12 p.m.....	73.40	940	Feb. 13		
8 a.m.....	80.21	9,450				6 a.m.....	78.15	5,980
4 p.m.....	80.18	9,390	Feb. 8			10.....	77.99	5,720
12 p.m.....	80.12	9,290	12 p.m.....	72.87	468	12 m.....	78.02	5,770
						12 p.m.....	77.48	4,910
Jan. 24			Feb. 9			Feb. 14		
8 a.m.....	80.05	9,160	9 p.m.....	72.85	450	12 m.....	76.80	3,920
4 p.m.....	79.88	8,870	12 p.m.....	72.95	542	6 p.m.....	76.35	3,400
12 p.m.....	79.76	8,660				8.....	76.39	3,440
			Feb. 10			12 p.m.....	76.64	3,730
Jan. 25			2 a.m.....	73.18	757			
12 m.....	79.50	8,220	4.....	74.35	1,570	Feb. 15		
12 p.m.....	79.25	7,600	6.....	76.05	3,070	6 a.m.....	77.14	4,380
			8.....	76.75	3,860	12 m.....	77.37	4,750
Jan. 26			10.....	77.25	4,540	6 p.m.....	77.47	4,890
12 m.....	78.88	7,170	12 m.....	77.58	5,070	8.....	77.48	4,910
12 p.m.....	78.50	6,540	2 p.m.....	77.81	5,440	12 p.m.....	77.46	4,880
			6.....	78.16	6,000			
Jan. 27			12 p.m.....	78.51	6,560	Feb. 16		
12 m.....	77.95	5,660				6 a.m.....	77.35	4,700
2 p.m.....	77.94	5,640	Feb. 11			12 m.....	77.13	4,360
12 p.m.....	77.32	4,650	6 a.m.....	78.74	6,930	6 p.m.....	76.76	3,870
			12 m.....	78.86	7,130	12 p.m.....	76.15	3,180
Jan. 28			6 p.m.....	78.91	7,220			
6 a.m.....	76.78	3,900	9.....	78.92	7,230	Feb. 17		
8.....	76.40	3,450	12 p.m.....	78.90	7,200	8 a.m.....	75.48	2,500
10.....	76.04	3,060				12 m.....	74.97	2,040
12 m.....	75.70	2,720	Feb. 12			4 p.m.....	74.75	1,860
2 p.m.....	75.00	2,070	6 a.m.....	78.85	7,120	12 p.m.....	74.59	1,730

171. Mad River at Zanesfield, Ohio

Location.--Lat 40°21'05", long 83°40'25", at highway bridge adjacent to U.S. Highway 33, 0.8 mile upstream from unnamed stream in Hadley Bottom and 1 mile north of Zanesfield, Logan County.

Drainage area.--6.41 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,208.28 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 110 cfs and extended above on the basis of slope-area measurements and computations of flow at critical depth.

Maxima.--January-February 1959: Discharge, 794 cfs 1:30 p.m. Jan. 21 (gage height, 5.05 ft).
1947 to December 1958: Discharge, 1,380 cfs Apr. 11, 1948 (gage height, 6.76 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

172. Mad River near Urbana, Ohio

Location--Lat 40°06'27", long 83°47'57", on left bank at downstream side of bridge on U.S. Highway 36, $1\frac{1}{2}$ miles upstream from Dugan Run, $1\frac{1}{2}$ miles downstream from Muddy Creek, and $2\frac{1}{2}$ miles west of Urbana, Champaign County.

Drainage area--157 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 985.0 ft above mean sea level, adjustment of 1912.

Discharge record--Stage-discharge relation defined by current-meter measurements below 4,000 cfs. Shifting-control method used at times.

Maxima--January-February 1959: Discharge, 8,000 cfs 5 a.m. Jan. 22 (gage height, 12.05 ft).
1925-31, 1939 to December 1958: Discharge, 7,740 cfs Feb. 26, 1929 (gage height, 10.4 ft).

Remarks--Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	112	356	11.....	87	950	21.....	3,770	279
2.....	143	317	12.....	87	536	22.....	5,000	271
3.....	122	301	13.....	88	480	23.....	1,050	301
4.....	117	379	14.....	99	603	24.....	698	290
5.....	106	294	15.....	253	610	25.....	582	264
6.....	106	267	16.....	151	424	26.....	498	257
7.....	117	253	17.....	120	389	27.....	430	246
8.....	106	249	18.....	110	356	28.....	384	239
9.....	97	251	19.....	104	313	29.....	360	---
10.....	88	2,880	20.....	111	298	30.....	652	---
						31.....	435	---
Monthly mean discharge, in cubic feet per second.....							522	452
Runoff, in inches.....							3.83	3.00

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 9--Con.		
12 p.m.....	3.07	88	3 a.m.....	12.00	7,920	12 p.m.....	4.10	398
			4.....	12.04	7,980			
Jan. 20			5.....	12.05	8,000	Feb. 10		
4 p.m.....	3.20	112	6.....	12.04	7,980	1 a.m.....	4.50	645
10.....	3.30	137	8.....	11.89	7,740	2.....	5.50	1,440
12 p.m.....	3.42	171	9.....	11.72	7,470	3.....	6.22	2,020
			10.....	11.46	7,060	4.....	6.70	2,400
Jan. 21			11.....	10.88	6,300	5.....	6.81	2,490
2 a.m.....	3.70	277	12 m.....	9.72	5,020	6.....	6.85	2,520
3.....	3.90	377	1 p.m.....	8.65	4,020	7.....	7.04	2,670
4.....	4.35	660	2.....	8.05	3,480	8.....	7.36	2,930
5.....	5.00	1,120	3.....	7.60	3,120	9.....	7.85	3,320
6.....	6.20	2,000	4.....	7.18	2,780	10.....	7.96	3,410
7.....	6.95	2,600	5.....	6.50	2,240	12 m.....	8.20	3,620
8.....	7.25	2,840	6.....	6.18	1,980	1 p.m.....	8.40	3,800
9.....	7.65	3,160	7.....	6.00	1,840	3.....	8.52	3,910
10.....	7.89	3,350	8.....	5.68	1,580	5.....	8.65	4,020
12 m.....	8.36	3,760	10.....	5.50	1,440	6.....	8.52	3,910
2 p.m.....	8.95	4,300	12 p.m.....	5.50	1,440	7.....	8.15	3,580
3.....	9.16	4,480				8.....	7.45	3,000
4.....	9.28	4,590	Jan. 23			9.....	6.95	2,600
5.....	9.85	5,150	6 a.m.....	5.17	1,180	10.....	6.60	2,320
6.....	10.45	5,780	12 m.....	4.95	1,000	12 p.m.....	6.06	1,890
7.....	10.83	6,240	12 p.m.....	4.71	808			
9.....	11.40	7,000				Feb. 11		
10.....	11.56	7,220	Feb. 8			2 a.m.....	5.65	1,560
12 p.m.....	11.72	7,470	12 p.m.....	3.72	242	6.....	5.05	1,080
						8.....	4.88	944
Jan. 22			Feb. 9			10.....	4.76	848
1 a.m.....	11.81	7,620	6 p.m.....	3.72	242	2 p.m.....	4.65	760
2 a.m.....	11.86	7,700	9.....	3.75	253	6.....	4.60	720
			11 p.m.....	3.90	309	12 p.m.....	4.49	638

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A175

173. Buck Creek at New Moorefield, Ohio
(Gaging station, discontinued 1958)

Location.--Lat 39°59'15", long 83°42'55", on right bank at downstream side of New York Central Railroad bridge at south edge of New Moorefield, Clark County, 1½ miles downstream from East Fork and 5 miles upstream from Beaver Creek.

Drainage area.--67.3 sq mi.

Gage-height record.--High-water marks in gage house. Datum of gage is 1,005.44 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,670 cfs and by contracted-opening measurement at 8,130 cfs.

Maxima.--January-February 1959: Discharge, 8,130 cfs Jan. 21 (gage height, 7.7 ft in gage well, 7.98 ft from outside floodmark).
1942 to December 1958: Discharge, 5,150 cfs Feb. 14, 1948 (gage height, 7.46 ft).

174. Beaver Creek near Springfield, Ohio
(Gaging station, discontinued 1958)

Location.--Lat 39°56'25", long 83°44'55", on right bank at upstream side of bridge on Croft Road, three-quarters of a mile upstream from mouth and 3½ miles east of center of Springfield, Clark County.

Drainage area.--37.3 sq mi.

Gage-height record.--Floodmarks at gage site. Datum of gage is 960.98 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,360 cfs and by slope-area measurements at 1,660, 1,760, and 4,950 cfs.

Maxima.--January-February 1959: Discharge, 5,400 cfs Jan. 21 (gage height, 9.0 ft).
1942-58: Discharge, 4,980 cfs Feb. 13, 1948 (gage height, 7.95 ft).

175. Buck Creek at Springfield, Ohio
(Gaging station, partial-record station beginning 1950)

Location.--Lat 39°55'57", long 83°48'59", at Plum Street Bridge in Springfield, Clark County, 0.3 mile upstream from concrete control dam and 2½ miles upstream from mouth.

Drainage area.--137 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 906.85 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,000 cfs and extended above on basis of computations of flow over dam and slope-area measurements.

Maxima.--January-February 1959: Discharge about 10,500 cfs 9 p.m. Jan. 21 (gage height, 12.39 ft).

1914-21, 1924 to December 1958: Discharge, 13,000 cfs Feb. 26, 1929 (gage height, 14.3 ft).

Flood of Mar. 25, 1913, reached a stage of 13.3 ft (discharge, 11,100 cfs, computed by Miami Conservancy District).

176. Mad River near Springfield, Ohio

Location.--Lat 39°55'23", long 83°52'13", on right bank 150 ft downstream from Rock Run, 2 miles downstream from Buck Creek and 3 miles west of Springfield, Clark County.

Drainage area.--485 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 881.42 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 13,500 cfs and by contracted-opening and slope-area measurements of 1959 peak flow. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 30,500 cfs 9 p.m. Jan. 21 (gage height, 15.76 ft).

1904-5, 1914 to December 1958: Discharge, 23,000 cfs Feb. 26, 1929 (gage height, 14.9 ft).

Maximum stage known, 16.9 ft Mar. 25, 1913, present datum (discharge, 55,400 cfs, computed by Miami Conservancy District).

Remarks.--Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959, of Mad River near Springfield, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	462	994	11.....	282	4,730	21.....	17,400	799
2.....	590	850	12.....	292	1,830	22.....	16,700	774
3.....	450	842	13.....	297	1,650	23.....	4,380	913
4.....	400	1,200	14.....	363	2,240	24.....	2,020	913
5.....	313	842	15.....	1,320	2,500	25.....	1,570	799
6.....	346	714	16.....	860	1,520	26.....	1,350	765
7.....	346	648	17.....	555	1,320	27.....	1,160	722
8.....	329	624	18.....	488	1,160	28.....	1,020	714
9.....	318	656	19.....	475	985	29.....	985	---
10.....	302	9,000	20.....	558	868	30.....	1,880	---
						31.....	1,270	---
Monthly mean discharge, in cubic feet per second.....							1,906	1,485
Runoff, in inches.....							4.53	3.19

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	1.89	482	2 a.m.....	15.55	28,800	2 a.m.....	3.90	2,080
Jan. 20			4.....	15.00	25,300	3.....	5.91	3,700
4 a.m.....	1.87	469	6.....	14.22	21,300	4.....	7.42	4,750
10.....	1.87	469	8.....	13.57	18,400	5.....	7.82	5,070
2 p.m.....	1.92	501	12 m.....	12.48	14,300	6.....	8.45	5,680
4.....	2.01	562	4 p.m.....	11.72	11,900	7.....	9.55	7,140
6.....	2.12	640	8.....	11.15	10,400	8.....	10.24	8,380
9.....	2.09	618	12 p.m.....	10.26	8,420	10.....	10.95	9,920
10.....	2.22	716	Jan. 23			11.....	11.28	10,800
12 p.m.....	2.82	1,210	4 a.m.....	8.95	6,270	12 m.....	11.45	11,200
Jan. 21			6.....	8.00	5,230	2 p.m.....	11.82	12,200
1 a.m.....	3.24	1,560	8.....	7.12	4,540	4.....	11.95	12,600
2.....	3.90	2,090	12 m.....	5.87	3,670	5.....	11.95	12,600
3.....	4.60	2,650	2 p.m.....	5.68	3,510	7.....	11.91	12,400
4.....	5.65	3,490	6.....	5.30	3,210	8.....	11.82	12,200
5.....	7.27	4,650	12 p.m.....	4.56	2,620	10.....	11.50	11,300
6.....	8.28	5,500	Jan. 24			12 p.m.....	10.56	9,020
7.....	9.30	6,750	4 a.m.....	4.21	2,340	Feb. 11		
8.....	10.50	8,900	8.....	3.88	2,070	4 a.m.....	10.00	7,900
9.....	11.65	11,700	12 m.....	3.68	1,900	8.....	8.22	5,440
10.....	12.58	14,600	12 p.m.....	3.50	1,740	12 m.....	6.14	3,860
11.....	13.10	16,500	Feb. 8			6 p.m.....	4.70	2,730
12 m.....	13.48	18,000	12 p.m.....	2.20	600	7.....	4.45	2,530
1 p.m.....	13.65	18,700	Feb. 9			8.....	4.40	2,490
2.....	14.25	21,400	6 a.m.....	2.18	584	12 p.m.....	4.14	2,280
3.....	15.00	25,300	8 p.m.....	2.23	624	Feb. 12		
4.....	15.50	28,500	10.....	2.24	632	6 a.m.....	3.74	1,950
5.....	15.62	29,400	11.....	2.54	866	8.....	3.64	1,860
7.....	15.73	30,200	12 p.m.....	2.77	1,099	10.....	3.57	1,800
9.....	15.76	30,500	12 p.m.....	2.80	1,120	4 p.m.....	3.43	1,690
12 p.m.....	15.74	30,300	Feb. 10			8.....	3.47	1,630
Jan. 22			1 a.m.....	3.05	1,340	12 p.m.....	3.45	1,700
1 a.m.....	15.70	30,000						

177. Huffman retarding basin near Dayton, Ohio

Location.--Lat 39°47'50", long 84°05'30", at dam on Mad River, in Greene County, 2½ miles downstream from Mad River, and 6 miles northeast of Dayton, Montgomery County.

Drainage area.--632 sq mi.

Gage-height record.--Staff-gage readings. Datum of gage is mean sea level (levels by Miami Conservancy District).

Maxima.--January 1959: Contents, 25,000 acre-ft 2-4 p.m. Jan. 22 (elevation, 809.0 ft).

February 1959: Contents, 4,200 acre-ft 9 a.m. Feb. 11 (elevation, 797.2 ft).

1922 to December 1958: Contents, 14,100 acre-ft Feb. 26, 1929 (elevation, 805.2 ft).

Remarks.--Retarding basin is formed by earth dam with concrete spillway and three conduits. The elevation of the floor of the conduits is 777 ft, that of the spillway is 835 ft, and that of the top of dam is 850 ft. There are no movable gates. Capacity at spillway level is 167,000 acre-ft. Retarding basin is for flood control only. Gage height and storage records furnished by Miami Conservancy District.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A177

178. Mad River near Dayton, Ohio

Location.--Lat 39°47'48", long 84°05'32", on left bank 600 ft downstream from Huffman Dam, 2½ miles downstream from Mad Run, and 6 miles northeast of Dayton, Montgomery County.

Drainage area.--632 sq mi.

Gage-height record.--Water-stage recorder graph, except 4 a.m. to 12 m. Jan. 22 for which graph was reconstructed on basis of high-water mark in gage house. Datum of gage is 699.95 ft above mean sea level, adjustment of 1912. Temporary staff gage 1,000 ft downstream used Dec. 1 to Jan. 20.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 18,800 cfs. Stage-discharge relation indefinite, discharge estimated Jan. 24 to Feb. 6. Gage-height record doubtful, discharge estimated Feb. 7-9. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 21,200 cfs ½ p.m. Jan. 22. Gage height, 87.78 ft 8 a.m. Jan. 22.
1914 to December 1958: Discharge, 18,400 cfs Feb. 26, 1929 (gage height, 87.9 ft).
Maximum stage known, 14.0 Mar. 25, 1913, at site 1 mile upstream at datum 83.96 ft higher (discharge, 75,700 cfs, computed by Miami Conservancy District).

Remarks.--Floodflow regulated by Huffman retarding basin beginning in 1921 (see sta. 177). Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	393	1,300	11.....	337	10,300	21.....	6,920	1,100
2.....	822	1,100	12.....	346	3,410	22.....	20,200	1,000
3.....	569	1,100	13.....	360	2,280	23.....	17,200	1,270
4.....	499	1,400	14.....	393	2,480	24.....	5,000	1,260
5.....	380	1,100	15.....	1,180	3,410	25.....	2,200	1,100
6.....	410	950	16.....	1,490	2,170	26.....	1,700	1,040
7.....	410	850	17.....	811	1,800	27.....	1,500	990
8.....	393	800	18.....	717	1,590	28.....	1,300	960
9.....	408	800	19.....	522	1,360	29.....	1,200	-----
10.....	393	5,810	20.....	499	1,200	30.....	2,300	-----
						31.....	1,700	-----
Monthly mean discharge, in cubic feet per second.....							2,340	1,926
Runoff, in inches.....							4.27	3.18

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	78.99	642	87.40	21,000		12 m.....	81.12	5,760
Jan. 21			2 p.m.....	87.30	21,200	4 p.m.....	81.86	7,310
2 a.m.....	79.28	901	8.....	87.00	20,600	8.....	82.54	8,900
4.....	79.90	1,520	12 p.m.....	86.72	20,500	12 p.m.....	83.14	10,400
6.....	80.90	2,750						
8.....	81.70	3,840	Jan. 23			Feb. 11		
10.....	82.50	5,120	4 a.m.....	36.36	19,600	4 a.m.....	83.48	11,300
12 m.....	83.07	6,260	8.....	85.97	18,900	6.....	83.57	11,600
2 p.m.....	83.60	7,400	10.....	85.90	16,800	8.....	83.60	11,600
4.....	84.25	8,920	2 p.m.....	85.48	17,400	10.....	83.55	11,500
6.....	85.02	10,900	6.....	84.84	15,200	12 m.....	83.44	11,200
8.....	85.70	12,800	12 p.m.....	83.64	11,800	2 p.m.....	83.28	10,800
10.....	86.23	14,300	Feb. 9			4.....	83.04	10,200
12 p.m.....	86.72	16,100	12 p.m.....	78.35	1,400	8.....	82.39	8,540
Jan. 22			Feb. 10			12 p.m.....	81.58	6,700
1 a.m.....	87.04	17,200	2 a.m.....	78.50	1,580	Feb. 12		
2.....	87.22	17,900	3.....	78.64	1,750	4 a.m.....	80.58	4,700
4.....	87.40	18,800	4.....	79.10	2,330	6.....	80.12	3,880
6.....	87.70	20,200	5.....	79.60	3,050	8.....	79.82	3,390
7.....	87.76	20,600	6.....	80.00	3,680	12 m.....	79.47	2,860
8.....	87.78	20,700	8.....	80.61	4,760	4 p.m.....	79.28	2,580
9 a.m.....	87.74	20,800	10 a.m.....	80.88	5,280	12 p.m.....	79.12	2,360

179. Miami River at Dayton, Ohio

Location.--Lat 39°45'55", long 84°11'51", on left bank 1,000 ft downstream from Main Street Bridge in Dayton, Montgomery County, and three-quarters of a mile downstream from Mad River.

Drainage area.--2,513 sq mi.

Gage-height record.--Water-stage recorder graph, except 8 p.m. Jan. 21 to 1 p.m. Jan. 23 and Jan. 27-29, affected by partly plugged intake, for which graph was reconstructed on basis of Weather Bureau gage readings and high-water marks on outside of gage house. Datum of gage is 700.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 58,900 cfs. Backwater from ice Jan. 6-12, 18-19.

Maxima.--January-February 1959: Discharge, 60,900 cfs 4 p.m. Jan. 22 (gage height, 35.45 ft).

1905-6, 1913 to December 1958: Discharge, 59,800 cfs Apr. 21, 1920 (gage height, 16.0 ft, at Main Street Bridge at datum 23.73 ft higher), Millers Ford, $\frac{3}{2}$ miles downstream from station, computed by Miami Conservancy District. Maximum stage known, 29.0 ft Mar. 26, 1913, at Main Street Bridge at datum 23.73 ft higher (discharge, 250,000 cfs, computed by Miami Conservancy District).

Remarks.--Floodflow regulated by four retarding basins beginning in 1920 (see stas. 159, 163, 169, 177). Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,110	6,570	11.....	1,000	32,900	21.....	26,300	3,680
2.....	2,850	4,510	12.....	1,000	22,400	22.....	57,100	3,560
3.....	2,960	3,730	13.....	1,050	15,500	23.....	51,300	3,640
4.....	2,130	4,370	14.....	1,070	12,100	24.....	31,100	4,960
5.....	1,360	4,200	15.....	2,940	15,800	25.....	21,100	4,650
6.....	1,100	3,320	16.....	5,840	13,000	26.....	14,900	3,970
7.....	1,300	2,800	17.....	3,490	8,510	27.....	10,100	3,710
8.....	1,400	2,690	18.....	2,000	6,500	28.....	7,930	3,540
9.....	1,300	3,940	19.....	1,800	5,210	29.....	5,200	- - - - -
10.....	1,200	18,600	20.....	2,010	4,130	30.....	6,940	- - - - -
						31.....	9,770	- - - - -
Monthly mean discharge, in cubic feet per second.....							9,053	7,946

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22			Feb. 8		
12 p.m.....	22.64	2,120	2 a.m.....	33.70	47,200	12 p.m.....	22.99	2,640
Jan. 20			4.....	34.40	52,500	Feb. 9		
8 a.m.....	22.50	1,920	6.....	34.80	55,700	8 a.m.....	22.97	2,610
12 m.....	22.48	1,890	8.....	35.00	57,300	12 m.....	23.05	2,740
4 p.m.....	22.58	2,030	10.....	35.20	58,900	4 p.m.....	23.75	3,930
9.....	22.55	1,990	12 m.....	35.35	60,100	8.....	24.80	6,060
12 p.m.....	22.87	2,460	4 p.m.....	35.45	60,900	12 p.m.....	25.90	8,690
Jan. 21			8.....	35.40	60,500	Feb. 10		
2 a.m.....	23.50	3,490	12 p.m.....	35.38	59,700	6 a.m.....	27.25	13,400
4.....	24.05	4,490	Jan. 23			12 m.....	28.68	18,900
6.....	25.00	6,500	6 a.m.....	34.75	55,300	6 p.m.....	29.71	23,100
8.....	26.00	9,010	12 m.....	34.30	51,700	12 p.m.....	30.90	29,600
10.....	27.40	14,000	6 p.m.....	33.76	47,600	Feb. 11		
12 m.....	28.65	18,800	12 p.m.....	32.88	41,500	4 a.m.....	31.43	32,800
2.....	29.42	21,900	Jan. 24			8.....	31.72	34,500
4.....	29.95	24,200	6 a.m.....	31.84	35,200	12 m.....	31.83	35,200
6.....	30.12	25,000	12 m.....	30.98	30,100	1 p.m.....	31.85	35,300
8.....	30.29	25,900	6 p.m.....	30.35	26,300	3.....	31.76	34,800
10.....	30.55	27,500	10.....	30.09	24,800	6.....	31.43	32,800
12 p.m.....	31.12	30,900	12 p.m.....	29.98	24,300	12 p.m.....	30.76	28,800
2.....	32.10	36,800	Jan. 25			Feb. 12		
3.....	32.74	40,600	6 a.m.....	29.68	23,000	6 a.m.....	30.08	24,800
4.....	32.92	41,700	12 m.....	29.26	21,200	12 m.....	29.44	22,000
5.....	32.92	41,700	6 p.m.....	28.77	19,300	6 p.m.....	28.91	19,800
6.....	32.74	40,600	12 p.m.....	28.30	17,400	12 p.m.....	28.35	17,600
8.....	32.10	36,800						
10.....	32.35	38,300						
12 p.m.....	33.00	42,300						

180. Wolf Creek at Trotwood, Ohio

(Miscellaneous site)

Location.--Lat 39°47'40", long 84°17'35", at Olive Road bridge, 0.6 mile downstream from North Branch Wolf Creek and 1.0 mile east of Trotwood, Montgomery County.

Drainage area.--48.2 sq mi.

Maximum.--January-February 1959: Discharge, 6,990 cfs Jan. 21 or 22, from contracted-opening measurement.

Remarks.--Data furnished by Miami Conservancy District.

181. Wolf Creek at Dayton, Ohio

(Gaging station, discontinued 1950)

Location.--Lat 39°46'00", long 84°14'10", at West Riverview Avenue bridge in Dayton, Montgomery County, 1.8 miles upstream from mouth.

Drainage area.--69.5 sq mi.

Gage-height record.--High-water marks in gage house. Datum of gage is 700.00 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9,650 cfs.

Maxima.--January-February 1959: Gage height, 55.1 ft Jan. 21.
1938-50: Discharge, 9,950 cfs Mar. 19, 1943 (gage height, 53.5 ft).

182. Holes Creek near Kettering, Ohio

(Miscellaneous site)

Location.--Lat 39°39'25", long 84°11'55", a quarter of a mile west of Mad River Road on Alexanderville-Bellbrook Road, 2 $\frac{3}{4}$ miles southwest of Kettering, Montgomery County, and 3.2 miles upstream from mouth.

Drainage area.--20.6 sq mi.

Maximum.--January-February 1959: Discharge, 4,730 cfs Jan. 21, from slope-area measurement.

Remarks.--Data furnished by Miami Conservancy District.

183. Miami River at Miamisburg, Ohio

Location.--Lat 39°38'45", long 84°17'20", on left bank 600 ft downstream from bridge on State Highway 725 at Miamisburg, Montgomery County, and 0.3 mile downstream from Bear Creek.

Drainage area.--2,718 sq mi.

Gage-height record.--Water-stage recorder graph, except 9 a.m. to 3 p.m. Jan. 21, 1 p.m. Jan. 22 to 11 a.m. Jan. 23 and for periods of partly plugged intake Jan. 28-29, 31 and Feb. 2-3, 10-11, 21 for which graph was reconstructed on basis of wire-weight gage readings. Datum of gage is 678.60 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 59,800 cfs.

Maxima.--January-February 1959: Discharge, 61,800 cfs 7 p.m. Jan. 21 (gage height, 20.65 ft).

1916-20, 1924-35, 1952 to December 1958: Discharge, 55,000 cfs Feb. 27, 1929 (gage height, 16.5 ft, at site 2.2 miles downstream at datum 677.06 ft above mean sea level).

Maximum discharge known, 257,000 cfs Mar. 26, 1913, computed by Miami Conservancy District.

Remarks.--Floodflow regulated by four retarding basins beginning in 1920 (see stas. 159, 163, 169, 177). Gage-height record furnished by Dayton Power & Light Co. Discharge measurements furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959, of Miami River at Miamisburg, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	1,460	7,790	11.....	1,160	32,600	21.....	35,000	4,360
2.....	2,900	5,990	12.....	1,170	24,500	22.....	54,400	4,270
3.....	3,600	5,110	13.....	1,220	15,400	23.....	55,600	4,470
4.....	2,560	5,590	14.....	1,510	13,000	24.....	37,800	5,590
5.....	1,500	5,250	15.....	3,440	15,500	25.....	23,600	5,610
6.....	1,260	4,290	16.....	6,430	13,900	26.....	16,400	4,840
7.....	1,520	3,530	17.....	3,850	9,800	27.....	13,000	4,480
8.....	1,650	3,300	18.....	2,110	7,650	28.....	9,330	4,270
9.....	1,510	3,390	19.....	2,070	6,470	29.....	5,110	-----
10.....	1,320	16,700	20.....	2,350	5,150	30.....	7,190	-----
						31.....	11,100	-----
Monthly mean discharge, in cubic feet per second.....							10,090	8,664
Runoff, in inches.....							4.28	3.32

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 23--Con.			Feb. 11		
12 p.m.....	4.05	2,320	8 p.m.....	19.20	52,200	4 a.m.....	14.90	29,600
			12 p.m.....	18.75	49,500	8.....	15.60	32,800
Jan. 20			Jan. 24			10.....	15.85	33,900
10 a.m.....	3.92	2,140				12 m.....	16.00	34,600
4 p.m.....	4.00	2,250	6 a.m.....	17.70	43,400	2 p.m.....	16.05	34,800
8.....	4.25	2,610	12 m.....	16.52	37,100	4.....	16.06	34,900
9.....	4.24	2,590	6 p.m.....	15.42	32,000	6.....	16.03	34,700
12 p.m.....	4.58	3,140	12 p.m.....	14.46	27,800	8.....	15.95	34,400
						12 p.m.....	15.45	32,100
Jan. 21			Jan. 25			Feb. 12		
2 a.m.....	5.10	4,070	6 a.m.....	13.94	25,800			
3.....	5.45	4,700	12 m.....	13.39	23,700	6 a.m.....	14.44	27,800
4.....	6.35	6,450	6 p.m.....	12.70	21,400	12 m.....	13.30	23,400
5.....	7.55	8,860	12 p.m.....	11.92	19,200	6 p.m.....	12.46	20,700
6.....	9.50	13,200				12 p.m.....	11.72	18,600
7.....	11.10	17,000	Jan. 26			Feb. 13		
8.....	12.65	21,300	6 a.m.....	11.25	17,400			
9.....	14.05	26,200	12 m.....	10.74	16,100	6 a.m.....	10.93	16,600
11.....	15.85	33,900	12 p.m.....	9.97	14,800	12 m.....	10.38	15,200
1 p.m.....	17.50	42,200	Jan. 27			6 p.m.....	9.86	14,000
2.....	18.20	46,200	12 m.....	9.40	12,900	12 p.m.....	9.60	13,400
3.....	18.90	50,400	2 p.m.....	9.35	12,800	Feb. 14		
4.....	19.80	56,100	6.....	9.18	12,400	12 m.....	9.18	12,400
5.....	20.34	59,600	12 p.m.....	8.75	11,500	2 p.m.....	9.15	12,400
6.....	20.61	61,500				4.....	9.30	12,700
7.....	20.65	61,800	Jan. 28			6.....	9.61	13,400
8.....	20.48	60,600	12 m.....	7.90	9,630	8.....	9.75	13,700
10.....	19.70	55,400	6 p.m.....	7.15	8,050	10.....	9.76	13,800
12 p.m.....	18.90	50,400	12 p.m.....	6.45	6,650	12 p.m.....	9.70	13,600
Jan. 22			Feb. 8			Feb. 15		
2 a.m.....	18.28	46,700	12 p.m.....	4.63	3,220			
3.....	18.11	45,700	Feb. 9			2 a.m.....	9.68	13,600
4.....	18.07	45,400				6.....	10.00	14,300
5.....	18.11	45,700	7 p.m.....	4.65	3,260	12 m.....	10.74	16,100
6.....	18.28	46,600	10.....	5.00	3,690	4 p.m.....	11.01	16,800
10.....	19.35	53,200	12 p.m.....	5.70	5,150	6.....	11.03	16,800
2 p.m.....	20.00	57,400	Feb. 10			8.....	10.98	16,700
4.....	20.33	59,500				12 p.m.....	10.72	16,100
6.....	20.51	60,800	2 a.m.....	6.50	6,750	Feb. 16		
8.....	20.65	61,800	4.....	7.20	8,150			
10.....	20.55	61,000	6.....	8.00	9,850	6 a.m.....	10.23	14,900
12 p.m.....	20.35	59,700	8.....	9.00	12,000	12 m.....	9.79	13,800
Jan. 23			10.....	11.00	16,800	12 p.m.....	8.93	11,900
4 a.m.....	20.20	58,700	12 m.....	12.15	19,800	Feb. 17		
8.....	20.00	57,400	2 p.m.....	12.55	21,000			
12 m.....	19.80	56,100	6.....	12.90	22,000	8 a.m.....	8.21	10,300
6 p.m.....	19.40	53,500	8.....	13.10	22,700	6 p.m.....	7.52	8,790
			12 p.m.....	13.90	25,600	12 p.m.....	7.23	8,210

184. Clear Creek at Franklin, Ohio

(Miscellaneous site)

Location.--Lat 39°33'05", long 84°17'55", at bridge on State Highway 123, 0.6 mile southeast of Franklin, Warren County, and 1.1 miles upstream from mouth.

Drainage area.--46.7 sq mi.

Maximum.--January-February 1959: Discharge, 13,300 cfs Jan. 21, from slope-area measurement.

Remarks.--Data furnished by Miami Conservancy District.

185. Twin Creek near Ingomar, Ohio

(Miscellaneous site--Miami Conservancy District gage)

Location--Lat 39°42'30", long 84°31'30", at highway bridge half a mile downstream from Bantas Fork, 1.4 miles west of Ingomar, and 2.6 miles south of West Alexandria, Preble County.

Drainage area--198 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 815.42 ft above mean sea level.

Maximum--January-February 1959: Discharge, 30,300 cfs Jan. 21 (gage height, 18.8 ft), from contracted-opening measurement.

Remarks--Data furnished by Miami Conservancy District.

186. Germantown retarding basin near Germantown, Ohio

Location--Lat 39°38'15", long 84°24'10", at dam on Twin Creek, $1\frac{3}{4}$ miles northwest of Germantown, Montgomery County, and 3 miles upstream from Little Twin Creek.

Drainage area--275 sq mi.

Gage-height record--Staff-gage readings. Datum of gage is mean sea level (levels by Miami Conservancy District).

Maxima--January 1959: Contents, 33,600 acre-ft 6-8 a.m. Jan. 22 (elevation, 787.2 ft).
February 1959: Contents, 8,700 acre-ft 2 a.m. Feb. 11 (elevation, 764.0 ft).
1922 to December 1958: Contents, 21,400 acre-ft Feb. 26, 1929 (elevation, 778.3 ft).

Remarks--Retarding basin is formed by earth dam with concrete spillway and two concrete conduits. The elevation of the floor of the conduits is 724 ft, that of the spillway is 815 ft, and that of the top of dam is 830 ft. There are no movable gates. Capacity at spillway level is 106,000 acre-ft. Retarding basin is for flood control only. Gage-height and storage records furnished by Miami Conservancy District.

187. Twin Creek near Germantown, Ohio

Location--Lat 39°38'10", long 84°23'48", on right bank a quarter of a mile downstream from Germantown Dam, $1\frac{1}{2}$ miles northwest of Germantown, Montgomery County, and 3 miles upstream from Little Twin Creek.

Drainage area--275 sq mi.

Gage-height record--Water-stage recorder graph, except Jan. 5-7 for which periods graph was reconstructed on basis of weather records and comparison with nearby stations. Datum of gage is 700.24 ft above mean sea level, adjustment of 1912.

Discharge record--Stage-discharge relation defined by current-meter measurements below 7,700 cfs. Backwater from ice Jan. 8-14, 17-21.

Maxima--January-February 1959: Discharge, 8,590 cfs 4 a.m. Jan. 22 (gage height, 29.19 ft).
1914-23, 1926 to December 1958: Discharge, 9,390 cfs July 8, 1915 (gage height, 11.7 ft, from graph based on gage readings, at site 1 mile downstream at datum 12.49 ft higher).
Maximum stage known, 18.3 ft Mar. 25, 1913, original site and datum (discharge, 66,000 cfs, computed by Miami Conservancy District).

Remarks--Floodflow regulated by Germantown retarding basin beginning in 1920 (see sta. 186). Data furnished by Miami Conservancy District.

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of Twin Creek near Germantown, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	442	490	11.....	85	6,100	21.....	5,500	250
2.....	747	304	12.....	85	2,060	22.....	8,450	253
3.....	372	310	13.....	90	933	23.....	7,710	304
4.....	263	525	14.....	100	2,140	24.....	6,390	455
5.....	130	310	15.....	911	2,860	25.....	1,650	360
6.....	160	226	16.....	694	1,120	26.....	475	317
7.....	140	196	17.....	300	730	27.....	347	289
8.....	120	198	18.....	180	573	28.....	272	266
9.....	100	207	19.....	160	402	29.....	261	---
10.....	90	4,600	20.....	170	289	30.....	1,370	---
						31.....	905	---
Monthly mean discharge, in cubic feet per second.....							1,247	967
Runoff, in inches.....							5.22	3.66

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	20.81	160	12 m.....	29.13	8,500	6 a.m.....	24.65	3,680
			12 p.m.....	28.90	8,190	8.....	25.46	4,410
Jan. 20			Jan. 23			10.....	25.92	4,830
12 m.....	20.67	150	12 m.....	28.54	7,720	12 m.....	26.32	5,230
9 p.m.....	20.70	170	12 p.m.....	28.13	7,220	4 p.m.....	26.83	5,740
11.....	20.68	270				8.....	27.30	6,250
12 p.m.....	21.22	480	Jan. 24			10.....	27.46	6,430
			12 m.....	27.50	6,470	12 p.m.....	27.55	6,520
Jan. 21			6 p.m.....	27.05	5,980			
1 a.m.....	21.60	800	12 p.m.....	26.37	5,280	Feb. 11		
2.....	22.68	1,200				2 a.m.....	27.59	6,570
3.....	22.50	1,520	Jan. 25			4.....	27.58	6,560
4.....	23.30	2,150	2 a.m.....	25.96	4,870	6.....	27.48	6,450
5.....	24.35	2,980	4.....	25.32	4,290	12 m.....	27.30	6,250
6.....	24.85	3,440	6.....	23.60	2,780	6 p.m.....	26.88	5,790
8.....	25.65	4,460	8.....	21.00	775	12 p.m.....	26.21	5,120
10.....	26.62	5,340	10.....	20.84	674			
12 m.....	27.25	6,100	12 m.....	20.77	634	Feb. 12		
2 p.m.....	28.00	7,020	12 p.m.....	20.57	525	2 a.m.....	25.85	4,760
4.....	28.38	7,510				4.....	25.30	4,270
6.....	28.84	8,110	Feb. 9			6.....	24.05	3,140
8.....	29.00	8,320	12 p.m.....	20.40	440	8.....	22.10	1,580
10.....	29.16	8,540				10.....	21.82	1,360
12 p.m.....			Feb. 10			12 m.....	21.68	1,250
Jan. 22			2 a.m.....	21.72	1,280	4 p.m.....	21.52	1,130
4 a.m.....	29.19	8,590	4 a.m.....	23.14	2,410	6.....	21.35	1,010
9.....	29.18	8,570				12 p.m.....	21.22	919

188. Dicks Creek near Excello, Ohio

(Miscellaneous site)

Location.--Lat 39°28'25", long 84°23'50", at Yankee Road bridge, 1.3 miles south-east of Excello, Butler County, and 2.5 miles upstream from mouth.

Drainage area.--44.8 sq mi.

Maximum.--January-February 1959: Discharge, 9,830 cfs Jan. 21, from contracted-opening measurement.

Remarks.--Data furnished by Miami Conservancy District.

189. Fourmile Creek at Hueston Woods Dam, Ohio

(Miscellaneous site)

Location.--Lat 39°33'25", long 84°44'05", at Hueston Woods Dam (Acton Lake outlet), 3 miles north of Oxford, Butler County.

Drainage area.--102 sq mi.

Maximum.--January-February 1959: Discharge, 13,300 cfs Jan. 21 (elevation, 868.16 ft above mean sea level, 5.16 ft above spillway crest), from measurement of flow over dam.

Remarks.--Capacity at spillway elevation (863 ft), 9,500 acre-ft. Capacity at peak stage, 13,000 acre-ft.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A183

190. Sevenmile Creek at Collinsville, Ohio
(Miscellaneous site)

Location.--Lat 39°31'25", long 84°36'40", at county road bridge half a mile north of Collinsville, Butler County, and 5.5 miles above mouth.

Drainage area.--121 sq mi.

Maximum.--January-February 1959: Discharge, 16,600 cfs Jan. 21, from contracted-opening measurement.

191. Talawanda Creek near Hamilton, Ohio

Location.--Lat 39°27'30", long 84°32'50", on left bank 0.9 mile downstream from Sevenmile Creek, 1½ miles south of village of Sevenmile, 3 miles upstream from mouth, and 4 miles north of Hamilton, Butler County.

Drainage area.--311 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 590.0 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 17,700 cfs and by slope-area measurement at 44,500 cfs.

Maxima.--January-February 1959: Discharge, 44,500 cfs 4:30 p.m. Jan. 21 (gage height, 21.9 ft).
1937 to December 1958: Discharge, 33,500 cfs Jan. 4, 1949 (gage height, 21.0 ft at staff gage 1,000 ft upstream at same datum).

Remarks.--Flow slightly regulated by Acton Lake Dam (see sta. 189).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	333	568	11.....	112	2,220	21.....	22,500	630
2.....	465	504	12.....	108	1,510	22.....	5,490	602
3.....	300	448	13.....	103	1,350	23.....	1,240	635
4.....	220	645	14.....	117	2,280	24.....	850	695
5.....	185	568	15.....	877	1,880	25.....	650	607
6.....	160	532	16.....	475	1,410	26.....	500	550
7.....	140	500	17.....	260	1,130	27.....	420	500
8.....	128	477	18.....	196	956	28.....	390	450
9.....	121	682	19.....	160	830	29.....	370	---
10.....	117	5,820	20.....	444	710	30.....	1,100	---
						31.....	700	---
Monthly mean discharge, in cubic feet per second.....							1,266	1,060

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22			Feb. 10--Con.		
12 p.m.....	9.41	153	4 a.m.....	17.85	13,300	2 a.m.....	12.92	2,600
Jan. 20			6.....	16.85	9,480	3.....	13.34	3,350
9 a.m.....	9.40	150	7.....	15.55	5,590	4.....	13.85	4,400
10.....	9.43	158	8.....	14.60	3,350	5.....	14.70	6,380
11.....	9.50	176	12 m.....	13.38	1,770	6.....	15.44	8,260
12 m.....	9.60	205	1 p.m.....	13.15	1,580	7.....	15.10	7,460
2 p.m.....	10.07	382	2.....	13.04	1,480	8.....	14.90	7,020
4.....	10.48	584	3.....	12.98	1,430	9.....	14.79	6,780
6.....	10.75	742	5.....	12.90	1,360	10.....	14.73	6,650
10.....	11.15	1,040	9.....	12.85	1,330	11.....	14.80	6,800
12 p.m.....	11.44	1,500	12 p.m.....	12.82	1,320	12 m.....	14.83	6,870
Jan. 21			Jan. 23			1 p.m.....	14.70	6,580
1 a.m.....	11.75	1,600	12 m.....	12.73	1,250	2.....	14.70	6,580
2.....	12.00	1,870	12 p.m.....	12.52	1,120	3.....	14.80	6,800
3.....	12.14	2,040	Feb. 8			4.....	14.86	6,930
4.....	12.50	2,490	12 p.m.....	11.19	466	6.....	14.88	6,980
6.....	16.20	10,100	Feb. 9			8.....	14.65	6,470
8.....	18.45	16,800	8 a.m.....	11.18	466	10.....	13.85	4,760
10.....	19.75	23,100	12 m.....	11.20	470	12 p.m.....	13.10	3,380
11.....	20.12	25,700	2 p.m.....	11.24	548	Feb. 11		
12 m.....	20.31	27,200	4.....	11.32	635	3 a.m.....	12.72	2,800
1 p.m.....	20.58	29,500	6.....	11.48	792	6.....	12.44	2,450
2.....	21.06	34,100	8.....	11.68	1,010	8.....	12.32	2,300
3.....	21.50	39,500	10.....	11.92	1,280	10.....	12.21	2,180
4:30.....	21.90	44,500	11.....	12.11	1,520	12 m.....	12.12	2,080
5.....	21.82	43,400	12 p.m.....	12.33	1,780	6 p.m.....	11.93	1,880
6.....	21.50	39,300	Feb. 10			12 p.m.....	11.76	1,710
7.....	21.18	35,500	1 a.m.....	12.60	2,170			
12 p.m.....	19.58	21,700						

192. Miami River at Hamilton, Ohio

Location.--Lat 39°23'28", long 84°34'20", on right bank 1,000 ft downstream from Columbia Bridge at Hamilton, Butler County, and 3 miles downstream from Tala-wanda Creek.

Drainage area.--3,639 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 499.98 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 74,000 cfs and by slope-area measurement at 108,000 cfs.

Maxima.--January-February 1959: Discharge, 108,000 cfs 9:30 p.m. Jan. 21 (gage height, 79.49 ft).
1910-18, 1927 to December 1958: Discharge, 352,000 cfs Mar. 26, 1913 (gage height, 38.5 ft, at site 0.7 mile upstream at datum 64.65 ft higher), computed by Miami Conservancy District.

Remarks.--Floodflow regulated by five retarding basins beginning in 1920 (see stas. 159, 163, 169, 177, 186). Data furnished by Miami Conservancy District.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	2,510	10,700	11.....	1,560	37,000	21.....	56,300	5,670
2.....	4,060	7,470	12.....	1,470	35,200	22.....	73,900	5,320
3.....	4,620	6,170	13.....	1,540	20,500	23.....	63,500	5,640
4.....	3,580	6,170	14.....	1,680	18,600	24.....	53,500	6,650
5.....	2,280	6,750	15.....	4,900	22,200	25.....	33,400	7,080
6.....	1,680	5,550	16.....	7,630	18,400	26.....	20,600	6,170
7.....	1,920	4,710	17.....	5,170	13,200	27.....	15,700	5,670
8.....	2,200	4,360	18.....	3,240	10,100	28.....	12,200	5,370
9.....	2,040	4,340	19.....	2,750	8,360	29.....	7,890	-----
10.....	1,780	22,900	20.....	3,420	6,820	30.....	8,880	-----
						31.....	13,200	-----
Monthly mean discharge, in cubic feet per second.....							13,520	11,350
Runoff, in inches.....							4.29	3.25

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Jan. 28--Con.		
12 p.m.....	59.05	2,970	12 m.....	74.88	66,100	12 p.m.....	61.86	9,900
Jan. 20			2 p.m.....	74.23	62,200	Jan. 29		
8 a.m.....	59.10	3,060	4.....	73.84	59,900	6 a.m.....	61.20	8,180
12 m.....	59.15	3,150	6.....	73.73	59,300	12 m.....	61.00	7,660
5 p.m.....	59.23	3,300	8.....	73.79	59,600	6 p.m.....	60.83	7,250
6.....	59.07	3,010	12 p.m.....	74.16	61,800	12 p.m.....	60.75	7,060
7.....	59.52	3,860	Jan. 23			Feb. 8		
9.....	59.73	4,280	4 a.m.....	74.47	63,600	12 p.m.....	59.55	4,300
12 p.m.....	60.27	5,430	6.....	74.58	64,300	Feb. 9		
Jan. 21			10.....	74.63	64,600	7 p.m.....	59.50	4,200
2 a.m.....	61.15	7,370	2 p.m.....	74.55	64,100	10.....	59.72	4,660
3.....	61.70	8,660	4.....	74.35	62,900	12 p.m.....	60.05	5,390
4.....	62.42	10,500	12 p.m.....	74.14	61,600	Feb. 10		
5.....	63.45	13,200	6 a.m.....	73.70	59,100	2 a.m.....	60.97	7,590
6.....	64.55	16,400	12 m.....	72.95	55,000	4.....	61.92	10,100
7.....	66.10	21,500	6 p.m.....	71.48	47,100	5.....	62.35	11,200
8.....	68.15	29,200	12 p.m.....	70.84	43,900	6.....	63.25	13,800
9.....	70.35	36,400	Jan. 25			7.....	64.35	17,200
10.....	71.92	45,700	6 a.m.....	69.58	37,800	8.....	65.00	19,400
11.....	73.05	51,500	12 m.....	68.60	33,400	9.....	65.63	21,700
12 m.....	73.95	56,700	6 p.m.....	67.28	28,100	12 m.....	66.36	24,400
1 p.m.....	74.60	60,800	10.....	66.60	25,400	2 p.m.....	67.22	27,900
2.....	75.25	65,400	12 p.m.....	66.58	25,300	4.....	67.85	30,400
3.....	76.25	73,300	Jan. 26			6.....	68.38	32,500
4.....	76.96	79,500	6 a.m.....	65.82	22,300	8.....	68.65	33,600
5.....	77.75	86,900	12 m.....	65.20	20,200	9.....	68.74	34,000
6.....	78.48	94,800	6 p.m.....	64.79	18,700	12 p.m.....	68.67	33,700
7.....	78.95	100,000	12 p.m.....	64.43	17,500	Feb. 11		
8.....	79.34	106,000	Jan. 27			2 a.m.....	68.60	33,400
9.....	79.48	108,000	12 m.....	63.85	15,600	4.....	68.60	33,400
9:30.....	79.49	108,000	12 p.m.....	63.33	14,000	6.....	68.70	33,800
12 p.m.....	79.34	106,000	Jan. 28			12 m.....	69.37	36,900
Jan. 22			12 m.....	62.75	12,400	6 p.m.....	70.07	40,000
2 a.m.....	79.01	102,000	6 p.m.....	62.36	11,300	10.....	70.30	41,200
4.....	78.49	95,300				12 p.m.....	70.35	41,400
6.....	77.78	87,800						
8.....	76.76	78,900						
10 a.m.....	75.78	71,500						

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A185

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Miami River at Hamilton, Ohio--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 12			Feb. 12--Con.			Feb. 13		
1 a.m.....	70.37	41,600	12 m.....	69.40	37,000	6 a.m.....	65.65	22,400
4.....	70.30	41,200	4 p.m.....	68.26	32,000	12 m.....	65.15	20,000
6.....	70.17	40,600	8.....	67.23	27,900	6 p.m.....	64.66	18,300
8 a.m.....	70.02	39,800	12 p.m.....	66.58	25,300	12 p.m.....	64.38	17,300

193. Indian Creek near Millville, Ohio

(Miscellaneous site)

Location--Lat 39°21'45", long 84°38'35", at Hamilton-New London Road bridge, 1.9 miles south of Millville, Butler County, and 4.3 miles upstream from mouth.

Drainage area--99.1 sq mi.

Maximum--January-February 1959: Discharge, 23,500 cfs Jan. 21, from contracted-opening measurement.

Remarks--Data furnished by Miami Conservancy District.

194. Miami River near Miamitown, Ohio

(U.S. Weather Bureau gage)

Location--Lat 39°12'00", long 84°42'50", between U.S. Highway bypass 50 and East Miami River Road, 1.2 miles south of Miamitown and 1.9 miles downstream from Weather Bureau-Miami Conservancy District gage on U.S. Highway 50 bridge at Miamitown, Hamilton County.

Drainage area--3,880 sq mi.

Gage-height record--Daily wire-weight gage readings. Datum of gage is 484.15 ft above mean sea level.

Maximum--January-February 1959: Discharge, 115,000 cfs 4 a.m. Jan. 22 (gage height, 31.4 ft), from slope-area measurement.

Remarks--Data furnished by Miami Conservancy District and U.S. Weather Bureau.

195. Martindale Creek at Cambridge City, Ind. -

(Miscellaneous site)

Location--Lat 39°49', long 85°09', in NE $\frac{1}{4}$ sec.26, T.16 N., R.12 E., at bridge on U.S. Highway 40, 1 mile east of Cambridge City, and 1 $\frac{1}{4}$ miles upstream from mouth.

Drainage area--58.5 sq mi.

Maximum--January-February 1959: Discharge, 4,240 cfs Jan. 21, by contracted-opening measurement.

196. Whitewater River near Alpine, Ind.

Location--Lat 39°34'23", long 85°09'27", in sec.14, T.13 N., R.12 E., on right bank 500 ft downstream from highway bridge, 0.4 mile downstream from Wilson Creek, 1.6 miles northeast of Alpine, and 4.7 miles upstream from Bear Creek.

Drainage area--539 sq mi.

Gage-height record--Water-stage recorder graph. Graph fragmentary at times due to the float freezing and sluggish intakes. Graph completed from adjoining record. Datum of gage is 750.19 ft above mean sea level, datum of 1929.

Discharge record--Stage-discharge relation defined by current-meter measurements.

Maxima--January-February 1959: Discharge, 31,600 cfs 11 p.m. Jan. 21 (gage height, 16.14 ft).
1928 to December 1958: Discharge, 35,000 cfs Jan. 14, 1937 (gage height, 16.61 ft).

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of Whitewater River near Alpine, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	919	1,430	11.....	303	4,920	21.....	17,000	940
2.....	1,180	1,200	12.....	303	2,150	22.....	15,700	905
3.....	755	1,130	13.....	303	1,820	23.....	3,580	1,080
4.....	590	1,430	14.....	371	3,760	24.....	2,430	1,240
5.....	440	1,200	15.....	1,080	4,020	25.....	1,980	1,080
6.....	450	1,060	16.....	950	2,150	26.....	1,720	1,010
7.....	440	990	17.....	618	1,600	27.....	1,480	940
8.....	415	950	18.....	540	1,410	28.....	1,320	905
9.....	368	1,080	19.....	470	1,240	29.....	1,280	-----
10.....	345	9,670	20.....	605	1,010	30.....	2,520	-----
						31.....	1,900	-----
Monthly mean discharge, in cubic feet per second.....							2,004	1,868
Runoff, in inches.....							4.29	3.61

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	5.20	490	10 p.m.....	16.11	31,200	12 p.m.....	7.98	2,800
			11.....	16.14	31,600			
Jan. 19			12 p.m.....	16.09	31,000	Jan. 24		
12 m.....	5.15	465				12 m.....	7.60	2,380
12 p.m.....	5.14	460	Jan. 22			12 p.m.....	7.40	2,160
			1 a.m.....	16.08	30,900	Jan. 25		
Jan. 20			2.....	16.08	30,900	12 m.....	7.23	1,970
12 m.....	5.10	440	3.....	16.04	30,400	12 p.m.....	7.10	1,830
1 p.m.....	5.10	440	4.....	15.95	29,300			
3.....	5.15	465	5.....	15.82	27,700	Jan. 26		
6.....	5.42	601	6.....	15.65	26,000	12 m.....	7.00	1,720
10.....	6.03	948	7.....	15.44	24,000	12 p.m.....	6.87	1,590
11.....	6.72	1,450	8.....	15.18	21,700			
12 p.m.....	7.54	2,310	9.....	14.87	19,400	Jan. 27		
			10.....	14.45	16,700	12 m.....	6.75	1,480
Jan. 21			11.....	14.03	14,600	12 p.m.....	6.65	1,580
1 a.m.....	8.52	3,430	12 m.....	13.55	12,600			
2.....	9.28	4,390	1 p.m.....	13.00	10,800	Jan. 28		
3.....	10.30	5,820	2.....	12.45	9,540	12 m.....	6.55	1,300
4.....	11.25	7,200	3.....	11.92	8,350	3 p.m.....	6.57	1,320
5.....	12.15	8,640	4.....	11.37	7,390	12 p.m.....	6.51	1,280
6.....	12.55	9,760	5.....	10.82	6,550			
7.....	12.92	10,600	6.....	10.42	5,990	Jan. 29		
8.....	13.22	11,500	7.....	10.12	5,570	12 m.....	6.48	1,260
9.....	13.47	12,300	8.....	9.90	5,260	8 p.m.....	6.49	1,260
10.....	13.75	13,400	9.....	9.72	5,010	12 p.m.....	6.70	1,430
11.....	14.05	14,600	10.....	9.55	4,770			
12 m.....	14.20	15,400	11.....	9.42	4,590	Jan. 30		
1 p.m.....	14.48	16,900	12 p.m.....	9.27	4,380	6 a.m.....	7.29	2,040
2.....	14.77	18,700				10.....	8.23	3,090
3.....	15.01	20,400	Jan. 23			12 m.....	8.38	3,270
4.....	15.21	22,000	3 a.m.....	8.98	3,990	8 p.m.....	7.81	2,610
5.....	15.42	23,800	6.....	8.75	3,710	12 p.m.....	7.56	2,340
6.....	15.59	25,400	9.....	8.55	3,470			
7.....	15.72	26,700	12 m.....	8.39	3,280	Jan. 31		
8.....	15.86	28,200	3 p.m.....	8.26	3,120	12 m.....	7.11	1,840
9 p.m.....	16.00	29,900	6 p.m.....	8.15	2,990	12 p.m.....	6.84	1,560

197. Salt Creek near Hamburg, Ind.

(Miscellaneous site)

Location.--Lat 39°21'51", long 85°14'59", in N $\frac{1}{2}$ sec.36, T.11 N., R.11 E., at county bridge $1\frac{1}{2}$ miles downstream from Righthand Fork, 1.3 miles south of Hamburg, and 2.9 miles northwest of Oldenburg.

Drainage area.--41.0 sq mi.

Maximum.--January-February 1959: Discharge, 10,200 cfs Jan. 21, by contracted-opening and flow-over-embankment measurement.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A187

198. Middle Fork of East Fork Whitewater River at Middleboro, Ind.
(Miscellaneous site)

Location.--Lat 39°54', long 84°50', on line between secs. 11 and 12, T.14 N., R.1 W., at bridge on State Highway 227, at Middleboro.

Drainage area.--35.9 sq mi.

Maximum.--January-February 1959: Discharge, 3,260 cfs Jan. 21, by contracted-opening measurement.

199. East Fork Whitewater River at Richmond, Ind.

Location.--Lat 39°48'24", long 84°54'26", in SE $\frac{1}{4}$ sec.7, T.13 N., R.1 W., on left bank 50 ft downstream from highway bridge, three-quarters of a mile south of Richmond, and 2 miles upstream from Short Creek.

Drainage area.--123 sq mi.

Gage-height record.--Water-stage recorder graph. Graph corrected for differences between the inside and outside water level from 10 a.m. to 5 p.m. Jan. 21 and peak stage determined from floodmarks. Datum of gage is 854.01 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,100 cfs and by contracted-opening measurement at 14,100 cfs.

Maxima.--January-February 1959: Discharge, 14,100 cfs 2 p.m. Jan. 21 (gage height, 12.44 ft).

1949 to December 1958: Discharge, 13,500 cfs Jan. 15, 1950 (gage height, 12.49 ft), from rating extended above 5,000 cfs on basis of slope-area measurement of peak flow.

Stage known: 15.0 ft in March 1913, from floodmarks.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	327	193	11.....	48	618	21.....	8,700	160
2.....	250	150	12.....	50	362	22.....	1,650	150
3.....	147	150	13.....	52	351	23.....	495	217
4.....	115	217	14.....	87	1,270	24.....	332	230
5.....	90	140	15.....	394	668	25.....	273	193
6.....	79	110	16.....	206	377	26.....	226	182
7.....	80	100	17.....	115	301	27.....	179	182
8.....	72	100	18.....	105	272	28.....	153	182
9.....	61	266	19.....	103	217	29.....	174	---
10.....	55	3,960	20.....	254	193	30.....	586	---
						31.....	288	---
Monthly mean discharge, in cubic feet per second.....							507	411
Runoff, in inches.....							4.75	3.48

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 21--Con.			Jan. 23		
12 p.m.....	0.92	98	10 a.m.....	11.87	12,000	6 a.m.....	2.44	534
			11.....	12.15	12,900	12 m.....	2.24	460
Jan. 19			12 m.....	12.30	13,500	3 p.m.....	2.29	476
12 m.....	.98	109	1 p.m.....	12.40	13,900	6.....	2.23	457
12 p.m.....	.91	96	2.....	12.44	14,100	12 p.m.....	2.03	387
			3.....	12.38	13,800			
Jan. 20			4.....	12.20	13,100	Jan. 24		
12 m.....	.90	94	5.....	11.90	12,100	12 m.....	1.82	322
2 p.m.....	.99	111	6.....	11.62	11,300	12 p.m.....	1.73	295
3.....	1.50	230	7.....	11.29	10,300	Jan. 25		
4.....	1.97	368	8.....	10.92	9,270	12 m.....	1.65	272
6.....	1.63	266	9.....	10.48	8,340	12 p.m.....	1.58	252
8.....	2.31	486	10.....	10.00	7,460			
10.....	2.70	635	11.....	9.35	6,360	Jan. 26		
11.....	3.32	915	12 p.m.....	8.75	5,470	6 a.m.....	1.57	249
12 p.m.....	3.64	1,080				10.....	1.53	238
			Jan. 22			12 m.....	1.44	214
Jan. 21			2 a.m.....	7.39	3,960	6 p.m.....	1.42	209
1 a.m.....	5.23	2,120	4.....	6.16	2,870	12 p.m.....	1.38	199
2.....	5.75	2,540	6.....	5.14	2,050	Jan. 27		
3.....	6.47	3,130	8.....	4.38	1,510	12 m.....	1.28	175
4.....	7.11	3,710	10.....	3.88	1,200	12 p.m.....	1.24	166
5.....	7.90	4,440	12 m.....	3.59	1,050			
6.....	8.62	5,290	2 p.m.....	3.42	962	Jan. 28		
7.....	9.55	6,680	6.....	3.13	826	12 m.....	1.15	145
8.....	10.63	8,640	12 p.m.....	2.73	648	6 p.m.....	1.19	154
9 a.m.....	11.40	10,600				12 p.m.....	1.17	149

FLOODS OF 1959 IN THE UNITED STATES

200. Hanna Creek near Liberty, Ind.

(Miscellaneous site)

Location.--Lat 39°34'59", long 84°56'48", in SW $\frac{1}{4}$ sec.25, T.11 N., R.2 W., at bridge on State Highway 101, 0.4 mile south of Roseburg, 4 miles south of Liberty, and 4.2 miles upstream from mouth.

Drainage area.--22.1 sq mi.

Maximum.--January-February 1959: Discharge, 4,770 cfs Jan. 21, by contracted-opening measurement.

201. East Fork Whitewater River at Brookville, Ind.

Location.--Lat 39°26'00", long 85°00'11", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.20, T.9 N., R.2 W., on right bank 65 ft downstream from bridge on State Highway 101, 0.9 mile northeast of Brookville, and 1.8 miles upstream from mouth.

Drainage area.--382 sq mi.

Gage-height record.--Water-stage recorder graph, except 12 m. Jan. 27 to 5 a.m. Jan. 30, when intakes were clogged. Graph completed from adjoining record. Datum of gage is 823.76 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 36,100 cfs 5 p.m. Jan. 21 (gage height, 16.50 ft).
1954 to December 1958: Discharge, 14,100 cfs Nov. 16, 1955 (gage height, 11.42 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	560	854	11.....	197	4,130	21.....	21,600	540
2.....	620	722	12.....	169	1,300	22.....	10,600	540
3.....	405	722	13.....	166	1,060	23.....	1,740	755
4.....	310	854	14.....	197	4,900	24.....	1,230	755
5.....	288	722	15.....	867	4,450	25.....	1,030	630
6.....	241	630	16.....	620	1,560	26.....	902	600
7.....	257	570	17.....	355	1,140	27.....	794	570
8.....	249	600	18.....	257	920	28.....	737	540
9.....	241	570	19.....	292	722	29.....	722	- - - - -
10.....	222	10,900	20.....	407	570	30.....	1,280	- - - - -
						31.....	1,130	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,571	1,530
Runoff, in inches.....							4.74	4.18

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	2.33	278	11 a.m.....	13.93	21,400	12 m.....	7.55	9,710
			12 m.....	14.70	24,500	2 p.m.....	6.44	7,420
Jan. 19			1 p.m.....	15.33	27,700	4.....	5.31	5,190
6 a.m.....	2.43	324	2.....	15.73	30,300	6.....	4.44	3,590
12 m.....	2.34	283	3.....	16.10	32,900	8.....	4.10	3,040
12 p.m.....	2.34	283	3:50.....	16.01	32,200	12 p.m.....	3.70	2,400
			4.....	16.24	34,000			
Jan. 20			5.....	16.50	36,100			
12 m.....	2.31	270	6.....	16.33	34,700	Jan. 23		
4 p.m.....	2.36	292	7.....	16.00	32,500	6 a.m.....	3.35	1,940
7.....	2.55	380	8.....	15.64	30,600	12 m.....	3.06	1,620
9.....	2.84	532	9.....	15.33	29,000	12 p.m.....	2.82	1,400
10.....	3.11	686	10.....	14.80	26,800			
11.....	3.99	1,310	11.....	14.23	24,900	Jan. 24		
12 p.m.....	4.94	2,270	12 p.m.....	13.68	23,400	12 m.....	2.57	1,200
						12 p.m.....	2.48	1,120
Jan. 21			Jan. 22			Jan. 25		
1 a.m.....	6.35	4,360	1 a.m.....	13.23	22,300	12 m.....	2.34	1,020
2.....	6.71	4,980	2.....	12.61	21,100	12 p.m.....	2.26	960
3.....	7.35	6,130	3.....	12.22	20,300			
4.....	8.89	8,900	4.....	11.76	19,000	Jan. 26		
5.....	9.89	10,800	5.....	11.17	17,700	12 m.....	2.17	900
6.....	11.25	13,700	6.....	10.71	16,700	12 p.m.....	2.09	847
7.....	12.27	16,300	7.....	10.14	15,200			
8.....	12.93	18,200	8.....	9.54	14,100	Jan. 27		
9.....	13.17	18,900	9.....	9.05	13,000	12 m.....	2.00	788
10 a.m.....	13.34	19,400	10 a.m.....	8.54	11,900	12 p.m.....	1.95	755

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A189

202. Whitewater River at Brookville, Ind.

Location.--Lat 39°24'24", long 85°00'45", in NW $\frac{1}{4}$ sec.32, T.9 N., R.2 W., on right bank at downstream side of highway bridge, 0.3 mile downstream from East Fork, and 1.1 miles south of Brookville.

