

RIVER STAGES AND FLOODS

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PRECIPIATION during April was above normal over a large area of the country, main exceptions being portions of Montana, the Dakotas, Minnesota, Florida, and a strip from southern Texas westward. Streamflow for the month was above normal in most areas east of the Rocky Mountains except in portions of Texas, western Oklahoma, and in the Northeast. Precipitation was abundant in the Rocky Mountain area but temperatures were low and much of the precipitation fell in the form of snow at the higher elevations, delaying run-off. Excessive rains occurred in the middle Arkansas, lower Missouri, middle Mississippi, and lower Ohio River valleys, and in the Southeastern States, producing excessive flooding in those areas. In portions of the Arkansas and Missouri Basins floods approached and in some cases exceeded those of May 1943 and the flood stage in the Mississippi River at St. Louis reached the highest point since 1844.

St. Lawrence Drainage.—Frequent rains in the early part of the month followed by excessive rains of 2½ to 3 inches on April 9–12 over the Maumee River Basin resulted in considerable flooding. A crest of 20.8 was reached at Fort Wayne, Ind., on the 12th, only 1.4 feet lower than the flood of May 1943.

Atlantic Slope Drainage.—Cool weather during most of the month in New England resulted in a rather evenly distributed spring run-off from the areas of heavy snow. Flood stage occurred only at Hartford, Conn., on the Connecticut River, where two rises were recorded—the first rise reached a crest of 16.4 feet on the 13th and the second rise crested at 18.6 on the 26th. The rises were produced by periods of moderate rainfall from the 12th to 14th and from the 23d to 24th associated with run-off from melting snow. These periods of moderate rainfall also produced minor rises in the Chenango and upper Susquehanna Rivers.

Flooding, mostly light, occurred in rivers in the Carolinas and Georgia, while the overflows in the Altamaha River in Georgia were moderate.

East Gulf of Mexico Drainage.—High water and excessive floods persisted through most of April, continuing in most cases from the previous month. The Tombigbee River at Demopolis, Ala., remained above flood stage continuously from March 22 to May 12; the Pearl River at Jackson, Miss., and the Apalachicola River at Blountstown, Fla., remained above flood stage from March 20 to May 17. However, previous long-term record stages were not exceeded during April.

MISSISSIPPI SYSTEM

The extensive and destructive flooding in the middle Arkansas, lower Missouri, middle Mississippi, and lower Ohio River basins occurred less than a year after the extraordinary floods of May 1943 in much the same region. The greatest floods of record occurred in the Cottonwood River at Cottonwood Falls, Kans., and in portions of the upper Neosho River below Neosho Rapids, Kans. The highest stages since 1903 occurred in the lower Missouri.

Upper Mississippi River.—No flooding occurred in the Mississippi River above Keokuk, Iowa, during April. The potential moisture from snow cover in the upper reaches was far below normal and there were no marked maximum peaks even in the smaller tributaries. However, light to moderate overflows occurred in the lower Rock, Skunk,

Des Moines, and Fox Rivers later in the month from heavy rains. Two rises occurred in the Salt, Illinois, and Meramec Rivers. The first rise was produced by heavy rains on April 9–11, whereas excessive rains on April 21–23, while the streams were still high, produced a second and greater rise. These overflows were moderately severe but were below record stages. The flood stages in the Illinois River were several feet below the flood of May 1943.

Missouri River Basin.—The tributary streams in the upper Missouri River Basin began to break up during the latter part of March. Considerable water was discharged into the Missouri River by the Yellowstone River. Floods occurred on most of the rivers in western North Dakota during April. The greatest damage in North Dakota occurred in the Heart River, where flooding began on April 1 when ice jammed about 15 miles west of Mandan, N. Dak. Jams forming later near the mouth of the river caused overflows of lowlands near Mandan. High water occurred also in the Knife, Cannonball, and Little Missouri Rivers.

High stages resulted in the Missouri River from Bismarck, N. Dak., downstream but flood stages were not exceeded until the crest reached Mobridge, S. Dak., on April 5. The crest of the flood reached Nebraska City, Nebr., on April 17–18, with a reading of 19.6 feet, resulting in considerable overflow in that area. On April 20, when the crest reached St. Joseph, Mo., heavy rains fell over the Kansas River Basin, causing the Kansas River to rise rapidly, flooding from Ogden, Kans., to the mouth. Owing to this inflow from the Kansas River the crest in the Missouri which passed St. Joseph lost its identity as it reached Kansas City. At that point the river continued to rise until April 24, when the crest stage was 27.6 feet.

Torrential rains on April 22 in the immediate Kansas City area produced a critical flood in the Blue River near Kansas City causing considerable damage. A crest stage of 35.9 feet on April 23 was recorded, exceeding the flood of 1935 but below the record stage of about 39 feet established in November 1928.

The extreme upper Osage River was in severe flood, with a crest stage of 38.1 feet at Quenemo, Kans., on April 23, only 0.3 foot below the crest of the 1928 flood. Flooding in the lower Osage