Drainage area.--1,239 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 595.71 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 45,000 cfs and by indirect measurements at 81,800 cfs.

Maxima.--January-February 1959: Discharge, 81,800 cfs 5:30 p.m. Jan. 21 (gage height, 27.78 ft, from recorder graph, 27.96 ft from floodmarks).
1915-20, 1923 to December 1958: Discharge, 69,200 cfs Feb. 26, 1929 (gage height, 25.56 ft).

Stage known since at least 1813: 39.0 ft Mar. 25, 1913, from floodmarks.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,870	2,240	11.....	645	15,700	21.....	55,000	1,920
2.....	2,660	1,750	12.....	620	4,660	22.....	38,800	1,830
3.....	1,710	1,670	13.....	630	3,700	23.....	6,540	2,370
4.....	1,280	2,100	14.....	724	10,400	24.....	3,980	2,560
5.....	850	1,790	15.....	3,410	11,500	25.....	3,220	2,190
6.....	790	1,430	16.....	2,370	4,940	26.....	2,730	2,010
7.....	910	1,320	17.....	1,390	3,580	27.....	2,320	1,920
8.....	880	1,320	18.....	1,040	3,340	28.....	1,960	1,830
9.....	760	1,370	19.....	1,080	2,660	29.....	1,900	-----
10.....	700	23,700	20.....	1,370	2,100	30.....	3,140	-----
						31.....	3,110	-----
Monthly mean discharge, in cubic feet per second.....							4,787	4,211
Runoff, in inches.....							4.45	3.54

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	2.35	1,040	5 p.m.....	27.76	81,700	6 a.m.....	7.80	7,000
			5:30.....	27.78	81,800	8.....	7.47	6,300
Jan. 19			6.....	27.72	81,400	10.....	7.17	6,000
6 a.m.....	2.44	1,100	7.....	27.53	80,300	12 m.....	6.92	5,700
12 m.....	2.41	1,080	8.....	27.17	78,100	4 p.m.....	6.48	5,200
12 p.m.....	2.40	1,070	9.....	26.72	75,400	8.....	6.26	4,900
			10.....	26.15	72,000	12 p.m.....	5.99	4,600
Jan. 20			11.....	25.49	68,000			
6 a.m.....	2.38	1,060	12 p.m.....	24.80	64,000	Jan. 24		
12 m.....	2.35	1,040				6 a.m.....	5.66	4,200
4 p.m.....	2.44	1,100	Jan. 22			12 m.....	5.34	3,880
6.....	2.60	1,210	1 a.m.....	24.20	61,000	6 p.m.....	5.21	3,710
8.....	2.90	1,430	2.....	23.52	57,600	12 p.m.....	5.13	3,620
10.....	3.79	2,180	3.....	22.91	54,600	Jan. 25		
11.....	5.00	3,460	4.....	22.29	51,400	12 m.....	4.76	3,170
12 p.m.....	6.63	5,680	5.....	21.79	49,000	12 p.m.....	4.55	2,920
			6.....	21.31	46,600	Jan. 26		
Jan. 21			7.....	20.88	44,700	12 m.....	4.38	2,740
1 a.m.....	8.75	9,150	8.....	20.49	43,200	12 p.m.....	4.15	2,510
2.....	10.17	12,100	9.....	20.12	41,700			
3.....	11.70	15,800	10.....	19.82	40,500	Jan. 27		
4.....	13.90	21,400	11.....	19.56	39,400	12 m.....	3.92	2,300
5.....	16.05	27,600	12 m.....	19.31	38,500	12 p.m.....	3.78	2,170
6.....	18.50	35,600	2 p.m.....	18.62	36,100			
7.....	19.78	40,300	4.....	17.82	33,300	Jan. 28		
8.....	20.78	44,300	6.....	16.89	30,100	12 m.....	3.42	1,850
9.....	21.70	48,500	8.....	15.80	26,800	6 p.m.....	3.48	1,900
10.....	22.80	54,000	10.....	14.18	22,200	12 p.m.....	3.62	2,030
11.....	24.30	61,500	11.....	13.06	19,200			
12 m.....	25.35	67,200	12 p.m.....	11.58	15,400	Jan. 29		
1 p.m.....	26.09	71,600				12 m.....	3.44	1,870
2.....	26.94	76,700	Jan. 23			8 p.m.....	3.40	1,830
3.....	27.55	80,400	2 a.m.....	9.14	9,880	12 p.m.....	3.44	1,870
4 p.m.....	27.60	80,700	4 a.m.....	8.27	8,290			

203. North Hogan Creek near Moores Hill, Ind.

(Miscellaneous site)

Drainage area.--23.2 sq mi.

Maximum.--January-February 1959: Discharge, 7,040 cfs Jan. 21.

204. South Hogan Creek near Dillsboro, Ind.

(Miscellaneous site)

Drainage area.--36.6 sq mi.

Maximum.--January-February 1959: Discharge, 16,300 cfs Jan. 21, by contracted-opening measurement.

205. Laughery Creek at Versailles, Ind.

(Miscellaneous site)

Drainage area.--167 sq mi.

May-December 1958: Stage observed, 32.65 ft July 23, 1958.

206. Laughery Creek near Farmers Retreat, Ind.

Drainage area.--248 sq mi.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 14,000 cfs and by slope-area measurement of 47,800 cfs.

1940 to December 1958: Discharge, 20,200 cfs July 5, 1957 (gage height, 16.15 ft).

Stage known since at least 1897: That of Jan. 21, 1959.

Mean discharge, in cubic feet per second, 1959

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A191

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Laughery Creek near Farmers Retreat, Ind.

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 18			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	2.93	266	11 a.m.....	16.64	21,200	9 p.m.....	3.66	661
Jan 19			12 m.....	17.35	24,800	12 p.m.....	3.40	570
6 a.m.....	2.76	213	1 p.m.....	20.00	39,500			
12 m.....	2.79	222	2.....	21.13	47,800	Jan. 24		
6 p.m.....	2.82	231	3.....	20.00	39,500	6 a.m.....	3.04	444
12 p.m.....	2.74	207	4.....	18.65	31,400	10.....	2.92	402
Jan. 20			5.....	17.15	23,800	2 p.m.....	2.95	412
6 a.m.....	2.62	171	6.....	16.20	19,400	6.....	2.84	377
9.....	2.73	204	7.....	15.65	17,200	12 p.m.....	2.70	335
10.....	3.06	311	8.....	15.25	15,600			
11.....	3.60	500	9.....	15.04	14,800	Jan. 25		
12 m.....	5.00	1,050	10.....	14.82	13,900	6 a.m.....	2.69	332
1 p.m.....	6.35	1,770	12 p.m.....	14.47	12,500	6 p.m.....	2.56	293
2.....	6.85	2,080				12 p.m.....	2.50	275
3.....	7.21	2,300	Jan. 22					
4.....	7.32	2,370	2 a.m.....	14.14	11,400	Jan. 26		
5.....	7.35	2,400	4.....	14.01	11,000	12 m.....	2.45	260
6.....	7.26	2,330	5.....	14.02	11,100	6 p.m.....	2.40	245
7.....	6.87	2,080	6.....	14.19	11,600	9.....	2.46	263
8.....	6.85	2,070	7.....	14.42	12,300	12 p.m.....	2.40	245
9.....	7.30	2,360	8.....	14.51	12,600			
10.....	7.39	2,420	9.....	14.50	12,600	Jan. 27		
11.....	9.00	3,610	10.....	14.42	12,300	6 a.m.....	2.40	245
12 p.m.....	10.54	5,020	11.....	14.16	11,500	10.....	2.40	245
Jan. 21			12.....	13.84	10,500	12 m.....	2.35	230
1 a.m.....	11.02	5,530	1.....	13.42	9,400	4 p.m.....	2.40	245
2.....	11.25	5,790	2.....	12.94	8,280	6.....	2.41	248
3.....	12.75	7,880	3.....	12.39	7,260	8.....	2.37	236
4.....	14.08	11,200	4.....			12 p.m.....	2.34	227
5.....	14.34	12,000	5.....	11.75	6,400	Jan. 28		
6.....	14.33	12,000	6.....	11.00	5,510	6 a.m.....	2.20	185
7.....	15.00	14,600	7.....	9.61	4,150	10.....	2.11	158
8.....	15.75	17,600	8.....	7.68	2,630	2 p.m.....	2.31	218
9.....	16.58	20,900	9.....	6.34	1,760	6.....	2.37	236
10 a.m.....	16.62	21,100	10.....	5.52	1,350	8.....	2.35	230
			11.....	4.93	1,110	12 p.m.....	2.20	185
			12 p.m.....	4.10	815			

INDIAN CREEK BASIN

207. Wilson Fork Creek near Canaan, Ind.

(Miscellaneous site)

Location--Lat 38°53', long 85°15', in N½ sec.13, T.5 N., R.11 E., at bridge on State Highway 250, three-eighths of a mile upstream from mouth and 2½ miles east of Canaan.

Drainage area--17.0 sq mi.

Maximum--January-February 1959: Discharge, 13,100 cfs Jan. 21, by contracted-opening and flow-over-embankment measurement.

CROOKED CREEK BASIN

208. Crooked Creek at Madison, Ind.

(Miscellaneous site)

Location--Lat 38°44'28", long 85°23'35", in SE¼ sec.34, T.4 N., R.10 E., at bridge on State Highway 7 in Madison, 1.7 miles upstream from mouth.

Drainage area--8.01 sq mi.

Maxima--January-February 1959: Discharge, 4,200 cfs Jan. 21, by contracted-opening measurement.

The peak discharge of the flood of July 4, 1957, was 2,580 cfs, by contracted-opening measurement.

FLOODS OF 1959 IN THE UNITED STATES

FOURTEENMILE CREEK BASIN

209. West Fork Fourteenmile Creek near Nabb, Ind.

(Miscellaneous site)

Location.--Lat 38°36'21", long 85°35'23", on line between secs. 14 and 23, T.2 N., R.8 E., at bridge on State Highway 362, on line between Scott and Clark Counties, 2.3 miles east of Nabb, and 3.3 miles upstream from confluence with East Fork.

Drainage area.--14.0 sq mi.

Maximum.--January-February 1959: Discharge, 5,770 cfs Jan. 21, by contracted-opening and flow-over-embankment measurement.

SILVER CREEK BASIN

210. Persimmon Run near Carwood, Ind.

(Miscellaneous site)

Location.--Lat 38°26'37", long 85°53'15", in NE $\frac{1}{4}$ sec.7, T.1 S., R.6 E., at bridge on State Highway 60, 800 ft upstream from Muddy Fork, and 1.3 miles west of Carwood.

Drainage area.--3.23 sq mi.

Maximum.--January-February 1959: Discharge, 874 cfs Jan. 21, mean of contracted-opening and culvert measurements.

211. Silver Creek near Sellersburg, Ind.

Location.--Lat 38°22'15", long 85°43'35", in SW $\frac{1}{4}$ lot 68, Clark Military Grant, on upstream side of Straws Mill bridge on Watson Road, 0.3 mile downstream from Pleasant Run, 2.4 miles southeast of Sellersburg, and 11.9 miles upstream from mouth.

Drainage area.--188 sq mi.

Gage-height record.--Graph drawn on basis of twice-daily wire-weight-gage readings. Peak stage determined from floodmark. Altitude of gage is 430 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,500 cfs and by contracted-opening measurement of 18,200 cfs at site 5.2 miles upstream with drainage area of 164 sq mi. Peak discharge at upstream site adjusted to gage on basis of the square root of the ratio of the drainage areas.

Maxima.--January-February 1959: Discharge, 19,600 cfs 6:30 a.m. Jan. 22 (gage height, 30.89 ft).
1954 to December 1958: Discharge, 6,250 cfs May 23, 1957 (gage height, 23.61 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	274	191	11.....	44	1,140	21.....	6,550	157
2.....	281	149	12.....	40	393	22.....	11,100	157
3.....	157	157	13.....	60	757	23.....	3,090	565
4.....	100	149	14.....	380	2,200	24.....	712	448
5.....	61	181	15.....	2,090	2,430	25.....	421	281
6.....	67	181	16.....	1,890	381	26.....	368	261
7.....	51	120	17.....	461	481	27.....	344	221
8.....	66	149	18.....	211	381	28.....	304	201
9.....	50	191	19.....	189	301	29.....	301	-----
10.....	55	2,020	20.....	1,530	201	30.....	304	-----
						31.....	249	-----
Monthly mean discharge, in cubic feet per second.....							1,026	516
Runoff, in inches.....							6.30	2.85

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 19--Con.			Jan. 20--Con.		
12 p.m.....	5.89	199	12 p.m.....	6.00	221	10 a.m.....	9.15	894
						12 m.....	10.55	1,220
Jan. 19			Jan. 20			2 p.m.....	12.00	1,550
12 m.....	5.80	181	6 a.m.....	6.44	309	4.....	13.50	1,950
6 p.m.....	5.76	175	8 a.m.....	7.70	569	6 p.m.....	14.60	2,310

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A193

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Silver Creek near Sellersburg, Ind.--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20--Con.			Jan. 22--Con			Jan. 24		
8 p.m.....	15.30	2,570	8 a.m.....	30.70	19,300	4 a.m.....	9.25	918
10.....	16.05	2,870	10.....	29.25	16,600	8.....	8.41	725
12 p.m.....	16.85	3,230	12 m.....	27.70	14,000	12 m.....	7.89	611
Jan. 21			2 p.m.....	26.20	11,800	4 p.m.....	7.61	549
2 a.m.....	17.70	3,650	4.....	24.70	9,840	8.....	7.43	510
4.....	18.60	4,110	6.....	23.70	8,640	12 p.m.....	7.28	477
6.....	19.50	4,650	8.....	22.90	7,700			
8.....	20.60	5,480	12 p.m.....	22.15	6,950	Jan. 25		
10.....	21.90	6,700		21.35	6,150	6 a.m.....	7.09	439
12 m.....	23.10	7,920	Jan. 23			12 m.....	6.97	415
2 p.m.....	24.50	9,600	2 a.m.....	20.55	5,440	6 p.m.....	6.89	399
4.....	25.70	11,100	4.....	19.70	4,790	12 p.m.....	6.81	383
6.....	26.70	12,600	6.....	18.85	4,260	Jan. 26		
8.....	27.50	13,800	8.....	17.90	3,750	12 m.....	6.72	365
10.....	28.25	14,900	10.....	16.90	3,260	12 p.m.....	6.68	357
12 p.m.....	29.00	16,200	12 m.....	15.90	2,810	Jan. 27		
Jan. 22			2 p.m.....	14.70	2,340	12 m.....	6.60	341
2 a.m.....	29.70	17,500	4.....	13.35	1,900	12 p.m.....	6.59	339
4.....	30.45	18,800	6.....	12.40	1,650			
6.....	30.85	19,500	8.....	11.55	1,450			
6:30 a.m.....	30.89	19,600	10.....	10.95	1,310			
			12 p.m.....	10.35	1,170			

BIG BUCK CREEK BASIN

212. Big Buck Creek near New Middletown, Ind.

(Miscellaneous site)

Location--Lat 38°08'45", long 86°03'04", in SE $\frac{1}{4}$ sec.22, T.4 S., R.4 E., at county highway bridge, 1,800 ft downstream from Buck Creek and 1.2 miles south of New Middletown.

Drainage area--27.4 sq mi.

Maximum--January-February 1959: Discharge, 8,830 cfs Jan. 21, by contracted-opening measurement.

BIG INDIAN CREEK BASIN

213. Big Indian Creek near Corydon, Ind.

Location--Lat 38°16'35", long 86°06'35", in SE $\frac{1}{4}$ sec.6, T.3 S., R.4 E., on upstream side of bridge on State Highway 335, 0.6 mile upstream from Raccoon Branch, and $\frac{1}{2}$ miles north of Corydon.

Drainage area--129 sq mi.

Gage-height record--Water-stage recorder graph, except 7:30 a.m. to 2:30 p.m.

Jan. 21 for which graph was completed from adjoining record. Datum of gage is 577.12 ft above mean sea level, datum of 1929.

Discharge record--Stage-discharge relation defined by current-meter measurements below 6,600 cfs and by contracted-opening measurement at 21,800 cfs at site $\frac{7}{8}$ miles upstream with a drainage area of 108 sq mi. Peak discharge at upstream site adjusted to gage on basis of the square root of the ratio of the drainage areas.

Maxima--January-February 1959: Discharge, 23,800 cfs 8:30 p.m. Jan. 21 (gage height, 22.22 ft).
1943 to December 1958: Discharge, 11,100 cfs Apr. 12, 1948 (gage height, 19.3 ft).

Discharge known since at least 1897: That of Jan. 21, 1959.

Mean discharge, in cubic feet per second, 1959, of Big Indian Creek near Corydon, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	70	140	11.....	43	532	21.....	12,100	149
2.....	132	118	12.....	41	352	22.....	5,240	146
3.....	103	115	13.....	44	352	23.....	773	308
4.....	85	161	14.....	51	1,790	24.....	498	285
5.....	55	140	15.....	1,380	1,360	25.....	381	228
6.....	56	111	16.....	870	645	26.....	308	194
7.....	56	103	17.....	420	465	27.....	250	170
8.....	63	107	18.....	236	352	28.....	208	155
9.....	54	113	19.....	220	240	29.....	187	- - - - -
10.....	48	607	20.....	1,710	176	30.....	180	- - - - -
						31.....	156	- - - - -
Monthly mean discharge, in cubic feet per second.....							839	343
Runoff, in inches.....							7.49	2.77

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	7.19	280	5 p.m.....	21.05	17,200	12 p.m.....	8.84	1,030
Jan. 19			6.....	21.53	19,700			
12 m.....	7.01	204	7.....	21.89	21,800	Jan. 23		
6 p.m.....	6.98	194	8:30.....	22.22	23,800	6 a.m.....	8.49	866
12 p.m.....	7.00	200	9.....	22.19	23,600	12 m.....	8.20	735
Jan. 20			10.....	22.10	23,100	6 p.m.....	8.03	658
4 a.m.....	7.06	224	11.....	21.90	21,900	9.....	8.02	654
8.....	7.30	330	12 p.m.....	21.55	19,800	12 p.m.....	7.95	622
10.....	7.81	560	Jan. 22			Jan. 24		
12 m.....	8.86	1,040	1 a.m.....	21.19	18,000	6 a.m.....	7.76	537
2 p.m.....	10.51	1,980	2.....	20.65	15,600	12 m.....	7.64	483
4.....	11.80	2,880	3.....	19.98	13,400	6 p.m.....	7.55	442
6.....	12.40	3,360	4.....	19.20	11,700	12 p.m.....	7.53	434
8.....	12.68	3,610	5.....	18.30	9,900	Jan. 25		
10.....	12.94	3,850	6.....	17.40	8,630	6 a.m.....	7.47	406
12 p.m.....	13.28	4,150	7.....	16.26	7,250	6 p.m.....	7.35	352
Jan. 21			8.....	15.03	5,850	12 p.m.....	7.32	339
2 a.m.....	13.62	4,460	9.....	13.38	4,240	Jan. 26		
4.....	13.98	4,780	10.....	11.85	2,920	12 m.....	7.25	308
6.....	14.24	5,040	11.....	10.85	2,180	12 p.m.....	7.18	276
8.....	15.80	6,700	12 m.....	10.22	1,800	Jan. 27		
10.....	17.04	8,190	1 p.m.....	9.84	1,570	12 m.....	7.12	249
12 m.....	18.27	9,860	2.....	9.65	1,460	12 p.m.....	7.07	228
2 p.m.....	19.55	12,400	4.....	9.42	1,320			
4 p.m.....	20.58	15,300	6.....	9.22	1,220			
			8.....	9.10	1,160			
			10 p.m.....	8.97	1,100			

214. Little Indian Creek near Corydon, Ind.

(Miscellaneous site)

Location--Lat 38°11'59", long 86°05'44", in NE $\frac{1}{4}$ sec.5, T.4 S., R.4 E., at bridge on county road, 1 $\frac{1}{2}$ miles east of Corydon, and 2.4 miles upstream from mouth.

Drainage area--32.5 sq mi (approximately).

Gage-height record--Peak stage from floodmarks.

Discharge record--Stage-discharge relation defined by current-meter measurements below 1,300 cfs, and estimate at 8,820 cfs, obtained 1948-50. Discharge for 1959 peak flow based on contracted-opening measurement and a slope-conveyance computation of flow bypassing bridge.

Maxima--January-February 1959: Discharge, 9,440 cfs Jan. 21 (gage height, 9.32 ft). 1948-50: Discharge, 8,820 cfs (estimated) May 10, 1950 (gage height, 10.12 ft).

Remarks--Gaging station operated 1948-50 by Corps of Engineers.

BLUE RIVER BASIN

215. Middle Fork Blue River near Salem, Ind.

(Miscellaneous site)

Location.--Lat 38°32'36", long 86°05'37", in NE $\frac{1}{4}$ sec.8, T.1 N., R.4 E., at bridge on State Highway 135, 1.7 miles upstream from confluence with West Fork Blue River and 4.4 miles south of Salem.

Drainage area.--38.4 sq mi.

Maximum.--January-February 1959: Discharge, 11,400 cfs Jan. 21, by culvert and flow-over-embankment measurement.

216. Mill Creek near Becks Mill, Ind.

(Miscellaneous site)

Location.--Lat 38°34'44", long 86°09'53", in E $\frac{1}{2}$ sec.27, T.2 N., R.3 E., at bridge on State Highway 56, 3.0 miles north of Becks Mill, 4.2 miles upstream from mouth, and 4.3 miles southwest of Salem.

Drainage area.--8.04 sq mi.

Maximum.--January-February 1959: Discharge, 2,740 cfs Jan. 21, by contracted-opening measurement.

217. Blue River near White Cloud, Ind.

Location.--Lat 38°14'15", long 86°13'50", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.19, T.3 S., R.3 E., on left bank 400 ft downstream from Spring Creek, 0.2 mile upstream from bridge on State Highway 62, and three-quarters of a mile north of White Cloud.

Drainage area.--461 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 434.30 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 22,000 cfs and by contracted-opening measurement at 28,500 cfs.

Maxima.--January-February 1959: Discharge, 28,500 cfs 5 p.m. Jan. 22 (gage height, 23.07 ft).

1930 to December 1958: Discharge, 26,000 cfs Jan. 22, 1937 (gage height, 21.97 ft).

Stage known since at least 1910: That of Jan. 22, 1959.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	235	910	11.....	235	2,350	21.....	15,400	790
2.....	385	790	12.....	235	1,510	22.....	25,500	708
3.....	475	735	13.....	220	1,300	23.....	12,600	850
4.....	385	790	14.....	235	2,780	24.....	3,570	1,300
5.....	325	850	15.....	2,100	5,140	25.....	2,400	1,030
6.....	252	708	16.....	3,350	2,650	26.....	1,880	910
7.....	305	625	17.....	1,650	1,860	27.....	1,530	850
8.....	270	600	18.....	1,090	1,440	28.....	1,260	735
9.....	270	600	19.....	830	1,160	29.....	1,080	-----
10.....	252	1,190	20.....	2,260	910	30.....	1,020	-----
						31.....	1,000	-----
Monthly mean discharge, in cubic feet per second.....							2,664	1,288
Runoff, in inches.....							6.66	2.90

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 20--Con.			Jan. 20--Con.		
12 p.m.....	3.99	904	6 a.m.....	3.87	832	12 p.m.....	8.24	4,710
Jan. 19			8.....	3.93	868			
6 a.m.....	3.84	814	10.....	4.20	1,030	Jan. 21		
12 m.....	3.81	796	12 m.....	5.00	1,580	1 a.m.....	8.62	5,160
6 p.m.....	3.89	844	2 p.m.....	6.13	2,480	2.....	9.08	5,720
12 p.m.....	3.87	832	4.....	7.12	3,470	3.....	10.11	7,040
Jan. 20			6.....	7.66	4,040	4.....	10.92	8,100
3 a.m.....	3.85	820	8.....	7.80	4,190	5.....	11.47	8,870
			10 p.m.....	7.87	4,270	6 a.m.....	11.97	9,570

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Blue River near White Cloud, Ind.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 21--Con.			Jan. 22--Con.			Jan. 23--Con.		
7 a.m.....	13.08	11,200	12 m.....	22.40	26,800	10 p.m.....	8.25	4,720
8.....	15.99	12,600	1 p.m.....	22.65	27,300	12 p.m.....	8.05	4,480
9.....	14.53	15,400	2.....	22.84	27,800			
10.....	15.03	14,100	3.....	22.96	28,200	Jan. 24		
11.....	15.64	15,100	4.....	23.04	28,400	2 a.m.....	7.86	4,260
12 m.....	16.45	16,400	5.....	23.07	28,500	4.....	7.70	4,080
1 p.m.....	17.39	17,900	6.....	23.04	28,400	6.....	7.56	3,930
2.....	18.00	18,900	7.....	22.97	28,200	12 m.....	7.18	3,530
3.....	18.52	19,800	8.....	22.84	27,800	6 p.m.....	6.81	3,160
4.....	18.88	20,400	9.....	22.68	27,400	12 p.m.....	6.50	2,850
5.....	19.20	20,900	10.....	22.45	26,900			
6.....	19.45	21,400	11.....	22.18	26,400	Jan. 25		
7.....	19.65	21,700	12 p.m.....	21.91	25,800	6 a.m.....	6.20	2,550
8.....	19.81	22,000				12 m.....	6.03	2,380
9.....	19.90	22,100	Jan. 23			6 p.m.....	5.86	2,220
10.....	19.93	22,200	1 a.m.....	21.57	25,200	12 p.m.....	5.70	2,090
11.....	19.91	22,100	2.....	21.22	24,500			
12 p.m.....	19.87	22,100	3.....	20.76	23,700	Jan. 26		
Jan. 22			4.....	20.26	22,800	6 a.m.....	5.54	1,960
1 a.m.....	19.81	22,000	5.....	19.67	21,700	12 m.....	5.42	1,870
2.....	19.78	21,900	6.....	18.93	20,500	6 p.m.....	5.30	1,790
3.....	19.79	21,900	7.....	18.00	18,900	12 p.m.....	5.19	1,710
4.....	19.87	22,100	8.....	16.94	17,200			
5.....	20.02	22,300	9.....	15.89	15,500	Jan. 27		
6.....	20.25	22,800	10.....	14.45	13,300	6 a.m.....	5.06	1,620
7.....	20.56	23,500	11.....	13.10	11,200	12 m.....	4.91	1,520
8.....	20.94	24,000	12 m.....	11.94	9,530	12 p.m.....	4.70	1,370
9.....	21.53	24,700	2 p.m.....	10.16	7,110			
10.....	21.72	25,500	4.....	9.34	6,040	Jan. 28		
11 a.m.....	22.10	26,200	6.....	8.83	5,420	12 m.....	4.54	1,260
			8 p.m.....	8.50	5,020	12 p.m.....	4.40	1,180

LITTLE BLUE RIVER BASIN

218. Little Blue River at English, Ind.

(Miscellaneous site)

Location--Lat 38°20'16", long 86°28'00", in N $\frac{1}{2}$ sec.24, T.2 S., R.1 W., at bridge on State Highway 64, at English, 300 ft downstream from confluence of Brownstown Creek and Bird Dog Creek, and 0.4 mile upstream from Camp Fork Creek.

Drainage area--16.8 sq mi.

Maximum--January-February 1959: Discharge, 6,920 cfs Jan. 21, by contracted-opening measurement.

ANDERSON RIVER BASIN

219. Anderson River near Siberia, Ind.

(Miscellaneous site)

Location--Lat 38°13'19", long 86°42'24", in S $\frac{1}{2}$ sec.26, T.3 S., R.3 W., at bridge on U.S. Highway 460 (Indiana 62), 1,000 ft downstream from Sigler Creek, 0.5 mile west of Kitterman Corners, 1.9 miles southeast of Siberia, and 2.5 miles west of Uniontown.

Drainage area--44.8 sq mi.

Maximum--January-February 1959: Discharge, 11,800 cfs Jan. 21, by contracted-opening and flow-over-embankment measurement.

220. Middle Fork Anderson River near Uniontown, Ind.

(Miscellaneous site)

Location--Lat 38°13'32", long 86°38'14", in SW $\frac{1}{4}$ sec.28, T.3 S., R.2 W., at bridge on U.S. Highway 460 (Indiana 62), 1.3 miles east of Uniontown, and 1.2 miles upstream from Tige Creek.

Drainage area--7.42 sq mi.

Maximum--January-February 1959: Discharge, 6,270 cfs Jan. 21, by contracted-opening measurement.

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A197

LITTLE PIGEON CREEK BASIN

221. Little Pigeon Creek near Tennyson, Ind.

(Former gaging station)

Location.--Lat 38°02'45", long 87°07'05", in NE $\frac{1}{4}$ sec.31, T.5 S., R.6 W., at county highway bridge, 1 $\frac{1}{2}$ miles downstream from East Fork, and 2 $\frac{1}{2}$ miles south of Tennyson.

Drainage area.--150 sq mi.

Gage-height record.--Peak stage from floodmarks. Altitude of gage is 365 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements obtained 1944-47.

Maxima.--January-February 1959: Discharge, 3,620 cfs Jan. 21 (gage height, 24.19 ft).
1944-47: Discharge, 4,020 cfs Mar. 7, 1945 (gage height, 25.00 ft).

222. Little Pigeon Creek near Midway, Ind.

(Miscellaneous site)

Location.--Lat 38°00'27", long 87°10'29", in SE $\frac{1}{4}$ sec.10, T.6 S., R.7 W., at bridge on State Highway 161, 1.3 miles downstream from Otter Creek, 2.0 miles west of Midway, and 3.4 miles south of Degonia Springs.

Drainage area.--268 sq mi.

Maximum.--January-February 1959: Discharge, 5,900 cfs Jan. 21, by contracted-opening measurement.

PIGEON CREEK BASIN

223. Pigeon Creek at Evansville, Ind.

(Miscellaneous site)

Location.--Lat 37°59'51", long 87°31'26", in SW $\frac{1}{4}$ sec.15, T.6 S., R.10 W., at bridge on Oak Hill Road at Evansville city limits, about 1,500 ft north of U.S. Highway 460 (State Highway 62), 2 miles upstream from Little Pigeon Creek, and 7 miles upstream from mouth.

Drainage area.--321 sq mi.

Maximum.--January-February 1959: Discharge, 4,680 cfs Jan. 21, by contracted-opening measurement.

WABASH RIVER BASIN

224. Wabash River near New Corydon, Ind.

Location.--Lat 40°33'50", long 84°48'10", in SE $\frac{1}{4}$ sec.3, T.24 N., R.15 E., first principal meridian, on left bank 10 ft downstream from county bridge on Indiana-Ohio State line road, 2 miles east of New Corydon, and 2 $\frac{1}{4}$ miles downstream from Beaver Creek, and at mile 465.6.

Drainage area.--258 sq mi.

Gage-height record.--Water-stage recorder graph, except 3 a.m. Jan. 22 to 7 p.m. Jan. 24 when well was frozen. Graph completed on basis of adjoining record and floodmark. Datum of gage is 830.10 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,000 cfs and extended on basis of logarithmic plotting. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 8,720 cfs 12 p.m. Jan. 22 (gage height, 20.47 ft).
1951 to December 1958: Discharge, 6,390 cfs June 29, 1957 (gage height, 19.27 ft).

Mean discharge, in cubic feet per second, 1959, of Wabash River near New Corydon, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	397	494	11.....	30	3,570	21.....	2,170	462
2.....	553	349	12.....	28	1,540	22.....	7,790	393
3.....	217	330	13.....	30	954	23.....	7,410	603
4.....	113	421	14.....	40	1,210	24.....	3,440	765
5.....	86	387	15.....	229	1,710	25.....	1,420	539
6.....	72	329	16.....	265	848	26.....	932	482
7.....	59	320	17.....	113	596	27.....	800	495
8.....	50	319	18.....	95	585	28.....	751	509
9.....	42	378	19.....	73	481	29.....	734	---
10.....	36	3,290	20.....	57	461	30.....	1,430	---
						31.....	990	---

Monthly mean discharge, in cubic feet per second.....	982	814
Runoff, in inches.....	4.39	3.29

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 28--Con.			Feb. 15		
12 p.m.....	7.32	79	12 p.m.....	12.38	736	2 a.m.....	15.78	2,220
Jan. 21			Jan. 30			6.....	15.61	2,090
3 a.m.....	7.77	119	2 a.m.....	13.11	923	12 m.....	14.94	1,700
4.....	8.55	199	6.....	14.13	1,250	6 p.m.....	14.08	1,350
5.....	10.25	403	12 m.....	15.04	1,650	12 p.m.....	13.37	1,120
6.....	11.40	554	6 p.m.....	15.18	1,720	Feb. 16		
7.....	12.48	760	12 p.m.....	14.64	1,470	12 m.....	12.27	808
8.....	12.91	868	Jan. 31			12 p.m.....	11.59	658
9.....	12.89	862	8 a.m.....	13.70	1,100	Feb. 17		
10.....	13.25	965	4 p.m.....	12.70	815	12 m.....	11.13	574
11.....	14.90	1,580	12 p.m.....	11.90	640	3 p.m.....	11.09	568
12 m.....	16.15	2,360	Feb. 1			6.....	11.10	569
2 p.m.....	16.92	3,120	8 a.m.....	11.14	515	12 p.m.....	11.27	597
3.....	17.55	3,810	4 p.m.....	10.63	449	Feb. 18		
4.....	18.12	4,530	12 p.m.....	10.18	395	4 a.m.....	11.34	609
5.....	18.58	5,220	Feb. 8			7.....	11.34	609
6 p.m.....	19.05	5,940	12 p.m.....	9.55	319	12 m.....	11.25	594
Jan. 22			Feb. 9			12 p.m.....	10.90	539
3 a.m.....	19.48	6,710	12 m.....	9.55	319	Feb. 19		
6.....	-	7,220	6 p.m.....	9.85	355	6 a.m.....	10.68	506
9.....	-	7,620	10.....	11.10	509	10.....	10.48	479
12 m.....	-	8,000	11.....	12.15	690	1 p.m.....	10.40	469
6 p.m.....	-	8,530	12 p.m.....	13.67	1,090	5.....	10.35	463
12 p.m.....	20.47	8,720	Feb. 10			10.....	10.20	445
Jan. 23			3 a.m.....	15.30	1,780	12 p.m.....	10.19	444
6 a.m.....	-	8,530	6.....	16.74	2,940	Feb. 20		
12 m.....	-	7,690	12 m.....	17.34	3,570	6 a.m.....	10.07	429
6 p.m.....	-	6,430	12 p.m.....	18.06	4,440	9.....	10.37	465
12 p.m.....	-	5,280	Feb. 11			11.....	10.47	478
Jan. 24			2 a.m.....	18.13	4,540	1 p.m.....	10.59	494
6 a.m.....	-	4,190	8.....	17.84	4,160	3.....	10.56	490
12 m.....	-	3,340	12 m.....	17.40	3,640	9.....	10.27	453
6 p.m.....	-	2,580	6 p.m.....	16.68	2,880	10.....	10.27	453
12 p.m.....	15.73	2,030	12 p.m.....	15.93	2,250	12 p.m.....	10.33	461
Jan. 25			Feb. 12			Feb. 21		
6 a.m.....	15.01	1,630	8 a.m.....	14.62	1,550	4 a.m.....	10.46	477
12 m.....	14.38	1,350	4 p.m.....	14.05	1,380	8.....	10.50	482
6 p.m.....	13.90	1,160	12 p.m.....	13.27	1,150	11.....	10.64	501
12 p.m.....	13.60	1,070	Feb. 13			2 p.m.....	10.43	473
Jan. 26			12 m.....	12.42	896	8.....	10.04	426
6 a.m.....	13.34	992	12 p.m.....	12.01	792	12 p.m.....	9.89	408
12 m.....	13.09	917	Feb. 14			Feb. 22		
6 p.m.....	12.90	865	8 a.m.....	11.88	760	9 a.m.....	9.74	390
12 p.m.....	12.80	840	2 p.m.....	13.15	1,120	12 m.....	9.74	390
Jan. 27			6.....	15.20	1,680	7 p.m.....	9.72	367
12 m.....	-	798	12 p.m.....	15.74	2,180	12 p.m.....	9.77	393
2 p.m.....	-	790						
12 p.m.....	-	768						
Jan. 28								
12 m.....	12.44	750						

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A199

225. Wabash River at Bluffton, Ind.

Location.--Lat 40°44', long 85°11', in sec.4, T.26 N., R.12 E., on downstream side of left abutment of Main Street bridge in Bluffton, 2 miles downstream from Sixmile Creek.

Drainage area.--506 sq mi.

Gage-height record.--Water-stage recorder graph Jan. 19, 20 and 12 m. Feb. 10 to 9 p.m. Feb. 22. Graph based on usual once-daily readings of wire-weight gage by U.S. Weather Bureau for remainder of flood period. Peak stage determined by gage reading. Datum of gage is 793.01 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. When stage-discharge relation affected by ice, discharge estimated on basis of discharge measurements, weather records, and records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 9,820 cfs 11 a.m. Feb. 10 (gage height, 14.95 ft).

1930 to December 1958: Discharge, 11,800 cfs Feb. 15, 1950 (gage height, 16.07 ft).

Stage known since at least 1837: About 21.0 ft Mar. 25, 26, 1913, on basis of gage readings published in newspapers (discharge, 25,000 cfs, from rating extended above 11,700 cfs on basis of rainfall-runoff relation).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	252	2,470	11.....	100	4,570	21.....	1,720	642
2.....	985	2,300	12.....	90	4,110	22.....	3,490	576
3.....	1,020	1,800	13.....	79	4,550	23.....	4,340	857
4.....	632	1,380	14.....	90	3,890	24.....	6,470	1,120
5.....	285	1,180	15.....	166	3,110	25.....	6,290	1,130
6.....	245	1,160	16.....	496	2,760	26.....	5,170	945
7.....	200	905	17.....	463	2,500	27.....	4,140	833
8.....	170	632	18.....	232	1,760	28.....	3,150	833
9.....	140	930	19.....	154	1,200	29.....	2,640	-----
10.....	117	7,230	20.....	143	798	30.....	3,360	-----
						31.....	2,740	-----
Monthly mean discharge, in cubic feet per second.....							1,599	2,006
Runoff, in inches.....							3.64	4.12

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 27			Feb. 10--Con.		
12 p.m.....	2.04	145	12 m.....	10.55	4,120	11 a.m.....	14.95	9,820
Jan. 21			12 p.m.....	9.78	3,670	12 m.....	14.94	9,800
4 a.m.....	3.70	597	Jan. 28			4 p.m.....	14.60	8,000
8.....	5.45	1,320	12 m.....	8.90	3,160	8.....	13.83	6,800
12 m.....	6.55	1,830	12 p.m.....	7.95	2,610	12 p.m.....	13.08	5,800
4 p.m.....	7.80	2,520	Jan. 29			Feb. 11		
12 p.m.....	8.73	3,060	8 a.m.....	7.30	2,240	4 a.m.....	12.57	5,100
Jan. 22			12 m.....	7.70	2,470	9.....	12.07	4,600
6 a.m.....	9.50	3,510	12 p.m.....	9.10	3,280	11.....	11.99	4,450
12 p.m.....	9.68	3,610	Jan. 30			2 p.m.....	12.11	4,300
Jan. 23			6 a.m.....	9.70	3,630	6.....	12.49	4,100
7 a.m.....	9.75	3,660	12 m.....	9.35	3,420	12 p.m.....	12.75	4,000
12 m.....	10.50	4,090	12 p.m.....	8.70	3,050	Feb. 12		
6 p.m.....	11.65	4,980	Jan. 31			2 a.m.....	12.76	3,950
12 p.m.....	12.90	5,700	12 m.....	8.10	2,700	6.....	12.71	3,950
Jan. 24			12 p.m.....	7.78	2,510	10.....	12.60	4,000
4 a.m.....	13.25	6,100	Feb. 8			2 p.m.....	12.76	4,050
6.....	13.32	6,300	12 p.m.....	3.70	597	4.....	12.87	4,100
7.....	13.35	6,400	Feb. 9			6.....	12.89	4,300
10.....	13.36	6,500	6 a.m.....	3.70	597	9.....	12.82	4,500
12 m.....	13.35	6,600	12 m.....	3.95	650	12 p.m.....	12.70	4,700
4 p.m.....	13.33	6,700	8.....	4.30	825	Feb. 13		
8.....	13.30	6,780	6 p.m.....	5.00	1,120	6 a.m.....	12.34	4,800
12 p.m.....	13.25	6,720	10.....	7.20	2,180	12 m.....	11.84	4,600
Jan. 25			12 p.m.....	8.90	3,160	6 p.m.....	11.34	4,400
6 a.m.....	13.15	6,600	Feb. 10			12 p.m.....	10.77	4,100
12 m.....	12.90	6,310	2 a.m.....	10.50	4,090	Feb. 14		
12 p.m.....	12.35	5,720	4.....	12.00	5,390	6 a.m.....	10.15	3,890
Jan. 26			6.....	13.40	7,350	9.....	10.07	3,840
12 m.....	11.82	5,160	10 a.m.....	14.85	9,660	12 m.....	10.18	3,900
12 p.m.....	11.28	4,650				3 p.m.....	10.25	3,940
						6.....	10.19	3,910
						12 p.m.....	9.77	3,670

A200

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Wabash River at Bluffton, Ind.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 15			Feb. 17--Con.			Feb. 20--Con.		
6 a.m.....	9.26	3,370	12 p.m.....	7.12	2,140	12 p.m.....	3.72	604
12 m.....	8.72	3,060						
6 p.m.....	8.28	2,800	Feb. 18			Feb. 21		
12 p.m.....	8.13	2,720	12 m.....	6.39	1,740	6 a.m.....	3.63	572
			12 p.m.....	5.72	1,440	12 m.....	3.90	667
Feb. 16						3 p.m.....	4.04	721
2 a.m.....	8.12	2,710	Feb. 19			9.....	3.87	656
12 m.....	8.23	2,770	12 m.....	5.18	1,200	12 p.m.....	3.84	646
7 p.m.....	8.30	2,810	12 p.m.....	4.66	969			
12 p.m.....	8.25	2,780				Feb. 22		
Feb. 17			Feb. 20			6 a.m.....	3.58	555
6 a.m.....	8.08	2,690	8 a.m.....	4.27	813	12 m.....	3.65	580
12 m.....	7.80	2,520	12 m.....	4.34	841	8 p.m.....	3.57	552
			6 p.m.....	4.06	729	12 p.m.....	3.70	597

226. Wabash River at Huntington, Ind.

Location--Lat 40°51'20", long 85°29'53", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.27, T.28 N., R.9 E., on right bank at the Huntington Water and Light Plant, 2 miles south of Huntington, $\frac{3}{4}$ miles upstream from Little Wabash River, and at mile 409.

Drainage area--710-sq mi.

Gage-height record--Water-stage recorder graph Jan. 19-22, 9 a.m. Jan. 25 to 6 p.m. Jan. 26 and Feb. 1, Feb. 9-28. Graph based on once-daily readings by U.S. Weather Bureau Feb. 4-8. Datum of gage is 700.04 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record--Stage-discharge relation defined by current-meter measurements below 12,000 cfs and extended on basis of logarithmic plotting. Relation affected by ice at times. Discharge for periods of ice effect and no gage-height record estimated on basis of discharge measurements, hydrographer's notes, U.S. Weather Bureau observer's notes, weather records, and records for stations upstream.

Maxima--January-February 1959: Discharge, 14,900 cfs 6:30 p.m. Feb. 10 (gage height, 23.20 ft, backwater from ice).
1951 to December 1958: Discharge, 11,400 cfs June 13, 1958 (gage height, 19.12 ft).

Stage previously known: 22.7 ft in March 1913, from floodmark, determined by Corps of Engineers.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	155	5,640	11.....	160	12,800	21.....	2,370	864
2.....	702	4,320	12.....	138	7,420	22.....	5,490	806
3.....	1,260	3,050	13.....	122	7,880	23.....	6,400	1,230
4.....	980	2,700	14.....	129	6,660	24.....	7,100	1,560
5.....	480	2,400	15.....	223	5,010	25.....	7,880	1,430
6.....	400	2,280	16.....	294	3,600	26.....	7,020	1,270
7.....	330	1,940	17.....	645	3,160	27.....	5,840	1,120
8.....	275	1,350	18.....	506	2,360	28.....	4,710	1,120
9.....	230	1,550	19.....	290	1,580	29.....	3,600	- - - - -
10.....	189	14,600	20.....	212	1,110	30.....	6,140	- - - - -
						31.....	7,470	- - - - -
Monthly mean discharge, in cubic feet per second.....							2,314	3,600
Runoff, in inches.....							3.76	5.28

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 20			Jan. 22			Jan. 25--Con.		
12 p.m.....	9.68	212	3 a.m.....	16.53	5,000	6 p.m.....	18.13	7,900
			6.....	16.57	5,200	12 p.m.....	17.78	7,700
Jan. 21			12 m.....	-	5,600			
2 a.m.....	9.71	229	12 p.m.....	-	6,000	Jan. 26		
6.....	10.35	735				6 a.m.....	-	7,400
12 m.....	12.31	2,590	Jan. 24			12 m.....	17.10	7,000
4 p.m.....	13.74	3,500	12 p.m.....	17.40	7,700	6 p.m.....	16.94	6,650
5.....	13.57	3,590				12 p.m.....	-	6,400
6.....	14.60	3,800	Jan. 25					
9.....	15.74	4,200	6 a.m.....	-	7,900	Jan. 27		
12 p.m.....	16.25	4,600	12 m.....	18.23	8,000	12 m.....	-	5,800

A201

Wabash River at Huntington, Ind.--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 27--Con.	-	5,350	Feb. 9--Con.	10.73	1,120	Feb. 13--Con.	17.42	7,600
12 p.m.....	-		2 p.m.....	11.13	1,550	6 p.m.....	17.43	7,500
Jan. 28			8.....	12.00	2,340	7.....	18.19	7,400
12 m.....	-	4,650	10.....	14.15	4,220	8.....	17.78	7,200
12 p.m.....	-	4,200	12 p.m.....			10.....	17.54	7,000
Jan. 29			Feb. 10			12 p.m.....		
12 m.....	-	3,490	4 a.m.....	17.02	7,930	Feb. 14		
3 p.m.....	13.25	3,500	8.....	20.28	10,200	2 a.m.....	17.50	7,000
7.....	13.10	3,170	9:30.....	21.45	10,600	8.....	16.81	6,800
12 p.m.....	13.62	3,640	10.....	20.50	10,700	11.....	16.87	6,700
Jan. 30			12 m.....	21.74	12,900	1 p.m.....	16.24	6,600
6 a.m.....	-	5,230	4 p.m.....	22.99	14,500	3.....	16.06	6,500
12 m.....	-	6,540	6:30.....	23.20	14,900	6.....	15.99	6,500
4 p.m.....	-	6,990	9.....	23.10	14,800	7:30.....	16.42	6,450
12 p.m.....	16.30	7,600	12 p.m.....	22.61	14,500	12 p.m.....	15.84	6,300
Jan. 31			Feb. 11			Feb. 15		
4 a.m.....	16.35	7,800	6 a.m.....	21.22	13,000	6 a.m.....	14.79	5,600
8.....	16.90	8,000	12 m.....	19.89	11,600	12 m.....	14.26	4,910
12 m.....	17.10	8,050	4 p.m.....	19.20	10,700	12 p.m.....	13.43	3,920
6 p.m.....	16.23	6,850	12 p.m.....	18.40	8,500	Feb. 16		
12 p.m.....	16.33	6,500	Feb. 12			12 m.....	13.07	3,500
Feb. 1			6 a.m.....	17.78	7,200	12 p.m.....	13.07	3,500
12 m.....	15.18	5,420	9.....	17.68	7,000	Feb. 17		
6 p.m.....	15.52	5,200	12 m.....	17.73	6,900	12 m.....	12.76	3,160
12 p.m.....	14.86	5,020	4 p.m.....	17.61	7,200	12 p.m.....	12.44	2,810
Feb. 8			8.....	17.72	7,600	Feb. 18		
12 p.m.....	11.02	1,440	12 p.m.....	17.93	8,200	12 m.....	11.98	2,350
Feb. 9			Feb. 13			12 p.m.....	11.53	1,930
4 a.m.....	11.05	1,470	6 a.m.....	17.92	8,300			
			12 m.....	17.76	8,000			

227. Little Wabash River near Huntington, Ind.

Location.--Lat 40°54'14", long 85°24'22", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.9, T.28 N., R.10 E., on right bank on upstream side of highway bridge 5 miles east of Huntington.

Drainage area.--266 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 728.10 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. When relation affected by ice, discharge estimated on basis of discharge measurements, appearance of recorder graph, weather records, hydrographer's notes, and records for nearby stations.

Maxima.--January-February 1959: Discharge, 4,710 cfs 6 p.m. Feb. 11 (gage height, 18.43 ft).
1943 to December 1958: Discharge, 5,990 cfs Jan. 4, 1950 (gage height, 16.9 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

Monthly mean discharge, in cubic feet per second.....	497	1,164
Runoff, in inches.....	2.16	4.56

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12			Feb. 16--Con.		
12 p.m.....	3.71	218	6 a.m.....	17.34	4,000	4 p.m.....	9.38	1,420
			12 m.....	16.52	3,600	12 p.m.....	8.61	1,220
Feb. 9			6 p.m.....	15.85	3,300	Feb. 17		
6 a.m.....	3.80	231	12 p.m.....	15.18	3,100	8 a.m.....	8.08	1,090
2 p.m.....	3.75	224				4 p.m.....	7.56	961
4.....	3.87	241	Feb. 13			12 p.m.....	7.29	899
8.....	5.52	518	6 a.m.....	14.64	3,000	Feb. 18		
10.....	7.52	952	12 m.....	14.18	2,900	8 a.m.....	6.98	828
12 p.m.....	13.47	1,800	6 p.m.....	13.65	2,750	4 p.m.....	6.58	740
			12 p.m.....	13.15	2,570	12 p.m.....	6.22	662
Feb. 10			Feb. 14			Feb. 19		
4 a.m.....	16.50	3,200	8 a.m.....	12.46	2,330	8 a.m.....	5.67	548
10.....	17.41	4,000	12 m.....	13.14	2,570	4 p.m.....	5.64	542
12 m.....	17.38	4,240	4 p.m.....	13.69	2,760	12 p.m.....	5.12	444
6 p.m.....	18.07	4,550	8.....	13.79	2,800			
9.....	18.15	4,590	12 p.m.....	13.71	2,770	Feb. 20		
12 p.m.....	18.08	4,560				8 a.m.....	4.47	332
Feb. 11			Feb. 15			4 p.m.....	4.38	318
6 a.m.....	17.91	4,480	6 a.m.....	13.33	2,640	12 p.m.....	4.07	270
9.....	17.85	4,450	12 m.....	12.78	2,440			
12 m.....	18.12	4,570	6 p.m.....	12.19	2,250	Feb. 21		
3 p.m.....	18.37	4,690	12 p.m.....	11.48	2,030	8 a.m.....	3.86	239
6.....	18.43	4,710				12 m.....	3.97	256
9.....	18.31	4,660	Feb. 16			12 p.m.....	3.64	295
12 p.m.....	18.04	4,540	8 a.m.....	10.45	1,720			

Location.--Lat 40°22'45", long 85°27'13", in SE¹ sec.12, T.26 N., R.9 E., near center of span on downstream side of county road bridge, 1,700 ft downstream from unnamed tributaries entering from right and left, 4,000 ft upstream from abandoned concrete and stone dam, and 2.4 miles northwest of Warren.

Gage-height record.--Graph based on usual twice-daily gage readings by observer supplemented by hydrographer's readings. Datum of gage is 784.65 ft above mean sea level, datum of 1929.

Maxima.--January-February 1959: Discharge, 13,200 cfs 11 a.m. Feb. 10 (gage height, 17.05 ft).
1957 to December 1958: Discharge, 11,300 cfs June 11, 1958 (gage height, 16.13 ft. from floodmark).

Mean discharge, in cubic feet per second, 1959								
Day	January	February	Day	January	February	Day	January	February
1.....	191	1,850	11.....	90	6,650	21.....	3,240	295
2.....	1,060	745	12.....	77	6,030	22.....	5,560	307
3.....	700	507	13.....	72	3,860	23.....	5,300	655
4.....	269	970	14.....	78	1,980	24.....	6,470	970
5.....	195	835	15.....	212	2,560	25.....	5,820	790
6.....	170	326	16.....	281	2,120	26.....	3,380	511
7.....	158	222	17.....	250	1,110	27.....	1,250	538
8.....	148	256	18.....	190	846	28.....	745	610
9.....	122	677	19.....	140	588	29.....	514	- - - - -
10.....	105	9,740	20.....	103	336	30.....	3,720	- - - - -
						31.....	4,150	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,444	1,674
Runoff, in inches.....							3.94	4.13

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A203

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Salamonie River near Warren, Ind.

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 11--Con.			Feb. 16		
12 p.m.....	7.00	250	2 p.m.....	13.26	6,000	8 a.m.....	8.35	2,440
Feb. 9			4.....	13.30	5,800	6 p.m.....	8.75	1,800
8 a.m.....	6.98	239	6.....	13.54	5,900	12 p.m.....	8.37	1,420
2 p.m.....	7.00	250	10.....	13.62	6,300			
6.....	7.30	452	12 p.m.....	13.60	6,300	Feb. 17		
8.....	8.10	1,150				8 a.m.....	8.06	1,110
10.....	9.40	2,450	Feb. 12			6 p.m.....	7.94	1,010
12 p.m.....	10.65	3,760	6 a.m.....	13.50	6,200	12 p.m.....	7.91	979
Feb. 10			12 m.....	13.20	6,000			
2 a.m.....	11.95	5,240	2 p.m.....	13.04	5,800	Feb. 18		
4.....	15.25	6,950	5.....	13.43	6,100	12 m.....	7.77	853
6.....	14.55	8,820	12 p.m.....	12.98	5,600	12 p.m.....	7.60	700
8.....	15.90	10,900	Feb. 13			Feb. 19		
9.....	16.40	11,900	6 a.m.....	12.35	5,100	12 m.....	7.50	610
10.....	16.96	13,100	12 m.....	11.30	4,580	12 p.m.....	7.30	430
11.....	17.05	13,200	2 p.m.....	10.80	4,030			
12 m.....	16.98	13,100	4.....	9.80	2,950	Feb. 20		
1 p.m.....	16.67	12,400	6.....	8.95	2,000	10 a.m.....	7.05	250
2.....	16.49	12,100	12 p.m.....	8.60	1,650	6 p.m.....	7.25	390
4.....	16.00	11,100				12 p.m.....	7.15	315
6.....	15.60	10,400	Feb. 14					
8.....	15.30	9,950	9 a.m.....	8.38	1,430	Feb. 21		
10.....	14.98	9,200	12 m.....	8.85	1,900	6 a.m.....	7.03	238
12 p.m.....	14.68	8,600	6 p.m.....	9.45	2,540	6 p.m.....	7.20	350
Feb. 11			12 p.m.....	9.46	2,560	12 p.m.....	7.10	280
2 a.m.....	14.36	8,100	Feb. 15			Feb. 22		
4.....	14.11	7,600	8 a.m.....	9.40	2,490	6 a.m.....	7.03	238
8.....	13.65	6,800	6 p.m.....	9.53	2,630	6 p.m.....	7.20	350
12 m.....	13.30	6,100	12 p.m.....	9.47	2,570	12 p.m.....	7.28	414

229. Salamonie River at Dora, Ind.

Location.--Lat 40°48'27", long 85°40'47", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.12, T.27 N., R.7 E., on left bank in Salamonie River State Forest, 1.2 miles northwest of Dora, and 3 miles upstream from mouth.

Drainage area.--553 sq mi.

Gage-height record.--Water-stage recorder graph, except 3 p.m. Feb. 10 to 4:30 p.m. Feb. 11 and 10 p.m. Feb. 16 to 3 a.m. Feb. 17 for which graph was drawn on basis of adjacent record. Altitude of gage is 680 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 11,000 cfs and extended on basis of logarithmic plotting. At times when relation was affected by ice, discharge was estimated on basis of hydrographer's notes, appearance of recorder chart, weather records, and records for nearby stations.

Maxima.--January-February 1959: Discharge, 15,600 cfs 10 a.m. Feb. 10 (gage height, 14.08 ft).

1923 to December 1958: Discharge, 16,500 cfs May 18, 1943 (gage height, 14.75 ft, from graph based on gage readings), at site 1.3 miles upstream at different datum.

Stage known: 19.5 ft in March 1913, from information by Corps of Engineers, at site 1.3 miles upstream at different datum.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	136	2,940	11.....	140	7,480	21.....	3,300	432
2.....	450	1,360	12.....	120	6,140	22.....	5,400	445
3.....	1,200	795	13.....	110	4,990	23.....	5,100	965
4.....	700	650	14.....	120	3,680	24.....	5,100	1,510
5.....	400	1,060	15.....	240	3,460	25.....	5,400	1,250
6.....	270	732	16.....	310	2,960	26.....	4,200	740
7.....	250	416	17.....	410	1,710	27.....	1,350	690
8.....	230	344	18.....	400	1,200	28.....	1,000	740
9.....	200	1,250	19.....	270	880	29.....	863	-----
10.....	170	12,900	20.....	170	536	30.....	4,350	-----
						31.....	4,200	-----
Monthly mean discharge, in cubic feet per second.....							1,502	2,223
Runoff, in inches.....							3.14	4.19

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Salamonie River at Dora, Ind.

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 11--Con.			Feb. 14--Con		
12 p.m.	3.05	380	12 m.	9.80	7,100	8 p.m.	5.88	4,020
Feb. 9			5 p.m.	9.15	6,300	12 p.m.	5.64	3,670
9 a.m.	3.03	366	9.	8.36	6,000	Feb. 15		
12 m.	2.92	290	12 p.m.	7.95	6,100	6 a.m.	5.53	3,510
2 p.m.	2.98	350	Feb. 12			3 p.m.	5.50	3,470
4.	3.31	574	3 a.m.	7.68	6,200	12 p.m.	5.33	3,230
6.	3.64	887	6.	7.55	6,300	Feb. 16		
8.	4.40	1,810	9.	7.49	6,200	6 a.m.	5.24	3,110
10.	6.35	4,720	10.	7.41	6,270	5 p.m.	5.11	2,920
11.	7.90	6,960	12 m.	7.58	6,200	10.	4.90	2,650
12 p.m.	8.95	8,430	3 p.m.	7.70	6,100	12 p.m.	4.72	2,380
Feb. 10			4.	7.48	6,100	Feb. 17		
2 a.m.	10.50	10,600	8.	7.62	6,000	6 a.m.	4.41	1,940
4.	11.75	12,400	11.	7.50	6,000	8.	4.31	1,800
5.	12.65	13,600	12 p.m.	7.30	6,000	4 p.m.	4.08	1,480
6.	13.20	14,400	Feb. 13			12 p.m.	3.98	1,350
7.	13.65	15,000	7 a.m.	6.89	5,200	Feb. 18		
8.	13.88	15,300	9.	6.62	5,150	12 m.	3.86	1,200
9.	14.06	15,600	12 m.	6.58	5,070	12 p.m.	3.74	1,060
10.	14.08	15,600	3 p.m.	6.46	4,890	Feb. 19		
11.	14.02	15,500	6.	6.37	4,760	10 a.m.	3.59	880
12 m.	13.75	15,200	12 p.m.	5.68	3,720	4 p.m.	3.58	870
1 p.m.	13.50	14,800	Feb. 14			12 p.m.	3.38	672
3.	12.95	13,500	4 a.m.	5.10	2,910	Feb. 20		
6.	12.15	12,300	8.	4.86	2,570	12 m.	3.21	528
9.	11.33	11,000	10.	5.14	2,970	12 p.m.	3.05	410
12 p.m.	10.85	10,100	11.	5.50	3,470			
Feb. 11			12 m.	6.28	4,620			
6 a.m.	10.38	8,600	5 p.m.	6.25	4,580			

230. Wabash River at Wabash, Ind.

Location.--Lat 40°47'25", long 85°49'13", in sec.14, T.27 N., R.6 E., on right bank on upstream side of Wabash Street Bridge in Wabash, 7 miles downstream from Salamonie River, and at mile 387.2.

Drainage area.--1,733 sq mi.

Gage-height record.--Water-stage recorder graph reconstructed at times on basis of U.S. Weather Bureau readings, except Jan. 23-27 when no record was obtained. Datum of gage is 642.66 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Relation affected by ice at times. Discharge for periods of no gage-height record estimated on basis of records for stations upstream and downstream. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 45,300 cfs 4 a.m. Feb. 11 (gage height, 24.44 ft).

1923 to December 1958: Discharge, 49,600 cfs May 18, 1943 (gage height, 24.22 ft, from graph based on gage readings).

Stage known since at least 1883: 28.7 ft Mar. 26, 1913, from floodmark, determined by Corps of Engineers (discharge, 90,000 cfs).

Mean discharge, in cubic feet per second, 1959

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY

A205

Gage height, in feet, and discharge, in cubic-feet per second, at indicated time, 1959, of
Wabash River at Wabash, Ind.

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 20			Feb. 11--Con.			Feb. 18--Con.		
12 p.m.....	4.18	690	2 p.m.....	23.54	38,300	12 p.m.....	8.70	4,300
Jan. 21			4.....	23.08	35,100	Feb. 19		
2 a.m.....	4.23	715	6.....	22.64	32,300	12 m.....	7.87	3,370
4.....	4.52	860	8.....	22.23	29,900	6 p.m.....	7.66	3,180
6.....	5.65	1,490	10.....	21.87	27,400	9.....	7.56	3,090
10.....	8.73	4,060	12 p.m.....	21.59	26,000	12 p.m.....	7.38	2,930
2 p.m.....	10.26	5,460	Feb. 12			Feb. 20		
6.....	11.85	7,140	4 a.m.....	21.09	23,400	11 a.m.....	6.68	2,280
12 p.m.....	13.54	9,200	8.....	20.66	21,700	1 p.m.....	6.67	2,280
Jan. 22			12 m.....	20.37	20,700	6.....	6.45	2,060
6 a.m.....	14.74	10,900	4 p.m.....	20.03	19,800	12 p.m.....	6.31	1,950
12 m.....	15.51	12,100	8.....	19.88	19,400	Feb. 21		
6 p.m.....	15.97	12,900	12 p.m.....	19.85	19,300	3 a.m.....	6.23	1,890
12 p.m.....	16.22	13,400	Feb. 13			3:30.....	6.06	1,770
Feb. 8			6 a.m.....	19.75	19,100	4.....	6.18	1,860
12 p.m.....	5.15	1,190	12 m.....	19.60	18,800	4:30.....	6.01	1,740
Feb. 9			7 p.m.....	19.25	18,100	5.....	6.27	1,920
12 m.....	4.98	1,090	10:50.....	19.37	18,300	6.....	6.15	1,840
2 p.m.....	5.07	1,140	12 p.m.....	19.33	18,300	11.....	5.84	1,620
4.....	5.23	1,240	Feb. 14			12 m.....	5.86	1,630
6.....	5.56	1,440	8 a.m.....	18.13	17,300	3 p.m.....	5.70	1,520
8.....	6.45	2,060	10.....	18.00	17,000	12 p.m.....	5.98	1,720
9.....	7.30	2,770	12 m.....	17.96	16,900	Feb. 22		
10.....	9.20	4,400	2 p.m.....	18.02	17,000	2 a.m.....	6.01	1,740
11.....	11.25	6,480	8.....	18.65	18,300	9.....	5.70	1,520
12 p.m.....	13.85	9,600	12 p.m.....	18.50	18,000	11.....	5.73	1,540
Feb. 10			Feb. 15			1 p.m.....	5.71	1,530
3 a.m.....	16.85	14,700	5 a.m.....	18.25	17,500	3.....	5.70	1,520
6.....	18.45	17,700	9.....	18.10	17,200	8.....	5.64	1,480
8.....	19.82	20,900	12 m.....	18.02	17,000	12 p.m.....	5.75	1,560
10.....	21.03	25,600	3:30 p.m.....	17.77	16,600	Feb. 23		
12 m.....	22.10	30,600	6.....	17.34	15,900	3 a.m.....	5.93	1,680
2 p.m.....	22.88	34,800	4.....	17.53	16,300	7.....	6.80	2,340
4.....	23.33	37,200	6.....	17.36	15,900	12 m.....	8.16	3,540
6.....	23.56	38,500	8.....	16.92	15,100	7 p.m.....	9.40	4,660
8.....	23.80	40,200	12 p.m.....	15.88	13,400	11.....	9.58	4,820
10.....	24.02	42,000	Feb. 16			12 p.m.....	9.57	4,810
12 p.m.....	24.23	43,600	4 a.m.....	15.00	12,000	Feb. 24		
Feb. 11			10.....	13.83	10,400	6 a.m.....	9.43	4,690
2 a.m.....	24.39	44,900	4 p.m.....	12.87	9,110	6 p.m.....	8.76	4,080
3.....	24.42	45,200	12 p.m.....	12.07	8,100	12 p.m.....	8.41	3,770
4.....	24.44	45,300	Feb. 17			Feb. 25		
5.....	24.43	45,200	6 a.m.....	11.43	7,340	8 a.m.....	8.09	3,480
6.....	24.43	45,200	12 m.....	10.84	6,700	4 p.m.....	7.75	3,180
7.....	24.41	45,100	6 p.m.....	10.42	6,220	12 p.m.....	7.37	2,830
8.....	24.37	44,800	12 p.m.....	10.08	5,880	Feb. 26		
9.....	24.32	44,400	Feb. 18			12 m.....	7.04	2,540
10.....	24.23	43,600	8 a.m.....	9.66	5,360	12 p.m.....	6.78	2,320
11.....	24.10	42,600	4 p.m.....	9.19	4,830			
12 m.....	23.94	41,300						

Location.--Lat 40°17', long 85°00', in SW¹/₄ sec.8, T.19 N., R.14 E., on right bank 10 ft downstream from highway bridge; 0.8 mile downstream from Mud Creek, and 2 miles east of Ridgeville.

Gage-height record.--Water-stage recorder graph Jan. 19 to 8 a.m. Jan. 22, 11 a.m. Feb. 15 to 6 a.m. Feb. 20, and 5 p.m. Feb. 21 to Feb. 22. Floodmark for peak of Feb. 10 was obtained by hydrographer. Datum of gage is 965.23 ft above mean sea level, datum of 1929.

Stage known since at least 1913: That of June 10, 1958.

[illegible]

Location.--Lat 40°20', long 85°19', in NE $\frac{1}{4}$ sec.31, T.22 N., R.11 E., on right bank at downstream side of bridge, 1 $\frac{1}{2}$ miles upstream from Estey Creek and 2 $\frac{1}{2}$ miles southeast of Eaton.

Gage-height record.--Water-stage recorder graph 4 a.m. Jan. 21 to 5 a.m. Jan. 22, 8 a.m. Feb. 3 to 3 p.m. Feb. 12, and Feb. 17-22 with parts of Feb. 19 and 20 reconstructed. Datum of gage is 880.60 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,000 cfs and by contracted-opening measurement of 20,400 cfs at site 3½ miles downstream adjusted to gage on basis of the square root of the ratio of the drainage areas. Stage-discharge relation affected by ice at times. Discharge for periods of no gage-height record and ice effect estimated on basis of records for stations upstream and downstream and the appearance of the recorder graph.

Maxima.--January-February 1959: Discharge, 12,800 cfs (time unknown) Jan. 22 (gage height, 16.8 ft, estimated from trend of recorder graph).
1952 to December 1958: Discharge, 19,400 cfs June 10, 1958 (gage height, 18.53 ft).

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A207

233. Mississinewa River at Marion, Ind.

Location.--Lat 40°34', long 85°40', in sec.31, T.25 N., R.8 E., on left bank 12 ft downstream from Highland Avenue bridge in Marion, 1 mile upstream from Hummels Creek, and 4 miles downstream from Lugar Creek.

Drainage area.--677 sq mi.

Gage-height record.--Water-stage recorder graph Jan. 19 to 3 p.m. Jan. 22, 10 a.m. Jan. 29 to 4 a.m. Jan. 31, and subsequent to 10 a.m. Feb. 10. U.S. Weather Bureau readings of gage used to complete record, except Jan. 23, 24 and Feb. 9, 10. Datum of gage is 774.56 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record from gage-height graph and records for upstream and downstream stations.

Maxima.--January-February 1959: Discharge, 14,500 cfs 10 a.m. Feb. 10 (gage height, 12.73 ft).

1923 to December 1958: Discharge, 25,000 cfs Mar. 21, 1927 (gage height 17.4 ft, from graph based on gage readings), from rating extended above 18,000 cfs. Stage known: 19.2 ft in March 1913, determined by Indiana Flood Control and Water Resources Commission.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	325	1,510	11.....	176	9,870	21.....	5,320	515
2.....	979	897	12.....	172	6,740	22.....	9,810	528
3.....	1,040	652	13.....	164	2,280	23.....	11,700	990
4.....	479	897	14.....	168	2,840	24.....	5,090	1,610
5.....	331	803	15.....	510	3,900	25.....	2,120	1,340
6.....	260	565	16.....	853	3,310	26.....	1,450	990
7.....	276	337	17.....	727	1,810	27.....	960	910
8.....	292	250	18.....	331	1,440	28.....	677	850
9.....	241	1,460	19.....	278	1,080	29.....	704	- - - - -
10.....	203	12,700	20.....	329	675	30.....	3,130	- - - - -
						31.....	2,540	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,666	2,202
Runoff, in inches.....							2.84	3.38

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 11--Con.			Feb. 15--Con		
12 p.m.....	1.40	250	6 p.m.....	9.70	9,560	12 m.....	5.49	3,890
Feb. 9			9.....	9.84	9,770	8 p.m.....	5.28	3,680
1 p.m.....	1.40	250	12 p.m.....	9.74	9,620	12 p.m.....	5.30	3,700
4.....	1.65	389	Feb. 12			Feb. 16		
5.....	2.20	727	2 a.m.....	9.69	9,540	7 a.m.....	5.40	3,800
6.....	3.90	1,930	6.....	9.27	8,920	12 m.....	5.19	3,590
7.....	5.15	3,020	10.....	8.53	7,840	6 p.m.....	4.46	2,880
8.....	5.95	3,600	2 p.m.....	7.34	6,180	12 p.m.....	3.95	2,250
9.....	6.80	4,810	4.....	6.60	5,210	Feb. 17		
10.....	7.57	5,740	8.....	5.64	4,050	4 a.m.....	3.62	2,020
11.....	8.32	6,720	12 p.m.....	4.70	3,100	6 p.m.....	3.19	1,600
12 p.m.....	9.00	7,600	Feb. 13			12 p.m.....	3.13	1,550
Feb. 10			4 a.m.....	4.20	2,600	Feb. 18		
10 a.m.....	12.73	14,500	8.....	3.94	2,340	12 m.....	3.04	1,470
12 m.....	12.50	14,100	12 m.....	3.78	2,180	12 p.m.....	2.84	1,290
2 p.m.....	12.28	13,700	6 p.m.....	3.61	2,010	Feb. 19		
6.....	11.68	12,700	12 p.m.....	3.53	1,930	6 a.m.....	2.71	1,170
9.....	11.36	12,100	Feb. 14			12 m.....	2.57	1,050
10.....	11.33	12,100	5 a.m.....	3.49	1,890	6 p.m.....	2.54	1,020
12 p.m.....	11.13	11,800	8.....	3.84	2,240	12 p.m.....	2.37	866
Feb. 11			12 m.....	4.28	2,680	Feb. 20		
4 a.m.....	10.23	10,400	4 p.m.....	4.96	3,360	7 a.m.....	1.99	596
8.....	9.53	9,300	8.....	5.50	3,900	4 p.m.....	2.16	720
12 m.....	9.24	8,870	12 p.m.....	5.71	4,130	12 p.m.....	1.92	552
2 p.m.....	9.20	8,810	Feb. 15					
4 p.m.....	9.25	8,880	2 a.m.....	5.73	4,150			

FLOODS OF 1959 IN THE UNITED STATES

234. Mississinewa River at Peoria, Ind.

Location--Lat 40°43', long 85°57', in sec.10, T.26 N., R.5 E., on right upstream abutment of highway bridge at Peoria, 6 miles upstream from mouth, and 6½ miles southeast of Peru.

Drainage area--809 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 660.00 ft above mean sea level, datum of 1929.

Discharge record--Stage-discharge relation defined by current-meter measurements.

Maxima--January-February 1959: Discharge, 21,000 cfs 2:30 p.m. Feb. 10 (gage height, 17.17 ft).
1952 to December 1958: Discharge, 28,000 cfs June 11, 1958 (gage height, 19.26 ft).

Stage known since at least 1943: That of June 11, 1958.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	252	2,600	11.....	210	13,100	21.....	4,710	830
2.....	785	1,190	12.....	200	8,830	22.....	8,500	771
3.....	1,200	740	13.....	190	3,450	23.....	14,000	1,120
4.....	530	740	14.....	190	3,180	24.....	6,800	1,810
5.....	410	1,020	15.....	490	4,310	25.....	3,190	1,730
6.....	310	690	16.....	1,020	3,850	26.....	2,010	1,300
7.....	320	465	17.....	850	2,530	27.....	1,260	1,120
8.....	340	415	18.....	400	1,870	28.....	740	1,180
9.....	290	996	19.....	340	1,500	29.....	738	- - - - -
10.....	250	16,600	20.....	380	1,070	30.....	3,370	- - - - -
						31.....	3,280	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,857	2,822
Runoff, in inches.....							2.65	3.63

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 11			Feb. 16		
12 p.m.....	3.03	362	5 a.m.....	14.45	14,400	6 a.m.....	7.51	3,910
Feb. 9			11.....	14.02	13,500	4 p.m.....	7.54	3,940
5 a.m.....	3.06	374	3 p.m.....	13.58	12,700	12 p.m.....	6.98	3,380
8.....	3.23	455	9.....	12.12	10,100	Feb. 17		
2 p.m.....	3.22	450	12 p.m.....	12.09	10,000	6 a.m.....	6.43	2,840
6.....	3.98	835	Feb. 12			2 p.m.....	5.79	2,280
8.....	4.46	1,120	6 a.m.....	12.07	10,000	12 p.m.....	5.48	2,030
9.....	5.11	1,530	12 m.....	11.70	9,420	Feb. 18		
10.....	6.50	2,520	6 p.m.....	10.77	7,980	12 m.....	5.27	1,870
11.....	9.40	5,340	9.....	10.06	6,980	12 p.m.....	5.08	1,710
12 p.m.....	11.00	7,280	12 p.m.....	9.03	5,640	Feb. 19		
Feb. 10			Feb. 13			12 m.....	4.79	1,500
1 a.m.....	11.90	8,500	6 a.m.....	7.60	4,010	12 p.m.....	4.49	1,290
2.....	12.23	9,010	12 m.....	6.67	3,070	Feb. 20		
3.....	12.65	9,720	6 p.m.....	6.25	2,680	9 a.m.....	4.17	1,100
4.....	13.30	11,000	12 p.m.....	5.97	2,430	3 p.m.....	4.16	1,100
6.....	14.29	13,000	Feb. 14			8.....	3.81	886
8.....	15.45	15,800	6 a.m.....	5.82	2,310	12 p.m.....	3.71	835
10.....	16.27	18,300	10.....	6.29	2,710	Feb. 21		
12 m.....	16.81	19,900	12 m.....	6.39	2,800	3 a.m.....	3.74	850
1 p.m.....	16.97	20,400	3 p.m.....	7.10	3,500	8.....	3.56	760
2.....	17.16	21,000	7.....	7.83	4,260	11.....	3.80	880
2:30.....	17.17	21,000	12 p.m.....	7.91	4,350	4 p.m.....	3.90	940
3.....	17.16	21,000	Feb. 15			7.....	3.65	805
4.....	17.05	20,600	7 a.m.....	8.03	4,480	12 p.m.....	3.43	695
6.....	16.92	20,300	12 p.m.....	7.64	4,050			
9.....	16.35	18,800						
12 p.m.....	15.65	17,100						

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A209

235. Wabash River at Peru, Ind.

Location.--Lat 40°44'35", long 86°05'45", in sec.32, T.27 N., R.4 E., near center of span on upstream side of bridge on U.S. Highway 31, half a mile southwest of Peru, 4.3 miles downstream from Mississinewa River, and at mile 370.5.

Drainage area.--2,655 sq mi.

Gage-height record.--Graph based on twice-daily readings of wire-weight gage by observer supplemented by hydrographers' readings. Datum of gage is 617.94 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements. At times when stage-discharge relation was affected by ice, discharge was estimated on basis of discharge measurements, weather records, and records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 48,000 cfs 4 p.m. Feb. 11 (gage height, 22.60 ft, result of ice jam, from graph based on gage readings).
1943 to December 1958: Discharge, 68,000 cfs May 18, 1943 (gage height, 24.46 ft, from floodmark).
Stage known since at least 1883: 28.1 ft Mar. 26, 1913 (discharge, about 115,000 cfs, from rating curve extended above 63,000 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	500	11,600	11.....	1,180	46,400	21.....	6,780	3,260
2.....	1,650	5,850	12.....	1,020	38,700	22.....	25,500	2,790
3.....	3,250	3,920	13.....	775	26,300	23.....	31,200	4,360
4.....	2,920	3,250	14.....	640	21,000	24.....	28,400	6,780
5.....	2,110	3,430	15.....	841	20,000	25.....	19,200	5,740
6.....	1,800	3,040	16.....	3,580	14,900	26.....	17,900	4,610
7.....	1,750	2,150	17.....	4,240	9,930	27.....	15,800	3,900
8.....	1,840	1,890	18.....	3,980	7,410	28.....	9,570	3,870
9.....	1,580	2,970	19.....	2,500	5,740	29.....	6,460	-----
10.....	1,420	32,700	20.....	2,000	4,210	30.....	14,600	-----
						31.....	20,400	-----
Monthly mean discharge, in cubic feet per second.....							7,529	10,740
Runoff, in inches.....							3.27	4.21

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 21--Con.		
12 p.m.....	4.62	1,860	12 p.m.....	18.75	33,400	12 p.m.....	5.35	2,870
Feb. 9			Feb. 13			Feb. 22		
4 p.m.....	4.60	1,840	4 a.m.....	17.80	30,200	12 m.....	5.25	2,750
6.....	4.75	1,980	8.....	16.80	27,000	8 p.m.....	5.26	2,760
8.....	5.10	2,300	12 m.....	16.75	25,300	12 p.m.....	5.33	2,850
9.....	7.00	4,510	6 p.m.....	15.70	23,600			
10.....	9.00	7,870	12 p.m.....	15.23	22,300	Feb. 23		
11.....	11.00	11,900				6 a.m.....	5.62	3,190
12 p.m.....	13.00	16,300	Feb. 14			12 m.....	6.21	3,920
Feb. 10			6 a.m.....	14.82	21,100	6 p.m.....	7.30	5,450
2 a.m.....	15.00	21,600	12 m.....	14.70	20,800	10.....	8.00	6,500
4.....	16.60	26,400	6 p.m.....	14.66	20,700	12 p.m.....	8.15	6,730
8.....	17.80	30,200	12 p.m.....	14.67	20,700	Feb. 24		
12 m.....	18.90	33,900	Feb. 15			4 a.m.....	8.31	6,990
4 p.m.....	19.70	36,900	8 a.m.....	14.66	20,700	12 m.....	8.25	6,890
8.....	20.37	39,600	4 p.m.....	14.42	20,000	6 p.m.....	8.11	6,670
12 p.m.....	20.93	42,400	12 p.m.....	13.70	18,100	12 p.m.....	7.91	6,360
Feb. 11			Feb. 16			Feb. 25		
2 a.m.....	21.23	44,000	12 m.....	12.32	14,700	12 m.....	7.46	5,690
4.....	21.50	45,000	12 p.m.....	11.12	12,100	6 p.m.....	7.31	5,460
6.....	21.80	45,800				12 p.m.....	6.95	5,200
8.....	22.10	46,000	Feb. 17			Feb. 26		
9.....	22.27	46,100	12 m.....	9.88	9,670	6 a.m.....	6.12	4,800
12 m.....	22.25	47,000	12 p.m.....	9.10	8,270	12 m.....	6.26	4,600
2 p.m.....	22.46	47,800				6 p.m.....	6.52	4,330
3.....	22.59	48,000	Feb. 18			12 p.m.....	6.42	4,200
4.....	22.60	48,000	12 m.....	8.55	7,370			
5.....	22.59	48,000	12 p.m.....	8.08	6,620	Feb. 27		
6.....	22.55	47,800				6 a.m.....	6.22	3,940
8.....	22.35	47,500	Feb. 19			12 m.....	6.11	3,790
10.....	22.00	47,000	12 p.m.....	7.47	5,700	6 p.m.....	6.15	3,940
12 p.m.....	21.70	46,000		6.95	4,930	12 p.m.....	6.17	3,870
Feb. 12			Feb. 20			Feb. 28		
4 a.m.....	21.09	43,200	12 m.....	6.38	4,140	8 a.m.....	6.10	3,780
8.....	20.45	40,000	12 p.m.....	5.98	3,650	12 m.....	6.10	3,780
12 m.....	19.83	37,400				6 p.m.....	6.22	3,940
4 p.m.....	19.51	36,200	Feb. 21			12 p.m.....	6.32	4,070
8 p.m.....	19.26	35,300	12 m.....	5.68	3,270			

FLOODS OF 1959 IN THE UNITED STATES

236. Eel River at North Manchester, Ind.

Location.--Lat 40°59', long 85°46', in NE $\frac{1}{4}$ sec.5, T.29 N., R.7 E., on right bank 200 ft downstream from Main Street bridge at North Manchester and $1\frac{1}{4}$ miles upstream from Pony Creek. Records include flow of Pony Creek.

Drainage area.--416 sq mi, including Pony Creek.

Gage-height record.--Water-stage recorder graph, except 6 a.m. to 12 m. Feb. 11 and 9 p.m. Feb. 11 to 10 a.m. Feb. 12 for which graph was completed on basis of adjoining record. Datum of gage is 738.00 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. At times when stage-discharge relation was affected by ice, discharge estimated on basis of discharge measurements, weather records, and records for nearby stations.

Maxima.--January-February 1959: Discharge, 7,050 cfs 3 p.m. Feb. 10 (gage height, 13.32 ft).
1929 to December 1958: Discharge, 7,500 cfs Feb. 27, 1936 (gage height, 14.00 ft), at site 700 ft upstream at same datum.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	295	1,740	11.....	109	4,500	21.....	1,280	830
2.....	515	1,110	12.....	106	3,520	22.....	2,400	681
3.....	328	815	13.....	106	3,890	23.....	1,940	1,650
4.....	279	695	14.....	197	3,870	24.....	1,420	1,600
5.....	217	585	15.....	775	3,630	25.....	1,020	1,290
6.....	191	445	16.....	550	2,650	26.....	815	975
7.....	170	410	17.....	400	2,180	27.....	655	815
8.....	150	394	18.....	270	1,820	28.....	550	855
9.....	132	565	19.....	180	1,460	29.....	515	-----
10.....	120	5,960	20.....	311	1,080	30.....	2,490	-----
						31.....	2,290	-----
Monthly mean discharge, in cubic feet per second.....							670	1,772
Runoff, in inches.....							1.86	4.44

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 16--Con.		
12 p.m.....	3.06	364	12 p.m.....	10.51	3,600	4 p.m.....	8.10	2,630
Feb. 9			Feb. 13			12 p.m.....	7.75	2,430
4 p.m.....	3.03	354	5 a.m.....	10.86	3,900	Feb. 17		
6.....	3.16	397	6.....	10.65	4,000	12 m.....	7.24	2,160
10.....	5.45	1,310	8.....	10.68	4,000	12 p.m.....	6.90	1,990
12 p.m.....	7.60	2,340	12 m.....	10.50	4,000	Feb. 18		
Feb. 10			6 p.m.....	9.95	3,920	12 m.....	6.55	1,820
4 a.m.....	10.60	4,480	12 p.m.....	9.88	3,700	12 p.m.....	6.17	1,640
8.....	12.40	6,160	Feb. 14			Feb. 19		
10.....	13.02	6,760	9 a.m.....	9.41	3,530	12 m.....	5.76	1,450
12 m.....	13.26	6,990	12 m.....	9.48	3,580	12 p.m.....	5.48	1,300
3 p.m.....	13.32	7,050	6 p.m.....	10.35	4,260	Feb. 20		
6.....	13.18	6,910	10.....	10.51	4,400	8 a.m.....	5.32	1,100
12 p.m.....	12.45	6,200	12 p.m.....	10.45	4,340	1 p.m.....	4.85	1,040
Feb. 11			Feb. 15			4.....	4.89	1,060
6 a.m.....	11.65	4,900	9 a.m.....	9.66	3,700	8.....	4.69	971
12 m.....	11.14	3,900	12 m.....	9.60	3,660	12 p.m.....	4.69	920
6 p.m.....	10.60	3,600	6 p.m.....	9.11	3,320	Feb. 21		
12 p.m.....	10.56	3,400	12 p.m.....	8.69	3,020	9 a.m.....	4.47	840
Feb. 12			Feb. 16			12 m.....	4.31	819
10 a.m.....	10.45	3,300	9 a.m.....	8.11	2,640	3 p.m.....	4.40	855
12 m.....	10.43	3,300	10.....	8.12	2,640	6.....	4.21	779
6 p.m.....	10.22	3,200	12 m.....	7.84	2,480	12 p.m.....	4.10	735
8 p.m.....	10.27	3,200	2 p.m.....	7.88	2,500			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A211

237. Eel River near Logansport, Ind.

Location.--Lat 40°46'55", long 86°15'50", in sec.14, T.27 N., R.2 E., on right bank at downstream side of county bridge on Adamsboro Road, 5½ miles northeast of Logansport, and 6.9 miles upstream from mouth.

Drainage area.--791 sq mi.

Gage-height record.--Water-stage recorder graph, except Feb. 9 to 4 p.m. Feb. 14 and Feb. 19 to 9 a.m. Feb. 22. Peak stage from floodmark. Datum of gage is 621.50 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurement below 9,900 cfs and extended above by logarithmic plotting. Discharge for periods of ice effect and no gage-height record estimated on basis of weather records and records for nearby stations.

Maxima.--January-February 1959: Discharge, 12,300 cfs Feb. 10 or 11 (gage height, 11.50 ft).
1943 to December 1958: Discharge, 13,100 cfs Jan. 5, 1950 (gage height, 11.80 ft).
Flood of May 18, 1943, reached a stage of 13.2 ft, from floodmark (discharge, 17,000 cfs, from rating curve extended above 9,900 cfs by logarithmic plotting).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	279	2,550	11.....	195	10,400	21.....	1,470	1,500
2.....	577	2,000	12.....	185	6,300	22.....	4,000	1,250
3.....	686	1,500	13.....	180	6,400	23.....	3,200	2,170
4.....	452	1,290	14.....	205	6,650	24.....	2,250	2,950
5.....	354	1,090	15.....	395	6,130	25.....	1,530	2,000
6.....	310	800	16.....	832	4,700	26.....	1,270	1,700
7.....	280	750	17.....	832	3,350	27.....	1,000	1,340
8.....	250	700	18.....	600	2,640	28.....	832	1,340
9.....	220	930	19.....	420	2,200	29.....	716	-----
10.....	210	10,100	20.....	300	1,800	30.....	3,300	-----
						31.....	3,100	-----

Monthly mean discharge, in cubic feet per second.....	982	3,090
Runoff, in inches.....	1.43	4.07

238. Wabash River at Logansport, Ind.

Location.--Lat 40°44'47", long 86°22'39", in NE¼ sec.35, T.27 N., R.1 E., on left bank 150 ft downstream from Cicott Street Bridge in Logansport, 1,000 ft downstream from Eel River, and at mile 353.7.

Drainage area.--3,751 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 23 to 1 p.m. Jan. 28, Jan. 31 to 2 p.m. Feb. 2, and 2 a.m. Feb. 12 to 10 a.m. Feb. 13. Graph completed on basis of gage readings by U.S. Weather Bureau for Jan. 31 to Feb. 2 and Feb. 12, 13. Datum of gage is 573.28 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of ice effect and no gage-height record estimated on basis of records for stations upstream and downstream, weather records, and appearance of recorder chart. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 69,000 cfs 8:30 p.m. Feb. 11 (gage height, 19.69 ft, result of ice jam).
1903-6, 1923 to December 1958: Discharge, 89,800 cfs May 18, 1943 (gage height, 21.32 ft).

Stage known since at least 1883: 25.3 ft Mar. 26, 1913, from floodmarks (discharge, 140,000 cfs).

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of Wabash River at Logansport, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	800	19,200	11.....	1,900	66,300	21.....	5,050	4,970
2.....	2,080	11,200	12.....	1,810	56,300	22.....	15,500	4,240
3.....	3,920	5,920	13.....	1,720	38,700	23.....	28,000	6,220
4.....	3,920	4,680	14.....	1,630	31,100	24.....	32,000	10,900
5.....	2,440	4,390	15.....	2,080	29,300	25.....	27,000	8,750
6.....	1,990	4,100	16.....	2,890	23,200	26.....	19,000	6,870
7.....	2,080	3,100	17.....	3,160	16,100	27.....	14,000	5,550
8.....	2,260	2,650	18.....	3,520	11,800	28.....	9,860	5,340
9.....	2,260	3,470	19.....	3,010	8,950	29.....	7,520	-----
10.....	2,080	44,700	20.....	2,460	6,560	30.....	13,900	-----
						31.....	21,300	-----
Monthly mean discharge, in cubic feet per second.....							7,776	15,880
Runoff, in inches.....							2.39	4.40

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 14			Feb. 21--Con.		
12 p.m.....	4.26	2,590	12 m.....	12.17	30,800	2 p.m.....	5.41	5,090
			3 p.m.....	12.31	31,400	10.....	5.17	4,510
Feb. 9			12 p.m.....	11.97	29,900	12 p.m.....	5.17	4,510
12 m.....	4.19	2,460	Feb. 15			Feb. 22		
4 p.m.....	4.30	2,670	4 p.m.....	11.87	29,400	3 a.m.....	5.07	4,270
8.....	4.84	3,770	12 p.m.....	11.47	27,600	9.....	5.08	4,300
12 p.m.....	7.35	11,200	Feb. 16			10.....	5.11	4,360
Feb. 10			12 m.....	10.40	23,000	4 p.m.....	5.00	4,120
4 a.m.....	12.15	30,700	8 p.m.....	9.73	20,300	8.....	5.02	4,160
6.....	13.90	39,800	12 p.m.....	10.10	19,500	12 p.m.....	4.98	4,060
8.....	16.15	42,000	Feb. 17			Feb. 23		
9.....	15.80	44,000	4 a.m.....	9.21	18,200	2 a.m.....	4.99	4,100
1 p.m.....	16.25	49,500	12 m.....	8.63	15,900	6.....	5.14	4,440
6.....	17.00	55,000	12 p.m.....	7.95	13,300	12 m.....	5.62	5,630
12 p.m.....	18.10	60,000	Feb. 18			6 p.m.....	6.32	7,680
Feb. 11			12 m.....	7.51	11,700	12 p.m.....	7.11	10,300
4 a.m.....	18.61	64,000	12 p.m.....	7.13	10,400	Feb. 24		
8.....	18.64	66,000	Feb. 19			3 a.m.....	7.33	11,100
12 m.....	18.99	67,000	9 a.m.....	6.77	9,180	6.....	7.44	11,500
4 p.m.....	19.28	68,000	12 m.....	6.70	8,940	8.....	7.45	11,500
8.....	19.67	69,000	12 p.m.....	6.31	7,650	9.....	7.43	11,500
8:30.....	19.69	69,000	Feb. 20			12 m.....	7.38	11,300
12 p.m.....	19.54	68,000	3 a.m.....	6.28	7,560	6 p.m.....	7.20	10,600
Feb. 12			6.....	6.00	6,700	12 p.m.....	6.96	9,820
6 a.m.....	18.85	60,000	12 p.m.....	5.59	5,550	Feb. 25		
12 m.....	18.95	56,000	Feb. 21			12 m.....	6.63	8,700
12 p.m.....	15.15	47,100	9 a.m.....	5.31	4,840	12 p.m.....	6.35	7,780
Feb. 13			1 p.m.....	5.42	5,110	Feb. 26		
12 m.....	13.55	37,800				12 m.....	6.05	6,850
12 p.m.....	12.45	32,200				12 p.m.....	5.76	6,010

239. Wabash River at Delphi, Ind.

Location.--Lat 40°35'26", long 86°41'54", in SE $\frac{1}{4}$ sec.24, T.25 N., R.3 W., on downstream side of second pier from left abutment of highway bridge, 1 mile west of Delphi, 1.6 miles upstream from Deer Creek, 8.6 miles upstream from Tippecanoe River, and at mile 330.8.

Drainage area.--4,032 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 19, 20, Feb. 2-10, 1-9 a.m. Feb. 20, and 7 p.m. Feb. 20 to 9 a.m. Feb. 21. Graph reconstructed to complete Feb. 20, 21 from adjoining record. Datum of gage is 519.90 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of ice effect and no gage-height record estimated on basis of discharge measurements, weather records, appearance of recorder chart and records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 71,500 cfs 3 p.m. Feb. 11 (gage height, 27.48 ft, result of ice jam).

1939 to December 1958: Discharge, 85,300 cfs May 19, 1943 (gage height, 25.60 ft).

Stage known: 28.4 ft Mar. 26, 1913, from information by State Highway Department of Indiana (discharge, about 145,000 cfs, from rating extended above 82,000 cfs by logarithmic plotting).

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A213

Mean discharge, in cubic feet per second, 1959, of Wabash River at Delphi, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	880	24,000	11.....	2,200	68,900	21.....	6,580	5,820
2.....	2,100	13,000	12.....	2,100	62,800	22.....	19,700	4,930
3.....	4,600	7,600	13.....	2,000	43,700	23.....	31,400	5,790
4.....	4,600	5,900	14.....	2,000	31,500	24.....	35,700	10,200
5.....	3,000	5,500	15.....	2,400	28,100	25.....	30,100	9,100
6.....	2,300	5,000	16.....	3,200	24,600	26.....	22,700	7,410
7.....	2,400	3,800	17.....	3,700	19,000	27.....	17,500	6,120
8.....	2,600	3,300	18.....	4,000	12,700	28.....	12,500	5,690
9.....	2,600	5,040	19.....	3,800	9,500	29.....	9,310	- - - - -
10.....	2,400	46,700	20.....	3,100	7,340	30.....	17,500	- - - - -
						31.....	27,200	- - - - -
Monthly mean discharge, in cubic feet per second.....							9,231	17,250
Runoff, in inches.....							2.64	4.46

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 16--Con.		
12 p.m.....	-	3,200	12 m.....	27.06	64,000	3 p.m.....	19.12	-
Feb. 9			1 p.m.....	27.09	-	4.....	19.07	24,000
12 m.....	-	3,100	2.....	27.05	-	12 p.m.....	17.15	22,800
4 p.m.....	-	3,500	4.....	26.86	60,000			
12 p.m.....	-	14,000	5.....	26.55	-	Feb. 17		
Feb. 10			6.....	26.09	-	6 a.m.....	16.58	21,700
4 a.m.....	-	30,000	12 p.m.....	25.00	52,000	8.....	16.79	21,000
8.....	-	45,000	Feb. 13			10.....	16.38	20,000
12 m.....	-	50,000	4 a.m.....	24.30	46,900	6 p.m.....	15.98	16,500
4 p.m.....	-	56,000	5.....	24.27	48,700	12 p.m.....	12.94	14,800
8.....	-	60,000	12 m.....	23.40	43,000	Feb. 18		
12 p.m.....	26.2	64,000	4 p.m.....	22.60	40,200	12 m.....	11.41	12,500
Feb. 11			5.....	23.05	41,200	12 p.m.....	10.37	11,000
7 a.m.....	26.81	-	6.....	22.95	40,800	Feb. 19		
9.....	26.90	-	9.....	22.27	38,100	12 m.....	9.25	9,350
10.....	27.25	-	12 p.m.....	21.70	35,800	12 p.m.....	8.43	8,280
12 m.....	27.35	70,000	Feb. 14			Feb. 20		
2 p.m.....	27.47	71,000	8 a.m.....	20.54	31,600	9 a.m.....	7.75	7,320
3.....	27.48	71,500	12 m.....	20.36	31,100	4 p.m.....	7.73	7,300
4.....	27.47	71,500	4 p.m.....	20.09	30,300	12 p.m.....	7.10	6,390
6.....	27.42	-	12 p.m.....	19.70	29,100	Feb. 21		
8.....	27.32	71,000	Feb. 15			9 a.m.....	6.57	5,650
10.....	27.22	-	3 a.m.....	19.53	28,600	3 p.m.....	6.72	5,660
12 p.m.....	27.12	70,000	12 m.....	19.44	28,300	12 p.m.....	6.44	5,470
Feb. 12			4 p.m.....	19.37	28,100	Feb. 22		
2 a.m.....	27.06	-	12 p.m.....	18.94	26,800	9 a.m.....	5.89	4,710
4.....	27.02	69,000	Feb. 16			3 p.m.....	6.08	4,960
6.....	27.00	-	10 a.m.....	18.10	24,700	12 p.m.....	5.90	4,720
8.....	26.98	67,000	12 m.....	18.05	24,600			
10 a.m.....	27.02	-	1 p.m.....	18.90	-			

240. Deer Creek near Delphi, Ind.

Location--Lat 40°36', long 86°37', on line between SE $\frac{1}{4}$ sec.22 and NE $\frac{1}{4}$ sec.27, T.25 N., R.2 W., on downstream side of left wingwall of highway bridge, 3 miles northeast of Delphi and 4 $\frac{1}{2}$ miles upstream from mouth.

Drainage area--278 sq mi.

Gage-height record--Water-stage recorder graph. Altitude of gage is 542 ft (by barometer).

Discharge record--Stage-discharge relation defined by current-meter measurements below 8,000 cfs and extended above by logarithmic plotting. At times when stage-discharge relation was affected by ice, discharge estimated on basis of records for nearby stations.

Maxima--January-February 1959: Discharge, 12,100 cfs 4 p.m. Feb. 10 (gage height, 16.72 ft).

1943 to December 1958: Discharge, 14,400 cfs June 10, 1958 (gage height, 18.26 ft).

Flood in May 1943 reached a stage of 19.8 ft, from floodmarks (discharge, 18,000 cfs, from rating extended above 6,700 cfs by logarithmic plotting).

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of Deer Creek near Delphi, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	80	685	11.....	65	6,130	21.....	2,000	280
2.....	120	360	12.....	60	1,790	22.....	3,000	241
3.....	115	288	13.....	57	1,140	23.....	1,800	528
4.....	96	226	14.....	90	1,140	24.....	800	572
5.....	80	189	15.....	150	1,420	25.....	550	374
6.....	70	157	16.....	120	824	26.....	350	310
7.....	67	147	17.....	94	632	27.....	240	295
8.....	70	201	18.....	90	510	28.....	200	325
9.....	74	781	19.....	82	355	29.....	180	---
10.....	74	8,900	20.....	80	293	30.....	2,190	---
						31.....	1,650	---
Monthly mean discharge, in cubic feet per second.....							474	1,039
Runoff, in inches.....							1.96	3.90

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 11--Con.			Feb. 14--Con.		
12 p.m.....	3.64	252	9 a.m.....	12.56	6,490	9 p.m.....	6.70	1,650
Feb. 9			12 m.....	11.76	5,610	12 p.m.....	6.93	1,760
6 a.m.....	3.59	237	3 p.m.....	10.97	4,790	Feb. 15		
10.....	3.54	224	6.....	10.41	4,270	2:30 a.m.....	7.00	1,800
12 m.....	3.78	298	9.....	9.91	3,820	4.....	6.98	1,790
3 p.m.....	4.43	564	12 p.m.....	9.14	3,000	6.....	6.86	1,730
6.....	5.07	852	Feb. 12			9.....	6.57	1,580
9.....	6.92	1,760	3 a.m.....	8.22	2,200	12 m.....	6.22	1,410
10.....	8.72	2,870	6.....	7.48	2,060	3 p.m.....	5.93	1,260
11.....	9.92	3,000	9.....	7.07	1,840	6.....	5.70	1,150
12 p.m.....	10.92	3,500	10.....	6.77	1,680	12 p.m.....	5.41	1,000
Feb. 10			11.....	6.68	1,640	Feb. 16		
1 a.m.....	11.42	4,000	2 p.m.....	6.39	1,500	6 a.m.....	5.17	896
2.....	11.63	4,400	4.....	6.48	1,540	12 m.....	4.98	811
5.....	11.76	5,610	5.....	6.49	1,540	6 p.m.....	4.83	744
6.....	12.28	6,180	10.....	6.28	1,440	12 p.m.....	4.72	694
8.....	13.03	7,040	12 p.m.....	6.26	1,430	Feb. 17		
10.....	13.91	8,090		6.12	1,360	6 a.m.....	4.65	662
11.....	15.88	9,200	Feb. 13			12 m.....	4.58	631
12 m.....	16.22	10,000	2 a.m.....	6.07	1,340	6 p.m.....	4.51	600
1 p.m.....	16.44	10,500	3.....	6.16	1,300	12 p.m.....	4.45	572
2.....	16.55	11,200	5.....	5.95	1,280	Feb. 18		
3.....	16.66	11,500	7.....	5.82	1,210	6 a.m.....	4.38	542
4.....	16.72	12,100	12 m.....	5.63	1,120	12 m.....	4.31	514
5.....	16.69	12,000	6 p.m.....	5.49	1,040	6 p.m.....	4.22	478
6.....	16.66	12,000	12 p.m.....	5.35	978	12 p.m.....	4.13	442
8.....	16.60	11,900	Feb. 14			Feb. 19		
10.....	16.41	11,600	6 a.m.....	5.25	932	6 a.m.....	3.96	378
12 p.m.....	15.88	10,800	9.....	5.22	919	12 m.....	3.74	307
Feb. 11			12 m.....	5.26	937	5 p.m.....	3.95	374
2 a.m.....	15.24	9,940	2 p.m.....	5.32	964	12 p.m.....	3.88	285
4.....	14.45	8,830	4.....	5.61	1,100			
6 a.m.....	13.64	7,770	6 p.m.....	6.14	1,370			

241. Tippecanoe River at Oswego, Ind.

Location.--Lat 41°19'14", long 85°47'21", in NE1/4 sec.14, T.33 N., R.6 E., on left bank 10 ft downstream from dam at Tippecanoe Lake Outlet in Oswego, 3 miles east of Leesburg.

Drainage area.--115 sq mi.

Gage-height record.--Water-stage recorder graph 2 p.m. Feb. 17 to 6 p.m. Feb. 18, 10 p.m. Feb. 22 to 10 a.m. Feb. 24, and 3 p.m. Feb. 26 to Mar. 5. Datum of gage is 830.00 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record estimated on basis of gage heights from correlation with gage on Tippecanoe Lake for which once-daily readings are available.

Maxima.--January-February 1959: Discharge, 548 cfs 9 a.m. to 12 m. Feb. 18 (gage height, 8.48 ft).
1949 to December 1958: Discharge, 700 cfs Oct. 17, 1954 (gage height, 8.64 ft).

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A215

Main discharge, in cubic feet per second, 1959, of Tippecanoe River at Oswego, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	62	163	11.....	65	232	21.....	86	510
2.....	62	171	12.....	62	288	22.....	94	492
3.....	65	171	13.....	62	349	23.....	98	488
4.....	65	179	14.....	62	415	24.....	108	464
5.....	65	179	15.....	65	478	25.....	113	440
6.....	65	179	16.....	65	516	26.....	124	432
7.....	65	171	17.....	65	539	27.....	135	426
8.....	65	179	18.....	65	544	28.....	148	415
9.....	65	177	19.....	68	538	29.....	148	-----
10.....	65	206	20.....	71	524	30.....	156	-----
						31.....	163	-----
Monthly mean discharge, in cubic feet per second.....							86.0	352
Runoff, in inches.....							0.86	3.19

242. Tippecanoe River near Ora, Ind.

Location.--Lat 41°10', long 86°34', in NE $\frac{1}{4}$ sec.7, T.31 N., R.1 W., on right bank at downstream side of highway bridge, 1.3 miles southwest of Ora and 2.0 miles downstream from Osborn ditch.

Drainage area.--839 sq mi.

Gage-height record.--Peak stage determined from floodmark in well. Altitude of gage is 694 ft (by barometer).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Daily discharge estimated on basis of records for stations upstream and downstream, weather records, and hydrographer's notes.

Maxima.--January-February 1959: Discharge, 7,120 cfs Feb. 14 or 15 (gage height, 14.06 ft).
1943 to December 1958: Discharge, 7,800 cfs Apr. 5, 1950 (gage height, 14.40 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	476	1,400	11.....	490	4,800	21.....	620	2,000
2.....	616	1,250	12.....	470	5,200	22.....	750	2,200
3.....	728	1,150	13.....	470	6,400	23.....	920	2,800
4.....	672	1,050	14.....	500	6,800	24.....	1,100	3,100
5.....	460	920	15.....	815	6,800	25.....	1,050	3,000
6.....	560	840	16.....	1,100	6,000	26.....	960	2,800
7.....	660	740	17.....	640	5,000	27.....	900	2,540
8.....	560	700	18.....	560	4,000	28.....	840	2,380
9.....	520	2,000	19.....	550	2,900	29.....	820	-----
10.....	490	3,700	20.....	570	2,100	30.....	930	-----
						31.....	1,300	-----
Monthly mean discharge, in cubic feet per second.....							715	3,020
Runoff, in inches.....							0.98	3.75

243. Tippecanoe River near Monticello, Ind.

Location.--Lat 40°47', long 86°45', in sec.21, T.27 N., R.3 W., at Norway plant of Northern Indiana Public Service Co., 2 miles north of Monticello.

Drainage area.--1,710 sq mi.

Discharge record.--Daily mean discharge furnished by Northern Indiana Public Service Co., computed on basis of record of operation of powerplant and flow over dam.

Maxima.--January-February 1959: Daily discharge, 16,300 cfs Feb. 10.
1931 to December 1958: Daily discharge, 16,800 cfs June 13, 1958.

Remarks.--Flow regulated by powerplant.

Mean discharge, in cubic feet per second, 1959, of Tippecanoe River near Monticello, Ind.

Day	January	February	Day	January	February	Day	January	February
1.....	1,050	2,310	11.....	791	12,100	21.....	1,630	3,140
2.....	1,220	1,960	12.....	766	9,280	22.....	1,760	3,490
3.....	1,240	1,780	13.....	753	12,200	23.....	1,670	5,970
4.....	868	1,430	14.....	907	13,500	24.....	1,810	4,920
5.....	616	1,300	15.....	1,620	10,100	25.....	1,810	4,310
6.....	616	1,270	16.....	1,130	8,580	26.....	1,590	4,460
7.....	617	1,110	17.....	837	8,380	27.....	1,430	4,050
8.....	866	1,040	18.....	616	6,810	28.....	1,260	4,290
9.....	916	2,590	19.....	828	4,440	29.....	1,260	-----
10.....	866	16,300	20.....	816	3,440	30.....	3,830	-----
						31.....	2,780	-----
Monthly mean discharge, in cubic feet per second.....							1,251	5,520
Runoff, in inches.....							0.84	3.36

844. Tippecanoe River near Delphi, Ind.

Location.--Lat 40°37', long 86°45', in sec.16, T.25 N., R.3 W., on right bank 2 miles northeast of Springboro, 2 miles downstream from Big Creek, and 5 miles northwest of Delphi.

Drainage area.--1,857 sq mi.

Gage-height record.--Water-stage recorder graph prior to 4 p.m. Feb. 18. Datum of gage is 552.01 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of no gage-height record estimated on basis of records for stations upstream and on nearby streams. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 22,600 cfs 4 p.m. Feb. 10 (gage height, 15.10 ft).
1903-6, 1908, 1939 to December 1958: Discharge, 21,400 cfs June 10, 1958 (gage height, 14.72 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,210	2,530	11.....	836	12,200	21.....	1,880	3,200
2.....	1,250	2,220	12.....	716	9,380	22.....	2,010	3,600
3.....	1,160	1,920	13.....	690	11,700	23.....	1,970	5,680
4.....	950	1,410	14.....	1,020	13,000	24.....	1,910	5,010
5.....	650	1,360	15.....	1,670	9,780	25.....	1,890	4,140
6.....	590	1,390	16.....	890	8,360	26.....	1,500	4,420
7.....	682	1,250	17.....	1,000	8,240	27.....	1,430	4,010
8.....	830	1,000	18.....	676	6,650	28.....	1,240	4,180
9.....	882	2,250	19.....	846	3,900	29.....	1,350	-----
10.....	895	20,000	20.....	807	3,500	30.....	4,640	-----
						31.....	3,100	-----
Monthly mean discharge, in cubic feet per second.....							1,331	5,581
Runoff, in inches.....							0.83	3.13

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 10--Con.			Feb. 11--Con.		
12 p.m.....	4.01	1,310	4 a.m.....	12.88	16,900	5 a.m.....	11.64	13,800
			5.....	13.23	17,800	7.....	10.96	12,300
Feb. 9			6.....	13.80	19,200	10.....	10.70	11,800
2:30 a.m.....	4.01	1,310	7.....	14.40	20,700	11.....	10.68	11,800
4.....	3.15	593	8.....	14.65	21,500	1 p.m.....	10.21	10,800
6.....	2.88	407	9.....	14.73	21,500	2.....	10.15	10,700
10:30.....	2.86	395	10.....	14.77	21,600	3.....	10.15	10,700
11.....	3.35	746	1 p.m.....	14.77	21,600	4.....	10.24	10,900
12 m.....	4.26	1,550	2.....	14.94	22,100	5.....	10.27	10,900
1 p.m.....	4.41	1,700	3.....	15.08	22,500	10.....	10.46	11,300
4:30.....	4.48	1,770	4.....	15.10	22,600	12 p.m.....	10.46	11,300
6.....	4.78	2,150	5.....	15.09	22,600			
7.....	5.05	2,480	6.....	15.02	22,400	Feb. 12		
8.....	5.90	3,460	7.....	14.91	22,000	2 a.m.....	10.20	10,800
9.....	6.70	4,580	8.....	14.75	21,600	6.....	9.34	9,110
10.....	7.90	6,520	9.....	14.23	20,300	8:30.....	9.30	9,040
11.....	9.50	9,400	10.....	13.59	18,700	10.....	9.08	8,640
12 p.m.....	11.70	14,000	11.....	13.20	17,700	4 p.m.....	9.06	8,610
			12 p.m.....	13.01	17,200	5.....	9.45	9,310
Feb. 10						12 p.m.....	9.66	9,720
1 a.m.....	12.46	15,800	Feb. 11			Feb. 13		
2.....	12.65	16,300	2 a.m.....	12.09	14,900	1 a.m.....	9.48	9,360
3 a.m.....	12.76	16,600	3 a.m.....	11.83	14,300			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A217

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Tippecanoe River near Delphi, Ind.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 13--Con.			Feb. 14--Con.			Feb. 17		
2 a.m.....	9.41	9,240	1 p.m.....	11.32	13,000	2:30 a.m.....	8.60	7,780
3.....	9.40	9,220	9.....	11.37	13,100	4.....	8.90	8,320
6.....	10.17	10,700	10.....	11.22	12,800	5.....	8.94	8,390
8.....	10.47	11,300	12 p.m.....	11.07	12,500	7.....	9.20	8,860
9.....	10.89	12,200				9:30.....	9.22	8,900
11.....	11.10	12,600	Feb. 15			11.....	8.94	8,390
1 p.m.....	10.89	12,200	3 a.m.....	10.47	11,500	1 p.m.....	8.91	8,340
3.....	11.27	12,900	6.....	9.76	9,920	8:30.....	8.88	8,280
5.....	11.35	13,100	7.....	9.71	9,820	11.....	8.27	7,190
8.....	11.32	13,000	12 m.....	9.68	9,760	12 p.m.....	8.23	7,110
10.....	10.86	12,100	2 p.m.....	9.38	9,180			
12 p.m.....	10.79	12,000	3:30.....	9.35	9,130	Feb. 18		
			4.....	9.22	8,900	1:30 a.m.....	8.24	7,130
Feb. 14			12 p.m.....	9.22	8,900	3.....	8.70	7,960
1 a.m.....	10.79	12,000				4.....	8.74	8,030
3.....	11.02	12,400	Feb. 16			6:30.....	8.75	8,050
4.....	11.04	12,500	1:30 a.m.....	9.22	8,900	9.....	8.24	7,130
5.....	11.19	12,800	3.....	8.95	8,410	12 m.....	7.93	6,570
6.....	11.46	13,400	4.....	8.92	8,560	1 p.m.....	7.87	6,470
7.....	11.67	13,900	9:30 p.m.....	8.90	8,320	4.....	7.44	5,760
8.....	11.74	14,000	11.....	8.63	7,830	9.....	7.44	5,760
9.....	11.76	14,100	12 p.m.....	8.61	7,800	12 p.m.....	7.00	5,060
12 m.....	11.38	13,200						

245. Wildcat Creek at Greentown, Ind.

Location.--Lat 40°27', long 85°57', on line between secs. 9 and 10, T.23 N., R.5 E., on left bank at downstream side of bridge on State Highway 213, 1.5 miles south of Greentown.

Drainage area.--162 sq mi.

Gage-height record.--Water-stage recorder graph 11 p.m. Feb. 9 to 8 p.m. Feb. 11 and 9:30 a.m. Feb. 12 to Feb. 22. Graph based on adjoining record was estimated to complete Feb. 11 and 12. Datum of gage is 809.33 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of ice effect and no gage-height record estimated on basis of records for stations downstream.

Maxima.--January-February 1959: Discharge, 5,390 cfs 12 m. Feb. 10 (gage height, 12.74 ft).

1944 to December 1958: Discharge, 6,320 cfs Jan. 4, 1950 (gage height, 15.3 ft), at site 2 miles downstream and at datum 5.34 ft lower.

Stage known: 18.9 ft in March 1913, from floodmarks, site and datum as of Jan. 4, 1950.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	64	350	11.....	36	2,270	21.....	2,380	161
2.....	102	205	12.....	36	920	22.....	2,200	127
3.....	73	175	13.....	38	878	23.....	1,450	259
4.....	65	240	14.....	60	768	24.....	720	340
5.....	57	155	15.....	159	800	25.....	475	244
6.....	51	90	16.....	103	485	26.....	550	217
7.....	55	110	17.....	90	390	27.....	304	217
8.....	59	140	18.....	70	327	28.....	193	244
9.....	54	470	19.....	65	217	29.....	199	-----
10.....	40	4,620	20.....	78	180	30.....	1,460	-----
						31.....	700	-----

Monthly mean discharge, in cubic feet per second.....	387	550
Runoff, in inches.....	2.76	3.54

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Wildcat Creek at Greentown, Ind.

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 8			Feb. 12--Con.			Feb. 18		
12 p.m.....	-	190	3 p.m.....	7.51	803	6 a.m.....	5.72	355
Feb. 9			6.....	7.29	748	12 m.....	5.62	332
11 a.m.....	-	190	9.....	7.18	720	6 p.m.....	5.50	304
2 p.m.....	-	220	12 p.m.....	7.14	710	12 p.m.....	5.35	271
4.....	-	270	Feb. 13			Feb. 19		
6.....	-	360	6 a.m.....	7.12	705	4 a.m.....	5.23	246
8.....	-	700	12 m.....	7.05	688	7.....	5.03	207
10.....	-	1,400	6 p.m.....	6.89	648	10.....	4.94	191
12 p.m.....	11.00	2,840	12 p.m.....	6.77	618	12 m.....	4.98	198
Feb. 10			Feb. 14			4 p.m.....	5.13	226
2 a.m.....	11.78	3,690	5 a.m.....	6.69	598	5.....	5.13	226
4.....	12.11	4,340	7.....	6.74	610	8.....	5.03	207
6.....	12.40	4,800	9.....	6.98	670	12 p.m.....	4.89	182
8.....	12.56	5,070	12 m.....	7.32	755	Feb. 20		
9:30.....	12.68	5,280	3 p.m.....	7.63	839	1 a.m.....	4.91	180
11.....	12.71	5,340	6.....	7.87	911	3.....	4.83	170
12 m.....	12.74	5,390	9.....	8.06	968	6.....	-	160
1 p.m.....	12.71	5,340	11.....	8.11	984	8.....	5.18	170
2.....	12.66	5,250	12 p.m.....	8.12	988	10.....	5.15	190
3.....	12.58	5,100	Feb. 15			1 p.m.....	5.29	210
4.....	12.52	5,000	1 a.m.....	8.11	984	3.....	-	220
5.....	12.46	4,900	3.....	8.07	971	6.....	4.87	179
7.....	12.27	4,590	6.....	7.92	926	9.....	4.91	160
9.....	12.07	4,270	12 m.....	7.49	798	12 p.m.....	4.85	150
12 p.m.....	11.74	3,780	6 p.m.....	7.04	685	Feb. 21		
Feb. 11			9.....	6.80	625	6 a.m.....	4.81	140
3 a.m.....	11.36	3,270	12 p.m.....	6.65	588	9.....	4.63	141
6.....	10.99	2,830	Feb. 16			10.....	4.84	174
9.....	10.59	2,430	6 a.m.....	6.40	525	12 m.....	4.89	182
12 m.....	10.24	2,130	12 m.....	6.19	472	1 p.m.....	5.03	207
3 p.m.....	9.88	1,870	6 p.m.....	6.05	438	5.....	5.03	207
6.....	9.50	1,630	12 p.m.....	5.98	420	12 p.m.....	4.78	165
9.....	9.16	1,440	Feb. 17			12 p.m.....	4.68	149
12 p.m.....	8.88	1,300	6 a.m.....	5.93	408	Feb. 22		
Feb. 12			12 m.....	5.85	388	12 m.....	4.49	121
3 a.m.....	8.60	1,180	6 p.m.....	5.78	370	3 p.m.....	4.46	116
6.....	8.31	1,060	12 p.m.....	5.76	365	12 p.m.....	4.50	122
10.....	7.95	935						
12 m.....	7.76	878						

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A219

246. Wildcat Creek at Kokomo, Ind.

Location.--Lat 40°28', long 86°09', in NW $\frac{1}{4}$ sec.2, T.23 N., R.3 E., on right bank in Kokomo, 0.3 mile downstream from Kokomo Creek, 0.4 mile upstream from Dixon Road bridge, and on property of Continental Steel Corp.

Drainage area.--245 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 8,100 cfs 7 p.m. Feb. 10 (gage height, 10.83 ft).
1955 to December 1958: Discharge, 6,920 cfs June 10, 1958 (gage height, 10.80 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	135	701	11.....	52	5,040	21.....	2,090	263
2.....	199	425	12.....	54	1,880	22.....	3,000	263
3.....	176	343	13.....	55	1,140	23.....	1,800	404
4.....	120	323	14.....	82	1,230	24.....	892	560
5.....	79	284	15.....	189	1,350	25.....	701	425
6.....	68	183	16.....	210	909	26.....	654	363
7.....	65	155	17.....	135	694	27.....	515	363
8.....	71	284	18.....	106	579	28.....	363	383
9.....	68	672	19.....	93	436	29.....	376	-----
10.....	59	6,520	20.....	107	325	30.....	1,490	-----
						31.....	1,310	-----
Monthly mean discharge, in cubic feet per second.....							494	946
Runoff, in inches.....							2.33	4.02

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 10--Con.			Feb. 14--Con.		
12 p.m.....	2.64	319	8 p.m.....	10.80	8,040	6 p.m.....	4.86	1,380
Feb. 9			9.....	10.76	7,960	12 p.m.....	4.92	1,420
9 a.m.....	2.63	315	10.....	10.73	7,910	Feb. 15		
12 m.....	2.65	323	12 p.m.....	10.60	7,660	6 a.m.....	4.95	1,440
2 p.m.....	2.74	359	Feb. 11			12 m.....	4.90	1,410
4.....	2.92	434	2 a.m.....	10.35	7,210	6 p.m.....	4.73	1,290
6.....	3.19	556	4.....	10.03	6,660	12 p.m.....	4.50	1,130
7.....	3.50	701	6.....	9.65	6,060	Feb. 16		
8.....	4.10	990	9.....	9.15	5,390	6 a.m.....	4.27	982
9.....	4.85	1,400	12 m.....	8.75	4,920	12 m.....	4.11	886
10.....	6.00	2,100	4 p.m.....	8.10	4,250	12 p.m.....	3.90	760
11.....	7.08	2,820	8.....	7.40	3,550	Feb. 17		
12 p.m.....	7.48	3,120	12 p.m.....	6.75	2,920	12 m.....	3.78	690
Feb. 10			Feb. 12			12 p.m.....	3.67	635
2 a.m.....	7.97	3,620	4 a.m.....	6.18	2,410	Feb. 18		
4.....	8.55	4,400	8.....	5.69	2,000	12 m.....	3.57	585
6.....	9.18	5,430	12 m.....	5.39	1,760	12 p.m.....	3.42	510
8.....	9.65	6,060	6 p.m.....	5.02	1,490	Feb. 19		
9.....	9.94	6,510	12 p.m.....	4.75	1,300	12 m.....	3.21	424
10.....	9.98	6,580	Feb. 13			12 p.m.....	3.11	384
11.....	10.19	6,930	6 a.m.....	4.57	1,180	Feb. 20		
12 m.....	10.40	7,300	12 m.....	4.49	1,120	9 a.m.....	2.92	316
1 p.m.....	10.50	7,490	12 p.m.....	4.35	1,030	12 m.....	2.92	316
2.....	10.50	7,480	Feb. 14			5 p.m.....	2.87	301
3.....	10.62	7,700	5 a.m.....	4.30	1,000	9.....	2.91	313
4.....	10.68	7,810	8.....	4.53	1,150	12 p.m.....	2.90	310
5.....	10.74	7,930	12 m.....	4.73	1,290			
6.....	10.79	8,020						
7 p.m.....	10.83	8,100						

FLOODS OF 1959 IN THE UNITED STATES

247. Wildcat Creek at Owasco, Ind.

Location.--Lat 40°28', long 86°38', in SW $\frac{1}{4}$ sec.3, T.23 N., R.2 W., on left bank just downstream from highway bridge, half a mile northwest of Owasco, and 15 miles upstream from South Fork Wildcat Creek.

Drainage area.--390 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 624.63 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Stage-discharge relation indefinite part of Feb. 10; discharge estimated on basis of records for stations upstream and downstream. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 9,880 cfs 2:30 p.m. Feb. 11 (gage height, 11.74 ft).

1943 to December 1958: Discharge, 10,200 cfs Jan. 5, 1950 (gage height, 13.3 ft), from rating extended above 6,700 cfs at site 200 ft upstream at same datum.

Flood of May 18, 1943, reached a stage of 14.0 ft, from floodmarks.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	146	2,810	11.....	114	9,140	21.....	1,080	565
2.....	225	1,280	12.....	109	7,030	22.....	3,960	476
3.....	212	900	13.....	103	2,980	23.....	4,300	570
4.....	175	705	14.....	123	2,010	24.....	2,500	750
5.....	152	615	15.....	188	2,220	25.....	1,600	800
6.....	130	490	16.....	255	1,840	26.....	1,310	660
7.....	122	345	17.....	285	1,290	27.....	1,160	570
8.....	126	362	18.....	315	1,020	28.....	960	615
9.....	132	922	19.....	240	806	29.....	700	---
10.....	142	5,880	20.....	200	643	30.....	2,420	---
						31.....	3,550	---
Monthly mean discharge, in cubic feet per second.....							872	1,725
Runoff, in inches.....							2.58	4.60

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 17--Con.		
12 p.m.....	2.84	398	2 p.m.....	10.50	7,400	12 m.....	4.57	1,260
Feb. 9			8.....	9.51	5,860	12 p.m.....	4.33	1,120
10 a.m.....	2.93	429	12 p.m.....	8.75	4,510	Feb. 18		
6 p.m.....	3.63	765	Feb. 13			12 m.....	4.15	1,020
8.....	4.31	1,110	4 a.m.....	8.22	3,860	12 p.m.....	3.93	915
10.....	7.48	3,180	10.....	7.53	3,220	Feb. 19		
12 p.m.....	8.23	3,870	2 p.m.....	6.60	2,540	4 p.m.....	3.62	760
Feb. 10			8.....	5.96	2,100	8.....	3.58	741
2 a.m.....	9.89	4,200	12 p.m.....	5.71	1,950	12 p.m.....	3.57	736
6.....	10.34	4,800	Feb. 14			Feb. 20		
11.....	10.93	5,600	8 a.m.....	5.46	1,800	8 a.m.....	3.30	615
12 m.....	9.83	5,800	2 p.m.....	5.61	1,890	10.....	3.30	615
2 p.m.....	9.83	6,190	10.....	6.46	2,440	7 p.m.....	3.37	646
8.....	10.43	7,270	12 p.m.....	6.45	2,440	12 p.m.....	3.28	606
12 p.m.....	10.89	8,180	Feb. 15			Feb. 21		
Feb. 11			6 a.m.....	6.30	2,330	3 a.m.....	3.30	615
8 a.m.....	11.40	9,200	3 p.m.....	6.03	2,140	9.....	3.11	534
12 m.....	11.57	9,540	12 p.m.....	5.87	2,040	12 m.....	3.09	526
1 p.m.....	11.60	9,600	Feb. 16			5 p.m.....	3.30	615
2:30.....	11.74	9,880	6 a.m.....	5.78	1,990	9.....	3.10	530
5.....	11.63	9,660	12 m.....	5.60	1,880	12 p.m.....	3.05	510
12 p.m.....	11.09	8,580	9 p.m.....	5.17	1,620	Feb. 22		
Feb. 12			12 p.m.....	5.04	1,540	3 a.m.....	3.05	510
5 a.m.....	10.67	7,740	Feb. 17			10.....	2.92	458
9.....	10.55	7,500	6 a.m.....	4.75	1,370	1 p.m.....	2.91	454
10 a.m.....	10.68	7,760				12 p.m.....	2.97	478

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A221

248. South Fork Wildcat Creek near Lafayette, Ind.

Location.--Lat 40°24', long 86°47', in NW¹ sec.28, T.23 N., R.3 W., on right bank 40 ft upstream from bridge on State Highway 26, three-quarters of a mile upstream from Middle Fork, 4¹/₄ miles upstream from mouth, and 5 miles east of Lafayette.

Drainage area.--246 sq mi.

Gage-height record.--Water-stage recorder graph, except 12 p.m. Feb. 10 to 12 m. Feb. 11 for which gage heights were obtained from reconstructed graph. Datum of gage is 563.45 ft above mean sea level (State Highway Department of Indiana bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,000 cfs and by contracted-opening measurement at 17,900 cfs. Stage-discharge relation indefinite at times due to backwater from Middle Fork; discharge estimated on basis of records for stations on Wildcat Creek, weather records, and appearance of recorder chart. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 8,400 cfs 4 p.m. Feb. 10; gage height, 14.69 ft 10 a.m. Feb. 10, affected by backwater.

1943 to December 1958: Discharge, 12,600 cfs June 10, 1958 (gage height, 15.28 ft).

Flood of May 1943 reached a stage of 16.8 ft, from floodmarks (discharge, 17,900 cfs, by contracted-opening measurement).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	175	515	11.....	95	4,540	21.....	2,010	281
2.....	236	295	12.....	76	1,610	22.....	2,320	259
3.....	166	250	13.....	80	1,120	23.....	1,220	498
4.....	89	265	14.....	110	1,510	24.....	770	618
5.....	84	265	15.....	194	1,560	25.....	730	420
6.....	82	168	16.....	143	860	26.....	655	344
7.....	82	158	17.....	118	680	27.....	410	344
8.....	84	208	18.....	113	580	28.....	280	344
9.....	88	555	19.....	107	426	29.....	355	-----
10.....	92	7,150	20.....	105	310	30.....	1,770	-----
						31.....	890	-----
Monthly mean discharge, in cubic feet per second.....							442	918
Runoff, in inches.....							2.08	3.88

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 19--Con.		
12 p.m.....	2.47	241	12 m.....	5.38	1,440	12 m.....	2.87	389
Feb. 9			12 p.m.....	5.01	1,280	3 p.m.....	2.84	378
6 a.m.....	2.43	230	Feb. 13			5.....	2.92	410
11.....	2.47	241	12 m.....	4.61	1,090	8.....	2.93	417
1 p.m.....	2.58	274	12 p.m.....	4.38	1,000	10.....	2.82	368
6.....	3.12	452	Feb. 14			12 p.m.....	2.79	358
9.....	4.21	854	10 a.m.....	4.24	946	Feb. 20		
10.....	5.64	1,490	12 m.....	4.35	990	2 a.m.....	2.79	358
11.....	8.02	2,680	2 p.m.....	4.77	1,160	9.....	2.61	289
12 p.m.....	9.52	3,700	6.....	6.32	1,860	12 m.....	2.60	286
Feb. 10			8.....	6.63	2,000	1 p.m.....	2.53	262
2 a.m.....	10.79	4,810	10.....	6.54	1,960	3.....	2.52	256
4.....	12.02	5,600	12 p.m.....	6.26	1,840	7.....	2.71	325
6.....	13.99	6,500	Feb. 15			12 p.m.....	2.72	328
8.....	14.58	7,000	12 m.....	5.03	1,280	Feb. 21		
9.....	14.66	7,500	12 p.m.....	4.42	1,020	10 a.m.....	2.51	253
10.....	14.69	7,500	Feb. 16			11.....	2.51	253
11.....	14.67	7,700	12 m.....	3.98	842	1 p.m.....	2.43	230
2 p.m.....	14.39	8,200	12 p.m.....	3.72	758	3.....	2.46	258
4.....	14.24	8,400	Feb. 17			7.....	2.66	307
6.....	14.14	8,200	12 m.....	3.56	876	9.....	2.70	322
12 p.m.....	13.81	7,600	12 p.m.....	3.44	630	12 p.m.....	2.62	292
Feb. 11			Feb. 18			Feb. 22		
4 a.m.....	13.09	6,600	12 m.....	3.33	585	3 a.m.....	2.61	289
8.....	12.14	5,400	12 p.m.....	3.18	522	10.....	2.45	236
12 m.....	10.97	4,400	Feb. 19			12 m.....	2.48	244
4 p.m.....	9.10	3,580	6 a.m.....	3.05	466	4 p.m.....	2.53	282
8.....	7.79	2,560				8.....	2.47	241
12 p.m.....	7.07	2,200				9.....	2.49	247
Feb. 12						12 p.m.....	2.55	268
6 a.m.....	6.38	1,890						

FLOODS OF 1959 IN THE UNITED STATES

249. Wildcat Creek near Lafayette, Ind.

Location.--Lat 40°27', long 86°50', in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.14, T.23 N., R.4 W., on downstream side of county highway bridge, 2 miles east of eastern corporate limits of Lafayette, $2\frac{1}{2}$ miles upstream from mouth, and 3 miles downstream from South Fork Wildcat Creek.

Drainage area.--791 sq mi.

Gage-height record.--Water-stage recorder graph 9 p.m. Feb. 9 to Feb. 20. Datum of gage is 527.66 ft above mean sea level, datum of 1929 (Indiana Flood Control and Water Resources Commission bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of no gage-height record estimated on basis of records for stations upstream, weather records, and appearance of recorder chart. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 18,400 cfs 3 p.m. Feb. 10 (gage height, 19.36 ft).
1954 to December 1958: Discharge, 25,000 cfs June 10, 1958 (gage height, 21.52 ft), from rating extended above 18,000 cfs by logarithmic plotting.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	385	2,600	11.....	310	14,800	21.....	4,000	1,240
2.....	560	2,100	12.....	290	9,700	22.....	5,200	1,100
3.....	480	1,800	13.....	270	6,230	23.....	4,700	1,270
4.....	440	1,600	14.....	330	4,180	24.....	3,600	1,630
5.....	400	1,350	15.....	490	4,460	25.....	2,600	1,410
6.....	340	1,050	16.....	650	3,330	26.....	2,150	1,200
7.....	310	800	17.....	700	2,490	27.....	1,800	1,140
8.....	320	700	18.....	800	2,030	28.....	1,400	1,140
9.....	350	1,510	19.....	600	1,640	29.....	4,110	-----
10.....	350	14,900	20.....	540	1,330	30.....	4,110	-----
						31.....	3,900	-----
Monthly mean discharge, in cubic feet per second.....							1,406	3,169
Runoff, in inches.....							2.05	4.18

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Feb. 8			Feb. 11--Con.			Feb. 16		
12 p.m.....	-	800	1 p.m.....	17.47	13,900	6 a.m.....	7.92	3,500
			4.....	17.45	13,900	12 m.....	7.82	3,420
Feb. 9			8.....	16.93	12,900	12 p.m.....	7.15	2,840
8 a.m.....	-	800	12 p.m.....	16.16	11,700			
10.....	-	840	Feb. 12			Feb. 17		
12 m.....	-	900	6 a.m.....	15.10	10,200	12 m.....	6.67	2,460
2 p.m.....	-	1,000	12 m.....	14.13	9,130	12 p.m.....	6.34	2,210
4.....	-	1,200	6 p.m.....	14.21	9,210			
6.....	-	1,500	10.....	13.97	8,970	Feb. 18		
8.....	-	2,100	12 p.m.....	13.69	8,710	10 a.m.....	6.12	2,040
9.....	7.17	2,570				11.....	6.15	2,060
10.....	8.97	4,170	Feb. 13			12 p.m.....	5.85	1,840
11.....	10.15	5,240	8 a.m.....	11.57	6,690			
12 p.m.....	10.95	5,960	4 p.m.....	10.11	5,380	Feb. 19		
Feb. 10			12 p.m.....	9.10	4,520	5 a.m.....	5.72	1,750
2 a.m.....	12.52	7,520				9.....	5.65	1,700
6.....	15.73	11,100	Feb. 14			5 p.m.....	5.39	1,520
8.....	17.48	14,000	4 a.m.....	8.35	3,870	9.....	5.38	1,520
10.....	18.65	16,300	12 m.....	7.95	3,520	12 p.m.....	5.33	1,480
12 m.....	19.20	17,900	2 p.m.....	8.01	3,560			
2 p.m.....	19.35	18,400	6.....	9.20	4,600	Feb. 20		
3.....	19.36	18,400	10.....	10.02	5,300	3 a.m.....	5.22	1,400
5.....	19.28	18,100	12 p.m.....	10.02	5,300	10.....	5.07	1,300
10.....	19.30	18,200				11.....	5.14	1,350
12 p.m.....	19.25	18,000	Feb. 15			12 m.....	5.08	1,310
Feb. 11			8 a.m.....	9.37	4,740	3 p.m.....	5.07	1,300
4 a.m.....	19.03	17,400	4 p.m.....	8.66	4,140	6.....	4.97	1,230
8 a.m.....	18.26	15,500	12 p.m.....	8.19	3,730	9.....	5.08	1,310
						12 p.m.....	5.18	1,380

250. Wabash River at Lafayette, Ind.

Location.--Lat 40°25'19", long 86°53'49", in sec. 20, T. 23 N., R. 4 W., on right bank 20 ft downstream from Brown Street Bridge in Lafayette, 5.1 miles downstream from Wildcat Creek, and at mile 311.9.

Drainage area.--7,247 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 22, 23, 26-29, Feb. 1 to 3 p.m. Feb. 11, 2 a.m. Feb. 20 to 4 p.m. Feb. 21, and 11 p.m. Feb. 21 to 11 a.m. Feb. 22. Gage-height record for these periods from graph based on once-daily gage readings by U.S. Weather Bureau. Datum of gage is 504.14 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. At times when stage-discharge relation was affected by ice, discharge estimated on basis of one discharge measurement, weather records, hydrographer's notes, and records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 89,000 cfs 8:30 p.m. Feb. 11 (gage height, 25.30 ft).

1901-3, 1923 to December 1958: Discharge, 131,000 cfs May 19, 1943 (gage height, 28.47 ft).

Stage known since at least 1858: 32.9 ft Mar. 26, 1913, from floodmark, determined by U.S. Weather Bureau (discharge, 190,000 cfs, estimated).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	2,360	32,100	11.....	2,920	84,100	21.....	11,100	12,300
2.....	3,200	27,900	12.....	2,640	87,600	22.....	20,000	11,100
3.....	3,500	18,800	13.....	2,360	75,900	23.....	28,000	12,100
4.....	4,250	13,900	14.....	2,360	57,300	24.....	34,000	17,800
5.....	3,350	10,600	15.....	3,500	48,400	25.....	34,000	17,100
6.....	3,500	8,010	16.....	3,500	42,600	26.....	25,500	15,000
7.....	3,800	7,970	17.....	3,350	36,800	27.....	19,500	13,000
8.....	3,200	7,960	18.....	4,200	27,600	28.....	17,800	12,000
9.....	3,350	9,470	19.....	5,760	19,900	29.....	17,500	-----
10.....	3,350	41,800	20.....	5,150	15,100	30.....	22,500	-----
						31.....	30,200	-----
Monthly mean discharge, in cubic feet per second.....							10,630	28,000
Runoff, in inches.....							1.70	4.02

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 9			Feb. 14--Con.			Feb. 21		
12 p.m.....	11.00	17,000	12 m.....	21.57	56,400	12 m.....	8.55	12,200
Feb. 10			6 p.m.....	21.15	53,900	12 p.m.....	8.11	11,400
3 a.m.....	12.90	20,800	12 p.m.....	20.82	51,900	Feb. 22		
6.....	15.10	26,000				12 m.....	7.82	10,900
9.....	17.05	33,500	Feb. 15			6 p.m.....	7.78	10,800
12 m.....	19.20	43,000	6 a.m.....	20.55	50,300	12 p.m.....	7.61	10,500
3 p.m.....	20.70	51,200	12 m.....	20.23	48,400	Feb. 23		
6.....	21.50	56,000	6 p.m.....	19.92	46,600	4 a.m.....	7.59	10,500
9.....	22.32	61,400	12 p.m.....	19.62	45,100	7.....	7.64	10,600
12 p.m.....	23.15	67,900	Feb. 16			12 m.....	8.28	11,700
Feb. 11			6 a.m.....	19.36	43,800	6 p.m.....	9.24	13,500
3 a.m.....	23.92	75,200	12 m.....	19.09	42,400	12 p.m.....	10.16	15,300
6.....	24.55	81,500	6 p.m.....	18.90	41,500	Feb. 24		
9.....	24.93	85,500	12 p.m.....	18.69	40,500	6 a.m.....	11.11	17,200
12 m.....	25.07	86,700	Feb. 17			9.....	11.44	17,900
3 p.m.....	25.19	87,900	6 a.m.....	18.30	38,600	12 m.....	11.68	18,400
6.....	25.29	88,900	12 m.....	17.96	37,000	5 p.m.....	11.87	18,700
8:30.....	25.30	89,000	6 p.m.....	17.52	35,200	9.....	11.81	18,600
12 p.m.....	25.29	88,900	12 p.m.....	16.88	32,600	12 p.m.....	11.70	18,400
Feb. 12			Feb. 18			Feb. 25		
3 a.m.....	25.28	88,800	6 a.m.....	16.20	29,800	6 a.m.....	11.41	17,800
6.....	25.25	88,500	12 m.....	15.49	27,200	12 m.....	11.11	17,200
12 m.....	25.16	87,600	6 p.m.....	14.81	25,100	6 p.m.....	10.72	16,400
6 p.m.....	25.09	86,900	12 p.m.....	13.96	23,000	12 p.m.....	10.41	15,800
9.....	25.05	86,500	Feb. 19			Feb. 26		
12 p.m.....	24.98	85,800	6 a.m.....	13.17	21,400	6 a.m.....	10.14	15,300
Feb. 13			12 m.....	12.44	19,900	12 m.....	10.02	15,000
6 a.m.....	24.60	82,000	6 p.m.....	11.64	18,300	6 p.m.....	9.88	14,800
12 m.....	23.99	75,900	12 p.m.....	11.00	17,000	12 p.m.....	9.53	14,100
6 p.m.....	23.39	70,200	Feb. 20					
12 p.m.....	22.83	65,200	12 m.....	10.02	15,000			
Feb. 14			12 p.m.....	9.22	13,400			
6 a.m.....	22.17	60,300						

FLOODS OF 1959 IN THE UNITED STATES

251. Big Pine Creek near Williamsport, Ind.

Location.--Lat 40°19', long 87°17', in SE $\frac{1}{4}$ sec.26, T.22 N., R.8 W., on upstream side of highway bridge, 1.6 miles north of the city limits of Williamsport, and 2.5 miles upstream from mouth.

Drainage area.--329 sq mi.

Gage-height record.--Graph based on twice-daily readings of wire-weight gage and determination of peak stage by floodmarks. Datum of gage is 511.68 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,000 cfs and contracted-opening measurement of 12,200 cfs at site 4 miles upstream with drainage area of 310 sq mi. Peak discharge at upstream site adjusted to gage on basis of the square root of the ratio of the drainage areas.

Maxima.--January-February 1959: Discharge, 12,600 cfs 12 m. Feb. 10 (gage height, 16.0 ft, from floodmarks).
1955 to December 1958: Discharge, 9,260 cfs July 13, 1957 (gage height, 14.2 ft, from floodmarks).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	169	890	11.....	83	3,500	21.....	2,150	323
2.....	266	650	12.....	82	2,030	22.....	890	400
3.....	169	580	13.....	88	2,110	23.....	710	890
4.....	130	990	14.....	202	1,800	24.....	595	710
5.....	110	560	15.....	310	1,410	25.....	450	445
6.....	100	450	16.....	155	694	26.....	310	410
7.....	93	410	17.....	120	599	27.....	252	410
8.....	88	560	18.....	100	541	28.....	214	445
9.....	86	1,420	19.....	94	583	29.....	811	---
10.....	84	9,150	20.....	200	560	30.....	2,730	---
						31.....	1,370	---

Monthly mean discharge, in cubic feet per second.....	426	1,182
Runoff, in inches.....	1.49	5.74

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 18		
12 p.m.....	5.05	578	4 p.m.....	7.60	1,910	12 m.....	4.95	542
			8.....	7.60	1,910	6 p.m.....	4.90	525
Feb. 9			12 p.m.....	7.90	2,090	12 p.m.....	4.70	460
12 m.....	6.10	1,040						
6 p.m.....	7.05	1,580	Feb. 13			Feb. 19		
12 p.m.....	10.35	3,900	5 a.m.....	8.20	2,270	8 a.m.....	4.40	370
			12 p.m.....	7.62	1,920	12 p.m.....	4.38	364
Feb. 10								
4 a.m.....	12.50	6,460	Feb. 14			Feb. 20		
8.....	14.70	10,200	6 a.m.....	7.40	1,790	7 a.m.....	4.48	394
10.....	15.60	11,800	12 p.m.....	7.35	1,760	6 p.m.....	4.30	340
12 m.....	16.00	12,600				12 p.m.....	4.21	313
2 p.m.....	15.80	12,200	Feb. 15					
6.....	14.60	9,980	4 a.m.....	7.30	1,730	Feb. 21		
8.....	14.00	8,900	8.....	7.10	1,610	12 m.....	4.23	319
12 p.m.....	12.65	6,700	12 p.m.....	5.85	915	12 p.m.....	4.30	340
Feb. 11			Feb. 16			Feb. 22		
6 a.m.....	10.70	4,230	6 a.m.....	5.45	730	8 a.m.....	4.35	355
12 m.....	9.20	2,940	12 m.....	5.25	650	12 m.....	4.40	370
4 p.m.....	8.55	2,480	12 p.m.....	5.15	612	6 p.m.....	4.60	430
12 p.m.....	8.10	2,210				12 p.m.....	5.00	560
			Feb. 17					
Feb. 12			12 m.....	5.10	595			
6 a.m.....	7.92	2,100	12 p.m.....	5.10	595			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A225

252. Wabash River at Covington, Ind.

Location.--Lat 40°08'24", long 87°24'20", in sec.35, T.20 N., R.9 W., near center of span on downstream side of highway bridge at Covington, 2.9 miles downstream from Opposum Run, 3.6 miles upstream from Spring Creek, and at mile 271.1.

Drainage area.--8,208 sq mi.

Gage-height record.--Graph based on twice-daily readings of wire-weight gage. Datum of gage is 473.97 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 98,100 cfs 9:30 a.m. Feb. 13 (gage height, 28.41 ft).

1939 to December 1958: Discharge, 147,000 cfs May 20, 1943 (gage height, 32.44 ft).

Stage known: 35.1 ft in March 1913, from floodmark, determined by U.S. Weather Bureau (discharge, 200,000 cfs, estimated).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	2,630	27,800	11.....	3,400	61,000	21.....	10,900	17,700
2.....	2,850	30,800	12.....	3,200	92,100	22.....	16,500	13,500
3.....	3,400	32,900	13.....	3,000	97,300	23.....	18,700	13,700
4.....	4,200	24,100	14.....	3,000	86,600	24.....	21,500	17,300
5.....	4,200	16,300	15.....	4,300	71,500	25.....	27,100	19,800
6.....	4,100	12,900	16.....	4,300	59,900	26.....	33,700	18,400
7.....	4,000	11,500	17.....	4,300	51,500	27.....	35,800	16,400
8.....	3,900	10,500	18.....	4,280	43,800	28.....	31,200	14,600
9.....	3,800	11,200	19.....	4,500	34,800	29.....	26,200	-----
10.....	3,600	31,300	20.....	4,950	25,600	30.....	24,400	-----
						31.....	25,700	-----
Monthly mean discharge, in cubic feet per second.....							11,200	34,450
Runoff, in inches.....							1.57	4.37

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 13--Con.			Feb. 21--Con.		
12 p.m.....	9.60	9,960	4 p.m.....	28.34	97,400	12 m.....	14.00	17,400
			8.....	28.25	96,500	6 p.m.....	13.52	16,500
Feb. 9			12 p.m.....	28.10	95,000	12 p.m.....	12.82	15,200
7 a.m.....	9.55	9,880						
12 m.....	9.65	10,000	Feb. 14			Feb. 22		
4 p.m.....	10.00	10,800	6 a.m.....	27.68	90,800	8 a.m.....	11.87	13,600
6.....	10.50	11,400	12 m.....	27.20	86,000	2 p.m.....	11.58	13,100
8.....	11.70	13,300	6 p.m.....	26.85	82,600	8.....	11.46	12,900
10.....	12.85	15,300	12 p.m.....	26.40	78,600	12 p.m.....	11.45	12,900
12 p.m.....	14.00	17,400						
Feb. 10			Feb. 15			Feb. 23		
6 a.m.....	17.20	24,400	6 a.m.....	26.00	75,000	2 a.m.....	11.45	12,900
9.....	18.70	28,600	12 m.....	25.60	71,500	12 m.....	11.85	13,600
12 m.....	19.60	32,000	6 p.m.....	25.20	68,000	6 p.m.....	12.15	14,100
6 p.m.....	20.80	37,800	12 p.m.....	24.80	64,600	12 p.m.....	12.60	14,900
12 p.m.....	22.00	44,000	Feb. 16					
			12 m.....	24.20	59,600	Feb. 24		
Feb. 11			12 p.m.....	23.70	55,800	6 a.m.....	13.20	15,900
6 a.m.....	23.15	51,600	Feb. 17			12 m.....	13.90	17,200
12 m.....	24.30	60,500	12 m.....	23.10	51,200	6 p.m.....	14.70	18,800
6 p.m.....	25.40	69,700	12 p.m.....	22.60	47,900	12 p.m.....	15.05	19,500
12 p.m.....	26.60	80,400	Feb. 18			Feb. 25		
Feb. 12			12 m.....	21.93	43,600	7 a.m.....	15.20	19,800
4 a.m.....	27.20	86,000	12 p.m.....	21.25	40,000	3 p.m.....	15.26	20,000
8.....	27.70	91,000				8.....	15.20	19,800
12 m.....	28.00	94,000	Feb. 19			12 p.m.....	15.05	19,500
4 p.m.....	28.20	96,000	12 m.....	20.10	34,300			
8.....	28.25	96,500	12 p.m.....	19.20	30,400	Feb. 26		
12 p.m.....	28.35	97,500	Feb. 20			12 m.....	14.51	18,400
Feb. 13			12 m.....	17.62	25,400	12 p.m.....	14.00	17,400
4 a.m.....	28.38	97,800	12 p.m.....	15.80	21,100			
6.....	28.39	97,900	Feb. 21			Feb. 27		
9:30.....	28.41	98,100	6 a.m.....	14.74	18,900	12 m.....	13.51	16,500
12 m.....	28.38	97,800				12 p.m.....	12.85	15,500

FLOODS OF 1959 IN THE UNITED STATES

253. Wabash River at Montezuma, Ind.

Location.--Lat 39°47'33", long 87°22'26", in sec.35, T.16 N., R.9 W., in downstream side of first pier from left bank of bridge on U.S. Highway 36, at Montezuma, 2.0 miles upstream from Raccoon Creek, 4.9 miles downstream from Sugar Creek, and at mile 240.

Drainage area.--11,100 sq mi, approximately.

Gage-height record.--Water-stage recorder graph, except Jan. 19, Feb. 4 to 4:45 p.m. Feb. 11, and 7 a.m. Feb. 20 to Mar. 5 when graph based on once-daily gage readings by U.S. Weather Bureau was used. Datum of gage is 457.75 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Discharge record.--Stage-discharge relation defined by current-meter measurements. At times when stage-discharge relation was affected by ice, discharge estimated on basis of appearance of the gage-height graph, weather records, hydrographer's notes, and records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 105,000 cfs 1 a.m. Feb. 14 (gage height, 29.31 ft).
1927 to December 1958: Discharge, 184,000 cfs May 20, 1943 (gage height, 32.83 ft).
Stage known: 34.0 ft Mar. 27, 1913, from floodmarks (discharge, 230,000 cfs, estimated).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	3,610	27,000	11.....	4,250	64,700	21.....	21,300	30,800
2.....	4,250	27,000	12.....	4,250	84,900	22.....	26,000	23,000
3.....	4,610	26,500	13.....	4,250	102,000	23.....	21,000	19,000
4.....	2,940	26,600	14.....	4,250	103,000	24.....	19,000	22,200
5.....	2,700	25,000	15.....	4,970	91,700	25.....	19,000	23,800
6.....	3,610	18,000	16.....	4,430	77,100	26.....	21,000	23,300
7.....	3,920	14,000	17.....	4,430	64,200	27.....	23,000	21,600
8.....	3,920	12,000	18.....	4,430	54,500	28.....	26,000	19,900
9.....	4,250	14,600	19.....	4,520	45,300	29.....	28,000	-----
10.....	4,250	38,100	20.....	4,950	38,000	30.....	28,000	-----
						31.....	27,500	-----
Monthly mean discharge, in cubic feet per second.....							11,050	40,610
Runoff, in inches.....							1.15	3.81

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 13			Feb. 16--Con.		
12 p.m.....	11.80	11,500	3 a.m.....	28.69	97,900	6 p.m.....	26.00	73,500
Feb. 9			6.....	28.85	99,800	9.....	25.76	71,700
12 m.....	11.58	12,200	9.....	28.99	101,000	12 p.m.....	25.53	70,000
4 p.m.....	11.63	14,000	12 m.....	29.09	103,000	Feb. 17		
8.....	12.65	19,700	3 p.m.....	29.15	103,000	6 a.m.....	25.11	66,800
12 p.m.....	14.80	24,300	6.....	29.22	104,000	12 m.....	24.71	64,000
Feb. 10			9.....	29.27	105,000	6 p.m.....	24.34	61,400
3 a.m.....	16.70	28,500	12 p.m.....	29.30	105,000	12 p.m.....	24.01	59,100
6.....	18.10	32,000	Feb. 14			Feb. 18		
9.....	19.30	35,500	1 a.m.....	29.31	105,000	6 a.m.....	23.69	56,900
12 m.....	20.20	38,400	2.....	29.30	105,000	12 m.....	23.32	54,400
3 p.m.....	20.90	41,300	3.....	29.29	105,000	6 p.m.....	22.99	52,100
6.....	21.50	44,200	6.....	29.27	105,000	12 p.m.....	22.58	49,800
9.....	22.10	47,200	9.....	29.24	104,000	Feb. 19		
12 p.m.....	22.80	51,100	12 m.....	29.15	103,000	6 a.m.....	22.00	46,600
Feb. 11			3 p.m.....	29.07	102,000	9.....	21.78	45,500
3 a.m.....	23.30	54,200	6.....	29.00	102,000	12 m.....	21.68	45,000
6.....	24.00	59,000	9.....	28.91	100,000	3 p.m.....	21.60	44,600
9.....	24.40	61,800	12 p.m.....	28.82	99,400	6.....	21.44	43,900
12 m.....	24.90	65,300	Feb. 15			12 p.m.....	21.05	41,900
3 p.m.....	25.30	68,200	3 a.m.....	28.68	97,800	Feb. 20		
6.....	25.66	71,000	6.....	28.52	96,000	6 a.m.....	20.55	39,900
9.....	26.09	74,200	9.....	28.33	93,800	12 m.....	20.05	37,800
12 p.m.....	26.39	76,600	12 m.....	28.13	91,500	6 p.m.....	19.50	36,100
Feb. 12			3 p.m.....	27.93	89,400	12 p.m.....	18.95	34,400
3 a.m.....	26.69	79,000	6.....	27.71	87,500	Feb. 21		
6.....	26.83	80,100	9.....	27.52	85,900	6 a.m.....	18.38	32,700
9.....	26.93	80,900	12 p.m.....	27.50	84,000	12 m.....	17.74	31,000
12 m.....	27.25	83,600	Feb. 16			6 p.m.....	16.93	29,000
3 p.m.....	27.62	86,800	3 a.m.....	27.10	82,400	12 p.m.....	16.00	26,900
6.....	27.96	89,700	6.....	26.87	80,500	Feb. 22		
9.....	28.24	92,800	9.....	26.68	78,900	6 a.m.....	14.98	24,700
12 p.m.....	28.47	95,400	12 m.....	26.46	77,200			
			3 p.m.....	26.24	75,400			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A227

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Wabash River at Montezuma, Ind.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 22--Con.			Feb. 24			Feb. 26		
12 m.....	14.07	22,700	6 a.m.....	13.38	21,200	6 a.m.....	14.48	23,600
3 p.m.....	13.35	21,100	12 m.....	14.03	22,600	12 m.....	14.40	23,400
12 p.m.....	12.80	20,000	6 p.m.....	14.40	23,400	6 p.m.....	14.25	23,000
			12 p.m.....	14.55	23,700	12 p.m.....	14.04	22,600
Feb. 23			Feb. 25			Feb. 27		
3 a.m.....	12.40	19,100	6 a.m.....	14.58	23,800	12 m.....	13.58	21,600
12 m.....	12.17	18,700	12 m.....	14.57	23,800	12 p.m.....	13.08	20,600
3 p.m.....	12.15	18,600	6 p.m.....	14.56	23,700			
12 p.m.....	12.62	19,600	12 p.m.....	14.53	23,700			

254. Wabash River at Terre Haute, Ind.

Location.--Lat 39°28'00", long 87°25'08", in NW $\frac{1}{4}$ sec.21, T.12 N., R.9 W., on left bank at upstream side of Wabash Avenue Bridge at Terre Haute, 2.2 miles upstream from Sugar Creek, 4 miles downstream from Lost Creek, and at mile 214.4.

Drainage area.--12,200 sq mi, approximately.

Gage-height record.--Water-stage recorder graph, except Jan. 23-26 and Feb. 21.

Gage-height graph completed for these periods on basis of once-daily readings of wire-weight gage and once-daily reading of U.S. Weather Bureau gage 3,300 ft upstream. Datum of gage is 442.90 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 109,000 cfs 6 a.m. Feb. 15 (gage height, 26.90 ft).

1927 to December 1958: Discharge, 189,000 cfs May 20, 1943 (gage height, 30.50 ft).

Stage known since at least 1828: 31.1 ft Mar. 27, 1913 (discharge, 245,000 cfs, estimated).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	4,330	31,000	11.....	4,520	48,900	21.....	19,500	45,100
2.....	5,090	30,000	12.....	4,710	72,400	22.....	28,100	37,000
3.....	5,660	29,800	13.....	4,900	95,900	23.....	24,700	28,800
4.....	6,040	29,400	14.....	4,900	105,000	24.....	21,200	26,000
5.....	4,900	28,800	15.....	5,850	107,000	25.....	21,100	27,400
6.....	3,000	22,800	16.....	5,280	98,300	26.....	23,000	27,800
7.....	3,950	16,700	17.....	4,520	85,900	27.....	24,800	26,600
8.....	4,330	13,700	18.....	4,140	73,100	28.....	27,600	24,400
9.....	4,520	13,500	19.....	4,580	61,400	29.....	29,400	-----
10.....	4,520	31,500	20.....	5,320	52,500	30.....	29,700	-----
						31.....	30,500	-----

Monthly mean discharge, in cubic feet per second.....	12,090	46,100
Runoff, in inches.....	1.14	3.94

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 17		
12 p.m.....	10.34	13,200	4 p.m.....	23.80	77,200	12 m.....	24.67	85,900
Feb. 9			12 p.m.....	24.68	86,000	12 p.m.....	24.02	79,400
3 a.m.....	10.31	13,100	Feb. 13			Feb. 18		
4 p.m.....	10.43	13,400	8 a.m.....	25.42	93,400	12 m.....	23.37	72,900
3.....	10.70	13,900	4 p.m.....	26.02	99,400	12 p.m.....	22.77	67,100
10.....	11.00	14,500	12 p.m.....	26.42	104,000	Feb. 19		
12 p.m.....	11.80	16,100	Feb. 14			12 m.....	22.13	61,400
Feb. 10			6 a.m.....	26.64	106,000	12 p.m.....	21.46	55,900
4 a.m.....	14.83	23,000	12 m.....	26.40	103,000	Feb. 20		
3.....	16.88	29,700	6 p.m.....	26.60	106,000	12 m.....	21.05	52,600
12 m.....	17.83	33,700	12 p.m.....	26.82	108,000	12 p.m.....	20.55	49,000
3 p.m.....	18.60	37,200	Feb. 15			Feb. 21		
12 p.m.....	19.18	40,200	6 a.m.....	26.90	109,000	12 m.....	20.00	45,100
Feb. 11			12 m.....	26.83	108,000	12 p.m.....	19.35	41,200
3 a.m.....	19.70	43,300	12 p.m.....	26.46	104,000	Feb. 22		
12 m.....	20.49	48,500	Feb. 16			12 m.....	18.56	37,000
3 p.m.....	21.25	54,200	12 m.....	25.92	98,400	12 p.m.....	17.58	32,600
12 p.m.....	21.88	59,200	12 p.m.....	25.32	92,400			
Feb. 12								
3 a.m.....	22.80	67,400						

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Wabash River at Terre Haute, Ind.--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 23			Feb. 24--Con.			Feb. 26--Con.		
12 m.....	16.57	28,600	12 p.m.....	16.05	26,800	6 p.m.....	16.33	27,700
6 p.m.....	16.10	26,900	Feb. 25			12 p.m.....	16.25	27,400
12 p.m.....	15.82	26,000	6 a.m.....	16.18	27,200	Feb. 27		
Feb. 24			12 m.....	16.26	27,500	12 m.....	16.02	26,700
6 a.m.....	15.71	25,600	12 p.m.....	16.36	27,800	12 p.m.....	15.70	25,600
9.....	15.72	25,600	Feb. 26			Feb. 28		
12 m.....	15.76	25,800	6 a.m.....	16.37	27,900	12 m.....	15.31	24,300
6 p.m.....	15.90	26,300	12 m.....	16.36	27,800	12 p.m.....	14.94	23,200

255. Wabash River at Riverton, Ind.

Location.--Lat 39°01'13", long 87°34'07", in sec.30, T.7 N., R.10 W., on left bank at downstream side of Illinois Central Railroad bridge at Riverton, 0.6 mile downstream from Turtle Creek, and at mile 162.0.

Drainage area.--13,100 sq mi, approximately.

Gage-height record.--Water-stage recorder graph, except Jan. 23-25, Feb. 3-7, 10 a.m. Feb. 19 to 4 p.m. Feb. 20, and 8 p.m. Feb. 20 to 4 p.m. Feb. 21. Reconstructed graph to complete Feb. 19-21 based on adjoining record. Datum of gage is 414.65 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of no gage-height record estimated on basis of records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 108,000 cfs 11 a.m. Feb. 17 (gage height, 23.78 ft).

1938 to December 1958: Discharge, 201,000 cfs May 21, 1943 (gage height, 29.36 ft).

Flood of Mar. 28, 1913, reached a stage of 26.4 ft, from graph based on once-daily gage readings by Illinois Central Railroad Co. (discharge, 250,000 cfs, estimated).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	5,030	29,800	11.....	5,030	35,400	21.....	16,900	65,700
2.....	5,330	30,200	12.....	5,030	39,300	22.....	28,400	56,100
3.....	5,630	29,500	13.....	5,180	49,000	23.....	30,000	49,400
4.....	6,100	28,500	14.....	5,330	70,900	24.....	28,000	42,100
5.....	5,180	28,000	15.....	6,100	91,900	25.....	26,000	35,800
6.....	3,480	26,500	16.....	6,580	103,000	26.....	23,000	32,600
7.....	4,320	24,500	17.....	5,480	107,000	27.....	23,700	31,000
8.....	4,880	18,900	18.....	5,030	99,700	28.....	24,900	29,900
9.....	4,880	16,000	19.....	4,960	87,900	29.....	26,300	---
10.....	5,030	26,800	20.....	5,340	76,800	30.....	28,100	---
						31.....	29,300	---
Monthly mean discharge, in cubic feet per second.....							12,530	48,650
Runoff, in inches.....							1.10	3.86

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 11			Feb. 13--Con.		
12 p.m.....	10.18	16,800	6 a.m.....	16.28	33,700	12 p.m.....	19.98	57,800
Feb. 9			7.....	16.50	34,600	Feb. 14		
6 a.m.....	9.88	16,200	12 m.....	16.75	35,800	3 a.m.....	20.28	60,900
12 m.....	9.72	15,800	6 p.m.....	16.95	36,800	6.....	20.58	64,200
6 p.m.....	9.65	15,700	12 p.m.....	17.08	37,400	9.....	20.85	67,200
9.....	9.74	15,900	Feb. 12			12 m.....	21.18	71,200
12 p.m.....	9.91	16,200	6 a.m.....	17.20	38,000	3 p.m.....	21.44	74,400
Feb. 10			12 m.....	17.58	38,900	6.....	21.69	77,700
1 a.m.....	10.04	16,500	6 p.m.....	17.65	40,400	9.....	21.94	81,000
2.....	10.67	17,700	12 p.m.....	17.98	42,400	12 p.m.....	22.12	83,500
4.....	11.55	19,500	Feb. 13			Feb. 15		
6.....	12.59	21,800	3 a.m.....	18.19	43,600	3 a.m.....	22.29	85,900
9.....	14.14	26,400	8.....	18.41	45,000	6.....	22.46	88,200
12 m.....	15.10	29,300	9.....	18.66	46,600	9.....	22.61	90,500
3 p.m.....	15.53	30,700	12 m.....	18.91	48,500	12 m.....	22.74	92,200
6.....	15.77	31,700	3 p.m.....	19.16	50,500	3 p.m.....	22.88	94,200
9.....	15.88	32,100	6.....	19.43	52,800	6.....	22.98	95,700
12 p.m.....	16.00	32,600	9 p.m.....	19.70	55,200	9 p.m.....	23.09	97,400

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Wabash River at Riverton, Ind.--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 15--Con.			Feb. 18			Feb. 22		
12 p.m.....	23.18	98,700	3 a.m.....	23.55	104,000	6 a.m.....	20.00	58,000
			6.....	23.45	103,000	12 m.....	19.79	56,000
Feb. 16			9.....	23.35	101,000	6 p.m.....	19.58	54,100
3 a.m.....	23.28	100,000	12 m.....	23.25	99,800	12 p.m.....	19.41	52,600
6.....	23.35	101,000	3 p.m.....	23.15	98,200			
9.....	23.42	102,000	6.....	23.07	97,000	Feb. 23		
12 m.....	23.50	104,000	9.....	22.94	95,100	6 a.m.....	19.25	51,200
3 p.m.....	23.57	105,000	12 p.m.....	22.85	93,800	12 m.....	19.07	49,800
6.....	23.62	105,000				6 p.m.....	18.79	47,500
9.....	23.66	106,000	Feb. 19			12 p.m.....	18.53	45,700
12 p.m.....	23.70	106,000	3 a.m.....	22.73	92,000			
Feb. 17			6.....	22.62	90,500	Feb. 24		
2 a.m.....	23.73	107,000	9.....	22.53	89,200	6 a.m.....	18.23	43,900
4.....	23.76	107,000	12 m.....	22.43	87,800	12 m.....	17.94	42,100
6.....	23.76	107,000	3 p.m.....	22.34	86,600	6 p.m.....	17.63	40,300
9.....	23.77	108,000	6.....	22.25	85,300	12 p.m.....	17.30	38,500
12 m.....	23.77	108,000	9.....	22.15	83,900			
3.....	23.77	108,000	12 p.m.....	22.05	82,500	Feb. 25		
6.....	23.77	108,000				6 a.m.....	16.98	36,900
9.....	23.78	108,000	Feb. 20			12 m.....	16.70	35,500
12 m.....	23.77	108,000	6 a.m.....	21.85	79,800	6 p.m.....	16.48	34,500
1 p.m.....	23.77	108,000	12 m.....	21.65	77,200	12 p.m.....	16.29	33,800
2.....	23.77	108,000	6 p.m.....	21.38	73,600			
3.....	23.76	107,000	12 p.m.....	21.14	70,700	Feb. 26		
4.....	23.75	107,000				6 a.m.....	16.13	33,100
6.....	23.74	107,000	Feb. 21			12 m.....	15.97	32,500
7.....	23.75	107,000	6 a.m.....	20.94	68,300	6 p.m.....	15.85	32,000
8.....	23.73	107,000	12 m.....	20.72	65,700	12 p.m.....	15.76	31,600
9.....	23.71	107,000	6 p.m.....	20.49	63,200			
12 p.m.....	23.63	105,000	12 p.m.....	20.23	60,300			

256. Wabash River at Vincennes, Ind.

Location--Lat 38°40'52", long 87°32'04", near center of span on downstream side of bridge on U.S. Highway 50 at Vincennes, Knox County, 4.8 miles downstream from Maria Creek, 5.8 miles upstream from Embarrass River, and at mile 127.8.

Drainage area.--13,700 sq mi, approximately.

Gage-height record.--Graph based on at least twice-daily readings of wire-weight gage. Datum of gage is 394.43 ft above mean sea level, datum of 1929. Auxiliary water-stage recorder 4.7 miles upstream furnished adequate record for most of flood period.

Discharge record.--Stage-fall-discharge relation defined by current-meter measurements. Stage-fall-discharge relation indefinite at times due to levee break. Discharge for this period and period of no auxiliary gage-height record estimated on basis of appearance of gage-height graph, discharge measurements, and records for stations upstream.

Maxima.--January-February 1959: Discharge, 97,000 cfs 12 p.m. Feb. 17; gage height, 25.65 ft 10 a.m. Feb. 17.

1929 to December 1958: Discharge, 189,000 cfs May 22, 23, 1943 (gage height, 29.33 ft).

Flood of Mar. 29, 1913, reached a stage of 26.3 ft. from floodmarks, determined by Corps of Engineers (discharge, 255,000 cfs, estimated).

Stage known since at least 1867: That of May 22, 23, 1943.

Discharge known since at least 1867: That of Mar. 29, 1913.

Mean discharge, in cubic feet per second, 1959

[illegible]

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Wabash River at Vincennes, Ind.

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 8			Feb. 16			Feb. 21		
12 p.m.....	10.30	19,000	6 a.m.....	24.17	78,200	12 m.....	22.03	73,000
Feb. 9			12 m.....	24.65	80,500	6 p.m.....	21.78	71,000
12 m.....	9.41	17,400	6 p.m.....	25.08	83,000	12 p.m.....	21.68	70,000
6 p.m.....	9.30	17,000	12 p.m.....	25.43	85,100	Feb. 22		
12 p.m.....	9.40	17,500				12 m.....	21.49	68,000
Feb. 10			Feb. 17			12 p.m.....	21.29	66,000
6 a.m.....	9.80	19,300	2 a.m.....	25.52	85,600	Feb. 23		
12 m.....	11.08	22,600	4.....	25.58	86,600	12 m.....	21.13	58,000
6 p.m.....	12.15	26,500	6.....	25.60	87,700	12 p.m.....	20.98	54,000
12 p.m.....	13.03	28,900	8.....	25.64	87,900	Feb. 24		
Feb. 11			10.....	25.65	90,100	12 m.....	20.65	50,000
6 a.m.....	13.70	29,700	11.....	25.62	90,500	12 p.m.....	20.15	48,000
12 m.....	14.20	30,300	12 m.....	25.53	91,000	Feb. 25		
12 p.m.....	14.86	32,100	2 p.m.....	25.20	93,000	12 m.....	19.57	45,000
Feb. 12			4.....	24.90	94,000	12 p.m.....	18.93	41,000
12 m.....	15.47	34,100	6.....	24.67	95,000	Feb. 26		
12 p.m.....	16.02	35,800	12 p.m.....	23.95	97,000	12 m.....	18.25	37,000
Feb. 13			Feb. 18			12 p.m.....	17.58	35,300
12 m.....	16.67	38,100	6 a.m.....	23.20	95,000	Feb. 27		
12 p.m.....	17.62	42,100	12 m.....	22.63	92,000	12 m.....	16.86	34,800
Feb. 14			6 p.m.....	22.50	90,000	12 p.m.....	16.33	33,400
12 m.....	19.22	49,900	12 p.m.....	22.55	86,000	Feb. 28		
12 p.m.....	20.90	59,100	Feb. 19			12 m.....	16.02	32,200
Feb. 15			12 m.....	22.82	82,000	12 p.m.....	15.74	32,000
12 m.....	22.37	68,000	Feb. 20					
12 p.m.....	23.65	75,200	6 a.m.....	22.87	79,000			
			12 m.....	22.70	79,000			
			12 p.m.....	22.32	75,000			

257. Blue River at Carthage, Ind.

Location.--Lat 39°46', long 85°34', in sec.18, T.15 N., R.9 E., on right bank 500 ft upstream from highway bridge, half a mile west of Carthage, and 2¼ miles downstream from Three Mile Creek.

Drainage area.--187 sq mi.

Gage-height record.--Water-stage recorder graph, except 3 p.m. Jan. 23 to 8:30 a.m. Jan. 25. Graph was completed for Jan. 23 and 25 from adjoining record. Datum of gage is 859.33 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,000 cfs and extended above by logarithmic plotting. Discharge for Jan. 24 estimated on basis of recession trend and records for nearby stations. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 8,340 cfs 6 p.m. Jan. 21 (gage height, 13.28 ft).
1950 to December 1958: Discharge, 7,020 cfs June 14, 1958 (gage height, 12.42 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	531	333	11.....	90	1,790	21.....	4,920	253
2.....	437	264	12.....	91	670	22.....	3,990	253
3.....	264	276	13.....	96	580	23.....	1,950	358
4.....	190	437	14.....	166	842	24.....	808	410
5.....	175	287	15.....	550	980	25.....	515	333
6.....	170	221	16.....	358	580	26.....	428	310
7.....	158	200	17.....	200	492	27.....	340	287
8.....	130	210	18.....	170	375	28.....	290	287
9.....	107	221	19.....	158	320	29.....	276	- - - - -
10.....	97	2,590	20.....	224	287	30.....	806	- - - - -
						31.....	510	- - - - -

Monthly mean discharge, in cubic feet per second.....	619	516
Runoff, in inches.....	3.82	2.87

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Blue River at Carthage, Ind.

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 21--Con.			Jan. 25		
12 p.m.....	2.33	136	8 p.m.....	13.14	8,130	9 a.m.....	3.70	521
Jan. 20			10.....	12.83	7,660	6 p.m.....	3.55	478
6 a.m.....	2.26	129	12 p.m.....	12.30	6,870	12 p.m.....	3.55	478
12 m.....	2.22	123	Jan. 22			Jan. 26		
6 p.m.....	2.86	223	4 a.m.....	11.14	5,370	12 m.....	3.36	426
9.....	3.57	376	8.....	9.82	3,920	12 p.m.....	3.19	380
12 p.m.....	5.17	880	10.....	9.51	3,610	Jan. 27		
Jan. 21			12 m.....	9.32	3,420	12 m.....	3.01	336
3 a.m.....	6.37	1,400	2 p.m.....	9.22	3,320	12 p.m.....	2.90	310
6.....	7.19	1,850	4.....	9.22	3,320	Jan. 28		
9.....	8.47	2,680	6.....	9.10	3,200	12 m.....	2.79	285
12 m.....	11.13	5,360	12 p.m.....	8.71	2,870	12 p.m.....	2.76	278
2 p.m.....	12.40	7,020	Jan. 23			Jan. 29		
3.....	12.80	7,620	6 a.m.....	8.24	2,490	12 m.....	2.67	257
4.....	13.09	8,060	12 m.....	7.27	1,900	6 p.m.....	2.66	255
5.....	13.23	8,260	3 p.m.....	6.81	1,640	12 p.m.....	3.16	373
6.....	13.28	8,340	6.....	6.34	1,440			
7 p.m.....	13.24	8,280	12 p.m.....	5.58	1,130			

258. Blue River at Shelbyville, Ind.

Location.--Lat 39°31'45", long 85°46'55", in SE¹ sec.31, T.13 N., R.7 E., on left bank a quarter of a mile downstream from bridge on U.S. Highway 421 at Shelbyville, and 0.6 mile downstream from Little Blue River.

Drainage area.--425 sq mi.

Gage-height record.--Water-stage recorder graph, except 10:30 p.m. Jan. 22 to 1 p.m. Jan. 24. Gage-height graph completed for Jan. 22 on basis of trend of chart and hydrographer's inspection on Jan. 23. Datum of gage is 737.67 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Discharge estimated for Jan. 23 from shape of recession curve and records for nearby stations. Stage-discharge relation affected by ice Jan. 19, 20, 25. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 10,800 cfs 10 a.m. Jan. 22 (gage height, 16.50 ft).

1943 to December 1958: Discharge, 14,800 cfs Jan. 5, 1949 (gage height, 17.00 ft), at site a quarter of a mile upstream at datum 3.5 ft higher.

Stage known since at least 1897: 20.2 ft in March 1913, from floodmarks.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	547	860	11.....	210	5,590	21.....	4,730	580
2.....	950	655	12.....	205	2,980	22.....	9,200	565
3.....	605	625	13.....	218	1,550	23.....	5,860	681
4.....	420	825	14.....	253	1,870	24.....	2,480	840
5.....	400	685	15.....	835	3,030	25.....	1,400	720
6.....	400	565	16.....	870	1,830	26.....	1,070	681
7.....	360	505	17.....	540	1,300	27.....	860	642
8.....	300	505	18.....	430	950	28.....	727	603
9.....	255	535	19.....	371	760	29.....	655	---
10.....	230	3,470	20.....	442	630	30.....	1,200	---
						31.....	1,260	---
Monthly mean discharge, in cubic feet per second.....							1,234	1,251
Runoff, in inches.....							3.34	3.06

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 21			Jan. 22		
12 p.m.....	3.76	350	3 a.m.....	6.90	1,720	2 a.m.....	15.14	8,570
Jan. 20			6.....	8.65	2,760	4.....	15.62	9,140
6 a.m.....	3.67	340	9.....	10.60	4,230	5.....	15.79	9,350
12 m.....	3.62	328	12 m.....	11.80	5,190	6.....	15.89	9,470
3 p.m.....	3.86	390	3 p.m.....	12.75	5,980	7.....	16.00	9,600
6.....	4.14	475	6.....	13.39	6,550	8.....	16.15	9,810
9.....	4.68	661	9.....	13.90	7,090	9.....	16.35	10,100
12 p.m.....	5.40	970	12 p.m.....	14.58	7,900	10.....	16.50	10,300
						11 a.m.....	16.40	10,200

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Blue River at Shelbyville, Ind.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 22--Con.			Jan. 23--Con.			Jan. 25--Con.		
12 m.....	16.17	9,840	6 p.m.....	11.7	4,800	6 p.m.....	6.23	1,270
1 p.m.....	15.96	9,550	9.....	11.4	4,100	12 p.m.....	6.07	1,200
2.....	15.86	9,430	12 p.m.....	11.0	3,600			
3.....	15.82	9,380				Jan. 26		
4.....	15.80	9,360	Jan. 24			6 a.m.....	5.90	1,120
5.....	15.73	9,280	3 a.m.....	10.8	3,200	12 m.....	5.78	1,080
7.....	15.50	9,000	9.....	10.3	2,600	6 p.m.....	5.63	1,020
10.....	15.04	8,450	1 p.m.....	9.67	2,300	12 p.m.....	5.45	948
12 p.m.....	14.7	8,040	3.....	9.15	2,200	Jan. 27		
			6.....	8.12	2,000	6 a.m.....	5.31	898
Jan. 23			9.....	7.55	1,800	12 m.....	5.18	853
2 a.m.....	14.4	7,680	12 p.m.....	7.23	1,700	6 p.m.....	5.09	822
4.....	14.1	7,320				12 p.m.....	4.99	786
6.....	13.7	6,870	Jan. 25			Jan. 28		
10.....	13.1	6,290	3 a.m.....	6.98	1,600	12 m.....	4.81	724
12 m.....	12.7	5,930	6.....	6.89	1,500	12 p.m.....	4.66	673
4 p.m.....	12.1	5,200	12 m.....	6.47	1,380			

259. Youngs Creek near Edinburg, Ind.

Location.--Lat 39°25'08", long 86°00'18", in SW¹ sec.5, T.11 N., R.5 E., on left bank on upstream side of highway bridge, half a mile southwest of Amity, 2 miles upstream from mouth, and 5 miles northwest of Edinburg.

Drainage area.--109 sq mi.

Gage-height record.--Water-stage recorder graph Jan. 19 to 4 a.m. Jan. 22. Datum of gage is 670.20 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 7,000 cfs and by contracted-opening measurement at 10,700 cfs. Discharge for period of no gage-height record estimated on basis of records for nearby stations. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 6,270 cfs 9 p.m. Jan. 21 (gage height, 11.48 ft).
1942 to December 1958: Discharge, 10,700 cfs Jan. 27, 1952 (gage height, 13.4 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	120	150	11.....	34	900	21.....	3,730	110
2.....	143	110	12.....	34	500	22.....	2,400	96
3.....	87	94	13.....	36	400	23.....	640	178
4.....	56	130	14.....	44	375	24.....	320	180
5.....	58	110	15.....	250	650	25.....	220	147
6.....	56	80	16.....	120	360	26.....	170	147
7.....	51	70	17.....	90	290	27.....	140	140
8.....	46	68	18.....	76	215	28.....	120	132
9.....	39	90	19.....	67	155	29.....	110	-----
10.....	36	2,000	20.....	202	120	30.....	340	-----
						31.....	210	-----
Monthly mean discharge, in cubic feet per second.....							324	266
Runoff, in inches.....							3.42	2.73

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 21			Jan. 21--Con.		
12 p.m.....	1.17	59	2 a.m.....	7.10	1,370	10 p.m.....	11.43	6,170
			4.....	7.60	1,600	12 p.m.....	11.17	5,680
Jan. 20			8.....	8.78	2,350			
12 m.....	1.14	55	12 m.....	10.08	3,840	Jan. 22		
2 p.m.....	1.23	66	4 p.m.....	10.67	4,780	2 a.m.....	10.81	5,030
6.....	2.43	257	6.....	11.13	5,600	4 a.m.....	10.22	4,060
8.....	3.40	458	7.....	11.34	5,990			
10.....	3.96	581	8.....	11.47	6,250			
12 p.m.....	6.00	1,060	9 p.m.....	11.48	6,270			

260. Sugar Creek near Edinburg, Ind.

Location.--Lat 39°21'39", long 85°59'51", on line between secs. 29 and 32, T.11 N., R.5 E., on left bank 50 ft upstream from highway bridge in Camp Atterbury, 1½ miles upstream from Blue River, and 1½ miles northwest of Edinburg.

Drainage area.--462 sq mi.

Gage-height record.--Water-stage recorder graph, except 8 p.m. Jan. 22 to 6 a.m. Jan. 25. Datum of gage is 646.23 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of ice effect and no gage-height record estimated on basis of reconstructed gage-height graph and records for nearby stations.

Maxima.--January-February 1959: Discharge, 11,400 cfs 6 p.m. Jan. 22 (gage height, 14.59 ft).

1942 to December 1958: Discharge, 27,600 cfs May 29, 1956 (gage height, 18.38 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	259	834	11.....	180	6,020	21.....	4,840	618
2.....	644	592	12.....	170	3,680	22.....	10,800	565
3.....	513	488	13.....	170	2,120	23.....	10,000	644
4.....	364	671	14.....	181	2,120	24.....	5,760	834
5.....	270	592	15.....	561	2,890	25.....	2,130	725
6.....	296	437	16.....	600	2,050	26.....	1,280	698
7.....	266	364	17.....	450	1,480	27.....	882	671
8.....	241	341	18.....	370	1,100	28.....	681	644
9.....	210	409	19.....	338	860	29.....	568	-----
10.....	190	3,690	20.....	407	700	30.....	941	-----
						31.....	1,250	-----
Monthly mean discharge, in cubic feet per second.....							1,478	1,316
Runoff, in inches.....							3.69	2.97

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22			Jan. 25--Con.		
12 p.m.....	5.12	327	2 a.m.....	13.79	9,420	9 a.m.....	8.37	2,240
			4.....	14.07	10,100	12 m.....	8.09	2,040
Jan. 20			6.....	14.21	10,400	3 p.m.....	7.84	1,870
12 m.....	5.07	305	8.....	14.34	10,700	6.....	7.65	1,740
2 p.m.....	5.08	309	10.....	14.44	11,000	9.....	7.45	1,620
4.....	5.28	402	12 m.....	14.49	11,100	12 p.m.....	7.26	1,520
6.....	5.65	592	4 p.m.....	14.58	11,400			
9.....	6.14	856	8.....	-	11,400	Jan. 26		
11.....	6.14	856	12 p.m.....	-	11,100	6 a.m.....	7.03	1,380
12 p.m.....	6.65	1,150				12 m.....	6.84	1,260
Jan. 21			Jan. 23			6 p.m.....	6.72	1,190
2 a.m.....	7.72	1,790	6 a.m.....	-	10,700	12 p.m.....	6.51	1,070
4.....	8.72	2,490	12 m.....	-	10,200			
6.....	9.50	3,180	6 p.m.....	-	9,400	Jan. 27		
8.....	10.17	3,850	12 p.m.....	-	8,400	6 a.m.....	6.32	955
10.....	10.75	4,430	Jan. 24			12 m.....	6.15	862
12 m.....	11.22	4,910	6 a.m.....	-	7,200	6 p.m.....	6.03	796
2 p.m.....	11.63	5,390	12 m.....	-	5,900	12 p.m.....	5.96	757
4.....	12.00	5,870	6 p.m.....	-	4,200			
6.....	12.34	6,420	12 p.m.....	-	3,100	Jan. 28		
8.....	12.68	7,050	Jan. 25			12 m.....	5.82	682
10.....	13.06	7,800	6 a.m.....	8.68	2,460	12 p.m.....	5.67	602
12 p.m.....	13.43	8,590						

FLOODS OF 1959 IN THE UNITED STATES

261. Driftwood River near Edinburg, Ind.

Location.--Lat 39°20'21", long 85°59'11", in sec.4, T.10 N., R.5 E., on left bank just downstream from highway bridge, 0.8 mile downstream from confluence of Blue River and Sugar Creek, and 1½ miles southwest of Edinburg.

Drainage area.--1,054 sq mi.

Gage-height record.--Water-stage recorder graph, except 9 p.m. Jan. 22 to 4 p.m. Jan. 24 and other short periods. Peak stage determined from reconstructed graph based on fragmentary gage-height record. Datum of gage is 636.99 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Relation affected by ice at times. Discharge for period of no gage-height record and period of ice effect estimated on basis of records for stations upstream and downstream and estimated gage-height graph.

Maxima.--January-February 1959: Discharge, 21,800 cfs 9 a.m. Jan. 23 (gage height, 15.55 ft).

1940 to December 1958: Discharge, 37,500 cfs May 29, 1956 (gage height, 16.80 ft).

Stage known: 20.3 ft in March 1913, from information by local residents.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	665	2,560	11.....	500	10,600	21.....	6,320	1,880
2.....	1,620	1,930	12.....	480	9,600	22.....	17,100	1,720
3.....	1,570	1,620	13.....	490	5,920	23.....	21,200	1,770
4.....	1,170	1,820	14.....	512	4,940	24.....	13,800	2,100
5.....	720	1,880	15.....	1,070	6,400	25.....	6,040	2,100
6.....	720	1,520	16.....	1,650	5,980	26.....	3,560	1,930
7.....	680	1,270	17.....	1,500	4,060	27.....	2,590	1,820
8.....	620	1,220	18.....	1,200	5,000	28.....	2,120	1,770
9.....	560	1,270	19.....	1,020	2,200	29.....	1,850	- - - - -
10.....	520	5,520	20.....	1,020	2,000	30.....	2,230	- - - - -
						31.....	3,250	- - - - -
Monthly mean discharge, in cubic feet per second.....							3,172	3,229
Runoff, in inches.....							3.47	3.19

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.....	3.86	1,000	4 a.m.....	14.13	13,000	9 a.m.....	11.89	6,300
			6.....	14.44	14,400	12 m.....	11.46	5,800
Jan. 20			8.....	14.71	15,900	6 p.m.....	10.60	5,000
12 m.....	3.72	930	10.....	14.91	17,000	12 p.m.....	9.65	4,300
3 p.m.....	3.73	935	12 m.....	15.09	18,200			
6.....	3.78	960	2 p.m.....	15.17	18,800	Jan. 26		
9.....	4.15	1,140	4.....	15.25	19,400	6 a.m.....	8.77	3,900
12 p.m.....	4.91	1,520	6.....	15.32	19,900	12 m.....	8.19	3,490
			8.....	15.37	20,300	6 p.m.....	7.84	3,230
Jan. 21			12 p.m.....	15.47	21,100	12 p.m.....	7.49	2,980
2 a.m.....	6.15	2,180						
4.....	7.75	3,160	Jan. 23			Jan. 27		
6.....	9.05	4,190	6 a.m.....	15.54	21,700	6 a.m.....	7.11	2,750
8.....	9.95	5,090	9.....	15.55	21,800	12 m.....	6.78	2,550
10.....	10.62	5,880	12 m.....	15.54	21,700	6 p.m.....	6.55	2,410
12 m.....	11.20	6,680	6 p.m.....	15.46	21,000	12 p.m.....	6.37	2,300
2 p.m.....	11.69	7,370	12 p.m.....	15.29	19,700			
4.....	12.08	7,990	Jan. 24			Jan. 28		
6.....	12.42	8,560	6 a.m.....	14.92	17,100	12 m.....	6.02	2,110
8.....	12.72	9,100	12 m.....	14.24	13,500	12 p.m.....	5.71	1,940
10.....	13.01	9,630	4 p.m.....	13.65	11,400			
12 p.m.....	13.37	10,600	6.....	13.41	10,700	Jan. 29		
			12 p.m.....	12.91	8,500	12 m.....	5.54	1,840
Jan. 22			Jan. 25			12 p.m.....	5.41	1,780
2 a.m.....	13.77	11,700	6 a.m.....	12.24	7,000			

262. Conns Creek at Homer, Ind.

(Miscellaneous site)

Location.--Lat 39°35', long 85°35', in NE $\frac{1}{4}$ sec.13, T.13 N., R.8 E., at Pennsylvania Railroad bridge at Homer, 300 ft upstream from bridge on State Highway 44, and $\frac{1}{2}$ miles west of Rushville.

Drainage area.--31.0 sq mi.

Maximum.--January-February 1959: Discharge, 2,490 cfs Jan. 21, by contracted-opening measurement.

263. Flatrock River at St. Paul, Ind.

Location.--Lat 39°25'03", long 85°38'03", in NE $\frac{1}{4}$ sec.9, T.11 N., R.8 E., on right bank 500 ft downstream from highway bridge, 0.8 mile southwest of St. Paul, and $\frac{1}{2}$ miles downstream from Mill Creek.

Drainage area.--298 sq mi.

Gage-height record.--Water-stage recorder graph, except 1 p.m. Jan. 21 to 3:30 p.m. Jan. 22 and 10 p.m. Jan. 22 to 2 p.m. Jan. 23. Gage-height graph reconstructed on basis of floodmarks and adjoining record. Datum of gage is 764.84 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 5,000 cfs and by contracted-opening measurement of 14,500 cfs. At times when stage-discharge relation affected by ice, discharge estimated on basis of appearance of recorder chart, weather records, and records for nearby stations.

Maxima.--January-February 1959: Discharge, 14,500 cfs 12 p.m. Jan. 21 to 1 a.m. Jan. 22 (gage height, 11.34 ft).

1930 to December 1958: Discharge, 18,500 cfs Jan. 5, 1949 (gage height, 10.60 ft).

Stage known since at least 1848: Approximately 20.5 ft in March 1913, from information by local residents.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	445	608	11.....	150	4,520	21.....	8,630	480
2.....	652	400	12.....	140	1,980	22.....	10,500	420
3.....	490	360	13.....	144	1,120	23.....	2,500	480
4.....	310	420	14.....	172	2,410	24.....	1,100	542
5.....	280	420	15.....	588	2,460	25.....	831	542
6.....	265	294	16.....	460	1,710	26.....	664	480
7.....	240	242	17.....	370	1,050	27.....	520	450
8.....	210	237	18.....	300	910	28.....	409	420
9.....	185	272	19.....	270	738	29.....	352	-----
10.....	160	4,300	20.....	345	575	30.....	563	-----
						31.....	782	-----
Monthly mean discharge, in cubic feet per second.....							1,065	1,030
Runoff, in inches.....							4.12	3.60

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22			Jan. 24--Con.		
12 p.m.....	1.38	260	1 a.m.....	11.34	14,500	12 m.....	3.28	1,100
Jan. 20			2.....	11.28	14,400	6 p.m.....	3.19	1,000
12 m.....	1.30	252	4.....	10.90	15,600	12 p.m.....	2.98	950
6 p.m.....	1.47	348	6.....	10.50	12,800			
8.....	1.64	451	8.....	10.12	12,000	Jan. 25		
10.....	1.88	607	12 m.....	9.60	11,000	8 a.m.....	2.65	860
12 p.m.....	2.38	946	4 p.m.....	8.73	9,310	4 p.m.....	2.27	800
Jan. 21			8.....	7.48	7,170	12 p.m.....	2.08	737
2 a.m.....	3.25	1,660	12 p.m.....	6.06	4,900			
4.....	4.67	3,060	Jan. 23			Jan. 26		
6.....	6.35	5,360	4 a.m.....	5.05	3,500	12 m.....	1.97	666
8.....	7.32	6,910	8.....	-	2,700	12 p.m.....	1.85	588
12 m.....	8.60	9,080	12 m.....	3.83	2,190	Jan. 27		
4 p.m.....	9.80	11,400	6 p.m.....	3.98	1,800	12 m.....	1.74	516
6.....	10.35	12,500	10.....	4.14	1,600	12 p.m.....	1.65	458
8.....	10.84	13,500	12 p.m.....	4.14	1,400			
10.....	11.15	14,100	Jan. 24			Jan. 28		
11.....	11.28	14,400	6 a.m.....	3.69	1,200	12 m.....	1.57	407
12 p.m.....	11.34	14,500				12 p.m.....	1.50	365

264. East Fork White River at Columbus, Ind.

Location.--Lat 39°12', long 85°56', in NW¼ sec.25, T.9 N., R.5 E., on left bank at abandoned bridge abutment at west end of Second Street in Columbus, 0.6 mile downstream from confluence of Driftwood River and Flatrock Creek, and 1.4 miles upstream from Haw Creek.

Drainage area.--1,692 sq mi.

Gage-height record.--Water-stage recorder graph except for parts of days Jan. 22-26. Graph was drawn for period of missing record on basis of fragmentary chart record and gage readings Jan. 22. Datum of gage is 603.12 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 32,500 cfs 12 p.m. Jan. 22 (gage height, 13.40 ft).

1947 to December 1958: Discharge, 48,700 cfs Jan. 28, 1952 (gage height, 16.00 ft).

Stage known: 17.9 ft in March 1913, from floodmarks (discharge, about 100,000 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,200	4,200	11.....	838	16,500	21.....	9,390	2,960
2.....	1,800	3,120	12.....	822	16,200	22.....	27,400	2,640
3.....	2,300	2,490	13.....	822	10,700	23.....	28,000	2,960
4.....	1,800	2,640	14.....	838	8,450	24.....	21,000	3,300
5.....	1,390	2,800	15.....	2,500	12,600	25.....	12,600	3,300
6.....	1,120	2,190	16.....	3,200	10,700	26.....	6,340	2,960
7.....	1,060	1,800	17.....	2,300	7,450	27.....	4,300	2,800
8.....	1,120	1,670	18.....	1,800	5,950	28.....	3,300	2,640
9.....	1,010	1,800	19.....	1,700	4,900	29.....	2,720	-----
10.....	904	8,590	20.....	1,460	3,850	30.....	2,940	-----
						31.....	4,490	-----
Monthly mean discharge, in cubic feet per second.....							4,918	5,433
Runoff, in inches.....							5.36	5.34

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Jan. 24--Con.		
12 p.m.....	2.22	1,490	10 a.m.....	12.31	27,200	8 p.m.....	9.94	19,000
Jan. 20			12 m.....	12.60	28,500	12 p.m.....	9.23	16,900
12 m.....	2.17	1,390	2 p.m.....	12.85	29,800	Jan. 25		
6 p.m.....	2.20	1,450	4.....	13.07	30,800	4 a.m.....	8.54	15,100
12 p.m.....	2.29	1,650	6.....	13.22	31,600	8.....	7.82	13,700
Jan. 21			8.....	13.31	32,000	12 m.....	7.13	12,400
3 a.m.....	2.37	1,850	10.....	13.38	32,400	4 p.m.....	6.42	11,200
6.....	2.55	2,340	12 p.m.....	13.40	32,500	8.....	5.72	10,000
8.....	2.72	2,860	Jan. 23			12 p.m.....	5.00	8,900
9.....	3.62	6,010	2 a.m.....	13.36	32,300	Jan. 26		
10.....	5.26	9,320	4.....	13.28	31,900	4 a.m.....	4.33	7,690
11.....	5.72	10,100	6.....	13.14	31,200	8.....	3.88	6,700
12 m.....	6.21	10,900	8.....	12.80	29,500	12 m.....	3.60	5,950
1 p.m.....	6.65	11,600	10.....	12.15	26,800	4 p.m.....	3.48	5,530
2.....	7.05	12,300	12 m.....	11.90	25,600	8.....	3.39	5,210
3.....	7.40	12,900	2 p.m.....	11.83	25,300	12 p.m.....	3.33	5,000
4.....	7.72	13,500	4.....	11.85	25,400	Jan. 27		
6.....	8.27	14,500	6.....	11.95	25,800	12 m.....	3.12	4,270
8.....	8.90	15,800	8:30	12.24	27,000	12 p.m.....	2.97	3,740
10.....	9.34	17,200	10.....	12.03	26,100	Jan. 28		
12 p.m.....	9.83	18,700	12 p.m.....	11.76	25,000	12 m.....	2.84	3,260
Jan. 22			Jan. 24			12 p.m.....	2.75	2,960
2 a.m.....	10.35	20,200	4 a.m.....	11.22	23,100	Jan. 29		
4.....	10.87	21,800	8.....	10.81	21,600	12 p.m.....	2.66	2,680
6.....	11.41	23,700	10.....	10.65	21,200	12 p.m.....	2.62	2,550
8 a.m.....	11.88	25,500	12 m.....	10.59	21,000			
			4 p.m.....	10.40	20,400			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A237**

265. Clifty Creek at Hartsville, Ind.

Location.--Lat 39°16'25", long 85°42'10", in NW $\frac{1}{4}$ sec.36, T.10 N., R.7 E., at downstream side of left abutment of highway bridge, a quarter of a mile north of Hartsville, and 5 miles upstream from Duck Creek.

Drainage area.--88.8 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 677.34 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,000 cfs and by contracted-opening measurement at 11,300 cfs.

Maxima.--January-February 1959: Discharge, 11,300 cfs 6:30 p.m. Jan. 21 (gage height, 14.29 ft).
1948 to December 1958: Discharge, 8,100 cfs Jan. 5, 1949 (gage height, 13.4 ft).

Stage known since at least 1897: 25.1 ft in March 1913, from floodmarks.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	216	101	11.....	38	561	21.....	6,180	121
2.....	218	71	12.....	38	268	22.....	2,260	106
3.....	135	95	13.....	38	242	23.....	275	155
4.....	83	108	14.....	57	1,280	24.....	193	168
5.....	53	80	15.....	330	1,010	25.....	166	140
6.....	81	59	16.....	230	310	26.....	146	130
7.....	70	54	17.....	115	242	27.....	113	121
8.....	58	57	18.....	80	280	28.....	92	119
9.....	44	81	19.....	105	205	29.....	84	-----
10.....	39	1,880	20.....	179	140	30.....	133	-----
						31.....	136	-----
Monthly mean discharge, in cubic feet per second.....							387	292
Runoff, in inches.....							5.03	3.43

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 24		
12 p.m.....	2.13	90	8 p.m.....	14.09	10,900	6 a.m.....	2.57	198
Jan. 20			9.....	13.86	10,400	11.....	2.56	195
9 a.m.....	2.09	81	10.....	13.50	9,700	1 p.m.....	2.52	185
12 m.....	2.13	90	11.....	13.13	9,000	12 p.m.....	2.48	175
2 p.m.....	2.37	148	12 p.m.....	12.70	8,250			
4.....	2.59	202	Jan. 22			Jan. 25		
6.....	2.64	215				6 a.m.....	2.47	172
9.....	3.02	316	1 a.m.....	12.23	7,500	12 m.....	2.45	168
10.....	3.20	370	2.....	11.74	6,760	6 p.m.....	2.41	158
11.....	3.67	524	3.....	11.20	5,980	12 p.m.....	2.40	155
12 p.m.....	4.41	820	4.....	10.65	5,350			
Jan. 21			5.....	10.00	4,680	Jan. 26		
1 a.m.....	4.80	1,000	6.....	9.30	4,050	6 a.m.....	2.40	155
2.....	5.37	1,280	7.....	8.50	3,380	12 m.....	2.37	148
3.....	5.80	1,520	8.....	7.45	2,590	12 p.m.....	2.30	130
4.....	6.02	1,650	9.....	6.14	1,720			
5.....	6.38	1,870	10.....	5.10	1,150	Jan. 27		
6.....	6.97	2,250	11.....	4.49	856	12 m.....	2.23	112
7.....	7.66	2,750	12 m.....	4.14	706	6 p.m.....	2.20	105
8.....	8.27	3,210	1 p.m.....	3.92	618	12 p.m.....	2.18	101
9.....	8.79	3,620	2.....	3.77	560			
10.....	9.42	4,150	4.....	3.58	493	Jan. 28		
11.....	10.48	5,160	6.....	3.46	451	12 m.....	2.15	94
12 m.....	11.55	6,480	9.....	3.32	406	6 p.m.....	2.12	87
1 p.m.....	12.20	7,450	12 p.m.....	3.15	355	10.....	2.09	81
2.....	12.78	8,390				12 p.m.....	2.12	87
3.....	13.32	9,360	Jan. 23			Jan. 29		
4.....	13.80	10,300	6 a.m.....	2.94	292	6 a.m.....	2.12	87
5.....	14.13	11,000	11.....	2.84	265	12 m.....	2.10	83
6.....	14.27	11,200	2 p.m.....	2.86	270	6 p.m.....	2.09	81
6:30.....	14.29	11,300	6.....	2.75	242	12 p.m.....	2.12	87
7 p.m.....	14.26	11,200	9.....	2.75	242			
			12 p.m.....	2.71	232			

266. Sand Creek at Greensburg, Ind.

(Miscellaneous site)

Location.--Lat 39°20'08", long 85°27'53", in SE $\frac{1}{4}$ sec.1, T.10 N., R.9 E., at bridge on State Highway 46 at Greensburg.

Drainage area.--10.7 sq mi.

Maximum.--January-February 1959: Discharge, 3,260 cfs Jan. 21, by culvert measurement.

267. Sand Creek near Brewersville, Ind.

Location.--Lat 39°05'05", long 85°39'30", in NW $\frac{1}{4}$ sec.5, T.7 N., R.8 E., on left bank at downstream side of county highway bridge, 2 $\frac{1}{2}$ miles west of Brewersville, and 5.2 miles upstream from Bear Creek.

Drainage area.--156 sq mi.

Gage-height record.--Water-stage recorder graph. Altitude of gage is 630 ft (by barometer).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,500 cfs and by indirect measurement of 19,900 cfs.

Maxima.--January-February 1959: Discharge, 19,900 cfs 7:30 p.m. Jan. 21 (gage height, 21.70 ft, from recorder graph, 22.20 ft, from floodmarks).
1948 to December 1958: Discharge, 12,400 cfs Jan. 4, 1950 (gage height, 19.20 ft) at site 1.7 miles upstream at datum approximately 8 ft higher.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	281	166	11.....	41	920	21.....	13,100	166
2.....	330	114	12.....	39	363	22.....	5,920	157
3.....	150	117	13.....	41	409	23.....	500	515
4.....	100	220	14.....	69	1,540	24.....	288	398
5.....	76	162	15.....	1,260	1,390	25.....	230	254
6.....	59	114	16.....	434	475	26.....	208	218
7.....	71	93	17.....	180	334	27.....	180	186
8.....	70	93	18.....	120	790	28.....	140	176
9.....	58	171	19.....	119	367	29.....	151	---
10.....	47	2,970	20.....	288	203	30.....	414	---
						31.....	263	---
Monthly mean discharge, in cubic feet per second.....							814	467
Runoff, in inches.....							6.02	3.11

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	2.48	125	6 p.m.....	21.62	19,600	12 p.m.....	4.35	772
Jan. 20			7.....	21.68	19,800	Jan. 23		
2 a.m.....	2.50	128	7:30.....	21.70	19,900	6 a.m.....	3.84	594
6.....	2.45	120	8.....	21.66	19,700	12 m.....	3.46	461
10.....	2.48	125	9.....	21.58	19,400	6 p.m.....	3.20	378
12 m.....	2.57	141	10.....	21.44	18,900	12 p.m.....	3.14	360
2 p.m.....	2.85	200	11.....	21.22	18,300	Jan. 24		
4.....	3.24	297	12 p.m.....	20.99	17,600	6 a.m.....	3.02	326
6.....	3.66	418	Jan. 22			12 m.....	2.83	275
9.....	4.10	555	1 a.m.....	20.62	16,500	6 p.m.....	2.74	252
11.....	4.95	852	2.....	20.25	15,500	12 p.m.....	2.70	242
12 p.m.....	5.57	1,100	3.....	19.74	14,500	Jan. 25		
Jan. 21			4.....	19.24	13,500	12 m.....	2.66	232
1 a.m.....	6.67	1,600	5.....	18.66	12,300	12 p.m.....	2.59	216
2.....	7.85	2,210	6.....	18.02	11,400	Jan. 26		
3.....	9.58	3,300	7.....	17.17	10,100	12 m.....	2.56	209
4.....	11.44	4,650	8.....	16.12	8,970	12 p.m.....	2.51	198
5.....	13.10	6,040	9.....	14.46	7,310	Jan. 27		
6.....	15.00	7,850	10.....	11.80	4,940	6 a.m.....	2.48	192
7.....	16.35	9,200	11.....	9.29	3,120	12 m.....	2.43	182
8.....	17.24	10,200	12 m.....	7.46	2,150	12 p.m.....	2.30	157
9.....	18.02	11,400	1 p.m.....	6.74	1,790	Jan. 28		
10.....	18.90	12,800	2.....	6.33	1,580	12 m.....	2.19	137
11.....	19.64	14,300	3.....	5.98	1,410	4 p.m.....	2.15	130
12 m.....	20.27	15,500	4.....	5.67	1,270	8.....	2.17	134
1 p.m.....	20.69	16,700	5.....	5.38	1,150	12 p.m.....	2.13	127
2.....	21.00	17,600	6.....	5.16	1,060			
3.....	21.28	18,400	7.....	4.98	993			
4.....	21.43	18,900	8.....	4.80	930			
5 p.m.....	21.55	19,300	10 p.m.....	4.55	842			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A239

268. East Fork White River at Seymour, Ind.

Location.--Lat 38°58'57", long 85°53'57", in NW $\frac{1}{4}$ sec.7, T.6 N., R.6 E., on left bank 1,700 ft downstream from highway bridge, 1 mile north of Seymour, 9.6 miles downstream from Sand Creek, and at mile 219.2.

Drainage area.--2,333 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 550.67 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 62,100 cfs 9 a.m. Jan. 22 (gage height, 19.39 ft).

1923 to December 1958: Discharge, 78,500 cfs Jan. 5, 1949 (gage height, 19.67 ft).

Stage known since at least 1897: 21.0 ft Mar. 26, 1913, from information by Corps of Engineers and State Highway Department of Indiana (discharge, 120,000 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	1,320	5,680	11.....	1,200	17,000	21.....	14,400	4,250
2.....	2,760	4,850	12.....	1,150	18,200	22.....	55,900	3,990
3.....	3,230	3,810	13.....	1,100	15,200	23.....	35,900	4,260
4.....	2,620	3,390	14.....	1,150	11,400	24.....	29,000	5,150
5.....	1,780	3,560	15.....	3,080	16,100	25.....	19,200	4,750
6.....	1,360	3,230	16.....	4,850	14,700	26.....	12,000	4,460
7.....	1,500	2,760	17.....	3,470	10,500	27.....	7,800	4,080
8.....	1,550	2,480	18.....	2,410	8,200	28.....	5,740	3,810
9.....	1,400	2,410	19.....	2,160	6,600	29.....	4,480	-----
10.....	1,300	7,040	20.....	2,160	5,200	30.....	4,210	-----
						31.....	5,080	-----
Monthly mean discharge, in cubic feet per second.....							7,589	7,038
Runoff, in inches.....							3.75	3.14

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.....	4.70	2,140	3 a.m.....	19.12	55,100	8 p.m.....	15.26	16,000
Jan. 20			5.....	19.25	58,500	12 p.m.....	14.85	14,800
10 a.m.....	4.66	2,120	7.....	19.36	61,400			
12 m.....	4.68	2,130	8.....	19.38	61,900	Jan. 26		
5 p.m.....	4.68	2,130	9.....	19.39	62,100	4 a.m.....	14.45	13,800
8.....	4.72	2,160	10.....	19.38	61,900	8.....	14.00	12,800
10.....	4.94	2,300	12 m.....	19.36	61,400	12 m.....	13.48	11,900
12 p.m.....	5.32	2,560	3 p.m.....	19.24	58,200	4 p.m.....	12.88	10,900
Jan. 21			6.....	19.10	54,600	6.....	12.83	10,800
2 a.m.....	5.83	2,940	9.....	18.86	49,300	8.....	12.58	10,400
4.....	6.76	3,690	12 p.m.....	18.62	44,800	10.....	12.28	9,990
5.....	7.42	4,280				12 p.m.....	11.97	9,560
6.....	8.12	4,970	Jan. 23					
7.....	8.77	5,650	2 a.m.....	18.45	41,800	Jan. 27		
8.....	9.29	6,220	4.....	18.25	38,800	4 a.m.....	11.41	8,780
9.....	9.75	6,720	6.....	18.07	36,000	8.....	10.94	8,170
10.....	10.36	7,430	10.....	17.94	34,300	12 m.....	10.55	7,660
11.....	10.90	8,120	12 m.....	17.93	34,200	4 p.m.....	10.28	7,340
12 m.....	11.25	8,580	3 p.m.....	18.00	35,000	8.....	9.85	6,840
1 p.m.....	12.11	9,750	5.....	18.03	35,400	12 p.m.....	9.50	6,450
2.....	13.52	11,900	7.....	17.96	34,500			
3.....	14.31	13,500	12 p.m.....	17.78	32,400	Jan. 28		
4.....	15.11	15,500				4 a.m.....	9.27	6,200
5.....	15.72	17,500	Jan. 24			8.....	9.05	5,960
6.....	16.34	20,300	4 a.m.....	17.65	30,800	10.....	9.02	5,920
7.....	16.94	24,300	8.....	17.50	29,000	12 m.....	8.84	5,720
8.....	17.48	28,800	12 m.....	17.43	28,400	4 p.m.....	8.62	5,480
9.....	17.88	33,600	4 p.m.....	17.51	29,100	8.....	8.43	5,280
10.....	18.22	38,300	8.....	17.38	27,900	12 p.m.....	8.16	5,010
11.....	18.48	42,200	12 p.m.....	17.05	25,200			
12 p.m.....	18.72	46,700	Jan. 25			Jan. 29		
Jan. 22			4 a.m.....	16.72	22,700	6 a.m.....	7.88	4,730
1 a.m.....	18.88	49,700	8.....	16.35	20,400	12 m.....	7.58	4,440
			12 m.....	16.01	18,600	6 p.m.....	7.34	4,210
			4 p.m.....	15.64	17,200	12 p.m.....	7.22	4,100

FLOODS OF 1959 IN THE UNITED STATES

269. Graham Creek near Vernon, Ind.

Location.--Lat 38°56', long 85°34', in SE $\frac{1}{4}$ sec.30, T.6 N., R.9 E., on right bank 10 ft upstream from State Highway 7, 4.7 miles southeast of Vernon, and 8.0 miles downstream from Little Graham Creek.

Drainage area.--77.6 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 677.47 ft above mean sea level, datum of 1929 (unadjusted).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,000 cfs and indirect measurements of 17,000 cfs and 9,580 cfs at site 7.4 miles downstream with drainage area of 91.2 sq mi. Peak discharge at downstream site adjusted to gage on basis of the square root of the ratio of the drainage areas.

Maxima.--January-February 1959: Discharge, 15,700 cfs 6 p.m. Jan. 21 (gage height, 19.13 ft).
1955 to December 1958: Discharge, 8,800 cfs July 5, 1957 (gage height, 15.13 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	56	84	11.....	14	298	21.....	9,340	63
2.....	118	57	12.....	12	116	22.....	1,720	56
3.....	52	51	13.....	13	236	23.....	177	435
4.....	31	119	14.....	23	832	24.....	101	286
5.....	23	107	15.....	997	570	25.....	82	118
6.....	19	69	16.....	320	165	26.....	77	90
7.....	23	51	17.....	132	114	27.....	74	74
8.....	22	49	18.....	88	409	28.....	62	65
9.....	18	64	19.....	54	166	29.....	64	---
10.....	16	1,040	20.....	379	84	30.....	242	---
						31.....	155	---
Monthly mean discharge, in cubic feet per second.....							468	210
Runoff, in inches.....							6.95	2.82

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	2.87	46	4 p.m.....	18.72	14,900	12 m.....	3.32	156
Jan. 20			5.....	18.99	15,400	6 p.m.....	3.23	132
8 a.m.....	2.87	46	6.....	19.13	15,700	12 p.m.....	3.20	125
12 m.....	3.20	94	7.....	18.95	15,300	Jan. 24		
3 p.m.....	3.62	183	8.....	18.54	14,600	6 a.m.....	3.14	112
6.....	5.01	705	9.....	17.99	13,600	12 m.....	3.06	95
7.....	5.36	880	10.....	17.31	12,400	6 p.m.....	3.04	92
8.....	5.41	905	11.....	16.58	11,200	12 p.m.....	3.00	84
9.....	5.62	1,010	12 p.m.....	15.57	9,550	Jan. 25		
10.....	6.09	1,250	Jan. 22			4 a.m.....	3.02	88
11.....	6.42	1,450	1 a.m.....	14.21	7,550	12 m.....	2.99	82
12 p.m.....	6.72	1,630	2.....	12.69	5,910	12 p.m.....	2.96	77
Jan. 21			3.....	11.00	4,600	Jan. 26		
1 a.m.....	6.94	1,760	4.....	8.74	3,140	12 m.....	2.96	77
2.....	7.33	2,030	5.....	7.27	2,260	12 p.m.....	2.95	76
3.....	8.22	2,650	6.....	6.44	1,760	Jan. 27		
4.....	9.07	3,250	7.....	5.90	1,440	6 a.m.....	2.97	79
5.....	10.15	4,000	8.....	5.58	1,250	6 p.m.....	2.93	72
6.....	11.00	4,600	9.....	5.30	1,080	12 p.m.....	2.90	67
7.....	12.09	5,390	10.....	5.04	924	Jan. 28		
8.....	12.95	6,150	12 m.....	4.69	715	3 a.m.....	2.92	70
9.....	13.60	6,820	2 p.m.....	4.40	570	12 m.....	2.85	60
10.....	14.57	8,040	4.....	4.18	472	4 p.m.....	2.80	53
11.....	15.69	9,740	6.....	4.03	412	9.....	2.87	63
12 m.....	16.46	11,000	9.....	3.86	344	12 p.m.....	2.86	61
1 p.m.....	17.17	12,100	12 p.m.....	3.72	292			
2.....	17.94	13,500	Jan. 23					
3 p.m.....	18.45	14,400	6 a.m.....	3.49	212			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A241

270. Middle Fork Creek at Lancaster, Ind.

(Miscellaneous site)

Location.--Lat 38°49'57", long 85°31'10", in E½ sec.33, T.5 N., R.9 E., at bridge on State Highway 250 at Lancaster, and 1,400 ft upstream from mouth.

Drainage area.--16.0 sq mi.

Maximum.--January-February 1959: Discharge, 4,780 cfs Jan. 21, by contracted-opening measurement.

271. Muscatatuck River near Deputy, Ind.

Location.--Lat 38°48'10", long 85°40'10", in NE¼ sec.7, T.4 N., R.8 E., on right bank at downstream side of highway bridge, 1½ miles northwest of Deputy, 1½ miles upstream from Coffee Creek, and 2.4 miles downstream from confluence of Graham Creek and Big Creek.

Drainage area.--296 sq mi.

Gage-height record.--Graph drawn on basis of usual twice-daily readings of wire-weight gage supplemented by hydrographer's readings and floodmark. The time of the crest was based on observations by Baltimore and Ohio railroad crews about 2 miles upstream. Datum of gage is 541.13 ft above mean sea level, datum of 1929 (unadjusted).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 25,000 cfs and by contracted-opening measurement at 52,200 cfs. Shifting-control method used at times. Rate of change in stage used as a factor at times.

Maxima.--January-February 1959: Discharge, 52,200 cfs 8 p.m. Jan. 21 (gage height, 33.1 ft).

1947 to December 1958: Discharge, 28,000 cfs Jan. 24, 1949 (gage height, 27.7 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	109	500	11.....	56	1,400	21.....	32,400	330
2.....	435	350	12.....	52	540	22.....	14,600	310
3.....	330	276	13.....	52	735	23.....	1,270	1,330
4.....	210	470	14.....	70	2,110	24.....	724	1,190
5.....	136	585	15.....	3,000	1,700	25.....	587	1,585
6.....	92	345	16.....	2,170	856	26.....	467	435
7.....	84	285	17.....	675	608	27.....	372	360
8.....	86	250	18.....	470	1,010	28.....	312	315
9.....	75	336	19.....	433	786	29.....	330	---
10.....	64	2,130	20.....	2,610	435	30.....	1,070	---
						31.....	772	---
Monthly mean discharge, in cubic feet per second.....							2,068	737
Runoff, in inches.....							8.06	2.59

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	4.18	387	10 p.m.....	32.30	48,200	4 p.m.....	7.70	1,000
			12 p.m.....	31.05	42,000	8.....	7.20	906
Jan. 20						12 p.m.....	6.80	840
6 a.m.....	4.16	384	Jan. 22			Jan. 24		
8.....	4.15	382	2 a.m.....	29.70	36,200	6 a.m.....	6.15	742
10.....	5.50	585	4.....	28.30	30,600	12 m.....	6.05	728
12 m.....	8.20	1,040	6.....	26.70	24,500	6 p.m.....	5.75	682
2 p.m.....	11.00	2,120	8.....	24.85	18,000	12 p.m.....	5.55	652
4.....	13.05	3,200	10.....	22.90	13,000			
6.....	14.65	4,360	12 m.....	20.95	9,600	Jan. 25		
8.....	16.10	5,800	2 p.m.....	19.15	7,000	12 m.....	5.10	585
10.....	17.50	7,550	4.....	17.62	5,070	12 p.m.....	4.70	525
12 p.m.....	18.90	9,780	6.....	16.10	4,000			
Jan. 21			8.....	14.70	3,050	Jan. 26		
2 a.m.....	20.30	12,900	10.....	13.50	2,580	12 m.....	4.30	465
4.....	21.75	16,900	12 p.m.....	12.60	2,200	12 p.m.....	3.95	412
6.....	23.10	20,800	Jan. 23			Jan. 27		
8.....	24.60	24,000	2 a.m.....	11.70	1,900	12 m.....	3.65	368
10.....	26.40	28,000	4.....	10.95	1,690	12 p.m.....	3.45	338
12 m.....	28.05	32,000	6.....	10.25	1,530			
2 p.m.....	29.70	37,000	8.....	9.65	1,410	Jan. 28		
4.....	31.10	42,200	10.....	9.05	1,250	12 m.....	3.25	308
6.....	32.45	49,000	12 m.....	8.50	1,140	12 p.m.....	3.15	292
8 p.m.....	33.1	52,200	2 p.m.....	8.05	1,070			

FLOODS OF 1959 IN THE UNITED STATES

272. Muscatatuck River near Austin, Ind.

Location.--Lat 38°46', long 85°49', in sec.23, T.4 N., R.6 E., on right bank 15 ft downstream from bridge on U.S. Highway 31, 2 miles north of Austin, and 4 miles upstream from Stucker Fork.

Drainage area.--365 sq mi.

Gage-height record.--Water-stage recorder graph, except Jan. 19 to 3:30 p.m.

Jan. 22. Peak stage from floodmark and graph drawn on basis of adjoining good record from 6 a.m. to 3:30 p.m. Jan. 22. Datum of gage is 513.96 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for period of no gage-height record estimated on basis of records for station upstream and nearby stations.

Maxima.--January-February 1959: Discharge, 53,900 cfs 6 a.m. Jan. 22 (gage height, 29.20 ft).
1932 to December 1958: Discharge, 26,000 cfs May 14, 1933 (gage height, 26.60 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	-	-	11.....	-	2,380	21.....	16,000	-
2.....	-	-	12.....	-	1,450	22.....	38,400	-
3.....	-	-	13.....	-	-	23.....	8,810	921
4.....	-	-	14.....	-	1,540	24.....	2,780	1,770
5.....	-	-	15.....	1,520	3,090	25.....	1,480	1,090
6.....	-	-	16.....	2,800	3,010	26.....	1,090	-
7.....	-	-	17.....	2,400	1,280	27.....	828	-
8.....	-	-	18.....	1,200	1,080	28.....	-	-
9.....	-	-	19.....	-	1,340	29.....	-	-
10.....	-	1,220	20.....	1,300	-	30.....	-	-
						31.....	-	-

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Jan. 23--Con.		
12 p.m.....	-	420	8 a.m.....	28.97	51,100	6 p.m.....	20.70	5,620
Jan. 20			9.....	28.73	48,300	8.....	20.39	5,100
7 a.m.....	-	420	10.....	28.47	45,100	10.....	20.09	4,640
8.....	-	500	11.....	28.25	42,800	12 p.m.....	19.79	4,230
10.....	-	780	12 m.....	28.05	40,800	Jan. 24		
12 m.....	-	1,100	1 p.m.....	27.82	38,500	4 a.m.....	19.19	3,590
6 p.m.....	-	2,000	2.....	27.55	36,000	8.....	18.60	3,090
10.....	-	2,800	3.....	27.28	33,600	12 m.....	18.02	2,670
12 p.m.....	-	3,200	4.....	27.04	31,600	4 p.m.....	17.39	2,300
Jan. 21			5.....	26.75	29,400	8.....	16.84	2,030
2 a.m.....	-	4,000	6.....	26.48	27,500	12 p.m.....	16.41	1,820
4.....	-	5,000	7.....	26.18	25,400	Jan. 25		
6.....	-	6,500	8.....	25.92	23,600	4 a.m.....	16.03	1,660
8.....	-	7,800	9.....	25.65	22,000	8.....	15.70	1,550
10.....	-	9,800	10.....	25.35	20,400	12 m.....	15.41	1,460
12 m.....	-	12,000	11.....	25.05	19,000	4 p.m.....	15.18	1,390
2 p.m.....	-	15,000	12 p.m.....	24.76	17,700	8.....	14.90	1,310
4.....	-	20,000	Jan. 23			12 p.m.....	14.68	1,260
6.....	-	25,000	1 a.m.....	24.46	16,300	Jan. 26		
8.....	-	29,000	2.....	24.20	15,200	4 a.m.....	14.46	1,200
10.....	-	34,000	3.....	23.93	14,100	8.....	14.24	1,140
12 p.m.....	28.0	40,500	4.....	23.68	13,100	12 m.....	14.02	1,090
Jan. 22			5.....	23.42	12,100	4 p.m.....	13.81	1,040
1 a.m.....	28.40	44,300	6.....	23.20	11,400	8.....	13.60	985
2.....	28.75	48,500	7.....	22.95	10,600	12 p.m.....	13.39	943
3.....	29.00	51,500	8.....	22.73	9,890	Jan. 27		
4.....	29.12	52,900	9.....	22.52	9,300	6 a.m.....	13.07	879
5.....	29.18	53,700	10.....	22.31	8,780	12 p.m.....	12.14	721
6.....	29.20	53,900	11.....	22.08	8,260			
7 a.m.....	29.13	53,100	12 m.....	21.87	7,840			
			2 p.m.....	21.48	7,060			
			4 p.m.....	21.10	6,340			

273. Stucker Fork near Scottsburg, Ind.

(Miscellaneous site)

Location.--Lat 38°41'10", long 85°41'48", at bridge on State Highways 56 and 203, at confluence of Hog Creek and Woods Fork, 2.8 miles upstream from Kimberlin Creek and 4.0 miles east of Scottsburg.

Drainage area.--44.7 sq mi.

Maximum.--January-February 1959: Discharge, 12,100 cfs Jan. 21, by contracted-opening measurement.

274. Honey Creek near Millhousen, Ind.

(Miscellaneous site)

Location.--Lat 39°11'34", long 85°25'13", in SW $\frac{1}{4}$ sec.28, T.9 N., R.10 E., at bridge on county highway, 2,000 ft upstream from mouth, and 1.4 miles southeast of Millhousen.

Drainage area.--3.10 sq mi.

Maximum.--January-February 1959: Discharge, 988 cfs Jan. 21, by culvert measurement.

275. Brush Creek near Nebraska, Ind.

Location.--Lat 39°04', long 85°29', in NE $\frac{1}{4}$ sec.11, T.7 N., R.9 E., on right bank at downstream side of county road bridge, 1.5 miles northwest of Nebraska, 2.9 miles northeast of Butlerville, and 3.6 miles upstream from Brush Creek Dam.

Drainage area.--11.7 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 717.17 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 450 cfs, indirect measurement of 2,360 cfs and extended above by logarithmic plotting. Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 2,730 cfs 11 a.m. Jan. 21 (gage height, 10.30 ft).
1955 to December 1958: Discharge, 2,360 cfs July 22, 1958 (gage height, 9.70 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	38	7.8	11.....	1.8	22	21.....	1,460	7.0
2.....	11	5.7	12.....	1.6	13	22.....	50	6.3
3.....	5.1	7.8	13.....	2.0	41	23.....	14	101
4.....	3.6	14	14.....	28	130	24.....	9.3	29
5.....	3.1	8.2	15.....	184	40	25.....	8.6	16
6.....	2.7	5.4	16.....	35	18	26.....	9.0	12
7.....	3.5	4.8	17.....	16	16	27.....	7.7	9.1
8.....	2.9	5.7	18.....	11	72	28.....	7.1	8.6
9.....	2.4	82	19.....	11	14	29.....	23	-----
10.....	2.1	159	20.....	150	8.6	30.....	64	-----
						31.....	15	-----
Monthly mean discharge, in cubic feet per second.....							70.4	30.1
Runoff, in inches.....							6.94	2.68

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 20--Con.			Jan. 21--Con.		
12 p.m.....	2.40	12	6 p.m.....	4.89	372	3 a.m.....	7.22	1,120
			7.....	4.60	308	4.....	8.83	1,890
Jan. 20			8.....	4.38	264	5.....	9.71	2,370
6 a.m.....	2.40	11	9.....	4.30	250	6.....	10.04	2,560
9.....	2.45	14	10.....	4.75	340	7.....	10.23	2,680
11.....	2.68	32	11.....	5.27	463	8.....	9.98	2,530
1 p.m.....	3.19	88	12 p.m.....	5.34	480	9.....	9.62	2,320
2.....	3.93	188				9:30.....	9.44	2,220
3.....	4.39	266	Jan. 21			10.....	9.66	2,340
4.....	4.42	272	1 a.m.....	5.03	405	11.....	10.30	2,730
5 p.m.....	4.66	321	1:30 a.m.....	4.88	369	12 m.....	10.14	2,630

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Brush Creek near Nebraska, Ind.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 21--Con.			Jan. 22			Jan. 23--Con.		
1 p.m.....	9.74	2,380	1 a.m.....	3.42	114	12 p.m.....	2.42	10
2.....	9.12	2,040	6.....	2.99	60			
3.....	8.60	1,760	12 p.m.....	2.83	42	Jan. 24		
4.....	8.03	1,480	6 p.m.....	2.67	27	4 a.m.....	2.37	8.0
5.....	7.00	1,030	12 p.m.....	2.53	16	8.....	2.38	8.4
6.....	5.85	630				10.....	2.44	11
7.....	5.13	429	Jan. 23			12 m.....	2.43	10
8.....	4.62	312	6 a.m.....	2.50	14	12 p.m.....	2.40	9.1
9.....	4.26	243	9.....	2.48	13			
10.....	3.98	195	11.....	2.58	20	Jan. 25		
11.....	3.76	162	12 m.....	2.56	18	12 m.....	2.38	8.4
12 p.m.....	3.59	138	6 p.m.....	2.46	12	12 p.m.....	2.39	8.7

276. North Fork of Vernon Fork near Butlerville, Ind.

Location.--Lat 39°02'55", long 85°32'40", in SE $\frac{1}{4}$ sec.17, T.7 N., R.9 E., on left bank 0.3 mile downstream from Muscatatuck State School dam, $1\frac{1}{4}$ miles downstream from Brush Creek, and 2 miles northwest of Butlerville.

Drainage area.--87.3 sq mi.

Gage-height record.--Water-stage recorder graph, except 12 m. Jan. 21 to 10 a.m. Jan. 23. Peak stage from floodmark, and graph completed from adjoining record. Datum of gage is 669.40 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 10,000 cfs and by slope-area measurement at 26,200 cfs.

Maxima.--January-February 1959: Discharge, 26,200 cfs 2:30 p.m. Jan. 21 (gage height, 25.41 ft).
1942 to December 1958: Discharge, 10,900 cfs Mar. 6, 1945, and Jan. 24, 1949; gage height, 18.73 ft Jan. 24, 1949.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	154	135	11.....	17	195	21.....	13,200	112
2.....	133	88	12.....	16	109	22.....	1,560	112
3.....	72	45	13.....	18	191	23.....	198	344
4.....	49	94	14.....	36	882	24.....	152	225
5.....	32	66	15.....	1,020	581	25.....	141	162
6.....	26	43	16.....	256	201	26.....	134	147
7.....	26	37	17.....	101	169	27.....	125	112
8.....	28	41	18.....	68	440	28.....	107	70
9.....	23	82	19.....	58	185	29.....	110	-
10.....	20	1,360	20.....	292	132	30.....	263	-
						31.....	178	-

Monthly mean discharge, in cubic feet per second..... 600 220

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 21--Con.			Jan. 22		
12 p.m.....	2.90	56	6 a.m.....	12.60	5,430	2 a.m.....	12.7	5,510
Jan. 20			7.....	13.85	6,430	4.....	9.3	3,230
2 a.m.....	2.92	60	8.....	16.50	9,000	6.....	6.3	1,550
11.....	2.96	68	9.....	18.00	10,800	8.....	5.3	1,050
4 p.m.....	3.22	135	10.....	19.50	12,800	10.....	4.7	751
7.....	3.98	418	11.....	21.33	15,800	12 m.....	4.3	559
8.....	4.65	726	12 m.....	23.02	19,100	4 p.m.....	3.9	585
9.....	4.78	790	1 p.m.....	24.67	23,600	8.....	3.6	270
10.....	5.55	1,180	2.....	25.38	26,100	12 p.m.....	3.5	225
11.....	5.86	1,330	2:30.....	25.41	26,200			
12 p.m.....	6.20	1,500	3.....	25.30	25,800	Jan. 23		
Jan. 21			4.....	24.80	24,000	12 m.....	3.42	198
1 a.m.....	6.35	1,580	5.....	24.20	22,200	12 p.m.....	3.34	172
2.....	7.15	1,990	6.....	23.59	20,400			
3.....	8.04	2,470	7.....	23.00	19,100	Jan. 24		
4.....	10.00	3,650	8.....	22.35	17,800	6 a.m.....	3.30	159
5 a.m.....	11.30	4,150	10.....	19.8	13,200	12 m.....	3.26	147
			12 p.m.....	16.1	8,560	12 p.m.....	3.25	144

277. Vernon Fork at Vernon, Ind.

Location.--Lat 38°57', long 85°37', in sec.10, T.6 N., R.8 E., on right bank just downstream from highway bridge, 1 mile southwest of Vernon, and 2 miles downstream from confluence of North and South Forks.

Drainage area.--201 sq mi.

Gage-height record.--Water-stage recorder graph, except 2-6:30 p.m. Jan. 21 and 12:30 a.m. to 2 p.m. Jan. 22. Graph completed on basis of adjoining record and peak stage from floodmark. Datum of gage is 587.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1944 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 25,000 cfs and by slope-area measurement of 56,800 cfs.

Maxima.--January-February 1959: Discharge, 56,800 cfs 4:30 p.m. Jan. 21 (gage height, 32.83 ft).

1939 to December 1958: Discharge, 27,700 cfs Mar. 6, 1945 (gage height, 26.28 ft, from floodmark).

Stage known since at least 1897: That of Jan. 21, 1959.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	214	257	11.....	42	649	21.....	31,900	205
2.....	370	185	12.....	40	279	22.....	4,620	195
3.....	185	128	13.....	41	432	23.....	501	887
4.....	100	242	14.....	67	1,640	24.....	319	604
5.....	70	215	15.....	2,280	1,160	25.....	277	351
6.....	58	137	16.....	698	432	26.....	256	290
7.....	61	103	17.....	302	326	27.....	244	246
8.....	63	103	18.....	205	880	28.....	207	175
9.....	58	154	19.....	168	404	29.....	209	---
10.....	48	2,580	20.....	804	246	30.....	636	---
						31.....	393	---
Monthly mean discharge, in cubic feet per second.....							1,466	482
Runoff, in inches.....							8.41	2.50

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 23--Con.		
12 p.m.....	2.04	145	3 p.m.....	32.38	54,100	8 a.m.....	3.68	544
			4.....	32.79	56,500	12 m.....	3.41	463
Jan. 20			4:30.....	32.83	56,800	4 p.m.....	3.23	412
6 a.m.....	2.06	148	5.....	32.82	56,700	8.....	3.17	396
9.....	2.15	166	6.....	32.44	54,400	12 p.m.....	3.07	369
12 m.....	2.55	246	7.....	31.88	51,400			
2 p.m.....	3.88	604	8.....	31.21	48,000	Jan. 24		
4.....	4.78	932	9.....	30.00	42,800	4 a.m.....	3.04	361
6.....	5.58	1,280	10.....	28.37	36,500	8.....	2.91	328
8.....	6.17	1,560	11.....	26.37	30,100	12 m.....	2.81	304
10.....	7.32	2,230	12 p.m.....	23.89	23,700	6 p.m.....	2.77	295
11.....	8.46	3,060				12 p.m.....	2.75	290
12 p.m.....	9.34	3,850	Jan. 22					
			1 a.m.....	21.40	18,800	Jan. 25		
Jan. 21			2.....	19.4	15,600	6 a.m.....	2.74	288
1 a.m.....	10.00	4,440	4.....	15.1	9,630	12 m.....	2.69	277
2.....	10.86	5,260	6.....	11.4	5,800	12 p.m.....	2.62	261
3.....	12.55	6,950	8.....	8.7	3,270			
4.....	15.00	9,510	10.....	7.4	2,280	Jan. 26		
5.....	17.37	12,600	12 m.....	6.4	1,680	12 m.....	2.60	257
6.....	19.63	16,000	2 p.m.....	5.83	1,400	12 p.m.....	2.57	251
7.....	21.46	18,900	4.....	5.38	1,180			
8.....	22.94	21,600	6.....	5.03	1,030	Jan. 27		
9.....	24.50	25,200	8.....	4.75	920	12 m.....	2.55	246
10.....	26.13	29,400	10.....	4.52	828	12 p.m.....	2.48	232
11.....	27.84	34,500	12 p.m.....	4.32	755			
12 m.....	29.48	40,700				Jan. 28		
1 p.m.....	30.83	46,200	Jan. 23			12 m.....	2.33	201
2 p.m.....	31.83	51,200	4 a.m.....	3.97	631	12 p.m.....	2.29	193

278. Sixmile Creek at Hayden, Ind.

(Miscellaneous site)

Location.--Lat 38°59', long 85°44', in W $\frac{1}{2}$ sec.10, T.6 N., R.7 E., at bridge on U.S. Highway 50, half a mile south of Hayden, and 6 $\frac{1}{4}$ miles upstream from mouth.

Drainage area.--20.8 sq mi.

Maximum.--January-February 1959: Discharge, 6,080 cfs Jan. 21, by contracted-opening measurement.

279. Manning ditch at Dudleystown, Ind.

(Miscellaneous site)

Location.--Lat 38°51', long 85°55', on line between secs. 24 and 25, T.5 N., R.5 E., at bridge on State Highway 250, three-quarters of a mile upstream from Horse Lick Creek, and three-quarters of a mile west of Dudletown.

Drainage area.--12.5 sq mi.

Maximum.--January-February 1959: Discharge, 2,350 cfs Jan. 21, by contracted-opening measurement.

280. East Fork White River near Bedford, Ind.

Location.--Lat 38°46'10", long 86°24'30", in NE $\frac{1}{4}$ sec.21, T.4 N., R.1 E., at downstream side of center pier of bridge on county road, 0.4 mile upstream from Mill Creek, 2.9 miles downstream from Sugar Creek, 3.9 miles northeast of Mitchell, and 7.8 miles southeast of Bedford. Auxiliary gage located at site 9.7 miles downstream at downstream side of U.S. Highway 50 bridge.

Drainage area.--3,870 sq mi.

Gage-height record.--Water-stage recorder graph subsequent to 1 a.m. Jan. 28. Graph reconstructed Jan. 21-27 on basis of fragmentary record Jan. 21-23, floodmark, and record for auxiliary gage. Datum of gage is 473.59 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Fall used as a factor when stage exceeds 21 ft. Discharge estimated Jan. 19, 20 on basis of records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 65,100 cfs 2 a.m. Jan. 25; gage height, 34.87 ft 6 a.m. Jan. 25.
1939 to December 1958: Discharge, 68,400 cfs Mar. 9, 1945; gage height, 33.75 ft Mar. 9, 1945, at site downstream with drainage area of 4,060 sq mi and at datum 4.39 ft lower.

Stage known: 47.5 ft in March 1913 from floodmark determined by Corps of Engineers at former site (discharge, 155,000 cfs), at site and datum in use Mar. 9, 1945.

Mean discharge, in cubic feet per second, 1959

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A247**

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
East Fork White River near Bedford, Ind.

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 20			Jan. 23--Con.			Jan. 28--Con.		
12 p.m.....	10.80	6,900	12 p.m.....	31.90	53,800	8 a.m.....	28.36	31,400
Jan. 21			Jan. 24			12 m.....	28.08	30,700
2 a.m.....	11.16	7,220	2 a.m.....	32.28	54,500	4 p.m.....	27.58	29,000
3.....	11.67	7,680	4.....	32.65	55,700	8.....	27.10	27,800
4.....	13.07	8,940	6.....	32.98	56,700	12 p.m.....	26.62	26,600
5.....	14.38	10,100	8.....	33.28	58,000	Jan. 29		
6.....	15.57	11,300	10.....	33.55	59,400	6 a.m.....	25.87	24,600
7.....	16.76	12,500	12 m.....	33.80	60,700	12 m.....	25.17	22,800
8.....	17.70	13,500	2 p.m.....	34.00	61,800	6 p.m.....	24.46	21,300
9.....	18.39	14,300	4.....	34.19	62,800	12 p.m.....	23.76	20,200
10.....	18.90	14,900	6.....	34.37	63,600	Jan. 30		
11.....	19.37	15,500	8.....	34.51	64,300	6 a.m.....	23.06	19,200
12 m.....	19.80	16,000	10.....	34.65	64,900	12 m.....	22.34	18,700
1 p.m.....	20.14	16,500	12 p.m.....	34.75	65,100	6 p.m.....	21.59	18,400
2.....	20.42	16,800	Jan. 25			12 p.m.....	20.77	17,300
3.....	20.65	17,100	2 a.m.....	34.81	65,100	Jan. 31		
4.....	20.85	17,400	4.....	34.84	64,900	6 a.m.....	19.89	16,200
5.....	21.00	17,600	6.....	34.86	64,700	12 m.....	19.01	15,000
6.....	21.16	17,700	8.....	34.87	64,600	6 p.m.....	18.19	14,000
7.....	21.44	17,700	10.....	34.86	64,200	12 p.m.....	17.46	13,200
8.....	21.65	17,800	12 m.....	34.85	64,000	Feb. 1		
10.....	21.83	17,800	2 p.m.....	34.83	63,600	6 a.m.....	16.83	12,500
Jan. 22			4.....	34.81	63,300	12 m.....	16.25	12,000
2 a.m.....	22.00	17,900	6.....	34.78	62,900	6 p.m.....	15.74	11,400
6.....	22.29	18,000	8.....	34.75	62,500	12 p.m.....	15.34	11,000
10.....	22.55	18,200	10.....	34.66	61,600	Feb. 2		
12 m.....	22.83	18,300	12 p.m.....	34.55	60,500	6 a.m.....	14.99	10,700
2 p.m.....	22.77	18,500	2.....	34.43	59,400	12 m.....	14.71	10,400
6.....	22.91	18,800	4.....	34.30	58,300	6 p.m.....	14.46	10,200
10.....	23.12	19,300	6.....	34.17	57,300	12 p.m.....	14.22	9,980
12 p.m.....	23.36	20,000	8.....	34.03	56,300	Feb. 3		
Jan. 23			10.....	33.89	55,300	6 a.m.....	13.90	9,690
2 a.m.....	23.93	21,500	12 m.....	33.74	54,300	12 m.....	13.54	9,360
3.....	24.30	22,600	2 p.m.....	33.59	53,400	6 p.m.....	13.10	8,970
4.....	24.67	24,200	4.....	33.27	51,300	12 p.m.....	12.58	8,500
5.....	25.04	25,900	6.....	32.89	49,500	Feb. 4		
6.....	25.51	28,300	8.....	32.48	47,400	6 a.m.....	12.01	7,990
7.....	26.00	30,700	10.....	32.05	45,400	12 m.....	11.44	7,480
8.....	26.85	34,200	12 p.m.....	31.85	44,500	6 p.m.....	10.97	7,050
9.....	27.62	38,100	Jan. 26			12 p.m.....	10.56	6,680
10.....	28.37	42,300	2 a.m.....	33.89	55,300	Feb. 5		
11.....	28.73	45,300	4.....	33.74	54,300	6 a.m.....	10.25	6,400
12 m.....	29.06	48,100	6.....	33.59	53,400	12 m.....	10.05	6,220
1 p.m.....	29.31	48,500	8.....	33.02	41,100	6 p.m.....	9.93	6,120
2.....	29.60	49,100	10.....	30.62	39,500	12 p.m.....	9.88	6,070
3.....	29.85	49,700	12 m.....	30.19	37,800			
4.....	30.08	50,200	2 p.m.....	29.76	36,000			
5.....	30.55	51,000	4.....	29.32	34,500			
6.....	31.00	52,000	Jan. 27					
8.....	31.00	52,000	4 a.m.....	31.43	42,800			
10 p.m.....	31.47	53,000	6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32	34,500			
			4.....	31.43	42,800			
			6.....	31.02	41,100			
			8.....	30.62	39,500			
			10.....	30.19	37,800			
			12 p.m.....	29.76	36,000			
			2.....	29.32				

FLOODS OF 1959 IN THE UNITED STATES

281. North Fork Salt Creek near Belmont, Ind.

Location.--Lat 39°09'00", long 86°20'14", in NW $\frac{1}{4}$ sec.5, T.8 N., R.2 E., on right bank 15 ft downstream from bridge on State Highway 46, 100 ft upstream from Schooner Creek, 0.7 mile northeast of Belmont, $\frac{6}{16}$ miles upstream from Brummett Creek, and 20 miles upstream from mouth.

Drainage area.--120 sq mi, includes that of Schooner Creek.

Gage-height record.--Water-stage recorder graph Jan. 19 to 7 p.m. Jan. 22 and 4 p.m. Jan. 30 to Jan. 31. Datum of gage is 543.62 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Rate of change in stage used as a factor when stage is between 6.5 ft and 19.3 ft. Discharge for periods of no gage-height record estimated on the basis of recession curve of the flood of May 24, 1952.

Maxima.--January-February 1959: Discharge, 10,600 cfs 7-8 p.m. Jan. 21 (gage height, 21.85 ft).

1946 to December 1958: Discharge, 15,200 cfs May 24, 1952; gage height, 22.55 ft May 24, 1952.

Stage known: 25.7 ft in March 1913, from information by local residents.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	112	123	11.....	34	1,280	21.....	7,380	181
2.....	171	94	12.....	30	376	22.....	4,120	148
3.....	122	105	13.....	30	311	23.....	510	503
4.....	94	162	14.....	50	1,250	24.....	280	402
5.....	65	136	15.....	661	1,240	25.....	220	272
6.....	60	105	16.....	350	449	26.....	200	220
7.....	57	94	17.....	194	311	27.....	190	181
8.....	60	105	18.....	148	467	28.....	180	168
9.....	48	214	19.....	113	311	29.....	180	---
10.....	38	2,850	20.....	212	207	30.....	175	---
						31.....	149	---
Monthly mean discharge, in cubic feet per second.....							524	438
Runoff, in inches.....							5.04	3.80

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	4.40	105	7 a.m.....	18.59	3,880	2 a.m.....	21.18	9,100
Jan. 20			8.....	19.22	4,920	3.....	20.96	8,610
6 a.m.....	4.35	100	9.....	19.53	5,540	4.....	20.70	8,040
11.....	4.33	97	10.....	19.73	5,940	5.....	20.42	7,420
1 p.m.....	4.37	102	11.....	19.98	6,460	6.....	20.12	6,760
2.....	4.45	111	12 m.....	20.34	7,250	7.....	19.81	6,100
4.....	4.79	154	1 p.m.....	20.73	8,110	8.....	19.49	5,460
6.....	5.42	236	2.....	21.12	8,960	9.....	19.18	4,840
8.....	5.89	297	3.....	21.43	9,650	10.....	18.87	4,250
10.....	7.23	528	4.....	21.62	10,100	11.....	18.57	3,670
11.....	8.47	809	5.....	21.75	10,400	12 m.....	18.26	3,230
12 p.m.....	10.20	1,190	6.....	21.82	10,500	1 p.m.....	17.94	2,830
Jan. 21			7.....	21.85	10,600	2.....	17.58	2,290
1 a.m.....	12.57	1,720	8.....	21.85	10,600	3.....	17.21	1,730
2.....	14.40	2,360	9.....	21.83	10,500	4.....	16.68	1,330
3.....	15.64	2,740	10.....	21.75	10,400	5.....	16.18	1,250
4.....	16.50	2,920	11.....	21.65	10,100	6.....	15.66	1,140
5.....	17.30	3,250	12 p.m.....	21.52	9,840	7.....	-	1,000
6 a.m.....	17.94	3,250	Jan. 22			8.....	-	900
			1 a.m.....	21.36	9,490	9.....	-	800
						10.....	-	800
						11.....	-	800
						12 p.m.....	-	800

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A249**

282. Salt Creek near Harrodsburg, Ind.

Location.--Lat 39°00'40", long 86°31'05", in SE $\frac{1}{4}$ sec.28, T.7 N., R.1 W., 30 ft right of left abutment on downstream side of county road bridge, 1.5 miles upstream from Clear Creek, and 1.6 miles east of Harrodsburg.

Drainage area.--441 sq mi.

Gage-height record.--Graph based on twice-daily readings of the wire-weight gage. Datum of gage is 483.19 ft above mean sea level, datum of 1929 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 8,000 cfs and extended above by logarithmic plotting. Relation affected by backwater and discharge estimated for part of Jan. 22, 23 and 24 and all of Jan. 25-31.

Maxima.--January-February 1959: Discharge, 17,900 cfs 2 p.m. Jan. 23 (gage height, 31.88 ft).

1955 to December 1958: Discharge, 9,680 cfs May 24, 1957 (gage height, 29.34 ft, observed).

Stage known: 38.1 ft in March 1913, from information by local resident.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	190	317	11.....	202	3,880	21.....	4,460	796
2.....	604	302	12.....	156	4,340	22.....	7,090	620
3.....	778	310	13.....	146	4,120	23.....	13,100	922
4.....	540	439	14.....	166	3,310	24.....	8,010	1,780
5.....	444	489	15.....	1,040	3,960	25.....	3,530	1,560
6.....	444	416	16.....	2,520	4,240	26.....	1,630	1,050
7.....	444	334	17.....	1,940	3,680	27.....	810	832
8.....	328	315	18.....	904	2,410	28.....	519	688
9.....	286	416	19.....	625	1,870	29.....	421	-----
10.....	238	2,620	20.....	784	1,360	30.....	370	-----
						31.....	337	-----
Monthly mean discharge, in cubic feet per second.....							1,711	1,692
Runoff, in inches.....							4.47	4.00

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Jan. 24--Con.		
12 p.m.....	8.48	593	8 a.m.....	25.80	5,760	8 a.m.....	28.82	9,140
			10.....	26.38	6,200	12 m.....	28.02	7,700
Jan. 20			12 m.....	27.70	6,900	4 p.m.....	27.48	6,700
8 a.m.....	8.35	572	2 p.m.....	29.05	7,800	8.....	27.10	5,800
2 p.m.....	8.35	572	4.....	30.06	8,800	12 p.m.....	26.80	5,100
4.....	8.42	583	6.....	30.48	9,800			
6.....	9.80	820	8.....	30.70	10,700	Jan. 25		
8.....	11.70	1,170	10.....	30.88	11,500	6 a.m.....	26.40	4,200
10.....	13.50	1,540	12 p.m.....	31.07	12,500	12 m.....	25.90	3,400
12 p.m.....	15.20	1,920				6 p.m.....	25.28	2,800
Jan. 21			Jan. 23			12 p.m.....	24.48	2,520
2 a.m.....	17.10	2,390	2 a.m.....	31.20	13,500			
4.....	18.95	2,890	4.....	31.35	14,600	Jan. 26		
6.....	20.80	3,440	6.....	31.46	15,500	6 a.m.....	23.59	1,910
8.....	22.63	4,050	8.....	31.59	16,500	12 m.....	22.81	1,580
10.....	23.77	4,580	10.....	31.75	17,400	6 p.m.....	22.20	1,310
12 m.....	24.36	4,870	12 m.....	31.82	17,700	12 p.m.....	21.65	1,090
2 p.m.....	24.98	5,220	2 p.m.....	31.88	17,900			
4.....	25.35	5,440	4.....	31.82	17,700	Jan. 27		
6.....	25.58	5,610	6.....	31.59	16,800	6 a.m.....	21.10	920
8.....	25.70	5,690	8.....	31.25	15,500	12 m.....	20.78	780
12 p.m.....			10.....	30.95	14,400	6 p.m.....	20.00	690
Jan. 22			12 p.m.....	30.60	13,300	12 p.m.....	19.40	610
4 a.m.....	25.82	5,770	Jan. 24					
			4 a.m.....	29.78	11,000			

FLOODS OF 1959 IN THE UNITED STATES

283. Salt Creek near Peerless, Ind.

Location.--Lat 38°56'35", long 86°30'40", in NW¹ sec.22, T.6 N., R.1 W., on down-stream side near center of Monon Railroad bridge, 3,400 ft downstream from Little Salt Creek, 1.5 miles north of Peerless, and 18.6 miles upstream from mouth.

Drainage area.--582 sq mi.

Gage-height record.--Graph based on twice-daily readings of wire-weight gage and floodmark. Datum of gage is 476.02 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Relation affected by backwater Jan. 23-31, discharge estimated on basis of current-meter measurements and record for station upstream.

Maxima.--January-February 1959: Discharge, 14,100 cfs 4-6 p.m. Jan. 23; gage height, 31.62 ft 12 p.m. Jan. 23 to 1 a.m. Jan. 24, from floodmark.

1939-50, 1957 to December 1958: Discharge, 20,400 cfs Jan. 7, 1949 (gage height, 33.06 ft).

Flood in January 1937 reached a stage of 34.30 ft, from information by Corps of Engineers.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	262	740	11.....	274	4,330	21.....	5,500	1,290
2.....	569	680	12.....	250	4,690	22.....	7,250	965
3.....	824	637	13.....	226	4,910	23.....	12,700	1,270
4.....	637	722	14.....	292	4,690	24.....	11,700	2,090
5.....	620	773	15.....	1,290	5,020	25.....	9,100	2,060
6.....	569	705	16.....	2,590	5,200	26.....	5,560	1,450
7.....	586	536	17.....	2,440	5,090	27.....	3,060	1,130
8.....	472	488	18.....	1,290	4,050	28.....	1,900	947
9.....	582	586	19.....	1,070	2,980	29.....	1,300	-----
10.....	334	2,830	20.....	1,270	2,060	30.....	1,000	-----
						31.....	820	-----
Monthly mean discharge, in cubic feet per second.....							2,456	2,247
Runoff, in inches.....							4.86	4.02

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.....	8.70	1,000	8 p.m.....	27.90	8,160	8 a.m.....	30.45	9,750
Jan. 20			10.....	28.20	8,620	12 m.....	30.22	9,280
12 m.....	8.42	951	12 p.m.....	28.55	9,190	4 p.m.....	29.90	8,580
2 p.m.....	8.41	949				8.....	29.62	7,990
4.....	8.98	1,050	Jan. 23			12 p.m.....	29.30	7,340
6.....	10.78	1,420	2 a.m.....	28.92	9,860			
8.....	12.50	1,820	4.....	29.30	10,500	Jan. 26		
10.....	14.25	2,300	6.....	29.74	11,400	4 a.m.....	28.98	6,720
12 p.m.....	16.00	2,850	8.....	30.22	12,500	8.....	28.65	6,100
Jan. 21			10.....	30.60	13,100	12 m.....	28.35	5,540
2 a.m.....	17.75	3,420	12 m.....	30.90	13,700	4 p.m.....	27.98	4,920
4.....	19.55	4,040	2 p.m.....	31.15	14,000	8.....	27.66	4,420
6.....	21.30	4,660	4.....	31.34	14,100	12 p.m.....	27.36	3,980
8.....	23.25	5,360	6.....	31.45	14,100			
10.....	24.22	5,750	8.....	31.54	14,000	Jan. 27		
12 m.....	24.98	6,020	10.....	31.60	13,900	4 a.m.....	26.97	3,530
2 p.m.....	25.55	6,250	12 p.m.....	31.62	13,700	8.....	26.60	3,240
4.....	25.87	6,380				12 m.....	26.25	3,020
6.....	26.00	6,440	Jan. 24			4 p.m.....	25.90	2,800
8.....	26.05	6,460	1 a.m.....	31.62	13,500	8.....	25.52	2,600
10.....	26.10	6,490	2.....	31.61	13,400	12 p.m.....	25.17	2,400
12 p.m.....	26.15	6,520	4.....	31.59	13,000			
Jan. 22			6.....	31.55	12,700	Jan. 28		
2 a.m.....	26.20	6,540	8.....	31.48	12,300	4 a.m.....	24.75	2,200
4.....	26.26	6,570	10.....	31.35	11,600	8.....	24.35	2,000
6.....	26.35	6,620	12 m.....	31.22	11,500	12 m.....	23.90	1,900
8.....	26.45	6,660	2 p.m.....	31.19	11,200	4 p.m.....	23.42	1,800
10.....	26.65	6,800	4.....	31.10	11,000	8.....	22.92	1,700
12 m.....	26.85	6,940	6.....	30.97	10,800	12 p.m.....	22.38	1,600
2 p.m.....	27.05	7,090	8.....	30.89	10,600			
4.....	27.30	7,360	10.....	30.80	10,400	Jan. 29		
6 p.m.....	27.60	7,740	12 p.m.....			6 a.m.....	21.46	1,400
			Jan. 25			12 m.....	20.44	1,300
			4 a.m.....	30.64	10,100	6 p.m.....	19.42	1,200
						12 p.m.....	18.40	1,200

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A251

284. East Fork White River at Shoals, Ind.

Location.--Lat 38°40'02", long 86°47'32", in sec.30, T.3 N., R.3 W., in first pier from left bank of highway bridge at Shoals, 400 ft upstream from Baltimore & Ohio Railroad bridge, 1 mile upstream from Beaver Creek, and at mile 107.6.

Drainage area.--4,954 sq mi.

Gage-height record.--Water-stage recorder graph corrected for drawdown on basis of outside gage. Datum of gage is 442.25 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 68,200 cfs 12 p.m. Jan. 26 to 2 a.m. Jan. 27 (gage height, 32.07 ft).

1903-6, 1908-16, 1923 to December 1958: Discharge, 160,000 cfs Mar. 28, 1913 (gage height, 42.2 ft), from rating extended above 100,000 cfs by logarithmic plotting.

Stage known since at least 1897: That of Mar. 28, 1913.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	2,100	22,900	11.....	3,130	12,700	21.....	21,300	18,400
2.....	2,600	15,600	12.....	2,600	14,200	22.....	34,900	14,600
3.....	3,690	12,400	13.....	2,600	17,500	23.....	37,200	12,400
4.....	4,890	10,600	14.....	2,770	22,000	24.....	41,800	11,900
5.....	4,680	8,500	15.....	3,690	27,200	25.....	56,000	12,100
6.....	3,500	7,390	16.....	7,210	28,600	26.....	66,200	12,100
7.....	3,130	6,990	17.....	9,350	27,200	27.....	66,500	11,400
8.....	3,130	6,570	18.....	8,530	26,800	28.....	58,600	10,400
9.....	3,310	5,940	19.....	7,650	25,900	29.....	49,900	-----
10.....	3,130	7,430	20.....	7,950	22,500	30.....	42,500	-----
						31.....	33,800	-----
Monthly mean discharge, in cubic feet per second.....							19,300	15,440
Funoff, in inches.....							4.50	3.25

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 23			Jan. 26--Con.		
12 p.m.....	6.45	7,540	4 a.m.....	23.63	37,100	10 p.m.....	32.06	68,200
Jan. 20			9.....	23.66	37,200	12 p.m.....	32.07	68,200
6 a.m.....	6.53	7,720	12 m.....	23.66	37,200			
12 m.....	6.59	7,850	4 p.m.....	23.65	37,200	Jan. 27		
6 p.m.....	6.68	8,050	7.....	23.67	37,200	1 a.m.....	32.07	68,200
8.....	6.74	8,180	10.....	23.76	37,400	2.....	32.07	68,200
10.....	6.89	8,510	12 p.m.....	23.87	37,700	4.....	32.06	68,200
12 p.m.....	7.27	9,290				8.....	32.00	67,800
Jan. 21			Jan. 24			10.....	31.94	67,400
2 a.m.....	7.77	10,300	2 a.m.....	24.00	38,000	12 m.....	31.86	67,000
3.....	8.62	12,000	4.....	24.15	38,400	2 p.m.....	31.77	66,400
4.....	9.45	13,100	6.....	24.33	38,900	4.....	31.67	65,900
5.....	10.28	14,300	8.....	24.55	39,400	6.....	31.55	65,200
6.....	11.15	15,500	10.....	24.82	40,100	8.....	31.44	64,600
7.....	12.00	16,700	12 m.....	25.12	40,900	10.....	31.32	64,000
8.....	12.92	17,800	3 p.m.....	25.64	42,400	12 p.m.....	31.18	63,200
9.....	13.67	18,600	6.....	26.32	44,400			
10.....	14.44	19,500	9.....	27.08	46,600	Jan. 28		
11.....	15.25	20,600	12 p.m.....	27.71	48,600	4 a.m.....	30.92	61,800
12 m.....	16.03	21,800				8.....	30.63	60,300
1 p.m.....	16.88	23,100	Jan. 25			12 m.....	30.31	58,700
2.....	17.50	24,200	4 a.m.....	28.50	51,300	4 p.m.....	29.98	57,300
3.....	18.15	25,300	8.....	29.17	53,800	8.....	29.53	55,200
4.....	18.58	26,000	10.....	29.46	54,900	12 p.m.....	29.18	53,900
5.....	19.06	26,900	12 m.....	29.74	56,200	Jan. 29		
6.....	19.43	27,700	2 p.m.....	30.01	57,400	4 a.m.....	28.82	52,500
7.....	19.77	28,300	4.....	30.25	58,500	8.....	28.45	51,100
8.....	20.40	29,700	6.....	30.48	59,500	12 m.....	28.07	49,800
9.....	20.68	30,300	8.....	30.72	60,700	4 p.m.....	27.69	48,500
10.....	20.68	30,300	10.....	30.92	61,600	8.....	27.33	47,400
12 p.m.....	21.15	31,300	12 p.m.....	31.09	62,700	12 p.m.....	26.95	46,200
Jan. 22			Jan. 26			Jan. 30		
2 a.m.....	21.55	32,200	4 a.m.....	31.33	64,000	4 a.m.....	26.53	45,000
4.....	21.89	33,000	6.....	31.48	64,800	8.....	26.13	43,800
6.....	22.20	33,700	8.....	31.62	65,600	12 m.....	25.70	42,600
8.....	22.55	34,500	10.....	31.72	66,200	4 p.m.....	25.25	41,300
12 m.....	22.88	35,300	12 m.....	31.82	66,700	8.....	24.76	40,000
4 p.m.....	23.20	36,100	2 p.m.....	31.90	67,200	12 p.m.....	24.25	38,600
6.....	23.40	36,600	4.....	31.96	67,600			
12 p.m.....	23.54	36,900	6.....	32.00	67,800	Jan. 31		
			8 p.m.....	32.03	68,000	4 a.m.....	23.72	37,300

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 31--Con.			Feb. 2--Con.			Feb. 4--Con.		
8 a.m.	23.08	35,800	8 a.m.	11.75	16,400	6 p.m.	7.66	10,100
12 m.	22.38	34,100	12 m.	11.08	15,400	12 p.m.	7.37	9,490
4 p.m.	21.55	32,200	4 p.m.	10.52	14,600			
8 p.m.	20.67	30,500	8 p.m.	10.05	14,000			
12 p.m.	19.72	28,200	12 p.m.	9.69	13,400			
Feb. 1			Feb. 3			Feb. 5		
4 a.m.	18.70	26,300	6 a.m.	9.28	12,800	6 a.m.	7.10	8,950
8 p.m.	17.62	24,400	12 m.	8.99	12,400	12 m.	6.85	8,420
12 m.	16.56	22,600	6 p.m.	8.73	12,000	6 p.m.	6.67	8,020
4 p.m.	15.52	21,000	12 p.m.	8.48	11,500	12 p.m.	6.53	7,720
8 p.m.	14.50	19,600				Feb. 6		
12 p.m.	13.53	18,400	Feb. 4			6 a.m.	6.44	7,520
Feb. 2			6 a.m.	8.22	11,100	12 m.	6.37	7,360
4 a.m.	12.60	17,400	12 m.	7.94	10,600	6 p.m.	6.31	7,230
						12 p.m.	6.28	7,170

(Miscellaneous site)

286. Patoka River at Jasper, Ind.

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Patoka River at Jasper, Ind.

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 23--Con.			Jan. 26--Con.		
12 p.m.	5.20	1,060	8 a.m.	13.20	7,940	12 m.	10.70	4,070
			12 a.m.	13.40	8,580	6 p.m.	10.46	3,810
Jan. 21			4 p.m.	13.52	8,650	12 p.m.	10.19	3,530
4 a.m.	6.20	1,340	8	13.61	8,860			
8	8.00	1,880	12 p.m.	13.68	9,030	Jan. 27		
12 m.	8.65	2,220	Jan. 24			6 a.m.	9.85	3,190
4 p.m.	9.00	2,460	6 a.m.	13.72	9,130	12 m.	9.48	2,830
8	9.27	2,670	10	13.73	9,150	6 p.m.	9.13	2,560
12 p.m.	9.63	2,970	12 m.	13.72	9,130	12 p.m.	8.75	2,280
			6 p.m.	13.64	8,940	Jan. 28		
Jan. 22			12 p.m.	13.48	8,560	6 a.m.	8.39	2,060
4 a.m.	10.10	3,440	Jan. 25			12 m.	8.00	1,880
8	10.65	4,020	6 a.m.	13.20	7,940	6 p.m.	7.55	1,690
12 m.	11.30	4,760	12 m.	12.80	7,100	12 p.m.	6.96	1,510
4 p.m.	11.88	5,530	6 p.m.	12.20	6,020			
8	12.32	6,220	12 p.m.	11.55	5,070			
12 p.m.	12.65	6,810	Jan. 26					
Jan. 23			6 a.m.	11.07	4,480			
4 a.m.	12.94	7,380						

287. Straight River at Maltersville, Ind.

(Miscellaneous site)

Location.--Lat 38°21'20", long 86°53'34", in SE $\frac{1}{4}$ sec.7, T.2 S., R.4 W., at bridge on State Highway 162, 700 ft below confluence of Hall Creek and Flat Creek, 0.6 mile north of Waltersville, and 3.5 miles upstream from mouth.

Drainage area.--62.4 sq mi.

Maximum.--January-February 1959: Discharge, 11,100 cfs Jan. 21, by contracted-opening measurement.

288. Patoka River near Princeton, Ind.

Location.--Lat 38°23'30", long 87°32'55", in NE¼NW¼ sec.32, T.1 S., R.10 W., on left bank 75 ft upstream from dam of Princeton Water & Lighting Co., 270 ft upstream from bridge on State Highway 65, half a mile downstream from Indian Creek, and 2 miles northeast of Princeton.

Drainage area.--815 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 394.09 ft above mean sea level, datum of 1929, Parkersburg-Uniontown supplementary adjustment of 1944 (levels by Indiana Flood Control and Water Resources Commission).

Discharge record.--Stage-discharge relation defined by current-meter measurements.
Shifting-control method used at times.

Maxima.--January-February 1959: Discharge, 9,490 cfs 6 p.m. Jan. 29 (gage height, 18.71 ft).

1934 to December 1958: Discharge, 18,700 cfs Jan. 26, 1937 (gage height, 26.80 ft), at site 3 miles downstream at datum 6.94 ft lower.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	496	7,750	11.....	268	2,400	21.....	3,040	2,110
2.....	800	6,470	12.....	250	2,240	22.....	3,700	2,090
3.....	908	5,660	13.....	233	2,150	23.....	5,130	2,190
4.....	908	5,220	14.....	286	2,230	24.....	6,610	2,190
5.....	872	4,780	15.....	1,040	2,360	25.....	7,580	2,190
6.....	764	4,280	16.....	1,280	2,240	26.....	8,260	2,180
7.....	520	3,730	17.....	1,380	2,230	27.....	8,830	2,140
8.....	366	3,180	18.....	1,500	2,220	28.....	9,280	2,100
9.....	320	2,780	19.....	1,520	2,190	29.....	9,460	- - - - -
10.....	286	2,660	20.....	1,740	2,150	30.....	9,180	- - - - -
						31.....	8,750	- - - - -
Monthly mean discharge; in cubic feet per second.....							3,081	3,073
Runoff, in inches.....							4.36	3.95

Monthly mean discharge; in cubic feet per second.....	3,081	3,073
Runoff, in inches.....	4.36	3.93

FLOODS OF 1959 IN THE UNITED STATES

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Patoka River near Princeton, Ind.

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 18			Jan. 27			Feb. 2		
12 p.m.....	7.36	1,490	6 a.m.....	18.36	8,690	6 a.m.....	17.42	6,720
			12 m.....	18.42	8,830	12 m.....	17.23	6,400
Jan. 19			6 p.m.....	18.49	8,990	6 p.m.....	17.10	6,200
12 m.....	7.47	1,520	12 p.m.....	18.55	9,120	12 p.m.....	16.95	6,000
12 p.m.....	7.52	1,530				Feb. 3		
Jan. 20			6 a.m.....	18.58	9,190	12 m.....	16.60	5,600
6 a.m.....	7.62	1,560	12 m.....	18.62	9,290	12 p.m.....	16.45	5,450
12 m.....	8.11	1,680	6 p.m.....	18.66	9,380	Feb. 4		
6 p.m.....	8.73	1,830	12 p.m.....	18.68	9,420	12 m.....	16.19	5,210
12 p.m.....	10.23	2,220				12 p.m.....	15.94	5,010
Jan. 21			Jan. 29			Feb. 5		
6 a.m.....	12.41	2,960	6 a.m.....	18.69	9,450	12 m.....	15.62	4,780
12 m.....	13.00	3,200	12 m.....	18.70	9,470	12 p.m.....	15.29	4,550
12 p.m.....	13.14	3,270	6 p.m.....	18.71	9,490			
Jan. 22			12 p.m.....	18.67	9,400	Feb. 6		
12 m.....	13.78	3,590	Jan. 30			12 m.....	14.88	4,270
12 p.m.....	15.03	4,370	3 a.m.....	18.56	9,150	12 p.m.....	14.55	4,040
Jan. 23			6.....	18.58	9,190	Feb. 7		
12 m.....	16.04	5,090	12 m.....	18.58	9,190	12 m.....	14.17	3,720
12 p.m.....	16.94	5,980	6 p.m.....	18.57	9,170	12 p.m.....	13.79	3,450
			12 p.m.....	18.54	9,100			
Jan. 24			Jan. 31			Feb. 8		
12 m.....	17.38	6,650	6 a.m.....	18.48	8,960	12 m.....	13.39	3,160
12 p.m.....	17.66	7,170	12 m.....	18.40	8,780	12 p.m.....	13.03	2,930
Jan. 25			6 p.m.....	18.30	8,550	Feb. 9		
12 m.....	17.86	7,590	12 p.m.....	18.20	8,330	12 m.....	12.67	2,750
12 p.m.....	18.04	7,980				12 p.m.....	12.49	2,690
Jan. 26			Feb. 1			Feb. 10		
12 m.....	18.17	8,260	6 a.m.....	18.09	8,090	12 m.....	12.54	2,710
12 p.m.....	18.29	8,530	12 m.....	17.95	7,780	12 p.m.....	12.17	2,510
			6 p.m.....	17.78	7,420			
			12 p.m.....	17.62	7,090			

STREAMS TRIBUTARY TO LAKE ERIE

289. Ten Mile Creek at Toledo, Ohio

(Gaging station, discontinued 1948)

Location.--Lat 41°39'29", long 83°37'19", at Secor Road bridge at Toledo, a quarter of a mile upstream from Toledo University and $4\frac{1}{2}$ miles west of Lucas County Courthouse.

Drainage area.--158 sq mi.

Gage-height record.--High-water mark at gage site. Datum of gage is 580.00 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,930 cfs.

Maxima.--January-February 1959: Discharge, about 1,500 cfs Feb. 12 (gage height, 9.27 ft, from high-water marks).

1943-48, 1950: Discharge, 3,400 cfs June 1, 1943 (gage height, 11.4 ft, from high-water mark from Lucas County engineer).

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A255

290. St. Marys River at Decatur, Ind.

Location--Lat 40°51', long 84°56', in SW¹/₄ sec.27, T.28 N., R.14 E., on right bank 10 ft downstream from bridge on U.S. Highway 27, half a mile north of city limits of Decatur, and half a mile upstream from Holthouse ditch.

Drainage area--615 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 760.44 ft above mean sea level, datum of 1929.

Discharge record--Stage-discharge relation defined by current-meter measurements. At times when stage-discharge relation affected by ice, discharge estimated on basis of discharge measurements, appearance of recorder chart, and records for stations downstream and on nearby streams.

Maxima--January-February 1959: Discharge, 11,300 cfs 9 p.m. Feb. 10 (gage height, 24.22 ft, result of ice).
1946 to December 1958: Discharge, 12,500 cfs Feb. 15, 1950 (gage height, 23.60 ft).

Remarks--Flow regulated by Grand Lake. Some diversion from or into Wabash River and into Miami and Erie Canal.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	596	2,200	11.....	188	10,100	21.....	2,260	821
2.....	1,360	1,550	12.....	175	6,850	22.....	4,080	632
3.....	955	1,200	13.....	155	6,690	23.....	3,800	1,250
4.....	795	1,350	14.....	135	5,180	24.....	3,600	1,430
5.....	560	1,180	15.....	311	4,460	25.....	3,300	930
6.....	440	955	16.....	343	3,320	26.....	3,100	930
7.....	340	715	17.....	270	2,410	27.....	2,900	980
8.....	270	575	18.....	230	1,970	28.....	2,800	1,080
9.....	240	703	19.....	200	1,460	29.....	3,200	---
10.....	205	9,100	20.....	327	1,110	30.....	4,000	---
						31.....	4,000	---

Monthly mean discharge, in cubic feet per second.....	1,456	2,540
Funoff, in inches.....	2.75	4.50

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 18		
12 p.m.....	6.12	503	4 p.m.....	21.92	6,400	8 a.m.....	12.64	2,040
Feb. 9			12 p.m.....	21.60	7,500	4 p.m.....	12.15	1,920
12 m.....	5.86	456	Feb. 13			12 p.m.....	11.55	1,770
4 p.m.....	6.12	503	8 a.m.....	21.18	7,170	Feb. 19		
6.....	7.19	713	4 p.m.....	20.68	6,420	8 a.m.....	10.45	1,490
10.....	9.60	1,280	12 p.m.....	20.14	5,680	12 m.....	10.15	1,420
11.....	14.19	2,450	Feb. 14			8 p.m.....	9.86	1,340
12 p.m.....	16.74	3,360	6 a.m.....	19.71	5,180	12 p.m.....	9.50	1,260
Feb. 10			10.....	19.57	5,040	Feb. 20		
1 a.m.....	18.44	4,160	6 p.m.....	19.65	5,120	11 a.m.....	8.86	1,100
3.....	20.08	5,610	12 p.m.....	19.49	4,960	4 p.m.....	8.85	1,090
5.....	21.45	7,580	Feb. 15			12 p.m.....	8.24	940
8.....	22.64	9,360	8 a.m.....	19.13	4,650	Feb. 21		
12 m.....	23.59	10,200	4 p.m.....	18.64	4,300	10 a.m.....	7.77	829
3 p.m.....	23.97	10,500	12 p.m.....	17.95	3,880	1 p.m.....	7.81	837
5.....	24.15	10,800	Feb. 16			12 p.m.....	7.05	685
8.....	24.22	11,300	8 a.m.....	17.12	3,500	Feb. 22		
12 p.m.....	24.17	11,300	4 p.m.....	16.25	3,150	8 a.m.....	6.57	589
Feb. 11			12 p.m.....	15.23	2,760	4 p.m.....	6.90	655
4 a.m.....	23.96	11,300	Feb. 17			12 p.m.....	6.73	621
10.....	23.81	11,100	8 a.m.....	14.33	2,490			
4 p.m.....	23.50	9,500	4 p.m.....	13.59	2,280			
12 p.m.....	22.98	7,800	12 p.m.....	13.07	2,150			
Feb. 12								
8 a.m.....	22.44	6,600						

291. St. Marys River near Fort Wayne, Ind.

Location.--Lat 41°00', long 85°07', in NE $\frac{1}{4}$ sec.12, T.29 N., R.12 E., on left bank 130 ft downstream from highway bridge, 4 miles south of Fort Wayne, and 12 miles upstream from mouth.

Drainage area.--753 sq mi.

Gage-height record.--Water-stage recorder graph except parts of Feb. 18-22. Fragmentary record sufficient to reconstruct graph except for Feb. 21. Datum of gage is 748.61 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of ice effect and no gage-height record estimated on basis of appearance of recorder chart, weather records, hydrographer's notes, and records for stations upstream and on nearby streams.

Maxima.--January-February 1959: Discharge, 13,600 cfs 6 a.m. Feb. 11; gage height, 19.42 ft 6 p.m. Feb. 11 (result of ice).

1930 to December 1958: Discharge, 13,400 cfs May 19, 1943 (gage height, 18.79 ft).

Remarks.--Flow regulated by Grand Lake. Some diversion from or into Wabash River and into Miami and Erie Canal.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	502	3,200	11.....	280	12,200	21.....	2,540	990
2.....	1,640	2,200	12.....	260	10,300	22.....	4,870	775
3.....	1,420	1,860	13.....	241	8,920	23.....	4,700	2,080
4.....	1,100	2,150	14.....	241	7,520	24.....	4,400	1,820
5.....	850	2,040	15.....	415	6,960	25.....	4,100	1,180
6.....	690	1,380	16.....	490	5,710	26.....	3,800	1,020
7.....	530	990	17.....	415	5,580	27.....	3,600	1,100
8.....	450	815	18.....	350	2,400	28.....	3,400	1,180
9.....	370	940	19.....	545	1,820	29.....	3,700	---
10.....	310	8,810	20.....	545	1,340	30.....	4,800	---
						31.....	4,800	---

Monthly mean discharge, in cubic feet per second.....	1,818	3,404
Runoff, in inches.....	2.78	4.71

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Feb. 8			Feb. 11--Con.			Feb. 15--Con.		
12 p.m.....	4.39	752	12 p.m.....	19.23	9,800	8 p.m.....	15.00	7,100
Feb. 9			Feb. 12			12 p.m.....	14.57	6,790
12 m.....	4.18	689	8 a.m.....	18.79	10,700	Feb. 16		
3 p.m.....	4.22	701	4 p.m.....	18.52	10,500	8 a.m.....	14.00	6,070
6.....	4.59	812	12 p.m.....	18.09	9,800	4 p.m.....	13.25	5,360
9.....	5.82	1,270	Feb. 13			12 p.m.....	12.21	4,600
11.....	8.20	2,320	8 a.m.....	17.61	9,200	Feb. 17		
12 p.m.....	10.15	3,360	4 p.m.....	17.20	8,600	6 a.m.....	11.27	4,030
Feb. 10			12 p.m.....	16.82	8,100	12 m.....	10.39	3,500
2 a.m.....	12.45	4,760	Feb. 14			6 p.m.....	9.70	3,100
4.....	13.97	5,910	6 a.m.....	16.54	7,800	12 p.m.....	9.15	2,800
8.....	15.44	7,360	4 p.m.....	16.28	7,300	Feb. 18		
12 m.....	16.55	8,910	8.....	16.20	7,200	8 a.m.....	8.57	2,500
6 p.m.....	17.88	11,400	12 p.m.....	16.01	7,000	4 p.m.....	8.10	2,270
12 p.m.....	18.50	12,800	Feb. 15			12 p.m.....	7.69	2,080
Feb. 11			9 a.m.....	15.55	6,800	Feb. 19		
6 a.m.....	18.90	13,600	1 p.m.....	15.54	6,900	8 a.m.....	7.30	1,900
12 m.....	19.18	13,200	2.....	15.70	7,000	4 p.m.....	6.92	1,730
6 p.m.....	19.42	11,000	4 p.m.....	15.51	7,200	12 p.m.....	6.53	1,560
8 p.m.....	19.41	10,200						

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A257

292. Maumee River at New Haven, Ind.

Location.--Lat 41°05', long 85°01', in SW $\frac{1}{4}$ sec.1, T.30 N., R.13 E., in center of span on downstream side of county road bridge, a quarter of a mile upstream from Wabash Railroad bridge, half a mile north of New Haven, and 6 miles downstream from confluence of St. Marys and St. Joseph Rivers.

Drainage area.--1,940 sq mi.

Gage-height record.--Water-stage recorder graph Feb. 9 to 5 a.m. Feb. 10, and 4 p.m. Feb. 12 to 4 a.m. Feb. 18. Datum of gage is 724.51 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Discharge for periods of no gage-height record estimated on basis of gage heights at U.S. Weather Bureau gage at Fort Wayne, weather records, and records for stations upstream and downstream.

Maxima.--January-February 1959: Discharge, 18,900 cfs Feb. 12 (gage height, 21.3 ft, from correlation of peak stages with U.S. Weather Bureau gage at Fort Wayne). 1946 to December 1958: Discharge, 19,100 cfs Feb. 16, 1950 (gage height, 21.4 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	758	5,620	11.....	530	18,300	21.....	3,400	3,780
2.....	2,020	4,060	12.....	415	18,600	22.....	7,100	3,500
3.....	2,150	2,670	13.....	415	17,600	23.....	6,600	5,000
4.....	1,800	2,600	14.....	380	16,600	24.....	5,800	7,000
5.....	1,250	2,220	15.....	980	16,400	25.....	5,100	5,200
6.....	1,000	1,700	16.....	1,200	14,600	26.....	4,600	4,200
7.....	900	1,200	17.....	860	12,200	27.....	4,200	4,300
8.....	1,000	860	18.....	800	9,330	28.....	3,900	4,700
9.....	800	1,100	19.....	700	6,840	29.....	4,200	-----
10.....	630	12,400	20.....	740	4,980	30.....	6,840	-----
						31.....	6,930	-----
Monthly mean discharge, in cubic feet per second.....							2,516	7,413
Runoff, in inches.....							1.50	3.98

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 12--Con.			Feb. 15--Con.		
12 p.m.....	4.09	794	12 m.....	21.2	18,700	4 p.m.....	19.72	16,000
			4 p.m.....	21.04	18,400	12 p.m.....	19.51	15,600
Feb. 9			8.....	20.89	18,100			
10 a.m.....	4.01	746	12 p.m.....	20.85	18,000	Feb. 16		
2 p.m.....	4.04	764				6 a.m.....	19.27	15,100
6.....	4.26	896	Feb. 13			12 m.....	18.93	14,600
9.....	5.49	1,690	7 a.m.....	20.85	18,000	6 p.m.....	18.60	14,100
12 p.m.....	9.40	4,340	12 m.....	20.73	17,800	12 p.m.....	18.44	13,800
			6 p.m.....	20.45	17,500			
Feb. 10			12 p.m.....	20.16	16,700	Feb. 17		
2 a.m.....	12.95	7,380				6 a.m.....	18.00	13,100
4.....	14.65	9,080	Feb. 14			12 m.....	17.44	12,300
5 a.m.....	15.16	9,590	8 a.m.....	19.78	16,100	6 p.m.....	16.80	11,400
			10.....	19.79	16,100	12 p.m.....	16.13	10,600
Feb. 11			7 p.m.....	20.40	17,200			
12 p.m.....	21.3	18,900	10.....	20.42	17,200			
			12 p.m.....	20.40	17,200			
Feb. 12			Feb. 15					
7 a.m.....	21.3	18,900	8 a.m.....	20.16	16,700			

Location.--Lat 40°56'55", long 84°15'58", on left bank 200 ft upstream from bridge on U.S. Highway 224, 3½ miles northeast of Fort Jennings, Putnam County, and 6 miles upstream from Ottawa River.

Gage-height record.--Water-stage recorder graph, except Jan. 17 to 9 a.m. Jan. 20 and 3 a.m. Jan. 23 to 11:30 a.m. Feb. 3 for which graph was reconstructed on basis of weather records and records of nearby streams. Datum of gage is 713.9 ft above mean sea level, adjustment of 1912.

Maxima--January 1959: Discharge, about 12,000 cfs 7 p.m. Jan. 23 (gage height, 20.30 ft, backwater from ice).
February 1959: Discharge, about 7,500 cfs 1 a.m. Feb. 11 (gage height, 19.07 ft, backwater from ice).
1921-35, 1940 to December 1958: Discharge, 9,550 cfs Feb. 15, 1950 (gage height, 17.8 ft, from high-water mark).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	90	1,800	11.....	75	5,500	21.....	1,500	290
2.....	330	900	12.....	70	4,000	22.....	6,000	289
3.....	300	320	13.....	70	2,000	23.....	11,000	422
4.....	180	450	14.....	70	1,140	24.....	4,000	992
5.....	160	350	15.....	110	2,190	25.....	2,300	687
6.....	150	210	16.....	240	2,100	26.....	900	434
7.....	140	190	17.....	180	913	27.....	380	413
8.....	120	210	18.....	150	700	28.....	300	469
9.....	100	240	19.....	130	497	29.....	240	- - - - -
10.....	85	1,500	20.....	110	307	30.....	900	- - - - -
						31.....	1,600	- - - - -
Monthly mean discharge, in cubic feet per second.....							1,032	1,054

Location.--Lat 40°45'18", long 84°11'41", on left bank at upstream side of bridge on State Highway 81 at Allentown, Allen County, 0.3 mile downstream from Kessler Run.

Gage-height record.--Water-stage recorder graph. Datum of gage is 789.67 ft above mean sea level, adjustment of 1912.

Maxima--January 1959: Discharge, 7,740 cfs 4 a.m. Jan. 22 (gage height, 10.88 ft).
February 1959: Discharge, 5,150 cfs 11 p.m. Feb. 10 (gage height, 9.55 ft).
1923-35, 1943 to December 1958: Discharge, 5,300 cfs June 29, 1957 (gage height, 9.45 ft).
Flood of Mar. 15, 1939, reached a stage of 10.1 ft and flood in May 1943 a stage of about 10 ft (discharge not determined).

Mean discharge, in cubic feet per second, 1959

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A259**

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Ottawa River at Allentown, Ohio

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 19			Jan. 22--Con.			Feb. 9--Con.		
12 p.m.....	3.02	51	6 p.m.....	9.07	4,400	12 p.m.....	4.48	732
Jan. 20			12 p.m.....	8.12	3,180	Feb. 10		
6 a.m.....	3.06	57	Jan. 23			1 a.m.....	5.85	1,480
12 m.....	3.03	53	4 a.m.....	7.57	2,590	2.....	6.97	2,140
9 p.m.....	3.09	61	8.....	7.21	2,310	3.....	7.33	2,400
10.....	3.12	65	12 m.....	7.01	2,170	4.....	7.51	2,540
12 p.m.....	3.48	154	4 p.m.....	6.85	2,060	8.....	8.01	3,060
Jan. 21			8.....	6.51	1,850	12 m.....	8.65	3,840
1 a.m.....	3.57	188	12 p.m.....	6.37	1,770	2 p.m.....	9.00	4,300
4.....	3.68	236	Jan. 24			4.....	9.23	4,630
5.....	3.87	334	6 a.m.....	6.04	1,580	6.....	9.36	4,840
6.....	3.90	350	12 m.....	5.72	1,410	10.....	9.54	5,130
7.....	4.20	545	6 p.m.....	5.38	1,240	11.....	9.55	5,150
8.....	4.90	980	12 p.m.....	4.82	936	12 p.m.....	9.53	5,110
10.....	6.35	1,760	Feb. 8			Feb. 11		
12 m.....	7.35	2,410	12 p.m.....	3.30	101	4 a.m.....	9.35	4,820
4 p.m.....	8.50	3,640	Feb. 9			8.....	8.94	4,220
6.....	9.32	4,770	8 a.m.....	3.30	101	12 m.....	8.30	3,400
8.....	10.03	6,020	2 p.m.....	3.28	97	6 p.m.....	7.22	2,320
10.....	10.44	6,840	4.....	3.30	101	12 p.m.....	6.39	1,780
11.....	10.68	7,320	8.....	3.25	90	Feb. 12		
12 p.m.....	10.82	7,600	9.....	3.30	101	6 a.m.....	5.60	1,350
Jan. 22			10.....	3.46	148	10.....	4.92	991
4 a.m.....	10.88	7,740	11 p.m.....	3.78	285	2 p.m.....	4.67	847
6.....	10.83	7,630				11.....	4.65	835
12 m.....	10.02	6,000				12 p.m.....	4.62	817

295. Blanchard River near Forest, Ohio

(Miscellaneous site)

Location--Lat 40°49'55", long 83°33'20", at bridge on U.S. Highway 30N, 3 miles northwest of Forest, Hardin County.

Drainage area--82.5 sq mi.

Maximum--January-February 1959: Discharge, 12,300 cfs 4 p.m. Jan. 21, from contracted-opening measurement.

296. Eagle Creek near Findlay, Ohio

(Gaging station, discontinued 1957)

Location--Lat 40°59'35", long 83°39'05", on right bank at downstream side of highway bridge (now demolished), $3\frac{1}{4}$ miles south of Findlay, Hancock County, and $4\frac{1}{4}$ miles upstream from mouth.

Drainage area--46.5 sq mi.

Gage-height record--Gage site destroyed by highway relocation. Datum of gage was 780.02 ft above mean sea level.

Discharge record--Stage-discharge relation for gaging station defined by current-meter measurements below 2,530 cfs. 1959 discharge determined by contracted-opening measurement at Findlay, 3 miles downstream from former gage site, with drainage area of 49.4 sq mi.

Maxima--January-February 1959: Discharge, 6,300 cfs Feb. 10.

1947-57: Discharge, 2,920 cfs June 7, 1947 (gage height, 13.38 ft). Gage height, 13.45 ft June 29, 1957.

A260

FLOODS OF 1959 IN THE UNITED STATES

297. Blanchard River near Findlay, Ohio

Location.--Lat 41°03'21", long 83°41'17", on left bank on upstream side of highway bridge, 2 miles west of Findlay, Hancock County, and 3 miles downstream from Eagle Creek.

Drainage area.--343 sq mi.

Gage-height record.--Water-stage recorder graph, except 6 a.m. Jan. 23 to 8 a.m. Jan. 25 and 4 a.m. Jan. 26 to 12 m. Jan. 27 for which graph was reconstructed on basis of graph before and after the period. Datum of gage is 754.55 ft above mean sea level.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 10,400 cfs. Backwater from ice Jan. 17-18 and Feb. 6, 21.

Maxima.--January 1959: Discharge, 13,100 cfs 10 a.m. Jan. 22 (gage height, 16.11 ft).

February 1959: Discharge, 15,000 cfs 1 a.m. Feb. 11 (gage height, 16.76 ft). 1923-35, 1940 to December 1958: Discharge, 11,800 cfs Dec. 1, 1927 (gage height, 15.4 ft, from graph based on gage readings).

Flood in March 1913 reached a stage of 18.5 ft (discharge, 22,000 cfs, from rating curve extended above 9,500 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	87	1,200	11.....	37	10,300	21.....	2,350	240
2.....	158	484	12.....	34	4,050	22.....	11,600	255
3.....	147	290	13.....	37	1,350	23.....	8,400	682
4.....	109	394	14.....	45	1,180	24.....	4,200	1,210
5.....	82	296	15.....	118	2,120	25.....	2,000	663
6.....	77	220	16.....	142	1,520	26.....	1,000	420
7.....	66	145	17.....	120	818	27.....	550	399
8.....	54	134	18.....	100	622	28.....	279	448
9.....	50	140	19.....	86	445	29.....	248	-----
10.....	42	8,930	20.....	78	291	30.....	2,200	-----
						31.....	1,710	-----
Monthly mean discharge, in cubic feet per second.....							1,168	1,402
Runoff, in inches.....							3.93	4.26

298. Tiderishi Creek near Jenera, Ohio

(Crest-stage station)

Location.--Lat 40°55'50", long 83°43'40", at culvert on State Highway 698, 2.2 miles north of Jenera, Hancock County.

Drainage area.--4.51 sq mi.

Gage-height record.--Crest stages only. Altitude of gage is 813 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 241 cfs and by indirect measurements at 334 and 529 cfs.

Maxima.--January 1959: Discharge, 92 cfs Jan. 21 (gage height, 11.46 ft).

February 1959: Discharge, 480 cfs Feb. 10 (gage height, 15.15 ft).

1947 to December 1958: Discharge, 348 cfs Feb. 25, 1956 (gage height, 14.53 ft).

299. Blanchard River at Glandorf, Ohio

(Gaging station, discontinued 1951)

Location.--Lat 41°02'40", long 84°04'55", near center of span on upstream side of highway bridge half a mile upstream from Pike Run and three-quarters of a mile north of Glandorf, Putnam County.

Drainage area.--643 sq mi.

Gage-height record.--High-water marks at gage site. Altitude of gage is 685 ft above mean sea level (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurement below 15,700 cfs.

Maxima.--January-February 1959: Discharge, 17,700 cfs 12 m. to 4 p.m. Feb. 12 (gage height, 27.9 ft).

1921-28, 1947-51: Discharge, 15,800 cfs Feb. 15, 1950 (gage height, 27.0 ft).

300. Roller Creek at Ohio City, Ohio

(Gaging station; partial-record station beginning 1949)

Location.--Lat 40°46'15", long 84°38'15", at highway bridge, three-quarters of a mile west of Ohio City, Van Wert County, and 3¼ miles upstream from mouth.Drainage area.--4.94 sq mi.Gage-height record.--Water-stage recorder graph. Datum of gage is 805.71 ft above mean sea level, adjustment of 1929.Discharge record.--Stage-discharge relation defined by current-meter measurements below 198 cfs and by indirect measurements at 242, 351, and 890 cfs. Relation seriously affected by seasonal weed growth in dredged channel.Maxima.--January 1959: Discharge, 260 cfs 7 p.m. Jan. 21 (gage height, 8.62 ft).
February 1959: Discharge, 890 cfs 10 a.m. Feb. 10 (gage height, 9.58 ft), from contracted-opening measurement.
1947 to December 1958: Discharge, 351 cfs Mar. 4, 1955 (gage height, 8.65 ft), from slope-area measurement.

301. Town Creek near Van Wert, Ohio

(Gaging station, discontinued 1953)

Location.--Lat 40°49'30", long 84°34'50", on left bank at downstream side of bridge on U.S. Highway 127, 3 miles south of Van Wert, Van Wert County, and 5½ miles downstream from Roller Creek.Drainage area.--20.4 sq mi.Gage-height record.--High-water marks at gage site. Datum of gage is 777.93 ft above mean sea level (levels by Ohio Department of Highways).Discharge record.--Stage-discharge relation defined by current-meter measurements below 810 cfs and by contracted-opening measurement of 2,100 cfs at site 2.6 miles upstream.Maxima.--January-February 1959: Discharge, 2,350 cfs Feb. 10 (gage height, 11.77 ft, from high-water marks).
1945-53: Discharge, 935 cfs Mar. 21, 1948 (gage height, 9.34 ft).Remarks.--Discharge at contracted-opening site, 2.6 miles upstream from gage, 2,100 cfs (drainage area, 17.8 sq mi).

302. Auglaize River near Defiance, Ohio

Location.--Lat 41°14'15", long 84°24'02", on right bank 125 ft downstream from dam and powerplant of Toledo Edison Co., a quarter of a mile upstream from Jackson ditch, and 3 miles south of Defiance, Defiance County.Drainage area.--2,329 sq mi.Gage-height record.--High-water mark in well. Time of peak based on powerplant gage readings.Discharge record.--Stage-discharge relation defined by current-meter measurements below 51,000 cfs.Maxima.--January 1959: Discharge, 29,000 cfs 9-10 a.m. Jan. 24 (gage height, 20.07 ft).
February 1959: Discharge, 52,500 cfs 6 a.m. Feb. 12 (gage height, 26.4 ft); gage height, 27.65 ft 1 a.m. Feb. 13 (ice jam).
1915 to December 1958: Discharge, 52,500 cfs Feb. 16, 1950 (gage height, 26.4 ft, from graph based on hourly powerplant tailwater-gage readings).
Flood in March 1913 reached a stage of 38.8 ft from reading on powerplant tailwater-gage at present datum (discharge, 120,000 cfs).Remarks.--Flow regulated by powerplant above station (reservoir capacity, 9,800 acre-ft), flood peaks not materially affected.

FLOODS OF 1959 IN THE UNITED STATES

Mean discharge, in cubic feet per second, 1959, of Auglaize River near Defiance, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	71	10,000	11.....	345	35,100	21.....	2,320	1,410
2.....	1,590	8,600	12.....	321	49,500	22.....	6,680	1,230
3.....	2,730	5,020	13.....	251	37,000	23.....	20,700	2,290
4.....	1,940	3,150	14.....	414	23,000	24.....	27,800	5,380
5.....	1,020	3,060	15.....	630	17,000	25.....	23,600	5,880
6.....	713	2,990	16.....	652	15,000	26.....	18,000	4,420
7.....	705	1,520	17.....	941	11,000	27.....	11,000	3,040
8.....	550	770	18.....	652	7,200	28.....	7,000	3,300
9.....	484	1,010	19.....	652	4,590	29.....	3,200	- - - - -
10.....	400	14,700	20.....	537	1,710	30.....	4,900	- - - - -
						31.....	7,800	- - - - -
Monthly mean discharge, in cubic feet per second.....							4,793	9,960

303. Maumee River near Defiance, Ohio

Location.--Lat 41°17'30", long 84°16'50", on left bank 40 ft upstream from Independence Dam, 275 ft downstream from point of diversion to Miami & Erie Canal, 4 miles downstream from Auglaize River, and 4½ miles east of Defiance, Defiance County.

Drainage area.--5,530 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 659.12 ft above mean sea level.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January 1959: Discharge, 35,000 cfs 12 m. Jan. 24 (gage height, 7.07 ft).
 February 1959: Discharge, 76,500 cfs 9 a.m. Feb. 12 (gage height, 12.35 ft);
 gage height, 13.77 ft Feb. 11 (ice jam).
 1924-35, 1939 to December 1958: Discharge, 87,100 cfs Feb. 16, 1950 (gage height, 13.70 ft).

Remarks.--Records herein include the flow of the Miami & Erie Canal.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	729	19,800	11.....	1,260	59,400	21.....	3,580	9,480
2.....	2,280	16,100	12.....	1,030	72,800	22.....	9,760	7,140
3.....	4,790	10,500	13.....	885	71,200	23.....	24,600	9,120
4.....	4,880	6,770	14.....	839	56,500	24.....	32,700	15,300
5.....	3,580	6,220	15.....	1,440	47,300	25.....	29,900	16,600
6.....	2,100	5,650	16.....	1,630	41,200	26.....	22,700	13,400
7.....	1,950	4,150	17.....	2,240	32,100	27.....	16,600	10,700
8.....	1,890	2,720	18.....	1,770	25,600	28.....	12,400	10,700
9.....	1,740	2,540	19.....	1,580	19,300	29.....	9,480	- - - - -
10.....	1,470	24,600	20.....	1,360	12,000	30.....	11,800	- - - - -
						31.....	16,500	- - - - -
Monthly mean discharge, in cubic feet per second.....							7,396	22,460

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 8			Feb. 11--Con.			Feb. 13--Con.		
12 p.m.....	2.48	2,370	4 a.m.....	9.01	51,000	4 a.m.....	12.30	76,100
			8.....	9.38	53,800	6.....	12.33	76,400
Feb. 9			10.....	9.86	57,400	8.....	12.26	75,800
12 m.....	2.48	2,370	11.....	11.05	59,600	12 m.....	11.89	72,900
6 p.m.....	2.45	2,270	12 m.....	11.40	60,800	4 p.m.....	11.45	69,500
8.....	2.49	2,400	2 p.m.....	11.93	63,800	8.....	10.93	65,600
10.....	2.70	3,180	6.....	13.66	67,600	12 p.m.....	10.46	62,000
12 p.m.....	3.16	5,100	7.....	13.77	-			
			12 p.m.....	11.88	72,100	Feb. 14		
Feb. 10			Feb. 12			2 a.m.....	10.07	59,000
2 a.m.....	3.88	8,880	2 a.m.....	11.95	73,400	8.....	9.78	56,800
4.....	4.35	12,000	6.....	12.22	75,500	10.....	9.64	55,800
8.....	5.00	16,800	9.....	12.35	76,500	12 m.....	9.84	57,300
10.....	5.50	20,800	12 m.....	12.02	74,000	2 p.m.....	9.68	56,100
12 m.....	6.02	25,500	6 p.m.....	11.54	70,200	8.....	9.53	54,900
4 p.m.....	6.75	31,600	8.....	11.38	69,000	12 p.m.....	9.26	52,900
8.....	7.35	37,600	10.....	11.37	68,900	Feb. 15		
12 p.m.....	8.01	43,300	12 p.m.....	11.73	71,700	4 a.m.....	8.90	50,100
Feb. 11			Feb. 13			12 m.....	8.33	45,800
2 a.m.....	8.44	46,600	2 a.m.....	12.07	74,300	12 p.m.....	8.23	45,000

A263

304. Maumee River at Waterville, Ohio

Location. --Lat 41°30'00", long 83°42'46", on downstream side of second pier from left end of bridge on State Highway 64 at Waterville, Lucas County, 3 miles downstream from Tontogany Creek.

Drainage area.--6,314 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 596.33 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 94,000 cfs.

Maxima.--January 1959: Discharge, about 38,000 cfs 1 p.m. Jan. 24 (gage height, 10.37 ft), backwater from ice.
February 1959: Discharge, about 85,000 cfs 10:30 a.m. Feb. 12 (gage height, 16.17 ft), backwater from ice.
1921-35, 1939 to December 1958: Discharge, 94,000 cfs Feb. 16, 1950 (gage height, 14.52 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

305. Portage River at Woodville, Ohio

Location.--Lat 41°26'55", long 83°21'41", on left bank at upstream side of bridge on U.S. Highway 20 in Woodville, Sandusky County.

Drainage area.--433 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 615.14 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 11,400 cfs.

Maxima.--January 1959: Discharge, 5,240 cfs 9 a.m. Jan. 23 (gage height, 10.06 ft).
February 1959: Discharge, 7,490 cfs 1:30 a.m. Feb. 12 (gage height, 11.81 ft).
1928-35, 1939 to December 1958: Discharge, 11,500 cfs Feb. 15, 1950 (gage height, 14.51 ft).

Flood in March 1913 reached a stage of 17 ft, from information by local residents (discharge, 17,000 cfs, from rating curves extended above 11,500 cfs.

Mean discharge, in cubic feet per second, 1959

[illegible]

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Portage River at Woodville, Ohio

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 25--Con.			Feb. 11--Con.		
12 p.m.	2.75	106	6 p.m.	6.65	2,020	8 p.m.	11.63	7,240
Jan. 21			12 p.m.	6.05	1,600	10.	11.70	7,340
5 a.m.	2.75	106	Jan. 26			12 p.m.	11.78	7,450
8.	2.90	137	6 a.m.	5.71	1,360	Feb. 12		
12 m.	3.20	205	12 m.	5.58	1,150	1:30 a.m.	11.81	7,490
2 p.m.	3.50	279	4 p.m.	5.07	962	2.	11.80	7,480
4.	4.57	685	6.	5.02	932	4.	11.74	7,400
6.	6.05	1,600	12 p.m.	5.02	932	6.	11.60	7,200
8.	6.58	1,970	Feb. 9			8.	11.40	6,930
12 p.m.	7.64	2,500	12 p.m.	3.50	279	10.	11.09	6,530
Jan. 22			Feb. 10			12 m.	10.74	6,070
4 a.m.	8.34	2,800	2 a.m.	4.30	561	1 p.m.	10.58	5,870
6.	8.51	2,900	4.	5.10	980	2.	10.53	5,810
8.	8.60	3,100	6.	6.07	1,610	3.	10.54	5,820
12 m.	8.64	3,200	8.	6.82	2,000	8.	10.58	5,870
1 p.m.	8.35	3,380	10.	7.50	2,400	12 p.m.	10.54	5,820
2.	8.36	3,390	12 m.	8.08	2,900	Feb. 13		
4.	8.48	3,510	2 p.m.	8.55	3,200	6 a.m.	10.23	5,450
6.	8.68	3,710	4.	9.05	3,600	12 m.	9.88	5,030
12 p.m.	9.46	4,540	6.	9.43	4,000	4 p.m.	9.60	4,690
Jan. 23			8.	9.68	4,500	6.	9.38	4,450
4 a.m.	9.88	5,030	10.	9.98	4,900	8.	9.02	4,050
6.	10.01	5,180	12 p.m.	10.23	5,450	10.	8.98	4,010
8.	10.06	5,240	Feb. 11			12 p.m.	8.92	3,950
10.	10.05	5,230	2 a.m.	10.58	5,870	Feb. 14		
12 m.	9.95	5,110	4.	10.94	6,330	2 a.m.	8.58	3,610
4 p.m.	9.65	4,750	6.	11.28	6,770	4.	8.70	3,730
12 p.m.	9.36	4,430	8.	11.45	7,000	6.	8.70	3,730
Jan. 24			9.	11.49	7,050	10.	8.08	3,140
6 a.m.	9.16	4,210	10.	11.49	7,050	12 m.	7.88	2,960
12 m.	8.88	3,910	11.	11.46	7,010	2 p.m.	7.78	2,880
4 p.m.	8.50	3,530	12 m.	11.43	6,970	4.	7.74	2,850
12 p.m.	8.02	3,090	1 p.m.	11.45	7,000	6.	7.80	2,900
Jan. 25			2.	11.54	7,120	8.	7.91	2,990
6 a.m.	7.61	2,750	3.	11.61	7,210	10.	7.90	2,980
12 m.	7.18	2,400	4.	11.62	7,230	12 p.m.	7.95	3,020
			7 p.m.	11.62	7,230			

306. Sandusky River near Bucyrus, Ohio

(Gaging station, discontinued 1951)

Location.--Lat 40°48'13", long 83°00'21", on right bank at upstream side of highway bridge, 1½ miles west of Bucyrus, Crawford County, and 12 miles downstream from Loss Creek.

Drainage area.--89.8 sq mi.

Gage-height record.--High-water marks at gage site. Datum of gage is 955.9 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 4,380 cfs and by contracted-opening measurement of 13,000 cfs at site 2¼ miles upstream, in Bucyrus.

Maxima.--January-February 1959: Discharge, 13,500 cfs Jan. 22 (gage height, 11.9 ft).
1925-35, 1938-51: Discharge, 5,800 cfs Dec. 14, 1927 (gage height, 9.15 ft).
Flood of Mar. 23, 1913, reached a stage of 14.5 ft, from floodmarks.

Remarks.--Discharge at contracted-opening site, at Pennsylvania Railroad bridge in Bucyrus, 13,000 cfs (drainage area, 85.4 sq mi).

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A265

307. Sandusky River at Upper Sandusky, Ohio

(U.S. Weather Bureau gage)

Location.--Lat 40°49'41", long 83°16'18", on U.S. Highway 30 bridge, at east edge of Upper Sandusky, Wyandot County.Drainage area.--293 sq mi.Gage-height record.--Daily wire-weight gage readings and peak stage. Datum of gage is 799.32 ft above mean sea level.Maxima.--January 1959: Gage height, 18.70 ft 3 to 5:30 p.m. Jan. 22.

February 1959: Gage height, 14.24 ft 12 m. Feb. 11.

1911 to December 1958: Gage height, 19.0 ft Mar. 25, 1913.

Remarks.--Records furnished by U.S. Weather Bureau.

308. Sandusky River near Upper Sandusky, Ohio

Location.--Lat 40°51'02", long 83°15'23", on left bank at downstream side of highway bridge, three-quarters of a mile upstream from Rock Run and 2 miles northeast of Upper Sandusky, Wyandot County.Drainage area.--299 sq mi.Gage-height record.--High-water mark in well Jan. 22, and water-stage recorder graph Feb. 11.Discharge record.--Stage-discharge relation defined by current-meter measurements below 7,700 cfs. Jan. 22 peak discharge estimated from record of Sandusky River near Mexico, backwater from ice jam.Maxima.--January 1959: Discharge, about 10,000 cfs 3 p.m. Jan. 22 (gage height, 15.00 ft), backwater from ice.

February 1959: Discharge, 6,440 cfs 4 p.m. Feb. 11 (gage height, 9.65 ft).

1921-35, 1938 to December 1958: Discharge, 8,900 cfs Dec. 15, 1927 (gage height, 10.5 ft).

Flood in June 1937 reached a stage of 14.3 ft, from high-water mark in gage well.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	55	766	11.....	45	5,850	21.....	2,000	280
2.....	110	400	12.....	40	2,940	22.....	8,400	270
3.....	180	330	13.....	40	924	23.....	6,700	409
4.....	130	356	14.....	45	1,050	24.....	5,200	870
5.....	110	360	15.....	55	2,670	25.....	900	590
6.....	90	220	16.....	150	1,840	26.....	550	384
7.....	80	190	17.....	180	858	27.....	440	356
8.....	70	170	18.....	140	716	28.....	337	384
9.....	60	160	19.....	100	515	29.....	318	- - - - -
10.....	50	2,540	20.....	90	330	30.....	1,200	- - - - -
						31.....	1,740	- - - - -
Monthly mean discharge, in cubic feet per second.....							955	955
Runoff, in inches.....							3.68	3.32

309. St. James Run near Upper Sandusky, Ohio

(Crest-stage station)

Location.--Lat 40°46'55", long 83°18'10", on right upstream wingwall of bridge on State Route 67, 3.5 miles southwest of Upper Sandusky, Wyandot County.Drainage area.--5.35 sq mi.Gage-height record.--Crest stages only. Altitude of gage is 850 ft above mean sea level (from topographic map).Discharge record.--Stage-discharge relation defined by current-meter measurements below 142 cfs and by slope-area measurement at 408 cfs.Maxima.--January-February 1959: Discharge, 408 cfs Jan. 21 (gage height, 12.66 ft).

1947 to December 1958: Discharge, 356 cfs June 7, 1947 (gage height, 12.25 ft).

310. Sandusky River near Mexico, Ohio

Location.--Lat 41°02'39", long 83°11'42", on right bank at downstream side of highway bridge, 3 miles upstream from Honey Creek and 4½ miles north of Mexico, Seneca County.

Drainage area.--776 sq mi.

Gage-height record.--Water-stage recorder graph, except 8 a.m. Jan. 23 to 4:30 a.m. Jan. 24 for which graph was reconstructed on basis of high-water mark in well, and Feb. 2-3, reconstructed on basis of weather records. Datum of gage is 733.1 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 15,600 cfs. Backwater from ice Jan. 1-21.

Maxima.--January 1959: Discharge, 18,900 cfs 10 p.m. Jan. 23 (gage height, 22.43 ft).

February 1959: Discharge, 10,600 cfs 8-10 a.m. Feb. 11 (gage height, 16.77 ft).

1923-35, 1938 to December 1958: Discharge, 15,200 cfs Mar. 22, 1927 (gage height, 19.9 ft, from graph based on gage readings).

Flood in June 1937 reached a stage of 22.5 ft, from information by local residents (discharge, 19,000 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	160	3,110	11.....	110	10,300	21.....	3,800	700
2.....	270	2,100	12.....	100	9,920	22.....	11,400	684
3.....	420	1,200	13.....	90	7,480	23.....	16,700	922
4.....	350	958	14.....	110	3,400	24.....	16,200	1,970
5.....	280	864	15.....	150	4,490	25.....	9,620	1,750
6.....	230	859	16.....	350	4,630	26.....	4,540	1,130
7.....	200	642	17.....	450	3,700	27.....	2,180	877
8.....	170	439	18.....	350	2,180	28.....	1,200	904
9.....	150	400	19.....	250	1,540	29.....	846	-----
10.....	130	6,680	20.....	210	958	30.....	1,990	-----
						31.....	3,300	-----
Monthly mean discharge, in cubic feet per second.....							2,461	2,671
Runoff, in inches.....							3.66	3.58

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 24			Feb. 10--Con.		
12 p.m.....	3.80	230	2 a.m.....	22.20	18,400	12 m.....	14.57	7,860
			6.....	21.70	17,600	4 p.m.....	15.48	8,910
Jan. 21			12 m.....	20.70	16,100	8.....	16.06	9,630
4 a.m.....	4.00	300	6 p.m.....	19.90	14,900	12 p.m.....	16.36	10,000
8.....	5.00	650	12 p.m.....	18.95	13,500			
10.....	6.28	1,200	Jan. 25			Feb. 11		
12 m.....	8.45	2,300	6 a.m.....	17.64	11,700	6 a.m.....	16.71	10,500
2 p.m.....	11.20	4,000	12 m.....	16.00	9,550	8.....	16.77	10,600
3.....	11.70	5,000	6 p.m.....	14.20	7,450	10.....	16.77	10,600
4.....	13.20	6,200	12 p.m.....	12.78	6,070	2 p.m.....	16.62	10,400
5.....	14.15	6,800	Jan. 26			8.....	16.33	9,980
6.....	14.05	7,300	12 m.....	10.85	4,450	12 p.m.....	16.20	9,810
7.....	14.90	7,700	12 p.m.....	9.10	3,170	Feb. 12		
8.....	15.35	8,200	Feb. 8			4 a.m.....	16.16	9,760
9.....	15.46	8,880	12 p.m.....	3.68	430	12 m.....	16.32	9,970
10.....	16.05	9,620	Feb. 9			4 p.m.....	16.40	10,100
12 p.m.....	16.47	10,200	8 a.m.....	3.73	445	8.....	16.38	10,000
Jan. 22			2 p.m.....	3.43	362	12 p.m.....	16.20	9,810
2 a.m.....	16.78	10,600	8.....	3.37	346	Feb. 13		
4.....	16.98	10,800	10.....	3.44	365	4 a.m.....	15.75	9,230
6.....	17.10	11,000	11.....	3.57	400	8.....	15.04	8,380
12 m.....	17.28	11,200	12 p.m.....	3.99	523	6 p.m.....	12.86	6,140
4 p.m.....	17.48	11,500	Feb. 10			12 p.m.....	11.60	5,050
8.....	17.88	12,000	1 a.m.....	4.96	877	Feb. 14		
12 p.m.....	18.55	13,000	2 a.m.....	6.53	1,620	8 a.m.....	9.53	3,470
Jan. 23			3.....	7.75	2,300	2 p.m.....	8.46	2,730
4 a.m.....	19.61	14,500	4.....	8.76	2,930	4.....	8.31	2,640
8.....	20.60	16,000	6.....	10.00	3,800	6.....	8.30	2,630
12 m.....	21.40	17,200	8.....	12.29	5,630	8.....	8.58	2,810
6 p.m.....	22.20	18,400	10 a.m.....	13.94	7,190	12 p.m.....	9.68	3,580
8.....	22.35	18,700						
10.....	22.43	18,900						
12 p.m.....	22.40	18,800						

311. Sandusky River at Tiffin, Ohio

(U.S. Weather Bureau gage)

Location.--Lat 41°07'05", long 83°10'40", on right bank, just upstream from Washington Street Bridge in Tiffin, Seneca County.Drainage area.--965 sq mi.Gage-height record.--Daily staff-gage readings with supplemental readings during flood periods. Datum of gage is 723.63 ft above mean sea level.Maxima.--January 1959: Gage height, 9.7 ft 8-10 p.m. Jan. 23.

February 1959: Gage height, 8.3 ft 4-6 p.m. Feb. 10.

1904 to December 1958: Gage height, 19.4 ft (estimated) Mar. 26, 1913.

The flood of June 23, 1937, reached a stage of 9.6 ft.

Remarks.--Records furnished by U.S. Weather Bureau.

312. Spicer Creek near Tiffin, Ohio

(Miscellaneous site)

Location.--Lat 41°09'40", long 86°06'30", at bridge on State Highway 101, 3.5 miles upstream from mouth and 4.5 miles northeast of Tiffin, Seneca County.Drainage area.--7.09 sq mi.Maximum.--January-February 1959: Discharge, 1,110 cfs Jan. 21, from measurement of flow through culvert.

313. Havens Creek at Havens, Ohio

(Gaging station; partial-record station beginning 1949)

Location.--Lat 41°17'40", long 83°11'55", at highway bridge three-quarters of a mile southwest of Havens, Sandusky County, and $1\frac{1}{4}$ miles upstream from mouth.Drainage area.--5.00 sq mi.Gage-height record.--Water-stage recorder graph. Datum of gage is 663.69 ft above mean sea level, datum of 1929.Discharge record.--Stage-discharge relation defined by current-meter measurements below 284 cfs.Maxima.--January 1959: Gage height, 7.13 ft 5 p.m. Jan. 21 (backwater from ice).

February 1959: Discharge, 256 cfs 3 a.m. Feb. 10 (gage height, 6.37 ft).

1947 to December 1958: Discharge, 312 cfs May 12, 1956 (gage height, 7.66 ft).

314. Sandusky River near Fremont, Ohio

Location.--Lat 41°18'28", long 83°09'32", on left bank at downstream side of highway bridge, 2.3 miles upstream from Ballville power dam, $2\frac{1}{2}$ miles downstream from Wolf Creek, and $3\frac{1}{2}$ miles southwest of Fremont, Sandusky County.Drainage area.--1,248 sq mi.Gage-height record.--Graph based on observer's gage readings Jan. 24, and high-water mark in gage house Feb. 10.Discharge record.--January peak discharge based on current-meter measurement Jan. 24, and February peak discharge on current-meter measurement on Feb. 11, backwater from ice jams.Maxima.--January 1959: Discharge, about 25,000 cfs Jan. 24 (gage height, 15.0 ft, from graph based on gage readings), backwater from ice.

February 1959: Discharge, about 28,000 cfs 10 p.m. Feb. 10 (gage height, 15.20 ft), backwater from ice.

1923-35, 1938 to December 1958: Discharge, 27,300 cfs Jan. 15, 1930 (gage height, 11.1 ft); gage height, 12.12 ft Dec. 30, 1951 (ice jam).

Mean discharge, in cubic feet per second, 1959, of Sandusky River near Fremont, Ohio

Day	January	February	Day	January	February	Day	January	February
1.....	250	4,900	11.....	190	24,000	21.....	6,500	1,220
2.....	450	3,300	12.....	170	17,000	22.....	20,000	1,060
3.....	700	2,000	13.....	150	13,000	23.....	22,000	1,560
4.....	650	1,600	14.....	180	6,480	24.....	23,000	3,420
5.....	500	1,400	15.....	240	8,230	25.....	17,000	2,880
6.....	400	1,300	16.....	550	6,930	26.....	8,000	1,900
7.....	340	1,000	17.....	750	5,590	27.....	3,500	1,430
8.....	290	700	18.....	700	3,720	28.....	2,000	1,450
9.....	250	650	19.....	480	2,450	29.....	1,400	- - - - -
10.....	220	13,000	20.....	360	1,560	30.....	3,300	- - - - -
						31.....	5,200	- - - - -
Monthly mean discharge, in cubic feet per second.....							3,862	4,776
Runoff, in inches.....							3.56	3.99

315. Sandusky River at Fremont, Ohio

(U.S. Weather Bureau gage)

Location.--Lat 41°20'50", long 83°06'46", on State Street Bridge in Fremont, Sandusky County.Drainage area.--1,351 sq mi.Gage-height record.--Daily staff-gage readings with supplemental readings during flood periods. Datum of gage is 570.00 ft above mean sea level.Maxima.--January 1959: Gage height, 17.2 ft 1:45 p.m. Jan. 24.

February 1959: Gage height, 18.0 ft 7-8 a.m. Feb. 11.

1904 to December 1958 (intermittent record): Gage height, 21.5 ft Mar. 26, 1913.

Remarks.--Records furnished by U.S. Weather Bureau.

316. Norwalk Creek near Norwalk, Ohio

(Crest-stage station)

Location.--Lat 41°14'00", long 82°32'30", at highway bridge 300 ft south of junction of State Highways 601 and 18, 4 miles southeast of Norwalk, Huron County, and 6 miles upstream from mouth.Drainage area.--4.18 sq mi.Gage-height record.--Crest stages only. Altitude of gage is 854 ft (from topographic map).Discharge record.--Stage-discharge relation defined by current-meter measurements below 122 cfs and by contracted-opening measurements.Maxima.--January-February 1959: Discharge, 646 cfs Jan. 21 (gage height, 13.96 ft).

1947 to December 1958: Discharge, 1,060 cfs May 12, 1956 (gage height, 14.37 ft).

317. East Branch Huron River near Norwalk, Ohio

(Gaging station, discontinued 1935)

Location.--Lat 41°14'58", long 82°38'52", at highway bridge $1\frac{1}{4}$ miles northwest of Norwalk, Huron County, and $1\frac{1}{2}$ miles downstream from Cole Creek.Drainage area.--84.9 sq mi.Gage-height record.--High-water marks at gage site. Altitude of gage is 635 ft (from topographic map).Discharge record.--Stage-discharge relation defined by current-meter measurements below 1,290 cfs.Maxima.--January-February 1959: Gage height, 12.3 ft, from high-water marks, at 12 p.m. Jan. 21.

1924-35: Discharge, 4,700 cfs Feb. 26, 1929 (gage height, 9.5 ft)..

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A269

318. Huron River at Milan, Ohio

Location.--Lat 41°18'00", long 82°36'30", on right bank 500 ft downstream from bridge on U.S. Highway 250, a quarter of a mile northwest of Milan, Erie County, and 2 miles downstream from confluence of East and West Branches.

Drainage area.--363 sq mi.

Gage-height record.--Water-stage recorder graph, except 1 p.m. Jan. 22 to 1 p.m. Jan. 25 for which period graph was reconstructed on basis of normal recession curve. Datum of gage is 573.43 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 18,100 cfs and by contracted-opening measurement at 25,800 cfs. Backwater from ice Jan. 1 to 3 p.m. Jan. 21, Jan. 26 to 2 a.m. Feb. 10, Feb. 20-23.

Maxima.--January 1959: Discharge, 25,800 cfs 4 a.m. Jan. 22 (gage height, 24.08 ft).
February 1959: Discharge, 18,500 cfs 7 p.m. Feb. 10 (gage height, 21.54 ft).
1950 to December 1958: Discharge, 18,200 cfs May 12, 1956 (gage height, 21.10 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	120	1,200	11.....	60	6,790	21.....	5,500	300
2.....	250	600	12.....	55	1,610	22.....	18,500	290
3.....	220	320	13.....	65	1,160	23.....	4,300	900
4.....	170	340	14.....	85	1,790	24.....	1,600	1,610
5.....	140	300	15.....	200	3,830	25.....	900	601
6.....	120	230	16.....	270	1,220	26.....	650	426
7.....	100	150	17.....	200	804	27.....	450	508
8.....	85	150	18.....	160	723	28.....	340	532
9.....	75	150	19.....	130	432	29.....	280	-----
10.....	70	12,500	20.....	120	340	30.....	1,700	-----
						31.....	2,100	-----
Monthly mean discharge, in cubic feet per second.....							1,259	1,422
Runoff, in inches.....							4.00	4.08

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	7.08	140	5 a.m.....	23.96	25,500	10 a.m.....	19.72	13,600
			6.....	23.72	24,800	12 m.....	20.33	15,200
Jan. 21			8.....	23.05	22,800	2 p.m.....	20.68	16,100
2 a.m.....	7.13	150	10.....	22.40	20,900	4.....	21.15	17,400
4.....	7.23	170	12 m.....	21.67	18,900	5.....	21.36	18,000
6.....	7.29	200	2 p.m.....	21.05	17,100	6.....	21.50	18,400
8.....	7.48	250	6.....	19.65	13,400	7.....	21.54	18,500
10.....	8.00	340	12 p.m.....	17.50	8,500	8.....	21.46	18,300
12 m.....	9.10	800				10.....	21.05	17,100
1 p.m.....	9.84	1,200	Feb. 8			12 p.m.....	20.42	15,400
2.....	10.48	1,700	12 p.m.....	8.02	140			
3.....	11.70	2,200				Feb. 11		
4.....	15.22	5,210	Feb. 9			2 a.m.....	19.65	13,400
5.....	16.70	7,100	5 a.m.....	7.85	140	4.....	18.80	11,300
6.....	18.50	10,600	1 p.m.....	8.39	140	6.....	17.97	9,440
7.....	19.85	14,000	7.....	8.32	140	12 m.....	15.43	5,440
8.....	20.65	16,000	10.....	8.39	160	6 p.m.....	13.38	3,530
9.....	21.20	17,500	12 p.m.....	8.75	240	10.....	12.02	2,610
10.....	21.90	19,500				12 p.m.....	11.55	2,330
11.....	22.55	21,300	Feb. 10					
12 p.m.....	23.05	22,800	2 a.m.....	10.15	1,200	Feb. 12		
Jan. 22			3.....	11.90	2,540	4 a.m.....	10.85	1,940
1 a.m.....	23.55	24,200	4.....	14.50	4,480	8.....	10.32	1,650
2.....	23.85	25,200	5.....	16.60	6,940	12 m.....	10.00	1,490
3.....	24.00	25,600	6.....	17.70	8,900	4 p.m.....	9.81	1,400
4 a.m.....	24.08	25,800	7.....	18.55	10,700	8.....	9.73	1,360
			8 a.m.....	19.02	11,800	12 p.m.....	9.60	1,290

319. Vermillion River near Vermillion, Ohio

Location.--Lat 41°22'55", long 82°19'00", on right bank 40 ft downstream from bridge on North Ridge Road, 3½ miles southeast of Vermillion, Erie County, and 4½ miles upstream from mouth.

Drainage area.--260 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 592.58 ft above mean sea level (Lorain County bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 9,600 cfs and by contracted-opening measurement at 19,300 cfs.

Maxima.--January 1959: Discharge, 20,500 cfs 7:30 p.m. Jan. 21 (gage height, 13.80 ft).

February 1959: Discharge, 8,680 cfs 1 a.m. Feb. 11 (gage height, 11.00 ft).

1950 to December 1958: Discharge, 9,820 cfs Jan. 26, 1952, and May 12, 1956 (gage height, 11.5 ft, from graph based on gage readings, and 11.47 ft, respectively).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	95	562	11.....	45	7,190	21.....	5,000	212
2.....	150	432	12.....	40	1,470	22.....	7,060	199
3.....	200	228	13.....	40	808	23.....	4,500	493
4.....	140	248	14.....	40	1,150	24.....	1,700	1,270
5.....	110	221	15.....	150	2,680	25.....	800	562
6.....	90	154	16.....	200	1,250	26.....	450	362
7.....	75	115	17.....	150	590	27.....	310	372
8.....	65	118	18.....	110	515	28.....	228	396
9.....	55	108	19.....	95	365	29.....	201	- - - - -
10.....	50	5,390	20.....	90	239	30.....	1,250	- - - - -
						31.....	2,140	- - - - -
Monthly mean discharge, in cubic feet per second.....							827	989
Runoff, in inches.....							3.67	3.96

320. East Branch Black River at Elyria, Ohio

(Gaging station, discontinued 1935)

Location.--Lat 41°20'51", long 82°05'40", at Fuller Street Bridge, 1½ miles south-east of center of Elyria, Lorain County, and 3 miles upstream from junction with West Branch.

Drainage area.--211 sq mi.

Gage-height record.--High-water marks at gage site. Altitude of gage is 710 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 6,930 cfs.

Maxima.--January-February 1959: Gage height, 14.7 ft, from high-water marks, 8 a.m. Jan. 21.

1922-35: Discharge, 11,400 cfs Mar. 14, 1933 (gage height, 10.10 ft).

321. Plum Creek at Oberlin, Ohio

(Crest-stage station)

Location.--Lat 41°17'15", long 82°13'10", at bridge on Professor Street in Oberlin, Lorain County.

Drainage area.--4.88 sq mi.

Gage-height record.--Crest stages only. Altitude of gage is 782 ft above mean sea level (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 156 cfs and by indirect measurements.

Maxima.--January 1959: Discharge, 990 cfs Jan. 21-22 (gage height, 16.13 ft).

February 1959: Discharge, 555 cfs Feb. 10-11 (gage height, 14.00 ft).

1947 to December 1958: Discharge, 658 cfs June 2, 1947 (gage height, 14.69 ft).

A271

322. Black River at Elyria, Ohio

Location.--Lat 41°22'50", long 82°06'15", on left bank in Cascade Park at Elyria, Lorain County, three-quarters of a mile downstream from confluence of East and West Branches.

Drainage area.--392 sq mi.

Gage-height record.--Water-stage recorder graph, except 2 a.m. Jan. 22 to 5 p.m. Jan. 29 for which graph was reconstructed on basis of high-water marks at gage and daily gage readings. Datum of gage is 621.6 ft above mean sea level (city of Elyria bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 12,500 cfs.

Maxima.--January 1959: Discharge, 24,000 cfs about 11 a.m. Jan. 22 (gage height, 22.9 ft).
February 1959: Discharge, 14,400 cfs 6 a.m. Feb. 11 (gage height, 17.74 ft).
1944 to December 1958: Discharge, 14,900 cfs May 13, 1956 (gage height, 18.02 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

323. Rocky River near Berea, Ohio

Location.--Lat 41°24'22", long 81°53'13", on right bank at downstream side of highway bridge just downstream from confluence of East and West Branches and 3 miles northwest of Berea, Cuyahoga County.

Drainage area.--269 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 649.9 ft above mean sea level, datum of 1929 (Cuyahoga County bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 10,600 cfs and by contracted-opening measurement at 19,400 cfs.

Maxima.--January 1959: Discharge, 21,400 cfs 3 a.m. Jan. 22 (gage height, 14.10 ft). February 1959: Discharge, 15,000 cfs 8 p.m. Feb. 10 (gage height, 10.97 ft). 1923-35, 1943 to December 1958: Discharge, 16,600 cfs Jan. 19, 1929 (gage height, 11.0 ft, from graph based on gage readings); gage height, 18.6 ft June 29, 1924 (backwater caused by tornado). Maximum stage known, 20.9 ft in March 1913.

Mean discharge, in cubic feet per second, 1959

[illegible]

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 23--Con.			Feb. 10--Con.		
12 p.m.....	2.43	130	8 a.m.....	3.61	1,350	2 p.m.....	10.18	13,400
Jan. 21			12 m.....	3.40	1,110	4.....	10.60	14,500
4 a.m.....	2.56	240	5 p.m.....	3.20	900	5.....	10.80	14,700
6.....	2.73	330	12 p.m.....	3.05	755	6.....	10.85	14,800
8.....	4.50	650	Feb. 8			7.....	10.95	15,000
10.....	4.70	2,000	12 p.m.....	1.90	84	8.....	10.87	15,000
12 m.....	6.10	4,200	Feb. 9			9.....	10.81	14,800
2 p.m.....	7.30	7,500	6 a.m.....	1.92	89	10.....	10.85	14,800
4.....	8.90	11,000	8.....	1.97	102	12 p.m.....	10.50	14,100
6.....	10.05	15,200	10.....	2.04	124	Feb. 11		
8.....	11.18	15,400	11.....	2.08	137	2 a.m.....	9.90	12,900
10.....	12.25	17,600	12 m.....	2.05	127	4.....	9.00	11,100
12 p.m.....	13.20	19,500	2 p.m.....	1.97	102	6.....	8.08	9,230
Jan. 22			6.....	1.98	105	8.....	7.24	7,630
2 a.m.....	13.95	21,100	7.....	2.00	110	10.....	6.48	6,180
3.....	14.10	21,400	8.....	2.07	134	12 m.....	5.55	4,430
4.....	13.95	21,100	11.....	2.58	387	2 p.m.....	4.79	3,080
5.....	13.78	20,700	12 p.m.....	2.87	601	4.....	4.30	2,300
6.....	13.45	20,000	Feb. 10			6.....	4.02	1,890
8.....	12.72	18,500	1 a.m.....	3.75	1,520	12 p.m.....	3.55	1,280
10.....	11.90	16,900	4.....	4.88	3,240	Feb. 12		
12 m.....	11.06	15,200	3.....	5.45	4,250	6 a.m.....	3.26	960
2 p.m.....	10.16	13,400	5.....	7.10	7,560	10.....	3.03	737
4.....	8.93	10,900	7.....	8.98	11,000	12 m.....	2.98	693
6.....	7.90	8,680	8.....	8.85	10,800	2 p.m.....	3.01	719
8.....	7.08	7,320	9.....	8.96	11,000	4.....	2.97	684
10.....	6.32	5,880	10.....	9.20	11,500	6.....	2.94	659
12 p.m.....	5.35	4,070	12 m.....	9.70	12,500	10.....	2.98	693
Jan. 23			1 p.m.....	10.00	13,100	12 p.m.....	2.96	676
4 a.m.....	4.06	1,940						

Day	January	February	Day	January	February	Day	January	February
1.....	125	600	11.....	175	1,600	21.....	500	470
2.....	218	500	12.....	160	2,110	22.....	1,800	389
3.....	252	450	13.....	134	1,570	23.....	3,560	365
4.....	276	400	14.....	128	1,270	24.....	3,000	427
5.....	300	350	15.....	152	1,300	25.....	1,900	420
6.....	290	300	16.....	190	1,200	26.....	1,400	410
7.....	270	270	17.....	220	1,050	27.....	1,000	454
8.....	260	240	18.....	280	854	28.....	700	490
9.....	220	230	19.....	280	710	29.....	650	- - - - -
10.....	200	700	20.....	220	550	30.....	800	- - - - -
						31.....	600	- - - - -
Monthly mean discharge, in cubic feet per second.....							647	703

325. Cuyahoga River at Old Portage, Ohio

Location.--Lat 41°08'04", long 81°32'49", on right bank 230 ft upstream from highway bridge at Old Portage, Summit County, 1½ miles downstream from Little Cuyahoga River, and 4 miles northwest of Akron.

Drainage area.--405 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 740.11 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,800 cfs and by contracted-opening estimate of 1959 peak flow.

Maxima.--January 1959: Discharge, 6,500 cfs 8 p.m. Jan. 21 (gage height, 11.54 ft).
February 1959: Discharge 5,680 cfs 12 m. Feb. 10 (gage height, 11.10 ft).
1921-35, 1939 to December 1958: Discharge, 4,540 cfs Jan. 26, 1952, and Nov. 16, 1955 (gage heights, 10.43 and 10.39 ft, respectively); gage height, 10.8 ft June 28, 1924.

Remarks.--Floodflows slightly regulated by reservoirs and lakes above station.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	317	935	11.....	270	4,630	21.....	3,700	758
2.....	500	802	12.....	254	3,480	22.....	6,040	755
3.....	508	758	13.....	250	3,290	23.....	4,500	898
4.....	514	854	14.....	245	2,900	24.....	3,200	1,050
5.....	452	713	15.....	344	2,880	25.....	2,800	843
6.....	396	605	16.....	393	2,340	26.....	2,200	921
7.....	360	505	17.....	338	1,890	27.....	1,600	895
8.....	352	506	18.....	355	1,820	28.....	1,300	895
9.....	325	576	19.....	360	1,280	29.....	1,220	-----
10.....	287	4,070	20.....	366	942	30.....	1,340	-----
						31.....	1,190	-----
Monthly mean discharge, in cubic feet per second.....							1,171	1,522

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22			Feb. 10--Con.		
12 p.m.....	2.10	379	4 a.m.....	11.15	5,770	9 a.m.....	9.20	3,510
Jan. 20			6.....	11.17	5,810	10.....	9.70	3,940
9 a.m.....	2.02	357	10.....	11.43	6,280	11.....	10.60	4,920
10.....	2.06	368	3 p.m.....	11.53	6,480	12 m.....	11.10	5,680
2 p.m.....	2.00	352	11.38	6,180	1 p.m.....	10.95	5,440	
5.....	2.04	363	12 p.m.....	10.95	5,440	2.....	10.72	5,090
6.....	2.02	357	Feb. 8			3.....	10.60	4,920
8.....	2.17	399	12 p.m.....	2.72	489	4.....	10.53	4,820
9.....	2.31	438	Feb. 9			5.....	10.48	4,760
10.....	2.63	529	8 a.m.....	2.67	476	6.....	10.45	4,720
11.....	2.67	540	9.....	2.69	481	7.....	10.42	4,680
12 p.m.....	2.60	520	10.....	2.68	479	8.....	10.41	4,670
Jan. 21			12 m.....	2.65	470	9.....	10.41	4,670
1 a.m.....	2.64	532	2 p.m.....	2.64	468	10.....	10.44	4,710
2.....	2.85	592	3.....	2.64	468	12 p.m.....	10.49	4,770
3.....	3.20	696	5.....	2.62	462	Feb. 11		
4.....	3.75	861	6.....	2.62	462	2 a.m.....	10.58	4,890
6.....	5.96	1,650	7.....	2.88	533	4.....	10.66	5,000
7.....	7.40	2,370	8.....	3.38	677	6.....	10.69	5,050
8.....	8.65	3,100	9.....	4.04	882	8.....	10.68	5,030
9.....	9.44	3,710	10.....	4.17	925	10.....	10.62	4,980
10.....	9.88	4,100	12 p.m.....	5.75	1,550	12 m.....	10.50	4,780
11.....	10.00	4,220	Feb. 10			6 p.m.....	10.08	4,300
2 p.m.....	10.00	4,220	1 a.m.....	6.70	2,020	12 p.m.....	9.59	3,840
3.....	10.13	4,350	2.....	7.75	2,550	Feb. 12		
4.....	10.43	4,700	3.....	8.20	2,820	6 a.m.....	9.29	3,580
5.....	10.49	4,770	4.....	8.70	3,140	10.....	9.07	3,410
6.....	10.85	5,280	5.....	8.92	3,290	12 m.....	9.05	3,390
7.....	11.46	6,340	6.....	8.76	3,180	2 p.m.....	9.05	3,390
8.....	11.54	6,500	7.....	8.59	3,060	4.....	9.03	3,370
9.....	11.20	5,860	8.....	8.82	3,220	6.....	8.92	3,290
10.....	11.25	5,950	8 a.m.....			8.....	8.93	3,300
12 p.m.....								

326. Cuyahoga River at Independence, Ohio

Location--Lat 41°23'44", long 81°37'54", on right bank 140 ft downstream from highway bridge on Rockside Road, 1 mile northeast of Independence, Cuyahoga County, and 3 miles downstream from Tinkers Creek.

Drainage area--709 sq mi.

Gage-height record--Water-stage recorder graph, except 9:30 p.m. Jan. 21 to 3 a.m. Jan. 22, 7 a.m. Jan. 23 to 4:30 p.m. Jan. 27 for which periods graph was reconstructed on basis of high-water mark in well and normal recession curve. Datum of gage is 584.14 ft above mean sea level (levels by city of Cleveland).

Discharge record--Stage-discharge relation defined by current-meter measurements below 17,100 cfs and by contracted-opening measurement at 24,800 cfs. Backwater from ice Jan. 6, 7.

Maxima--January 1959: Discharge, 24,800 cfs 12:30 a.m. Jan. 22 (gage height, 22.41 ft).

February 1959: Discharge, 16,100 cfs 5:30 p.m. Feb. 10 (gage height, 20.15 ft).

1921-23, 1927-35, 1940 to December 1958: Discharge, 14,300 cfs Oct. 16, 1954 (gage height, 20.04 ft).

Maximum flood known occurred Mar. 25, 1913 (discharge, 32,400 cfs, at Cleveland, estimated by the Cleveland city engineer).

Remarks--Water is diverted into the Ohio Canal at Brecksville, 6 miles above station, but the canal flows are included in the tabulated discharges. Flood-flows slightly regulated by reservoirs and lakes in the basin.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	850	1,940	11.....	446	10,900	21.....	10,000	1,400
2.....	1,980	1,550	12.....	422	6,780	22.....	16,700	1,320
3.....	1,250	1,340	13.....	428	5,370	23.....	8,820	2,260
4.....	1,100	1,620	14.....	408	5,420	24.....	5,800	2,800
5.....	824	1,380	15.....	1,030	7,040	25.....	5,100	1,990
6.....	700	1,120	16.....	916	4,590	26.....	4,200	1,820
7.....	650	980	17.....	728	3,540	27.....	3,000	2,100
8.....	584	926	18.....	692	2,920	28.....	2,200	1,930
9.....	544	892	19.....	652	2,380	29.....	1,820	-----
10.....	484	12,000	20.....	627	1,760	30.....	3,770	-----
						31.....	2,640	-----
Monthly mean discharge, in cubic feet per second.....							2,560	3,217

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 19			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.....	4.30	620	6 a.m.....	21.50	21,000	11 a.m.....	19.24	13,700
			9.....	20.81	18,300	12 m.....	19.39	14,000
Jan. 20			12 m.....	20.06	15,800	1 p.m.....	19.70	14,800
3 p.m.....	4.23	592	4 p.m.....	19.10	13,400	2.....	19.86	15,200
12 p.m.....	4.58	732	8.....	18.25	11,800	3.....	20.02	15,700
			12 p.m.....	17.66	10,800	4.....	20.10	16,000
Jan. 21			Jan. 23			5:30.....	20.15	16,100
2 a.m.....	4.84	836	6 a.m.....	16.95	9,720	7.....	20.10	16,000
3.....	5.05	920	12 m.....	16.30	8,820	10.....	19.90	15,400
4.....	5.45	1,100	12 p.m.....	14.60	6,950	12 p.m.....	19.60	14,500
5.....	6.10	1,390						
6.....	7.10	1,860	Feb. 8			Feb. 11		
7.....	9.15	2,990	12 p.m.....	4.88	881	6 a.m.....	18.67	12,500
8.....	11.05	4,140				12 m.....	17.42	10,400
9.....	12.65	5,300	Feb. 9			6 p.m.....	16.66	9,300
10.....	13.80	6,230	12 m.....	4.82	854	12 p.m.....	16.08	8,540
11.....	14.95	7,300	6 p.m.....	4.82	854			
12 m.....	15.90	8,320	8.....	4.88	881	Feb. 12		
1 p.m.....	16.75	9,430	10.....	5.03	948	6 a.m.....	15.22	7,570
2.....	17.30	10,200	11.....	5.44	1,130	12 m.....	14.18	6,570
3.....	18.30	11,900	12 p.m.....	6.00	1,400	6 p.m.....	13.38	5,880
4.....	19.40	14,000				12 p.m.....	13.09	5,650
5.....	19.98	15,600	Feb. 10			Feb. 13		
6.....	20.46	17,100	1 a.m.....	7.25	2,020	8 a.m.....	12.70	5,340
7.....	20.90	18,600	2.....	9.10	3,020	4 p.m.....	12.70	5,340
8.....	21.45	20,800	3.....	11.50	4,460	12 p.m.....	12.55	5,220
9.....	22.00	23,000	4.....	13.45	5,940			
10.....	22.00	23,000	5.....	15.45	7,820	Feb. 14		
12 p.m.....	22.38	24,700	6.....	16.75	9,430	8 a.m.....	12.02	4,820
Jan. 22			7.....	17.71	10,900	2 p.m.....	11.69	4,590
12:30 a.m....	22.41	24,800	8.....	18.28	11,800	4.....	12.05	4,840
2.....	22.05	23,200	9.....	18.62	12,400	8.....	14.17	6,560
4.....	22.74	22,000	10 a.m.....	19.02	13,200	10.....	15.10	7,450
5 a.m.....	21.72	21,900				12 p.m.....	15.54	7,910

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A275**

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Cuyahoga River at Independence, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 15			Feb. 15--Con.			Feb. 16		
2 a.m.....	15.77	8,170	6 p.m.....	13.62	6,080	6 a.m.....	12.17	4,930
4.....	15.80	8,200	12 p.m.....	12.63	5,280	12 m.....	11.66	4,570
6.....	15.74	8,130				6 p.m.....	11.15	4,230
12 m.....	14.90	7,250				12 p.m.....	10.75	3,990

327. Big Creek at Cleveland Zoo, Cleveland, Ohio

(Miscellaneous site)

Location--Lat 41°26'55", long 81°43'00", 1,000 ft above Fulton Avenue bridge in Cleveland Zoo, Cleveland, Cuyahoga County, and 1½ miles upstream from mouth.

Drainage area--37.5 sq mi.

Maxima--January-February 1959: Discharge, about 6,000 cfs Jan. 22, from slope-area estimate.

Flood of Mar. 21-22, 1948, reached a discharge of 5,900 cfs, from slope-area measurement.

328. Chagrin River at Willoughby, Ohio

Location--Lat 41°37'51", long 81°24'13", on left bank at city waterworks, 150 ft downstream from waterworks dam, 800 ft downstream from East Branch, 1 mile south-east of Willoughby, Lake County, and 5 miles upstream from mouth.

Drainage area--251 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 594.24 ft above mean sea level, datum of 1929.

Discharge record--Stage-discharge relation defined by current-meter measurements below 13,900 cfs and by contracted-opening measurement.

Maxima--January 1959: Discharge, 22,000 cfs 10 p.m. Jan. 21 (gage height, 16.73 ft).

February 1959: Discharge, 12,200 cfs 3 p.m. Feb. 10 (gage height, 13.25 ft).

1925-35, 1939 to December 1958: Discharge, 28,000 cfs Mar. 22, 1948 (gage height, 17.95 ft), from high-water mark in well.

Flood of Mar. 23, 1913, reached a stage of 17.3 ft, present datum, from flood-marks (discharge, 20,000 cfs).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	260	650	11.....	160	3,140	21.....	10,500	350
2.....	1,400	414	12.....	150	947	22.....	10,000	330
3.....	700	370	13.....	150	1,250	23.....	1,630	850
4.....	488	600	14.....	150	2,080	24.....	934	1,100
5.....	238	501	15.....	350	2,760	25.....	814	650
6.....	210	354	16.....	850	1,000	26.....	620	635
7.....	190	250	17.....	650	778	27.....	450	868
8.....	180	200	18.....	470	678	28.....	360	808
9.....	170	220	19.....	300	508	29.....	310	-----
10.....	160	8,990	20.....	250	390	30.....	2,200	-----
						31.....	1,220	-----
Monthly mean discharge, in cubic feet per second.....							1,178	1,131

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 21--Con.			Jan. 22--Con.		
12 p.m.....	7.75	2,500	7 p.m.....	16.36	20,600	12 m.....	11.02	8,290
			8.....	16.62	21,600	2 p.m.....	9.77	6,600
Jan. 21			9.....	16.71	21,900	4.....	8.65	5,300
5 a.m.....	8.20	2,500	10.....	16.73	22,000	6.....	7.56	4,100
6.....	8.50	3,000	11.....	16.66	21,700	8.....	6.90	3,430
8.....	9.25	4,100	12 p.m.....	16.55	21,300	12 p.m.....	6.08	2,610
10.....	10.00	4,600						
12 m.....	11.60	7,700	Jan. 22			Jan. 23		
1 p.m.....	12.55	9,300	2 a.m.....	16.10	19,700	4 a.m.....	5.52	2,100
2.....	13.25	11,500	4.....	15.65	18,200	8.....	5.10	1,720
3.....	13.90	13,600	6.....	14.90	16,000	12 m.....	4.80	1,470
4.....	14.50	15,000	8.....	13.83	13,400	12 p.m.....	4.40	1,150
6 p.m.....	15.92	19,100	10 a.m.....	12.40	10,600			

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of Chagrin River at Willoughby, Ohio--Continued

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Feb. 9			Feb. 10--Con.			Feb. 10--Con.		
12 p.m.....	3.14	423	8 a.m.....	13.05	11,800	8 p.m.....	11.90	9,660
Feb. 10			9.....	12.53	10,800	12 p.m.....	10.25	7,220
1 a.m.....	3.42	560	10.....	12.30	10,400			
2.....	4.02	892	11.....	12.36	10,500	Feb. 11		
3.....	6.12	2,650	12 m.....	12.66	11,000	4 a.m.....	8.65	5,300
4.....	9.75	6,580	1 p.m.....	13.13	12,000	8.....	7.15	3,680
5.....	11.24	8,620	2.....	13.24	12,200	12 m.....	5.78	2,330
6.....	12.22	10,200	3.....	13.25	12,200	6 p.m.....	4.97	1,610
7 a.m.....	12.77	11,200	4.....	13.20	12,100	12 p.m.....	4.50	1,230
			5 p.m.....	13.05	11,800			

329. Phelps Creek near Windsor, Ohio

Location--Lat 41°30'55", long 80°56'05", on left bank at upstream side of bridge on State Highway 534, 1.4 miles south of Windsor, Ashtabula County, and 1½ miles upstream from mouth.

Drainage area--26.4 sq mi.

Gage-height record--Water-stage recorder graph. Datum of gage is 803.70 ft above mean sea level.

Discharge record--Stage-discharge relation defined by current-meter measurements below 1,570 cfs and by contracted-opening measurement at 4,600 cfs.

Maxima--January 1959: Discharge, 4,600 cfs 7:30 p.m. Jan. 21 (gage height, 9.34 ft).

February 1959: Discharge, 3,120 cfs 6 a.m. Feb. 10 (gage height, 8.78 ft, backwater from ice).

1942 to December 1958: Discharge, 3,840 cfs Mar. 22, 1948 (gage height, 8.97 ft). Gage height, 9.48 ft July 15, 1958 (backwater from debris).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	20	110	11.....	10	300	21.....	1,100	14
2.....	120	50	12.....	9	110	22.....	1,100	12
3.....	80	25	13.....	8	140	23.....	300	18
4.....	60	30	14.....	8	180	24.....	120	120
5.....	28	35	15.....	25	240	25.....	60	65
6.....	28	25	16.....	60	74	26.....	35	61
7.....	22	15	17.....	50	58	27.....	25	152
8.....	18	10	18.....	35	49	28.....	18	119
9.....	15	15	19.....	25	25	29.....	15	---
10.....	12	1,300	20.....	20	17	30.....	170	---
						31.....	150	---
Monthly mean discharge, in cubic feet per second.....							121	120
Runoff, in inches.....							5.28	4.74

330. Hoskins Creek at Hartsgrove, Ohio

(Crest-stage station)

Location--Lat 41°36'20", long 80°58'00", at bridge on State Highway 6, 0.7 mile west of Hartsgrove, Ashtabula County.

Drainage area--6.94 sq mi.

Gage-height record--Crest stages only. Altitude of gage is 1,037 ft (from topographic map).

Discharge record--Stage-discharge relation defined by current-meter measurements below 205 cfs and by slope-area measurement.

Maxima--January-February 1959: Discharge, 552 cfs Jan. 21 (gage height, 14.55 ft). 1947 to December 1958: Discharge, 543 cfs Mar. 21-22, 1948 (gage height, 14.53 ft).

A277

331. Mill Creek near Jefferson, Ohio

Location.--Lat 41°45'10", long 80°48'00", on right bank at downstream side of bridge on State Highway 307, 1 $\frac{3}{4}$ miles northwest of Jefferson, Ashtabula County, and 3 $\frac{1}{2}$ miles downstream from Griggs Creek.

Drainage area.--78.3 sq mi.

Gage-height record,--Water-stage recorder graph. Datum of gage is 822.59 ft above mean sea level (Ashtabula County bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,700 cfs and by contracted-opening measurement at 9,810 cfs.

Maxima.--January 1959: Discharge, 9,810 cfs 5 a.m. Jan. 22 (gage height, 12.50 ft).
February 1959: Discharge, 3,620 cfs 9 p.m. Feb. 10 (gage height, 9.40 ft).
1942 to December 1958: Discharge, 7,010 cfs Mar. 22, 1948 (gage height, 9.95 ft). Gage height, 10.28 ft Dec. 4, 1950 (backwater from ice).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	70	373	11.....	30	1,550	21.....	1,100	45
2.....	250	190	12.....	25	434	22.....	5,000	35
3.....	350	92	13.....	25	308	23.....	900	40
4.....	180	67	14.....	25	533	24.....	250	160
5.....	120	79	15.....	60	1,030	25.....	150	201
6.....	95	78	16.....	110	398	26.....	100	167
7.....	80	51	17.....	180	199	27.....	70	436
8.....	70	33	18.....	130	130	28.....	50	583
9.....	50	25	19.....	90	95	29.....	40	- - - - -
10.....	40	1,500	20.....	70	70	30.....	300	- - - - -
						31.....	400	- - - - -
Monthly mean discharge, in cubic feet per second.....							336	318

332. Grand River near Madison, Ohio

Location.--Lat 41°44'26", long 81°02'48", on downstream end of center pier of bridge on State Highway 528, half a mile upstream from Griswold Creek and 2 miles south of Madison, Lake County.

Drainage area.--587 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 674.47 ft above mean sea level, adjustment of 1912.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 12,200 cfs and by computation of flow of 20,100 cfs over dam 8 miles downstream. Backwater from ice Jan. 1 to 4 a.m. Jan. 22.

Maxima.--January 1959: Discharge, 21,100 cfs 5 p.m. Jan. 22 (gage height, 14.73 ft).
February 1959: Discharge, 10,900 cfs 7 a.m. Feb. 11 (gage height, 10.73 ft).
1922-35, 1938 to December 1958: Discharge, 16,600 cfs Mar. 22, 1948 (gage height, 12.48 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	700	2,150	11.....	270	9,970	21.....	3,500	600
2.....	2,200	1,510	12.....	220	5,000	22.....	18,000	450
3.....	2,400	1,230	13.....	200	3,000	23.....	13,700	480
4.....	1,800	880	14.....	180	4,200	24.....	7,000	997
5.....	1,500	796	15.....	400	6,040	25.....	4,000	1,320
6.....	1,100	743	16.....	700	4,410	26.....	2,400	1,310
7.....	950	647	17.....	1,200	2,640	27.....	1,200	1,760
8.....	700	428	18.....	850	1,700	28.....	600	2,400
9.....	500	342	19.....	600	1,400	29.....	500	- - - -
10.....	350	4,010	20.....	500	950	30.....	1,980	- - - -
						31.....	2,990	- - - -
Monthly mean discharge, in cubic feet per second.....							2,355	2,192
Runoff, in inches.....							4.62	5.88

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Grand River near Madison, Ohio

Grand River near Madison, Ohio								
Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Feb. 10--Con.		
12 p.m.	6.71	500	5 p.m.	14.73	21,100	9 a.m.	5.42	2,080
			6 p.m.	14.72	21,000	10 p.m.	5.52	2,170
Jan. 21			7 p.m.	14.67	20,900	11 p.m.	5.93	2,560
4 a.m.	6.73	500	8 p.m.	14.56	20,500	12 p.m.	6.54	3,270
6 a.m.	6.84	500	12 p.m.	13.98	16,800		6.97	3,580
8 a.m.	7.12	950				2 p.m.	7.38	4,660
10 a.m.	8.00	1,500	Jan. 23			3 p.m.	7.72	5,170
12 m.	9.89	2,300	1 a.m.	13.83	18,300	4 p.m.	8.00	5,670
2 p.m.	10.54	3,300	8 a.m.	12.48	14,800	6 p.m.	8.49	6,550
4 p.m.	8.30	4,600	12 m.	11.80	13,200	8 p.m.	8.68	7,290
6 p.m.	9.40	5,800	4 p.m.	11.23	11,900	11 p.m.	9.38	8,240
8 p.m.	9.45	7,200	10 p.m.	10.50	10,500	12 p.m.	9.64	8,740
10 p.m.	9.70	8,800	12 p.m.	10.34	10,100			
12 p.m.	11.70	11,000				Feb. 11		
			Feb. 9			1 a.m.	9.92	9,300
Jan. 22			12 p.m.	2.75	410	3 p.m.	10.39	10,200
3 a.m.	12.09	13,800				5 p.m.	10.65	10,800
5 a.m.	12.62	15,100	Feb. 10			6 p.m.	10.71	10,900
7 a.m.	12.62	15,100				7 p.m.	10.73	10,900
10 a.m.	13.66	17,900	2 a.m.	3.01	514	10 p.m.	10.67	10,800
12 m.	14.22	19,500	3 a.m.	3.80	945	11 p.m.	10.64	10,700
1 p.m.	14.40	20,000	4 p.m.	4.50	1,400	4 p.m.	10.30	10,100
2 p.m.	14.52	20,400	5 p.m.	5.20	1,900	8 p.m.	9.83	9,120
3 p.m.	14.61	20,700	6 p.m.	5.50	2,150	12 p.m.	9.25	8,000
4 p.m.	14.69	20,900	7 a.m.	5.60	2,240			

333. Ashtabula River near Ashtabula, Ohio

Location.--Lat 41°51'19", long 80°45'43", on left bank at downstream side of highway bridge, 1 mile upstream from Hubbard Run, 1 1/4 miles southeast of Ashtabula, Ashtabula County, and 5 1/2 miles upstream from mouth.

Drainage area.--118 sq mi.

Gage-height record,--Water-stage recorder graph. Altitude of gage is 605 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements below 7,500 cfs and extended above by logarithmic plotting.

Maxima.--January 1959: Discharge, 11,600 cfs 5 a.m. Jan. 22 (gage height, 11.03 ft).
February 1959: Discharge, 4,420 cfs 7:30 p.m. Feb. 10 (gage height, 6.73 ft).
1924-35, 1939-47, 1950 to December 1958: Discharge, 10,800 cfs May 16, 1942
(gage height, 9.67 ft).

Mean discharge, in cubic feet per second, 1959

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A279

334. Conneaut Creek at Amboy, Ohio

Location.--Lat 41°55'34", long 80°36'18", on right bank at downstream side of highway bridge, half a mile east of Amboy, Ashtabula County, 3 miles southwest of Conneaut, and 6½ miles upstream from mouth.

Drainage area.--178 sq mi.

Gage-height record.--Water-stage recorder graph, except 12 p.m. Jan. 22 to 12 m. Jan. 23 for which graph was reconstructed on basis of record before and after this period. Altitude of gage is 605 ft (from topographic map).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Backwater from ice Jan. 1 to 10 a.m. Jan. 22, Jan. 28-29, and Feb. 9-10, 20-22. Shifting-control method used at times.

Maxima.--January 1959: Discharge, 17,000 cfs 6 p.m. Jan. 22 (gage height, 11.70 ft). February 1959: Discharge, 4,400 cfs 10 a.m. Feb. 11 (gage height, 7.23 ft). 1922-35, 1950 to December 1958: Discharge, 12,900 cfs Oct. 16, 1954 (gage height, 10.74 ft); gage height, 12.94 ft Mar. 4, 1934 (ice jam).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	200	1,090	11.....	80	3,350	21.....	200	120
2.....	350	396	12.....	65	1,270	22.....	9,800	120
3.....	500	234	13.....	60	854	23.....	4,680	160
4.....	350	252	14.....	55	1,290	24.....	1,120	250
5.....	260	300	15.....	170	1,740	25.....	562	340
6.....	220	256	16.....	280	1,350	26.....	372	390
7.....	190	198	17.....	400	567	27.....	250	605
8.....	150	158	18.....	300	431	28.....	160	992
9.....	120	150	19.....	210	300	29.....	130	-----
10.....	95	1,100	20.....	160	160	30.....	892	-----
						31.....	1,630	-----
Monthly mean discharge, in cubic feet per second.....							774	658
Runoff, in inches.....							5.02	3.85

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 23--Con.			Feb. 10		
12 p.m.....	4.31	110	4 a.m.....	9.00	8,020	2 a.m.....	2.85	300
Jan. 21			6.....	8.25	6,300	4.....	3.45	518
6 a.m.....	4.27	110	8.....	7.60	5,050	5.....	3.85	650
12 m.....	4.77	130	10.....	7.05	4,100	6.....	4.80	950
4 p.m.....	6.35	170	12 m.....	6.52	3,280	7.....	4.48	1,150
8.....	9.53	250	2 p.m.....	6.22	2,870	8.....	4.65	1,290
12 p.m.....	7.85	800	6.....	5.68	2,230	9.....	4.68	1,310
Jan. 22			12 p.m.....	5.15	1,720	1 p.m.....	4.20	950
2 a.m.....	8.12	1,600	Jan. 24			2.....	4.27	999
6.....	6.68	3,300	6 a.m.....	4.69	1,320	5.....	4.80	1,410
8.....	7.10	4,400	12 m.....	4.38	1,080	7.....	5.00	1,580
10.....	9.40	7,800	6 p.m.....	4.10	880	8.....	5.15	1,720
11.....	10.45	12,300	12 p.m.....	3.84	714	10.....	5.22	1,780
12 m.....	10.25	14,800	Feb. 8			12 p.m.....	5.37	1,920
1 p.m.....	11.26	15,000	12 p.m.....	2.23	154	Feb. 11		
2.....	11.08	14,300	Feb. 9			2 a.m.....	5.74	2,290
3.....	11.13	14,700	6 a.m.....	2.08	125	4.....	6.40	3,110
4.....	11.15	14,600	8.....	2.13	100	6.....	6.79	3,680
5.....	11.25	15,000	10.....	2.10	100	8.....	7.07	4,130
6.....	11.70	17,000	9.....	1.95	95	10.....	7.23	4,400
7.....	11.68	16,900	11.....	1.85	86	12 m.....	7.15	4,260
8.....	11.44	15,800	12 m.....	1.95	102	2 p.m.....	6.95	3,940
9.....	11.25	15,000	1 p.m.....	2.13	135	6.....	6.47	3,210
10.....	11.03	14,100	2.....	2.20	148	12 p.m.....	5.75	2,300
11.....	10.80	13,300	5.....	2.16	140	Feb. 12		
12 p.m.....	10.50	12,400	7.....	2.33	170	6 a.m.....	5.00	1,580
Jan. 23			9.....	2.42	193	12 m.....	4.41	1,100
2 a.m.....	9.90	10,500	12 p.m.....	2.70	259	6 p.m.....	4.10	880
						12 p.m.....	3.84	714

FLOODS OF 1959 IN THE UNITED STATES

335. Cattaraugus Creek at Gowanda, N.Y.

Location.--Lat 42°27'50", long 78°56'10", on right bank at Gowanda, Erie County, 380 ft downstream from highway bridge, 600 ft downstream from powerhouse of Niagara Mohawk Power Corp., and 4.2 miles downstream from South Branch.

Drainage area.--428 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 738.74 ft above mean sea level (village of Gowanda bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Stage-discharge relation affected by ice Jan. 1-15, 18-21, 27-30 and Feb. 3, 6, 7, 10, 20-24, 26-28.

Maxima.--January-February 1959: Discharge, 27,000 cfs 2:15 a.m. Jan. 22 (gage height, 12.55 ft).
1939 to December 1958: Discharge, 35,900 cfs Mar. 17, 1942; gage height, 14.14 ft Mar. 7, 1956.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	500	1,570	11.....	440	2,690	21.....	7,000	620
2.....	640	960	12.....	430	1,450	22.....	15,300	640
3.....	680	800	13.....	420	1,980	23.....	3,180	640
4.....	640	1,280	14.....	420	2,170	24.....	1,790	720
5.....	410	1,050	15.....	680	4,420	25.....	1,520	640
6.....	450	740	16.....	960	2,080	26.....	1,050	600
7.....	520	600	17.....	640	1,360	27.....	960	620
8.....	520	696	18.....	560	1,150	28.....	760	700
9.....	490	542	19.....	540	838	29.....	780	-----
10.....	460	2,600	20.....	580	640	30.....	3,800	-----
						31.....	2,730	-----
Monthly mean discharge, in cubic feet per second.....							1,608	1,242
Runoff, in inches.....							4.33	3.02

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Discharge	Hour	Gage height	Discharge	Hour	Gage height	Discharge
Jan. 20			Jan. 23			Jan. 26		
12 p.m.....	3.02	647	1 a.m.....	6.03	4,960	6 a.m.....	3.53	1,080
Jan. 21			2.....	5.88	4,640	12 m.....	3.39	951
4 a.m.....	3.06	675	3.....	5.78	4,440	6 p.m.....	3.50	1,050
6.....	3.13	726	4.....	5.66	4,200	12 p.m.....	3.53	1,030
8.....	3.26	822	5.....	5.53	3,940			
9.....	3.35	897	6.....	5.41	3,710	Jan. 27		
10.....	3.50	1,000	7.....	5.39	3,670	6 a.m.....	3.44	951
11.....	4.05	1,200	8.....	5.30	3,510	12 m.....	3.35	906
12 m.....	4.25	1,530	9.....	5.20	3,330	6 p.m.....	3.44	996
1 p.m.....	7.05	7,320	10.....	5.11	3,180			
2.....	6.20	5,330	11.....	5.03	3,040	Jan. 28		
3.....	7.00	7,200	12 m.....	4.94	2,890	6 a.m.....	3.14	710
4.....	7.53	8,190	2 p.m.....	4.86	2,770	12 m.....	3.03	647
5.....	7.95	9,700	3.....	4.77	2,620	6 p.m.....	3.30	830
6.....	9.50	14,000	4.....	4.71	2,540	12 p.m.....	3.35	862
7.....	9.79	15,600	5.....	4.67	2,480			
8.....	10.07	16,600	6.....	4.66	2,460	Jan. 29		
9.....	10.45	18,000	7.....	4.64	2,430	6 a.m.....	3.20	750
10.....	11.40	21,900	8.....	4.60	2,370	12 m.....	3.07	675
11.....	11.87	23,900	9.....	4.57	2,330	6 p.m.....	3.23	814
12 p.m.....	12.05	24,700	10.....	4.50	2,230	12 p.m.....	3.34	906
Jan. 22			11.....	4.46	2,150			
1 a.m.....	12.34	26,000	12 p.m.....	4.42	2,120	Jan. 30		
2:15.....	12.55	27,000				1 a.m.....	3.40	942
3.....	12.45	26,500	Jan. 24			2.....	3.45	978
4.....	12.40	26,300	2 a.m.....	4.36	2,040	3.....	3.51	1,030
6.....	12.00	24,500	4.....	4.25	1,900	4.....	3.58	1,130
7.....	11.45	22,100	6.....	4.20	1,830	5.....	3.70	1,250
8.....	11.10	20,600	8.....	4.11	1,720	6.....	3.91	1,480
9.....	10.57	18,500	10.....	4.08	1,690	7.....	4.25	1,900
10.....	10.10	16,700	12 m.....	4.10	1,710	8.....	4.75	2,600
11.....	9.73	15,300	2 p.m.....	4.09	1,700	9.....	5.45	3,780
12 m.....	9.27	13,700	4.....	4.11	1,720	10.....	5.80	4,480
1 p.m.....	8.90	12,500	6.....	4.17	1,790	11.....	6.75	6,310
2.....	8.45	11,100	8.....	4.19	1,820	12 m.....	6.70	6,530
3.....	8.08	10,100	10.....	4.12	1,730	1 p.m.....	6.67	6,410
4.....	7.77	9,200	12 p.m.....	4.11	1,720	2.....	6.64	6,240
5.....	7.50	8,480				3.....	6.52	6,000
6.....	7.29	7,930	Jan. 25			4.....	6.33	5,620
9.....	6.70	6,480	6 a.m.....	4.02	1,610	5.....	6.18	5,290
11.....	6.36	5,680	12 m.....	3.95	1,530	6.....	6.06	5,020
12 p.m.....	6.20	5,330	6 p.m.....	3.86	1,430	7.....	5.93	4,740
			12 p.m.....	3.72	1,270	10 p.m.....	5.60	4,080

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Cattaraugus Creek at Gowanda, N.Y.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Jan. 30--Con.			Feb. 9			Feb. 14--Con.		
12 p.m.	5.44	3,770	12 p.m.	2.96	612	3 a.m.	4.56	2,310
Jan. 31			Feb. 10			4.....	4.50	2,230
2 a.m.	5.31	3,530	1 a.m.	2.98	626	6.....	4.42	2,120
4.....	5.19	3,310	2.....	3.01	647	7.....	4.38	2,080
7.....	5.01	3,010	4.....	3.11	718	8.....	4.35	2,020
8.....	4.97	2,940	5.....	3.24	822	9.....	4.30	1,960
9.....	4.92	2,860	6.....	3.44	996	11.....	4.25	1,900
10.....	4.88	2,800	7.....	3.70	1,250	12 m.	4.21	1,840
12 m.	4.80	2,670	8.....	4.00	1,590	1 p.m.	4.17	1,770
1 p.m.	4.74	2,580	9.....	4.00	1,900	2.....	4.15	1,770
2 p.m.	4.70	2,520	10.....	5.28	2,150	4.....	4.13	1,750
4.....	4.64	2,430	11.....	5.42	2,440	6.....	4.15	1,770
6.....	4.59	2,360	12.....	5.44	2,670	7.....	4.20	1,830
8.....	4.52	2,260	1 p.m.	5.42	2,830	8.....	4.30	1,960
9.....	4.48	2,200	3.....	5.43	3,330	9.....	4.50	2,230
10.....	4.45	2,160	5.....	5.45	3,600	10.....	5.07	3,110
12 p.m.	4.35	2,020	4.....	5.51	3,800	11.....	5.45	3,780
Feb. 1			6.....	5.60	4,080	12 p.m.	5.95	4,780
2 a.m.	4.27	1,920	8.....	6.24	4,890	Feb. 15		
3.....	4.24	1,880	9.....	6.14	5,200	1 a.m.	6.30	5,550
4.....	4.18	1,810	10.....	6.14	5,200	2.....	6.52	6,050
6.....	4.10	1,710	11.....	6.06	5,020	3.....	6.55	6,120
8.....	4.00	1,590	12 p.m.	5.92	4,720	4.....	6.51	6,020
10.....	3.91	1,480	Feb. 11			5.....	6.41	5,770
12 m.	3.87	1,440	1 a.m.	5.77	4,420	6.....	6.32	5,590
2 p.m.	3.83	1,390	2.....	5.66	4,200	7.....	6.24	5,420
3 p.m.	3.82	1,380	3.....	5.50	3,880	8.....	6.15	5,220
4.....	3.82	1,380	4.....	5.37	3,640	9.....	6.04	4,980
5.....	3.83	1,390	5.....	5.24	3,400	10.....	5.93	4,740
6.....	3.85	1,420	6.....	5.12	3,190	11.....	5.85	4,580
7.....	3.90	1,470	7.....	5.00	2,990	12 m.	5.75	4,380
8.....	3.91	1,480	8.....	4.90	2,830	1 p.m.	5.64	4,160
9.....	3.90	1,470	9.....	4.82	2,700	2.....	5.55	3,980
11.....	3.84	1,400	10.....	4.78	2,640	3.....	5.45	3,780
12 p.m.	3.82	1,380	11.....	4.70	2,520	4.....	5.31	3,530
Feb. 2			12 m.	4.64	2,430	5.....	5.18	3,300
2 a.m.	3.73	1,280	1 p.m.	4.56	2,310	6.....	5.13	3,210
4.....	3.61	1,160	2.....	4.49	2,220	7.....	5.06	3,080
6.....	3.50	1,050	3.....	4.44	2,150	8.....	5.08	2,990
10.....	3.30	870	4.....	4.40	2,090	9.....	4.95	2,810
12 m.	3.21	798	5.....	4.39	2,060	11.....	4.89	2,610
2 p.m.	3.19	782	6.....	4.37	2,050	12 p.m.		
3.....	3.31	879	7.....	4.35	2,020	Feb. 16		
4.....	3.33	897	8.....	4.27	1,920	1 a.m.	4.84	2,730
6.....	3.36	870	9.....	4.24	1,880	4.....	4.72	2,550
12 p.m.	3.33	846	10.....	4.24	1,880	6.....	4.60	2,370
Feb. 3			11.....	4.20	1,830	8.....	4.48	2,200
2 a.m.	3.30	822	12 p.m.	4.18	1,810	10.....	4.37	2,050
4.....	3.26	782	Feb. 12			12 m.	4.30	1,960
6.....	3.20	750	2 a.m.	4.12	1,730	1 p.m.	4.28	1,930
10.....	3.10	682	4.....	4.02	1,610	3.....	4.24	1,880
12 m.	3.06	663	6.....	3.93	1,510	4.....	4.22	1,860
2 p.m.	3.09	696	8.....	3.84	1,400	6.....	4.18	1,810
4.....	3.18	774	10.....	3.75	1,300	7.....	4.15	1,770
6.....	3.30	870	12 m.	3.69	1,240	8.....	4.13	1,750
8.....	3.38	942	2 p.m.	3.73	1,280	10.....	4.07	1,670
10.....	3.40	960	4.....	3.83	1,390	12 p.m.	4.03	1,630
12 p.m.	3.41	969	6.....	3.87	1,440	Feb. 17		
Feb. 4			8.....	3.90	1,470	4 a.m.	3.93	1,510
2 a.m.	3.45	996	10.....	3.91	1,480	6.....	3.88	1,450
4.....	3.55	1,050	12 p.m.	3.87	1,440	8.....	3.85	1,420
6.....	3.61	1,150	Feb. 13			10.....	3.81	1,370
8.....	3.70	1,250	2 a.m.	3.80	1,360	12 m.	3.77	1,330
10.....	3.80	1,360	4.....	3.76	1,320	4 p.m.	3.72	1,270
12 m.	3.88	1,450	6.....	3.75	1,300	6.....	3.70	1,250
2 p.m.	3.90	1,470	8.....	3.79	1,350	10.....	3.68	1,230
4.....	3.90	1,470	10.....	3.96	1,540	12 p.m.	3.68	1,230
6.....	3.87	1,440	12 m.	4.25	1,900	Feb. 18		
8.....	3.82	1,370	2 p.m.	4.62	2,400	6 a.m.	3.64	1,190
10.....	3.76	1,320	4.....	4.82	2,700	12 m.	3.60	1,150
12 p.m.	3.70	1,250	6.....	4.82	2,700	6 p.m.	3.55	1,100
Feb. 5			8.....	4.80	2,670	12 p.m.	3.49	1,040
6 a.m.	3.55	1,100	10.....	4.75	2,600	Feb. 19		
12 m.	3.46	1,010	12 p.m.	4.67	2,480	6 a.m.	3.37	933
6 p.m.	3.48	1,030	Feb. 14			12 m.	3.18	774
			1 a.m.	4.64	2,430	6 p.m.	3.17	766
						12 p.m.	3.17	750

336. Buffalo Creek at Gardenville, N.Y.

Location.--Lat 42°51'15", long 78°45'30", on left bank in Gardenville, Erie County, 700 ft downstream from bridge on Union Road and 2 miles upstream from Cayuga Creek.

Drainage area.--145 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 604.04 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 3,200 cfs and by indirect measurement at 7.07 ft. Stage-discharge relation affected by ice Jan. 1 to Feb. 28.

Maxima.--January-February 1959: Discharge, 10,000 cfs 3 a.m. Jan. 22 (gage height, 8.37 ft).

1938 to December 1958: Discharge, 13,000 cfs Mar. 1, 1955, and Mar. 7, 1956; gage height, 11.90 ft Mar. 9, 1942 (ice jam).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	145	370	11.....	84	700	21.....	1,700	180
2.....	300	300	12.....	82	400	22.....	5,400	180
3.....	280	230	13.....	80	600	23.....	820	190
4.....	190	290	14.....	80	780	24.....	460	200
5.....	120	320	15.....	120	1,200	25.....	300	190
6.....	106	250	16.....	250	740	26.....	270	175
7.....	100	220	17.....	170	540	27.....	240	190
8.....	96	240	18.....	160	450	28.....	230	240
9.....	92	160	19.....	145	250	29.....	220	- - - - -
10.....	88	840	20.....	150	190	30.....	800	- - - - -
						31.....	500	- - - - -

Monthly mean discharge, in cubic feet per second.....	444	379
Runoff, in inches.....	3.53	2.72

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 23--Con.		
12 p.m.....	2.95	138	9 a.m.....	7.20	7,380	9 p.m.....	2.64	640
Jan. 21			10.....	6.67	6,280	10.....	2.61	618
1 a.m.....	2.95	138	11.....	6.05	5,080	11.....	2.57	589
4.....	2.96	150	12 m.....	5.55	4,180	12 p.m.....	2.55	575
6.....	3.00	170	1 p.m.....	5.17	3,530			
7.....	3.05	182	2.....	4.92	3,140	Jan. 24		
9.....	3.12	217	3.....	4.72	2,840	1 a.m.....	2.49	534
10.....	3.17	236	4.....	4.53	2,570	2.....	2.45	508
11.....	3.25	270	5.....	4.36	2,350	3.....	2.40	475
12 m.....	3.38	312	6.....	4.20	2,150	4.....	2.39	456
1 p.m.....	3.58	380	7.....	4.11	2,040	5.....	2.45	-
2.....	3.79	475	8.....	3.98	1,890	6.....	3.90	423
3.....	4.15	610	9.....	3.91	1,810	8.....	4.85	410
4.....	4.60	784	10.....	3.80	1,690	10.....	6.15	410
5.....	5.15	1,010	11.....	3.70	1,580	11.....	6.55	-
6.....	5.35	1,280	12 p.m.....	3.60	1,480	12 m.....	6.57	416
7.....	4.10	1,640				1 p.m.....	7.40	-
8.....	5.00	2,270	Jan. 23			2.....	7.55	442
9.....	8.95	4,180	1 a.m.....	3.50	1,380	4.....	7.46	456
10.....	9.40	6,220	2.....	3.41	1,290	6.....	7.45	449
11.....	8.55	7,940	3.....	3.32	1,210	7.....	7.40	-
12 p.m.....	8.45	9,110	5.....	3.17	1,070	8.....	7.95	442
Jan. 22			7.....	3.10	1,010	10.....	7.95	423
1 a.m.....	8.42	9,670	8.....	3.06	974	11.....	7.78	-
2.....	8.41	9,870	9.....	3.01	929	12 p.m.....	7.88	410
3.....	8.37	10,000	11.....	2.91	848	Jan. 25		
4.....	8.25	9,840	12 m.....	2.87	816	4 a.m.....	8.00	-
5.....	8.12	9,520	2 p.m.....	2.81	768	6.....	7.75	362
6.....	8.00	9,230	3 p.m.....	2.77	738	12 m.....	7.76	312
7.....	7.82	8,800	4.....	2.74	715	6 p.m.....	7.66	285
8 a.m.....	7.60	8,280	6.....	2.70	685	8.....	7.98	-
			7.....	2.67	662	12 p.m.....	7.55	270
			8 p.m.....	2.65	648			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A283**

337. Cayuga Creek near Lancaster, N.Y.

Location.--Lat 42°53'20", long 78°38'40", on right bank just downstream from low flat-crested dam in Como Lake Park, 700 ft downstream from bridge on Bowen Road, 800 ft downstream from Little Buffalo Creek, and 2 miles southeast of Lancaster, Erie County.

Drainage area.--93.3 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 672.80 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Affected by ice Jan. 1-21 and Jan. 23 to Feb. 28.

Maxima.--January-February 1959: Discharge, 8,750 cfs 3:15 a.m. Jan. 22 (gage height, 10.09 ft).

1938 to December 1958: Discharge, 8,700 cfs Mar. 7, 1956; gage height, 12.36 ft Mar. 9, 1942 (ice jam).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	84	270	11.....	52	520	21.....	1,240	110
2.....	250	180	12.....	50	240	22.....	4,040	110
3.....	220	130	13.....	49	440	23.....	610	118
4.....	140	210	14.....	49	640	24.....	320	126
5.....	82	280	15.....	72	1,150	25.....	210	118
6.....	66	170	16.....	190	620	26.....	170	114
7.....	60	125	17.....	130	430	27.....	150	118
8.....	58	135	18.....	110	290	28.....	135	160
9.....	56	98	19.....	98	160	29.....	130	---
10.....	54	660	20.....	106	118	30.....	680	---
						31.....	380	---

Monthly mean discharge, in cubic feet per second.....	324	280
Runoff, in inches.....	4.00	3.13

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 29		
12 p.m.....	4.71	94	2 p.m.....	6.52	2,260	2 p.m.....	6.80	130
Jan. 21			3.....	6.40	2,050			
3 a.m.....	4.71	90	4.....	6.30	1,880	Jan. 30		
4.....	4.73	98	5.....	6.10	1,570	5 a.m.....	6.85	130
6.....	4.80	122	6.....	5.90	1,300	6.....	6.95	146
8.....	4.92	162	7.....	5.84	1,230	7.....	7.05	170
10.....	5.10	220	8.....	5.70	1,070	8.....	7.15	210
11.....	5.13	253	9.....	5.64	1,010	9.....	7.24	299
12 m.....	5.22	293	10.....			10.....	7.39	396
1 p.m.....	5.32	340	Jan. 23			11.....	7.90	650
2.....	5.47	396	1 a.m.....	5.58	946	12 m.....	8.45	996
3.....	5.72	463	2.....	5.51	878	1 p.m.....	8.71	1,280
4.....	6.05	557	3.....	5.45	822	2.....	8.62	1,430
5.....	6.51	667	4.....	5.37	751	3.....	8.69	1,400
6.....	6.43	822	5.....	5.32	708	4.....	8.60	1,340
7.....	7.62	1,160	6.....	5.30	691	5.....	8.60	1,220
8.....	9.32	1,800	7.....	5.26	659	6.....	8.56	1,070
9.....	9.32	1,800	8.....	5.23	634	7.....	8.53	946
10.....	8.88	4,060	9.....	5.19	602	8.....	8.50	868
11.....	9.10	6,180	10.....	5.17	586	9.....	8.43	795
12.....	9.33	7,410	11.....	5.13	557	10.....	8.38	734
12 p.m.....	9.75	8,180	12 p.m.....	5.08	527	11.....	8.32	683
Jan. 22			1.....	5.05	498	12 p.m.....		
1 a.m.....	9.92	8,460	2.....	5.02	477			
2.....	10.02	8,630	3.....	5.30	463	Jan. 31		
3:15.....	10.09	8,750	4.....	5.30	463	2 a.m.....	8.22	587
4.....	10.01	8,620	5.....	6.50	443	3.....	8.14	513
5.....	9.70	8,090	6.....	6.85	430	4.....	8.04	450
6.....	10.14	8,840	7.....	7.26	423	5.....	7.76	409
7.....	8.46	5,920	8.....	6.85	416	6.....	7.67	384
8.....	7.96	4,980	9.....			7.....	7.63	371
9.....	7.55	4,160	10.....			8.....	7.56	353
10.....	8.15	5,340	11.....			9.....	7.40	346
11.....	7.00	3,120	12 p.m.....			10.....	7.24	328
12 m.....	6.81	2,780	1.....			11.....	6.94	304
1 p.m.....	6.65	2,490	2.....					

FLOODS OF 1959 IN THE UNITED STATES

338. Cazenovia Creek at Ebenezer, N.Y.

Location.--Lat 42°49'45", long 78°46'40", on right bank 30 ft upstream from highway bridge on Ridge Road in Ebenezer, Erie County, 4.4 miles upstream from mouth, and 5 miles southeast of Buffalo.

Drainage area.--136 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 604.86 ft above mean sea level, unadjusted.

Discharge record.--Stage-discharge relation defined by current-meter measurements to 5,200 cfs and extended above by logarithmic plotting. Affected by ice Jan. 1 to Feb. 28.

Maxima.--January-February 1959: Discharge, 12,600 cfs 2:45 a.m. Jan. 22 (gage height, 14.46 ft, backwater from ice).
1940 to December 1958: Discharge, 13,500 cfs Mar. 1, 1955 (gage height, 15.82 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	155	400	11.....	94	760	21.....	2,800	190
2.....	320	330	12.....	92	440	22.....	6,200	190
3.....	310	240	13.....	90	660	23.....	900	200
4.....	210	310	14.....	90	800	24.....	480	210
5.....	130	350	15.....	130	1,300	25.....	330	200
6.....	114	270	16.....	260	820	26.....	290	185
7.....	110	230	17.....	180	600	27.....	260	200
8.....	106	250	18.....	170	500	28.....	240	250
9.....	102	170	19.....	155	270	29.....	230	- - - - -
10.....	98	900	20.....	165	200	30.....	900	- - - - -
						31.....	540	- - - - -
Monthly mean discharge, in cubic feet per second.....							524	408
Runoff, in inches.....							4.44	3.12

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 23--Con.		
12 p.m.....	5.36	192	4 a.m.....	14.35	12,500	8 a.m.....	4.61	975
Jan. 21			5.....	14.12	12,200	9.....	4.51	923
2 a.m.....	5.44	218	6.....	13.50	11,200	10.....	4.44	886
4.....	5.56	253	7.....	12.66	9,810	11.....	4.37	850
5.....	5.63	284	8.....	11.75	8,440	1 p.m.....	4.30	790
6.....	5.71	314	9.....	10.90	7,260	2.....	4.26	772
7.....	5.77	360	10.....	10.05	6,160	3.....	4.24	748
8.....	5.86	415	11.....	9.20	5,140	4.....	4.18	712
9.....	5.96	494	12 m.....	8.62	4,500	5.....	4.11	676
10.....	6.13	577	1 p.m.....	8.13	4,000	6.....	4.07	658
12 m.....	6.53	796	2.....	7.70	3,570	7.....	4.05	634
1 p.m.....	6.94	975	3.....	7.35	3,240	8.....	3.98	610
2.....	7.42	1,240	4.....	7.10	3,010			
3.....	8.00	1,560	5.....	6.83	2,770	Jan. 24		
4.....	8.50	2,050	6.....	6.58	2,540	2 a.m.....	3.93	577
5.....	9.60	3,050	7.....	6.33	2,340	4.....	3.93	555
6.....	11.55	4,250	8.....	6.18	2,220	5.....	5.56	-
7.....	11.35	6,350	9.....	6.00	2,080	6.....	4.05	533
8.....	11.53	7,950	10.....	5.83	1,940	10.....	3.94	500
9.....	12.00	8,810	12 p.m.....	5.47	1,660	12 m.....	3.96	484
10.....	12.70	9,870				1 p.m.....	4.81	-
11.....	13.50	11,200	Jan. 23			2.....	5.16	472
12 p.m.....	14.10	12,100	1 a.m.....	5.30	1,500	3.....	3.93	-
Jan. 22			3.....	5.07	1,280	4.....	3.91	462
1 a.m.....	14.31	12,400	4.....	4.96	1,200	5.....	4.00	445
2:45 a.m.....	14.46	12,600	5.....	5.86	1,140	6.....	5.76	435
			6.....	4.79	1,100	8.....	6.60	410
			7 a.m.....	4.70	1,040	10.....	6.72	395
						12 p.m.....		

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A285

STREAMS TRIBUTARY TO NIAGARA RIVER

339. Scajaquada Creek at Buffalo, N.Y.

Location.--Lat 42°54'40", long 78°47'45", on right bank 58 ft upstream from point where stream goes underground in concrete-lined tunnel, 86 ft upstream from Pine Ridge Road, and 0.16 mile east of boundary line of city of Buffalo, Erie County.

Drainage area.--15.7 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Maxima.--January-February 1959: Discharge, 1,150 cfs 2 a.m. Jan. 22 (gage height, 7.98 ft).
1957 to December 1958: Discharge, 746 cfs May 20, 1957 (gage height, 5.98 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	22	58	11.....	9.5	74	21.....	395	14
2.....	66	36	12.....	11	46	22.....	604	13
3.....	41	28	13.....	11	126	23.....	105	20
4.....	27	69	14.....	11	150	24.....	67	26
5.....	22	30	15.....	45	183	25.....	42	17
6.....	15	30	16.....	26	69	26.....	28	24
7.....	13	28	17.....	17	41	27.....	21	61
8.....	13	19	18.....	17	30	28.....	17	89
9.....	12	19	19.....	19	22	29.....	15	-----
10.....	11	190	20.....	20	19	30.....	111	-----
						31.....	58	-----
Monthly mean discharge, in cubic feet per second.....							61.0	54.7
Runoff, in inches.....							4.48	3.63

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 21--Con.			Jan. 22--Con.		
4 a.m.....	1.82	16	3 p.m.....	4.30	423	10 a.m.....	5.48	646
8.....	1.81	15	4.....	4.78	510	11.....	5.21	592
12 m.....	1.87	20	5.....	5.37	624	12 m.....	4.92	537
4 p.m.....	1.90	22	6.....	6.00	750	1 p.m.....	4.66	489
12 p.m.....	1.89	22	7.....	6.31	812	2.....	4.42	449
Jan. 21			8.....	6.57	864	3.....	4.19	412
1 a.m.....	1.89	22	9.....	6.90	930	4.....	3.90	366
2.....	1.93	25	10.....	7.20	990	5.....	3.65	326
3.....	2.02	34	11.....	7.42	1,030	6.....	3.37	279
4.....	2.20	53	12 p.m.....	7.58	1,070	7.....	3.10	232
5.....	2.40	80	Jan. 22			8.....	2.89	194
6.....	2.52	98	1 a.m.....	7.84	1,120	9.....	2.75	169
7.....	2.61	113	2.....	7.98	1,150	10.....	2.68	156
8.....	2.77	141	3.....	7.94	1,140	11.....	2.62	145
9.....	3.00	184	4.....	7.81	1,110	12 p.m.....	2.58	137
10.....	3.19	220	5.....	7.53	1,060	Jan. 23		
11.....	3.33	247	6.....	7.12	974	2 a.m.....	2.49	120
12 m.....	3.46	271	7.....	6.66	882	4.....	2.45	112
1 p.m.....	3.64	304	8.....	6.29	808	8.....	2.39	101
2 p.m.....	3.95	360	9 a.m.....	5.85	720	12 m.....	2.37	97

340. Little Tonawanda Creek at Linden, N.Y.

Location.--Lat 42°52'35", long 78°09'45", on right bank at upstream side of highway bridge in Linden, Genesee County, 7 miles upstream from mouth.

Drainage area.--22.0 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 1,081.62 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Affected by ice Jan. 4-11, 16-18, 23-29, and Feb. 1-3, 6, 14, 19-22.

Maxima.--January-February 1959: Discharge, 1,630 cfs 2:30 a.m. Jan. 22 (gage height, 10.71 ft).
1912 to December 1958: Discharge, 2,700 cfs Mar. 7, 1956 (gage height, 16.04 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	14	68	11.....	14	86	21.....	182	27
2.....	25	46	12.....	13	46	22.....	716	28
3.....	27	36	13.....	13	75	23.....	120	28
4.....	19	59	14.....	13	98	24.....	74	34
5.....	15	57	15.....	23	227	25.....	60	26
6.....	19	32	16.....	28	80	26.....	48	24
7.....	18	27	17.....	17	51	27.....	38	23
8.....	16	26	18.....	22	44	28.....	34	31
9.....	14	22	19.....	20	30	29.....	32	---
10.....	14	110	20.....	18	28	30.....	192	---
						31.....	161	---
Monthly mean discharge, in cubic feet per second.....							65.1	52.5
Runoff, in inches.....							3.41	2.48

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 30		
12 p.m.....	1.10	18	2 p.m.....	4.93	445	2 a.m.....	1.53	36
Jan. 21			3.....	4.72	411	5.....	1.75	49
2 a.m.....	1.12	19	4.....	4.50	376	7.....	2.00	66
5.....	1.21	22	6.....	3.93	294	8.....	2.30	90
7.....	1.28	25	7.....	3.67	258	9.....	2.63	122
9.....	1.38	29	8.....	3.45	227	10.....	2.93	157
11.....	1.49	34	10.....	3.17	188	11.....	3.13	182
1 p.m.....	1.66	44	11.....	3.08	175	12 m.....	3.35	213
2.....	1.89	58	12 p.m.....	3.01	166	1 p.m.....	3.63	252
3.....	2.14	77				2.....	3.88	287
4.....	2.42	101	Jan. 23			3.....	4.10	318
5.....	2.80	141	2 a.m.....	2.88	141	4.....	4.27	342
6.....	3.20	192	4.....	2.82	130	5.....	4.30	346
7.....	3.65	255	6.....	2.77	124	6.....	4.25	339
8.....	4.10	318	8.....	2.71	121	7.....	4.13	322
9.....	4.78	421	12 m.....	2.61	119	9.....	3.92	293
10.....	6.35	690	4 p.m.....	2.57	115	10.....	3.83	280
11.....	8.20	1,080	6.....	2.52	110	12 p.m.....	3.68	259
12 p.m.....	9.63	1,400	8.....	2.43	101			
Jan. 22			12 p.m.....	2.33	87	Jan. 31		
1 a.m.....	10.30	1,540				4 a.m.....	3.40	220
2.....	10.65	1,620	Jan. 24			6.....	3.25	199
2:30.....	10.71	1,630	6 a.m.....	2.17	75	8.....	3.08	175
3.....	10.65	1,620	12 m.....	2.13	76	10.....	2.97	181
4.....	10.22	1,530	6 p.m.....	2.07	71	2 p.m.....	2.84	146
5.....	9.55	1,380	12 p.m.....	2.00	65	6.....	2.63	122
6.....	8.75	1,200	Jan. 25			8.....	2.50	109
7.....	7.80	996	6 a.m.....	2.03	61	12 p.m.....	2.31	91
8.....	6.95	812	12 m.....	1.95	62	Feb. 1		
9.....	6.30	680	6 p.m.....	1.91	60	6 a.m.....	2.10	70
10.....	5.85	595	12 p.m.....	1.83	54	12 m.....	2.01	65
11.....	5.48	533	Jan. 29			6 p.m.....	1.97	63
12 m.....	5.25	496	12 p.m.....	1.45	32	12 p.m.....	1.90	58
1 p.m.....	5.10	472						

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A287

341. Tonawanda Creek at Batavia, N.Y.

Location.--Lat 42°59'55", long 78°11'20", on right bank 150 ft downstream from municipal dam, 500 ft upstream from Walnut Street Bridge in Batavia, Genesee County, and 3½ miles downstream from Little Tonawanda Creek.

Drainage area.--172 sq mi.

Gage-height record.--Water-stage recorder graph. Datum of gage is 876.01 ft above mean sea level (city of Batavia bench mark).

Discharge record.--Stage-discharge relation defined by current-meter measurements. Affected by ice Jan. 6-8, 22, 26-29 and Feb. 20, 28.

Maxima.--January-February 1959: Discharge, 5,230 cfs 5:15 p.m. Jan. 22; gage height, 11.26 ft Jan. 22 (ice jam).

1944 to December 1958: Discharge, 6,480 cfs Mar. 7, 1956; gage height, 13.85 ft Apr. 6, 1947.

Stage known: 14.5 ft March 1942, from records of city of Batavia.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	100	1,370	11.....	89	580	21.....	180	196
2.....	150	818	12.....	87	664	22.....	3,500	186
3.....	254	384	13.....	87	593	23.....	2,760	186
4.....	216	435	14.....	87	664	24.....	1,600	196
5.....	137	465	15.....	96	836	25.....	932	212
6.....	106	340	16.....	190	1,250	26.....	620	176
7.....	102	240	17.....	192	963	27.....	410	172
8.....	100	212	18.....	142	476	28.....	340	170
9.....	96	190	19.....	139	320	29.....	300	---
10.....	91	312	20.....	133	245	30.....	357	---
						31.....	658	---
Monthly mean discharge, in cubic feet per second.....							460	456
Runoff, in inches.....							3.08	2.76

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 25--Con.		
12 p.m.....	2.11	128	12 p.m.....	9.68	4,330	2 a.m.....	3.95	1,160
Jan. 21			Jan. 23			3.....	3.90	1,130
3 a.m.....	2.11	128	1 a.m.....	9.35	4,120	4.....	3.86	1,110
4.....	2.12	131	2.....	9.05	3,940	6.....	3.77	1,050
6.....	2.15	131	3.....	8.75	3,760	8.....	3.70	1,010
9.....	2.18	136	4.....	8.45	3,600	10.....	3.62	962
11.....	2.18	139	5.....	8.10	3,400	11.....	3.59	944
1 p.m.....	2.20	145	6.....	7.85	3,270	3 p.m.....	3.43	848
2.....	2.22	147	8.....	7.45	3,070	5.....	3.37	812
3.....	2.24	153	9.....	7.17	2,930	6.....	3.35	800
5.....	2.30	172	10.....	6.85	2,750	7.....	3.32	782
6.....	2.32	192	11.....	6.62	2,630	10.....	3.26	746
7.....	2.44	236	12 m.....	6.43	2,520	11.....	3.23	728
8.....	2.52	268	2 p.m.....	6.16	2,370	12 p.m.....	3.21	716
9.....	2.67	335	4.....	5.94	2,250	Jan. 26		
10.....	2.87	438	5.....	5.83	2,190	2 a.m.....	3.17	690
11.....	3.04	534	6.....	5.75	2,150	4.....	3.14	671
12 p.m.....	3.20	570	7.....	5.66	2,100	6.....	3.13	664
Jan. 22			9.....	5.51	2,020	8.....	3.11	652
1 a.m.....	3.34	630	10.....	5.43	1,970	10.....	3.11	652
2.....	3.45	728	11.....	5.36	1,930	12 m.....	3.10	645
3.....	3.55	825	12 p.m.....	5.30	1,900	2 p.m.....	3.06	619
4.....	3.80	988	Jan. 24			4.....	3.01	586
5.....	4.30	1,300	1 a.m.....	5.26	1,880	8.....	2.93	534
6.....	5.40	1,960	3.....	5.22	1,860	10.....	2.90	515
7.....	6.45	2,340	4.....	5.18	1,830	12 p.m.....	2.86	489
8.....	7.40	2,840	5.....	5.15	1,820	Jan. 27		
9.....	8.20	3,240	6.....	5.10	1,790	6 a.m.....	2.78	438
10.....	8.95	3,740	8.....	5.01	1,740	12 m.....	2.77	432
11.....	10.00	4,120	9.....	4.97	1,720	6 p.m.....	2.69	384
12 m.....	10.65	4,610	11.....	4.86	1,660	12 p.m.....	2.62	346
1 p.m.....	11.10	4,720	12 m.....	4.80	1,620	Jan. 28		
2.....	10.40	4,830	1 p.m.....	4.69	1,560	6 a.m.....	2.59	330
3.....	10.60	4,990	3.....	4.58	1,500	12 m.....	2.64	357
4.....	10.77	5,140	5.....	4.46	1,440	6 p.m.....	2.60	335
5.....	10.87	5,230	6.....	4.40	1,400	12 p.m.....	2.55	310
6.....	10.85	5,200	8.....	4.28	1,340	Jan. 29		
7.....	10.84	5,130	10.....	4.20	1,300	6 a.m.....	2.53	300
8.....	10.66	5,040	11.....	4.12	1,250	12 m.....	2.54	305
9.....	10.47	4,890	12 p.m.....	4.07	1,220	6 p.m.....	2.52	295
10.....	10.25	4,720	Jan. 25					
11 p.m.....	10.00	4,540	1 a.m.....	4.00	1,180			

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 29--Con.			Feb. 2--Con.			Feb. 16--Con.		
12 p.m.	2.47	272	3 a.m.	3.78	1,060	9 p.m.	4.50	1,460
Jan. 30			4 a.m.	3.71	1,020	10 p.m.	4.42	1,420
6 a.m.	2.50	285	5 p.m.	3.64	974	12 p.m.	4.24	1,320
12 m.	2.61	340	6 p.m.	3.60	950			
6 p.m.	2.75	420	7 p.m.	3.55	920	Feb. 17		
12 p.m.	2.92	528	8 p.m.	3.51	896	1 a.m.	4.16	1,270
Jan. 31			9 p.m.	3.46	866	2 p.m.	4.09	1,230
4 a.m.	2.98	567	10 p.m.	3.42	842	4 p.m.	3.96	1,160
8 a.m.	3.04	606	11 p.m.	3.37	812	6 p.m.	3.85	1,100
10 p.m.	3.05	612	12 m.	3.34	794	8 p.m.	3.75	1,040
12 m.	3.08	632	1 p.m.	3.29	764	9 p.m.	3.70	1,010
2 p.m.	3.10	645	2 p.m.	3.24	734	10 p.m.	3.67	992
4 p.m.	3.14	671	3 p.m.	3.20	710	11 p.m.	3.64	974
6 p.m.	3.20	710	4 p.m.	3.10	645	12 m.	3.60	950
8 p.m.	3.30	770	5 p.m.	3.06	619	1 p.m.	3.58	938
9 p.m.	3.35	800	6 p.m.	3.00	580	2 p.m.	3.55	920
10 p.m.	3.43	848	7 p.m.	2.96	554	3 p.m.	3.50	890
11 p.m.	3.50	890	8 p.m.	2.92	528	4 p.m.	3.47	872
12 p.m.	3.60	950	9 p.m.	2.89	508	5 p.m.	3.37	812
Feb. 1			10 p.m.			6 p.m.	3.33	788
1 a.m.	3.69	1,000	11 p.m.			7 p.m.	3.27	752
3 a.m.	3.91	1,140	12 p.m.			8 p.m.	3.23	728
5 a.m.	4.10	1,240	1 a.m.	2.76	426	9 p.m.	3.18	697
7 a.m.	4.20	1,300	2 a.m.	2.67	372	10 p.m.	3.10	645
9 a.m.	4.28	1,340	3 a.m.	2.61	340			
11 a.m.	4.35	1,360	4 a.m.	2.56	315	Feb. 18		
1 p.m.	4.42	1,420	5 a.m.			2 a.m.	3.03	600
3 p.m.	4.54	1,480	6 a.m.	3.35	800	4 p.m.	2.97	560
5 p.m.	4.60	1,520	7 a.m.	3.34	794	6 p.m.	2.95	508
7 p.m.	4.65	1,540	8 a.m.	3.47	872	8 p.m.	2.83	470
9 p.m.	4.63	1,530	9 a.m.	3.60	950	10 p.m.	2.77	432
11 p.m.	4.62	1,530	10 p.m.			12 p.m.	2.74	414
12 p.m.	4.56	1,490	11 p.m.			1 a.m.	2.72	402
Feb. 2			12 p.m.			2 a.m.	2.68	379
1 a.m.	3.98	1,170	1 a.m.	3.69	1,000	Feb. 19		
2 a.m.	3.90	1,130	2 a.m.	3.73	1,030	6 a.m.	2.63	352
3 a.m.			3 a.m.	3.77	1,050	12 m.	2.59	330
4 a.m.			4 a.m.	3.84	1,090	6 p.m.	2.50	285
5 a.m.			5 a.m.	3.90	1,130	12 p.m.	2.45	262
6 a.m.			6 a.m.	4.04	1,210	Feb. 20		
7 a.m.			7 a.m.	4.22	1,310	6 a.m.	2.39	236
8 a.m.			8 a.m.	4.54	1,480	12 m.	2.40	240
9 a.m.			9 a.m.	4.64	1,540	6 p.m.	2.37	228
10 a.m.			10 a.m.	4.71	1,580	12 p.m.	2.31	208
11 a.m.			11 a.m.	4.71	1,580			
12 p.m.	4.10	1,240	12 p.m.	4.60	1,520			

Location--Lat 43°05'25", long 78°27'15", near center of span on upstream side of highway bridge on Meadville Road, 0.4 mile downstream from canal feeder connecting Tonawanda and Oak Orchard Creeks, 1.1 miles upstream from small tributary, and 3.2 miles west of Alabama, Genesee County.

Gage-height record.--Wire-weight gage readings except Jan. 24 to Feb. 12, Feb. 18-28.

Maxima.--January-February 1959: Discharge, 9,000 cfs 4 a.m. Jan. 23 (gage height, 15.96 ft, ice jam).
1955 to December 1958: Discharge, 6,860 cfs Mar. 8, 1956 (gage height, 13.92 ft).

[illegible]

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY **A289**

343. Tonawanda Creek at Rapids, N.Y.

Location.--Lat 43°05'35", long 78°38'05", on right bank at downstream side of highway bridge at Rapids, Niagara County, 4½ miles downstream from Beeman Creek, 4.7 miles east of Pendleton, and 5½ miles upstream from Mud Creek.

Drainage area.--358 sq mi.

Gage-height record.--Water-stage recorder graph except Jan. 25-27.

Discharge record.--Stage-discharge relation defined by current-meter measurements. Affected by ice Jan. 5-21 and Jan. 28 to Feb. 28. Discharge during period of no gage-height record from records for nearby stations.

Maxima.--January-February 1959: Discharge, 3,760 cfs 3 a.m. Jan. 26 (gage height, 11.97 ft).
1955 to December 1958: Discharge, 5,210 Jan. 25, 1957 (gage height, 15.46 ft).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	159	1,000	11.....	160	700	21.....	180	800
2.....	169	1,200	12.....	155	900	22.....	944	540
3.....	205	1,500	13.....	150	1,100	23.....	1,690	450
4.....	297	1,400	14.....	150	1,000	24.....	2,460	420
5.....	400	1,000	15.....	150	1,100	25.....	3,480	400
6.....	350	800	16.....	160	1,300	26.....	3,650	420
7.....	250	900	17.....	225	1,400	27.....	3,100	400
8.....	200	740	18.....	250	1,500	28.....	1,900	400
9.....	180	560	19.....	230	1,300	29.....	1,200	- - - - -
10.....	165	520	20.....	190	1,100	30.....	800	- - - - -
						31.....	740	- - - - -
Monthly mean discharge, in cubic feet per second.....							785	888
Runoff, in inches.....							2.53	2.58

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 21			Jan. 24--Con.			Jan. 26--Con.		
6 a.m.....	2.35	172	6 a.m.....	7.78	2,180	6 p.m.....	-	3,570
12 a.m.....	2.34	181	7.....	7.85	2,200	7.....	-	3,540
6 p.m.....	2.35	229	8.....	7.92	2,230	8.....	-	3,530
12 p.m.....	2.37	407	10.....	8.10	2,290	10.....	-	3,490
Jan. 22			11.....	8.36	2,380	12 p.m.....	-	3,440
2 a.m.....	2.39	518	12.....	8.48	2,430			
3.....	2.42	574	1 p.m.....	8.58	2,460	Jan. 27		
4.....	3.25	631	2.....	8.71	2,510	2 a.m.....	-	3,400
5.....	3.77	703	3.....	9.02	2,630	4.....	-	3,340
6.....	3.91	762	4.....	9.12	2,670	10.....	-	3,240
7.....	4.00	871	5.....	9.26	2,720	10.....	-	3,180
8.....	4.05	916	6.....	9.57	2,840	12 p.m.....	-	3,110
9.....	4.16	955	7.....	9.71	2,890	2 p.m.....	-	3,050
10.....	4.21	986	8.....	9.86	2,950	6.....	-	2,910
11.....	4.25	1,010	9.....	10.00	3,000	8.....	-	2,840
12 m.....	4.28	1,040	10.....	10.15	3,060	10.....	-	2,760
1 p.m.....	4.42	1,080	12 p.m.....			12 p.m.....	-	2,700
3.....	4.42	1,080	Jan. 25					
4.....	4.55	1,130	2 a.m.....	-	3,160	Jan. 28		
5.....	4.80	1,210	3.....	-	3,220	2 a.m.....	-	2,610
6.....	4.95	1,260	4.....	-	3,270	4.....	-	2,540
7.....	5.03	1,290	5.....	-	3,310	6.....	-	2,380
8.....	5.03	1,290	6.....	-	3,360	8.....	-	2,330
12 p.m.....	5.29	1,370	7.....	-	3,380	10.....	-	2,260
Jan. 23			8.....	-	3,430	12 m.....	8.00	2,200
1 a.m.....	5.37	1,400	9.....	-	3,490	2 p.m.....	7.83	2,160
3.....	5.50	1,440	10.....	-	3,550	3.....	7.74	2,130
4.....	5.58	1,470	12 m.....	-	3,570	4.....	7.65	2,110
5.....	5.72	1,510	1 p.m.....	-	3,590	5.....	7.57	2,050
6.....	5.88	1,560	2.....	-	3,610	7.....	7.40	2,010
7.....	5.96	1,580	3.....	-	3,630	9.....	7.27	1,980
8.....	6.00	1,600	4.....	-	3,670	10.....	7.20	1,940
9.....	6.20	1,650	5.....	-	3,680	11.....	7.08	1,920
10.....	6.28	1,690	6.....	-	3,700	12 p.m.....	7.01	
11.....	6.36	1,710	7.....	-	3,710	Jan. 29		
12 m.....	6.44	1,740	8.....	-	3,730	2 a.m.....	6.88	1,880
1 p.m.....	6.52	1,760	9.....	-	3,750	4.....	6.78	1,830
2.....	6.60	1,790	10.....	-		6.....	6.48	1,750
3.....	6.68	1,810	12 p.m.....	-		8.....	6.34	1,700
4.....	6.86	1,870	Jan. 26			10.....	6.20	1,660
5.....	7.03	1,930	2 a.m.....	-	3,750	12 m.....	6.00	1,600
6.....	7.22	1,990	3.....	11.97	3,760	4 p.m.....	5.75	1,520
Jan. 24			4.....	-	3,750	6.....	5.56	1,460
1 a.m.....	7.32	2,020	5.....	-	3,740			
2.....	7.42	2,060	6.....	-	3,720	Jan. 30		
3.....	7.52	2,090	7.....	-	3,700	6 a.m.....	5.37	1,400
4.....	7.58	2,110	8.....	-	3,680	12 m.....	5.26	1,360
5 a.m.....	7.70	2,150	9.....	-	3,670	6 p.m.....	5.17	1,330
			10.....	-	3,650	12 p.m.....	5.11	1,310
			11.....	-	3,630			

FLOODS OF 1959 IN THE UNITED STATES

STREAMS TRIBUTARY TO LAKE ONTARIO

344. Dyke Creek at Wellsville, N.Y.

Location.--Lat 42°07'14", long 77°56'13", near center of span on upstream side of Miller Street Bridge at Wellsville, Allegany County, 0.6 mile upstream from Genesee River and 1.2 miles downstream from Trapping Brook.

Drainage area.--71.4 sq mi.

Gage-height record.--From wire-weight gage readings. Datum of gage is 1,492.18 ft above mean sea level, datum of 1929.

Discharge record.--Stage-discharge relation defined by current-meter measurements below 930 cfs and extended above by logarithmic plotting. Affected by ice Jan. 1-21 and Feb. 1-3, 6, 7, 9, 19-27.

Maxima.--January-February 1959: Discharge, 3,930 cfs 2 a.m. Jan. 22 (gage height, 15.49 ft).
1955 to December 1958: Discharge, 5,110 cfs Mar. 8, 1956 (gage height, 11.06 ft, at site 0.2 mile downstream at datum 7.18 ft lower).

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	32	165	11.....	32	345	21.....	820	46
2.....	40	114	12.....	30	177	22.....	2,090	44
3.....	39	120	13.....	28	151	23.....	382	42
4.....	36	115	14.....	29	140	24.....	250	42
5.....	32	76	15.....	38	235	25.....	247	36
6.....	35	60	16.....	44	112	26.....	164	40
7.....	38	52	17.....	36	96	27.....	124	50
8.....	37	33	18.....	36	84	28.....	102	201
9.....	36	30	19.....	33	56	29.....	104	- - - - -
10.....	34	1,190	20.....	33	40	30.....	484	- - - - -
						31.....	235	- - - - -
Monthly mean discharge, in cubic feet per second.....							184	139
Runoff, in inches.....							2.97	2.03

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Feb. 9--Con.		
12 p.m.....	11.42	25	3 p.m.....	13.08	1,240	9 p.m.....	10.60	48
Jan. 21			4.....	12.93	1,130	10.....	10.64	54
2 a.m.....	11.42	29	5.....	12.75	1,000	11.....	10.70	64
5.....	11.47	39	6.....	12.57	886	12 p.m.....	10.80	84
6.....	11.53	48	7.....	12.43	794	Feb. 10		
7.....	11.60	68	8.....	12.32	727	1 a.m.....	11.00	138
8.....	11.70	102	9.....	12.23	675	2.....	11.30	240
9.....	11.86	170	10.....	12.15	628	3.....	11.65	378
10.....	12.05	258	11.....	12.08	589	4.....	12.50	840
11.....	12.28	355	12 p.m.....	12.00	545	5.....	13.95	2,040
12 m.....	12.60	495				6.....	14.30	2,430
1 p.m.....	13.30	655	Jan. 23			7:30.....	14.42	2,560
2.....	13.98	905	2 a.m.....	11.85	470	8.....	14.41	2,550
3.....	13.50	1,180	4.....	11.72	409	9.....	14.15	2,260
4.....	14.00	2,100	6.....	11.65	378	10.....	13.75	1,860
5.....	14.60	2,780	8.....	11.61	360	11.....	13.30	1,460
6.....	14.73	2,940	10.....	11.58	347	12 m.....	13.05	1,250
8.....	14.90	3,140	2 p.m.....	11.56	339	1 p.m.....	12.90	1,160
10.....	15.10	3,400	6.....	11.52	323	2.....	12.81	1,100
11.....	15.25	3,600	8.....	11.50	315	3.....	12.76	1,060
12 p.m.....	15.45	3,870	10.....	11.48	302	4.....	12.71	1,030
			12 p.m.....	11.45	295	5.....	12.65	990
Jan. 22						7.....	12.53	918
1 a.m.....	15.48	3,910	Feb. 8			8.....	12.47	882
2.....	15.49	3,930	12 p.m.....	10.37	22	10.....	12.29	775
3.....	15.48	3,910				12 p.m.....	12.07	665
4.....	15.44	3,860	Feb. 9			Feb. 11		
5.....	15.37	3,760	5 a.m.....	10.69	18	2 a.m.....	11.90	580
6.....	15.23	3,570	6.....	10.72	18	4.....	11.70	490
7.....	15.00	3,270	8.....	10.75	16	6.....	11.55	422
8.....	14.78	3,000	10.....	10.77	18	8.....	11.41	364
9.....	14.40	2,540	11.....	10.77	18	10.....	11.31	324
10.....	14.00	2,100	1 p.m.....	10.78	24	12 m.....	11.24	296
11.....	13.75	1,830	3.....	10.80	35	2 p.m.....	11.18	272
12 m.....	13.55	1,640	5.....	10.75	40	6.....	11.12	248
1 p.m.....	13.40	1,500	6.....	10.71	42	8.....	11.08	233
2 p.m.....	13.25	1,380	7.....	10.62	42	12 p.m.....	11.02	212
			8 p.m.....	10.59	44			

OHIO AND ADJACENT STATES, JANUARY-FEBRUARY A291

345. Genesee River at Scio, N.Y.

Location.--Lat 42°09'50", long 77°58'50", on left bank 0.4 mile upstream from Vandermark Creek and three-quarters of a mile upstream from Scio, Allegany County

Drainage area.--309 sq mi.

Gage-height record.--Water-stage recorder graph.

Discharge record.--Stage-discharge relation defined by current-meter measurements.

Affected by ice Jan. 1-21, 26-29 and Jan. 31 to Feb. 3, Feb. 5-9, 12, 16, 19-23, 25, 26.

Maxima.--January-February 1959: Discharge, 19,500 cfs 6 a.m. Jan. 22 (gage height, 10.83 ft).

1916 to December 1958: Discharge, 16,900 cfs Mar. 8, 1956; gage height, 11.22 ft Nov. 25, 1950.

Mean discharge, in cubic feet per second, 1959

Day	January	February	Day	January	February	Day	January	February
1.....	145	660	11.....	150	2,240	21.....	3,400	300
2.....	180	490	12.....	140	860	22.....	11,800	300
3.....	200	500	13.....	130	805	23.....	3,080	290
4.....	185	661	14.....	130	751	24.....	1,560	294
5.....	155	520	15.....	150	1,080	25.....	1,360	240
6.....	170	390	16.....	215	580	26.....	920	260
7.....	195	270	17.....	190	525	27.....	800	307
8.....	190	330	18.....	180	498	28.....	600	576
9.....	180	220	19.....	170	360	29.....	560	-----
10.....	165	5,450	20.....	175	260	30.....	1,830	-----
						31.....	1,180	-----
Monthly mean discharge, in cubic feet per second.....							983	643
Runoff, in inches.....							3.67	2.17

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959

Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge	Hour	Gage height	Dis-charge
Jan. 20			Jan. 22--Con.			Jan. 30--Con.		
12 p.m.....	2.20	372	11 p.m.....	8.34	5,740	4 a.m.....	2.66	609
			12 p.m.....	8.15	5,360	5.....	2.78	661
Jan. 21			Jan. 23			6.....	3.10	810
3 a.m.....	2.20	372	2 a.m.....	7.70	4,590	7.....	3.52	1,020
5.....	2.22	380		7.16	3,950	8.....	4.02	1,310
7.....	2.26	395	6.....	6.75	3,540	9.....	4.70	1,760
8.....	2.29	406	8.....	6.48	3,270	10.....	5.08	2,050
9.....	2.33	422	10.....	6.24	3,040	11.....	5.51	2,400
10.....	2.41	454	12 m.....	6.05	2,860	12 m.....	5.80	2,640
11.....	2.64	553	2 p.m.....	5.91	2,740	2 p.m.....	6.15	2,960
12 m.....	3.08	760	4.....	5.77	2,610	3.....	6.21	3,010
1 p.m.....	3.78	1,160	6.....	5.63	2,490	4.....	6.21	3,010
2.....	5.14	2,000	8.....	5.43	2,330	6.....	5.99	2,810
3.....	5.92	2,470	12 p.m.....	5.01	2,000	8.....	5.62	2,490
4.....	8.53	2,970				9.....	5.45	2,350
5.....	7.70	4,590	Jan. 24			10.....	5.25	2,190
6.....	8.64	6,490	2 a.m.....	4.86	1,880	12 p.m.....	4.93	1,930
7.....	9.17	8,650	4.....	4.68	1,750			
8.....	9.37	9,650	6.....	4.53	1,640	Jan. 31		
9.....	9.53	10,500	8.....	4.41	1,560	1 a.m.....	4.77	1,810
10.....	9.69	11,400	10.....	4.35	1,500	2.....	4.62	1,700
11.....	9.94	12,400	12 p.m.....	4.27	1,460	4.....	4.36	1,540
12 p.m.....	9.98	13,200	2 p.m.....	4.24	1,440	5.....	4.25	1,450
Jan. 22			4.....	4.28	1,470	7.....	3.99	1,290
1 a.m.....	10.07	13,700	10.....	4.29	1,470	8.....	3.85	1,210
2.....	10.09	13,800	12 p.m.....	4.27	1,460	9.....	3.78	1,140
3.....	10.11	14,000				10.....	3.68	1,080
4.....	10.38	15,900	Jan. 25			11.....	3.63	1,030
5.....	10.61	17,800	6 a.m.....	4.20	1,420	12 m.....	3.55	1,010
6.....	10.83	19,500	12 m.....	4.17	1,400	1 p.m.....	3.56	1,020
7.....	10.63	17,900	6 p.m.....	4.03	1,320	2.....	3.57	1,050
8.....	10.46	16,600	12 p.m.....	3.72	1,130	3.....	3.57	1,040
9.....	10.46	16,600				4.....	3.53	1,020
10.....	10.16	14,300	Jan. 26			5.....	3.51	1,020
11.....	9.76	11,900	6 a.m.....	3.43	930	6.....	3.47	995
12 m.....	10.06	13,700	12 m.....	3.18	840	7.....	3.44	980
1 p.m.....	9.71	11,600	6 p.m.....	3.41	965	8.....	3.39	955
2.....	9.65	11,200	12 p.m.....	3.24	880	9.....	3.32	920
3.....	9.59	10,800				11.....	3.20	860
4.....	9.47	10,200	Jan. 29			12 p.m.....	3.12	820
5.....	9.32	9,400	12 p.m.....	2.53	557			
6.....	9.17	8,650				Feb. 1		
7.....	9.03	7,950	Jan. 30			2 a.m.....	3.01	765
8.....	8.87	7,270	1 a.m.....	2.53	557	4.....	2.93	702
9.....	8.70	6,650	2.....	2.55	565	6.....	2.81	638
10 p.m.....	8.50	6,110	3 a.m.....	2.60	585	8.....	2.72	597
						10 a.m.....	2.63	577

Gage height, in feet, and discharge, in cubic feet per second, at indicated time, 1959, of
Genesee River at Scio, N.Y.--Continued

Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge	Hour	Gage height	Dis- charge
Feb. 1--Con.			Feb. 10--Con.			Feb. 11--Con.		
12 m.....	2.64	589	4 a.m.....	1.85	322	10 a.m.....	5.09	2,060
2 p.m.....	2.67	613	5.....	2.14	412	11.....	4.95	1,950
4.....	2.64	601	6.....	3.26	890	12 m.....	4.82	1,850
6.....	2.74	643	7.....	4.83	1,850	1 p.m.....	4.73	1,780
8.....	2.89	710	8.....	5.51	2,400	2.....	4.66	1,730
10.....	2.85	692	9.....	6.52	3,310	4.....	4.52	1,630
12 p.m.....	2.78	661	10.....	7.17	3,960	5.....	4.42	1,560
			11.....	7.66	4,860	6.....	4.29	1,470
Feb. 2			12 m.....	8.10	5,270	7.....	4.18	1,410
6 a.m.....	2.48	537	1 p.m.....	8.12	5,310	8.....	4.06	1,340
12 m.....	2.24	392	2.....	8.16	5,380	9.....	3.93	1,260
6 p.m.....	2.23	443	2:45.....	8.17	5,400	11.....	3.70	1,120
12 p.m.....	2.58	577	4.....	8.14	5,350	12 p.m.....	3.61	1,070
			5.....	8.10	5,270			
Feb. 9			6.....	8.03	5,150	Feb. 12		
2 a.m.....	1.70	231	7.....	8.00	5,100	2 a.m.....	3.45	985
4.....	1.67	216	8.....	7.98	5,070	6.....	3.21	845
6.....	1.62	207	9.....	7.94	5,000	8.....	3.08	780
8.....	1.62	205	10.....	7.91	4,950	10.....	3.01	746
10.....	1.59	190	11.....	7.83	4,810	12 m.....	2.99	742
12 m.....	1.57	198	12 p.m.....	7.70	4,590	2 p.m.....	3.02	770
2 p.m.....	1.54	216				4.....	3.14	830
4.....	1.59	229	Feb. 11			6.....	3.36	940
6.....	1.53	222	1 a.m.....	7.54	4,360	8.....	3.39	955
8.....	1.54	231	2.....	7.28	4,070	10.....	3.33	925
10.....	1.63	250	3.....	6.96	3,750	12 p.m.....	3.26	890
12 p.m.....	1.68	275	4.....	6.66	3,450			
			5.....	6.41	3,200	Feb. 13		
Feb. 10			6.....	6.11	2,920	6 a.m.....	3.04	780
1 a.m.....	1.71	283	7.....	5.82	2,660	12 m.....	2.98	751
2.....	1.72	285	8.....	5.56	2,440	6 p.m.....	3.14	830
3 a.m.....	1.76	296	9 a.m.....	5.31	2,240	12 p.m.....	3.22	870

INDEX

	Page		Page
Allegheny River, at Franklin, Pa....	A69	Chippewa Creek at Easton, Ohio.....	A98
at Parkers Landing, Pa.....	74	Clarion River, at Cooksburg, Pa.....	72
Allegheny River basin, floods.....	15	at Johnsonburg, Pa.....	72
ice jams.....	17	East Branch, at East Branch	
Alum Creek at Columbus, Ohio.....	143	Clarion River Dam, Pa.....	71
American Red Cross.....	20,24,32,37	near Piney, Pa.....	73
Anderson Fork near Lumberton,		West Branch, at Wilcox, Pa.....	71
Ohio.....	156	Clarion River basin, records....	52,70-74
Anderson River, Middle Fork, near		Clear Creek at Franklin, Ohio.....	180
Uniontown, Ind.....	196	Clear Fork at Butler, Ohio.....	109
near Siberia, Ind.....	196	Clendenen Reservoir at Tippecanoe,	
Anderson River basin, records.....	60,196	Ohio.....	105
Ashtabula River near Ashtabula,		Clifty Creek at Hartsville, Ind.....	237
Ohio.....	278	Conneaut Creek at Amboy, Ohio.....	279
Atwood Reservoir near New Cumber-		Connoquenessing Creek at Hazen, Pa..	92
land, Ohio.....	103	Conns Creek at Homer, Ind.....	235
Auglaize River, near Defiance,		Crab Creek at Youngstown, Ohio.....	88
Ohio.....	261	near Youngstown, Ohio.....	88
near Fort Jennings, Ohio.....	258	Crooked Creek at Madison, Ind.....	191
Beach City Reservoir near Beach		Crooked Creek basin, records.....	59,191
City, Ohio.....	104	Cuyahoga River, at Hiram Rapids,	
Beaver Creek near Springfield,		Ohio.....	272
Ohio.....	175	at Independence, Ohio.....	274
Beaver River, at Beaver Falls, Pa..	94	at Old Portage, Ohio.....	273
at Wampum, Pa.....	92	Cuyahoga River basin, floods.....	33
Beaver River basin, discharge at		Damage, estimated.....	3,15,
selected gaging stations.....	18	17,19,20,23,24,32,33,37	
flood description.....	17	Darby Creek at Darbyville, Ohio.....	146
records.....	53,76-94	Deer Creek (tributary to Mahoning	
Beech Creek near Bolton, Ohio.....	77	River) at Limaville, Ohio.....	77
Berlin Reservoir near Berlin Center,		Deer Creek (tributary to Scioto	
Ohio.....	17,78	River) at Williamsport, Ohio..	147
Big Buck Creek near New Middletown,		Deer Creek (tributary to Wabash	
Ind.....	193	River) near Delphi, Ind.....	213
Big Buck Creek basin.....	59,193	Delaware Reservoir near Delaware,	
Big Creek at Cleveland Zoo, Clevel-		Ohio.....	19,137
and, Ohio.....	275	Delaware Run near Delaware, Ohio....	138
Big Indian Creek near Corydon, Ind..	193	Dicks Creek near Excello, Ohio.....	182
Big Indian Creek basin, records.....	59,	Discharge tables, explanation.....	49
193-194		Discharges, at selected gaging	
Big Pine Creek near Williamsport,		stations, Beaver River	
Ind.....	224	basin.....	17,18
Big Walnut Creek, at Central		Little Miami River basin.....	20,22
College, Ohio.....	142	Miami River basin.....	24
at Rees, Ohio.....	145	Mill Creek basin.....	22,23
Black River, at Elyria, Ohio.....	271	Muskingum River basin.....	18,19
East Branch, at Elyria, Ohio.....	270	Ohio River tributaries in south-	
Blacklick Creek near Groveport,		ern Indiana.....	24
Ohio.....	144	Scioto River basin.....	20,22
Blanchard River, at Glandorf,		streams tributary to Lake Erie....	35
Ohio.....	260	Wabash River and tributary	
near Findlay, Ohio.....	260	basins.....	24,30,31,32
near Forest, Ohio.....	259	Discharges, determination of.....	47
Blue River (tributary to Ohio River),		ratio of January and February	
Middle Fork, near Salem, Ind..	195	peaks to mean annual flood....	43
near White Cloud, Ind.....	195	Dover Reservoir near Dover, Ohio....	103
Blue River basin, records.....	60,195-196	Driftwood River near Edinburg, Ind..	234
Blue River (tributary to White		Dry Creek near Bangs, Ohio.....	113
River), at Carthage, Ind.....	230	Dyke Creek at Wellsville, N.Y.....	290
at Shelbyville, Ind.....	231	Eagle Creek (tributary to Blanchard	
Bolivar Reservoir at Bolivar,		River) near Findlay, Ohio.....	259
Ohio.....	102	Eagle Creek (tributary to Mahoning	
Brush Creek near Nebraska, Ind.....	243	River) at Phalanx Station,	
Buck Creek, at New Moorefield,		Ohio.....	82
Ohio.....	175	Eel River, at North Manchester, Ind..	210
at Springfield, Ohio.....	175	near Logansport, Ind.....	211
Buckongahelas Creek near DeGraff,		Englewood retarding basin at Engle-	
Ohio.....	164	wood, Ohio.....	172
Buffalo Creek at Gardenville, N.Y...	282	Erie, Lake, discharge at selected	
Caesar Creek near Zenia, Ohio.....	156	gaging stations on tributary	
Cattaraugus Creek at Gowanda, N.Y...	280	streams.....	36
Cayuga Creek near Lancaster, N.Y...	283	flood damage on tributaries.....	15
Cazenovia Creek at Ebenezer, N.Y...	284	records on tributary streams.....	62-64,
Chagrin River at Willoughby, Ohio...	275	254-284	
Charles Mill Reservoir near Mifflin,		tributaries between Maumee and	
Ohio.....	108	Cuyahoga River basin, floods..	33

	Page		Page
Erie, Lake, tributaries, east of		Leesville Reservoir near Leesville,	
Cuyahoga River, floods.....	A33	Ohio.....	A102
Factors contributing to severity of		Lick Creek near Paoli, Ind.....	252
floods in January.....	3	Licking River, at Dillon, Ohio.....	125
February storms.....	12	at Toboso, Ohio.....	124
Flatrock River at St. Paul, Ind.....	235	near Newark, Ohio.....	123
Flood-control reservoirs, Muskingum		North Fork, at Newark, Ohio.....	122
Conservancy District.....	17,19	at Utica, Ohio.....	122
Flood discharges, determination....	47	South Fork, near Hebron, Ohio.....	121
Floods, two series.....	1	Lisbon Creek at Lisbon, Ohio.....	95
Fourmile Creek at Hueston Woods Dam,		Little Beaver Creek near East Liver-	
Ohio.....	182	pool, Ohio.....	96
Fourteenmile Creek, West Fork, near		Little Beaver Creek basin, records..	54,
Nabb, Ind.....	192		95-96
Fourteenmile Creek basin, records.	59,192	Little Blue River at English, Ind....	196
French Creek, at Carters Corners,		Little Blue River basin, records..	60,196
Pa.....	67	Little Chippewa Creek near Smith-	
at Utica, Pa.....	68	ville, Ohio.....	97
French Creek basin, records.....	52,66-69	Little Indian Creek near Corydon,	
Frequency, recurrence interval of		Ind.....	194
floods.....	42,46	Little Mahoning Creek at McCormick,	
Gaging stations, description.....	49	Pa.....	75
streamflow data.....	48,65	Little Miami River, at Kings Mills,	
Genesee River at Scio, N.Y.....	291	Ohio.....	157
Germantown retarding basin near		at Milford, Ohio.....	158
Germantown, Ohio.....	181	at Spring Valley, Ohio.....	155
Graham Creek near Vernon, Ind.....	240	East Fork, at Perintown, Ohio.....	159
Grand River near Madison, Ohio.....	277	near Fort Ancient, Ohio.....	156
Greenville Creek near Bradford,		near Oldtown, Ohio.....	152
Ohio.....	169	near Selma, Ohio.....	151
Griggs Reservoir near Columbus,		North Fork, near Pitchin, Ohio....	151
Ohio.....	134	Little Miami River basin, discharge	
Hanna Creek near Liberty, Ind.....	188	at selected gaging stations...	22
Havens Creek at Havens, Ohio.....	267	flood description.....	20,42
Hinkley Creek near Charlestown,		records.....	57,151-159
Ohio.....	81	Little Pigeon Creek, near Midway,	
Hocking River at Athens, Ohio.....	127	Ind.....	197
Hocking River basin, records.....	55,127	near Tennyson, Ind.....	197
Hog Run tributary at Laura, Ohio.....	171	Little Pigeon Creek basin, records..	60,197
Hogan Creek basin, records.....	59,190	Little Scioto River above Marion,	
Holes Creek near Kettering, Ohio....	179	Ohio.....	129
Honey Creek near Millhouses, Ind....	243	Little Shenango River at Greenville,	
Hoover Reservoir at Central College,		Pa.....	89
Ohio.....	19,142	Little Tonawanda Creek at Linden,	
Hoskins Creek at Harts Grove, Ohio....	276	N.Y.....	286
Huffman retarding basin near Dayton,		Little Wabash River near Huntington,	
Ohio.....	176	Ind.....	201
Huron River, at Milan, Ohio.....	269	Lockington retarding basin at Lock-	
East Branch, near Norwalk, Ohio....	268	ington, Ohio.....	166
Ice jams.....	15,17,26,32,33	Loramie Creek at Lockington, Ohio...	166
Indian Creek (tributary to Miami		Lost Creek near Troy, Ohio.....	167
River) near Millville,		Mad River, at Zanesfield, Ohio.....	173
Ohio.....	185	near Dayton, Ohio.....	177
Indian Creek (tributary to Ohio		near Springfield, Ohio.....	175
River) basin, records.....	59,191	near Urbana, Ohio.....	174
Indian Lake at Russells Point,		Magnitude and frequency of floods...	40
Ohio.....	163	Mahoning Creek at Punxsutawney, Pa..	75
Inundation maps.....	43	Mahoning Creek basin, records...	52,75-76
January storms.....	3	Mahoning River, at Alliance, Ohio....	76
Jerome Fork at Jeromeville, Ohio....	110	at Leavittsburg, Ohio.....	83
Kale Creek near Pricetown, Ohio.....	80	at Lowellville, Ohio.....	88
Killbuck Creek at Killbuck, Ohio....	115	at Pricetown, Ohio.....	80
Kokosing River, at Millwood,		at Youngstown, Ohio.....	86
Ohio.....	113	below Berlin Dam, near Berlin	
at Mount Vernon, Ohio.....	112	Center, Ohio.....	79
at Uhrichsville, Ohio.....	111	West Branch, near Newton Falls,	
North Branch, East Branch of at		Ohio.....	81
Knox Lake Dam, near Frederick-		Manning ditch at Dudleytown, Ind....	246
town, Ohio.....	111	Martindale Creek at Cambridge City,	
Lake Erie. See Erie, Lake.		Ind.....	185
Lake Ontario. See Ontario, Lake.		Massie Creek, at Wilberforce, Ohio..	154
Laughery Creek, at Versailles, Ind..	190	North Fork, at Cedarville, Ohio....	153
near Farmers Retreat,		South Fork, near Cedarville,	
Ind.....	190	Ohio.....	153
Laughery Creek basin, records..	59,190-191	Maumee River, at New Haven, Ind....	257
		at Waterville, Ohio.....	263
		near Defiance, Ohio.....	262
		Maumee River basin, floods.....	15,32
		Meander Creek Reservoir at Mineral	
		Ridge, Ohio.....	85
		Miami River, at Dayton, Ohio.....	178

INDEX

A295

	Page		Page
Miami River, at Hamilton, Ohio.....	A184	Ontario, Lake, records on tributary streams.....	A64,290-292
at Miamisburg, Ohio.....	179	Ordinance Creek near Newton Falls, Ohio.....	82
at Piqua, Ohio.....	167	O'Shaughnessy Reservoir near Dublin, Ohio.....	133
at Quincy, Ohio.....	165	Ottawa River at Allentown, Ohio.....	258
at Sidney, Ohio.....	165	Otter Fork near Centerburg, Ohio.....	122
at Taylorsville, Ohio.....	168		
Miami River basin, discharge at selected gaging stations.....	25	Paint Creek, East Fork, near Sedalia, Ohio.....	148
flood description.....	23	near Bourneville, Ohio.....	149
records.....	57-59,163-189	near Greenfield, Ohio.....	149
Middle Fork Creek at Lancaster, Ind.....	241	Patoka River, at Jasper, Ind.....	252
Mill Creek (tributary to Blue River) near Becks Mill, Ind.....	195	near Princeton, Ind.....	253
Mill Creek (tributary to Grand River) near Jefferson, Ohio.....	277	Peak stages and discharges, explanation of data.....	48
Mill Creek (tributary to Mahoning River) at Youngstown, Ohio.....	87	ratio to mean annual and 50-year floods.....	40-45
Mill Creek (tributary to Mahoning River) near Berlin Center, Ohio.....	78	summary table.....	52
Mill Creek (tributary to Ohio River), at Carthage, Ohio.....	162	Persimmon Run near Carwood, Ind.....	192
at Reading, Ohio.....	160	Phelps Creek near Windsor, Ohio.....	276
West Fork, at Lockland, Ohio.....	162	Piedmont Reservoir at Piedmont, Ohio.....	105
at Woodlawn, Ohio.....	161	Pigeon Creek at Evansville, Ind.....	197
Mill Creek basin, discharge at selected gaging stations.....	22	Pigeon Creek basin, records.....	60,197
flood description.....	23	Pleasant Hill Reservoir near Perrysville, Ohio.....	109
records.....	57,160-163	Plum Creek at Oberlin, Ohio.....	270
Mill Creek (tributary to Scioto River) near Bellepoint, Ohio..	132	Poplar Creek near Vandalia, Ohio.....	169
Mill Creek (tributary to Walhonding River), near Coshocton, Ohio..	116	Portage River at Woodville, Ohio.....	263
Mill Creek (West Fork) Reservoir near Greenhills, Ohio.....	161	Precipitation.....	7,12-15
Milton Reservoir at Pricetown, Ohio.....	79	Pymatuning Creek near Orangeville, Pa.....	90
Mississinewa River, at Marion, Ind..	207	Raccoon Creek (tributary to Ohio River) at Adamsville, Ohio....	128
at Peoria, Ind.....	208	Raccoon Creek basin, records.....	55,128
near Eaton, Ind.....	206	Raccoon Creek (tributary to Ohio River) at Moffatts Mill, Pa...	95
near Ridgeville, Ind.....	206	Raccoon Creek basin, records.....	54,95
Mohawk Reservoir near Nellie, Ohio..	114	Raccoon Creek (tributary to South Fork Licking River) at Granville, Ohio.....	121
Mohican River at Greer, Ohio.....	111	at Newark, Ohio.....	121
Mohicanville Reservoir near Mohicanville, Ohio.....	110	Ratio of peak discharges, to mean annual flood.....	43
Mosquito Creek at Miles, Ohio.....	85	to 50-year floods.....	44,45
Mosquito Creek Reservoir near Cortland, Ohio.....	17,84	Rocky River near Berea, Ohio.....	271
Musecatuck River, near Austin, Ind.....	242	Roller Creek at Ohio City, Ohio.....	261
near Deputy, Ind.....	241	Runoff.....	12,15,17,19,20,23
Muskingum River, at Dresden, Ohio...	120	St. James River near Upper Sandusky, Ohio.....	265
at McConnellsville, Ohio.....	126	St. Marys River, at Decatur, Ind....	255
near Coshocton, Ohio.....	117	near Fort Wayne, Ind.....	256
Muskingum River basin, discharge at selected gaging stations.....	18	Salamonie River, at Dora, Ind.....	203
flood description.....	17,42	ice jam.....	26
records.....	54-55,96-126	near Warren, Ind.....	202
Niagara River, flood damage.....	15	Salt Creek (Miami River basin) near Hamburg, Ind.....	186
records on tributary streams.....	64,285-289	Salt Creek (Wabash River basin), near Harrodsburg, Ind.....	249
Nimshillen Creek, at North Industry, Ohio.....	101	near Peerless, Ind.....	250
Middle Branch, at Canton, Ohio.....	100	North Fork, near Belmont, Ind.....	248
North Hogan Creek near Moores Hill, Ind.....	190	Sand Creek, at Greensburg, Ind.....	238
Norwalk Creek near Norwalk, Ohio....	268	near Brewersville, Ind.....	238
		Sandusky River, at Fremont, Ohio....	268
Ohio River, discharge at selected gaging stations in tributary basins in southern Indiana....	25	at Tiffin, Ohio.....	267
floods in tributary basins in southern Indiana.....	24	at Upper Sandusky, Ohio.....	265
main stem, records.....	52,69-70,74	near Bucyrus, Ohio.....	264
Oil Creek at Rouseville, Pa.....	66	near Fremont, Ohio.....	267
Oil Creek basin, records.....	52,66-67	near Mexico, Ohio.....	266
Olentangy River, at Claridon, Ohio.....	135	near Upper Sandusky, Ohio.....	265
at Stratford, Ohio.....	138	Sandy Creek at Waynesburg, Ohio.....	99
near Delaware, Ohio.....	137	Scajquada Creek at Buffalo, N.Y....	285
near Worthington, Ohio.....	139	Scioto Big Run at Briggsdale, Ohio..	141
		Scioto River, at Chillicothe, Ohio..	147
		at Columbus, Ohio.....	140
		at Foraker, Ohio.....	129
		at Higby, Ohio.....	150
		at LaRue, Ohio.....	129

	Page		Page
Scioto River below O'Shaughnessy Dam, near Dublin, Ohio.....	A133	Tuscarawas River, at Clinton, Ohio..	A96
near Circleville, Ohio.....	146	at Massillon, Ohio.....	98
near Prospect, Ohio.....	130	at Newcomerstown, Ohio.....	107
Scioto River basin, above Deer Creek, floods.....	42	below Dover Dam, near Dover Ohio.....	104
discharge at selected gaging stations.....	22	Twin Creek, near Germantown, Ohio...	181
flood description.....	19	near Ingomar, Ohio.....	181
records.....	55-57,129-151	Vermilion River near Vermilion, Ohio.....	270
Senecaville Reservoir near Seneca-ville, Ohio.....	118	Vernon Fork, at Vernon, Ind.....	245
Severnville Creek at Collinsville, Ohio.....	183	North Fork of, near Butlerville, Ind.....	244
Severnville Run near Rasselas, Pa.....	70	Wabash River, at Bluffton, Ind.....	199
Shaw Creek at Shawtown, Ohio.....	136	at Covington, Ind.....	225
Shawnee Creek at Xenia, Ohio.....	155	at Delphi, Ind.....	212
Shenango River, at Pymatuning Dam, Pa.....	89	at Huntington, Ind.....	200
at Sharpsville, Pa.....	91	at Lafayette, Ind.....	223
floods.....	17	at Logansport, Ind.....	211
Silver Creek near Sellersburg, Ind.....	192	at Montezuma, Ind.....	226
Silver Creek basin, records... 59,192-193	246	at Peru, Ind.....	209
Sixmile Creek at Hayden, Ind.....	246	at Riverton, Ind.....	228
Slippery Rock Creek at Wurtemburg, Pa.....	93	at Terre Haute, Ind.....	227
South Hogan Creek near Dillsboro, Ind.....	190	at Vincennes, Ind.....	229
Spicer Creek near Tiffin, Ohio.....	267	at Wabash, Ind.....	204
Stillwater Creek at Uhrichsville, Ohio.....	106	near New Corydon, Ind.....	197
Stillwater River, at Englewood, Ohio.....	172	Wabash River basin, and upper tributary basins, floods.....	24,26-30
at Pleasant Hill, Ohio.....	170	discharge at selected gaging stations.....	31
Straight River at Maltersville, Ind.....	253	records.....	60-62,197-254
Streamflow data, explanation.....	48	Wakatomika Creek near Frazeysburg, Ohio.....	119
Stucker Fork near Scottsburg, Ind...	243	Walhonding River below Mohawk Dam, at Nellie, Ohio.....	114
Sugar Creek (tributary to Blue River) near Edinburg, Ind.....	233	Walnut Creek at Cortland, Ohio.....	84
Sugar Creek (tributary to French Creek) at Sugar Creek, Pa.....	69	Whetstone Creek near Ashley, Ohio...	136
Susquehanna River basin, floods....	15,35	Whetstone Creek tributary near Olivesburg, Ohio.....	108
Talawanda Creek near Hamilton, Ohio.....	183	White River, East Fork, at Columbus, Ind.....	236
Tappan Reservoir at Tappan, Ohio....	106	East Fork, at Seymour, Ind.....	239
Taylorville retarding basin at Taylorville, Ohio.....	168	at Shoals, Ind.....	251
Temperature.....	5,7	near Bedford, Ind.....	246
Ten Mile Creek at Toledo, Ohio.....	254	White River, East Fork, basin, floods.....	30,42
Tiderishi Creek near Jenera, Ohio.....	260	Whitewater River, at Brookville, Ind.....	189
Tionesta Creek, at Lynch, Pa.....	65	East Fork, at Brookville, Ind.....	188
at Tionesta Creek Dam, Pa.....	66	at Richmond, Ind.....	187
Tionesta Creek basin, records... 52,65-66	214	Middle Fork of, at Middleboro, Ind.....	187
Tippecanoe River, at Oswego, Ind....	216	near Alpine, Ind.....	185
near Delphi, Ind.....	216	Wildcat Creek, at Greentown, Ind....	217
near Monticello, Ind.....	215-216	at Kokomo, Ind.....	219
near Ora, Ind.....	215	at Owasco, Ind.....	220
Todd Fork near Rochester, Ohio.....	156	near Lafayette, Ind.....	222
Tonawanda Creek, at Batavia, N.Y....	287	South Fork, near Lafayette, Ind....	221
at Rapids, N.Y.....	289	Wills Creek Reservoir near Wills Creek, Ohio.....	118
near Alabama, N.Y.....	288	Wilson Fork Creek near Canaan, Ind..	191
Touby Run at Mansfield, Ohio.....	108	Wolf Creek, at Dayton, Ohio.....	179
Town Creek near Van Wert, Ohio.....	261	at Trotwood, Ohio.....	179
		Youngs Creek near Edinburg, Ind.....	232

Summary of Floods in the United States During 1959

Prepared under the direction of E. L. HENDRICKS, Chief, Surface Water Branch

FLOODS OF 1959 IN THE UNITED STATES

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1750-B

*Prepared in cooperation with Federal,
State, and local agencies*



UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

CONTENTS

	Page
Abstract.....	B1
Introduction.....	1
Determination of flood stages and discharges.....	7
Explanation of data.....	7
Summary of floods of 1959.....	8
January 11-27, in eastern Washington.....	8
January-February, in Ohio and adjacent States.....	12
February 9-14, in east-central Illinois.....	26
March 6-13, in southeastern North Carolina.....	29
March 29-April 10, in southern Wisconsin and northern Illinois.....	32
May, in Nebraska, Kansas, and Iowa.....	36
May 3-4, in Cherokee Bayou basin, Texas.....	41
May 20-21, in Au Gres and Rifle River basins, Michigan.....	42
June 22-24, in Laughery Creek basin, Indiana.....	47
June 28, in Mill Creek tributary near McFarland, Kans.....	48
July 3, in Bone Creek basin, Nebraska.....	49
July 15, in Cottonwood Creek, Wyo.....	50
August 2, near Bryce Canyon, Utah.....	51
August 2, in east-central Nebraska.....	52
August 2, in Big Alkali Creek, Colo.....	54
August 5-8, in Iowa and Missouri.....	55
August 17, near Needles, Calif.....	58
August 20, at Boise, Idaho.....	59
August 26-27, in southwestern Wisconsin.....	62
August 28-29, near Richmond, Ky.....	63
September 10, in the vicinity of Callicoon, N.Y.....	65
September 18, near Redding, Calif.....	67
September 21-26, in Walnut Creek, Kans.....	69
October 1-9, in east-central Texas.....	70
October 2-7, in northeastern Oklahoma.....	75
October 24-25, in New Hampshire and adjacent States.....	79
November and December, in west-central Washington.....	81
November 17-23.....	81
December 14-15.....	93
Index.....	97

ILLUSTRATIONS

	Page
FIGURE 1. Map of the conterminous United States showing areas and months of occurrence of floods in 1959 for which reports have been prepared.....	B2

	Page
FIGURE 2. Total precipitation, in inches, for the conterminous United States, 1959.....	B5
3. Percentage of normal annual precipitation in the conterminous United States, 1959.....	6
4. Map of flood area, January 11-27, in eastern Washington....	9
5. Map of flood area, January-February, in Ohio and adjacent States.....	12
6. Isohyetal map, January 19-21, in Ohio and adjacent States..	14
7. Isohyetal map, February 9-10, in Ohio and adjacent States..	15
8. Map of flood-determination points, January-February, in Ohio and adjacent States.....	17
9. Map of flood area, February 9-14, in east-central Illinois....	27
10. Map of flood area, March 6-13, in southeastern North Carolina.....	29
11. Recurrence interval of peak discharges. Floods of March 6-13 in southeastern North Carolina.....	32
12. Map of flood area, March 29-April 10, in southern Wisconsin and northern Illinois.....	32
13. Selected discharge hydrographs, March 29-April 30, for streams in southern Wisconsin.....	34
14. Accumulated rainfall for May 1959 at selected precipitation stations in Iowa.....	37
15-17. Maps of flood areas:	
15. May, in Nebraska, Kansas, and Iowa.....	38
16. May 3-4, in Cherokee Bayou basin, Texas.....	41
17. May 20-21, in Au Gres and Rifle River basins, Michigan.....	43
18. Accumulated rainfall, May 19-23, for six rain gages in the Rifle River basin, Michigan.....	44
19. Rainfall intensity-duration-frequency curves, Au Gres and Rifle River basins, Michigan.....	45
20. Discharge hydrographs for two discharge stations, in Au Gres and Rifle River basins, Michigan.....	45
21-26. Maps of flood areas:	
21. June 22-24, in Laughery Creek basin, Indiana.....	47
22. June 28, in Mill Creek tributary near McFarland, Kans.....	49
23. July 3 in Bone Creek basin, Nebraska.....	50
24. July 15, in Cottonwood Creek, Wyo.....	51
25. August 2, near Bryce Canyon, Utah.....	52
26. August 2, in east-central Nebraska.....	53
27. Frequency curve for east-central Nebraska.....	54
28-34. Maps of flood areas:	
28. August 2, in Big Alkali Creek, Colo.....	55
29. August 5-8, in Iowa and Missouri.....	57
30. August 17, near Needles, Calif.....	59
31. August 20, at Boise, Idaho.....	60
32. August 26-27, in southwestern Wisconsin.....	62
33. August 28-29, near Richmond, Ky.....	64
34. September 10, in the vicinity of Callicoon, N.Y.....	65

	Page
FIGURE 35. Discharge hydrograph for Callicoon Creek at Callicoon, N.Y.	B66
36-38. Map of flood area:	
36. September 18, near Redding, Calif	68
37. September 21-26, in Walnut Creek, Kans	69
38. October 1-9, in east-central Texas	71
39. Discharge hydrographs for selected streams in Brazos River basin	74
40. Discharge hydrographs for selected streams in Guadalupe River basin	75
41. Map of flood area, October 2-7, in northeastern Oklahoma ..	77
42. Graph of ratio of October 1959 peak discharges to the mean annual flood versus size of drainage area, October 2-7, in northeastern Oklahoma	78
43. Map of flood area, October 24-25, in New Hampshire and adjacent States	79
44. Map of flood area, November and December in west-central Washington	82
45. Map showing maximum 96-hour precipitation during storm period, November 17-23, in west-central Washington	83
46. Graph of accumulated precipitation at selected Weather Bureau stations, November 20-23, in west-central Washington	84
47. Discharge hydrographs during floods of November and December, in west-central Washington	85
48. Map showing isohyetal lines, December 14-15, in west-central Washington	94
49. Graph of accumulated precipitation at selected Weather Bureau stations December 14-16, in west-central Washington	95
50. Relationship of ratio of peak discharge to mean annual flood versus recurrence interval. Floods of November and December in west-central Washington	96

TABLES

	Page
TABLE 1. Flood stages and discharges, January 11-27, in eastern Washington	B10
2. Flood stages and discharges, January-February, in Ohio and adjacent States	16, 18
3. Personal and private property losses as compiled by the American Red Cross	26
4. Flood stages and discharges, February 9-14, in east-central Illinois	27
5. Flood stages and discharges, March 6-13, in southeastern North Carolina	30
6. Snow-depth and water-equivalent measurements for March 1959	33

	Page
TABLES 7-20. Flood stages and discharges:	
7. April 1-12, in southern Wisconsin and northern Illinois ..	B35
8. May, in Nebraska, Kansas, and Iowa	39
9. May 20-21, in Au Gres and Rifle basins, Michigan	46
10. June 22-24, in Laughery Creek basin, Indiana	48
11. August 2, in east-central Nebraska	54
12. August 4-8, in Iowa and Missouri	58
13. August 20, at Boise, Idaho	61
14. August 26-30, in southwest Wisconsin	63
15. August 28, near Richmond, Ky	65
16. September 10, in the vicinity of Callicoon, N.Y.	67
17. September 18, near Redding, Calif	68
18. October 1-9, in east-central Texas	72
19. October 2-7, in northeastern Oklahoma	76
20. October, in New Hampshire and adjacent States	80
21. Maximum-minimum temperatures at selected Weather Bureau stations, November 19-24 and December 14-17, in west-central Washington	86
22. Flood stages and discharges, November and December, in west-central Washington	86
23. Estimate of damage in the Snohomish River basin resulting from the floods of November 1959	91
24. Estimate of damage in the Green River basin resulting from the floods of November 1959	92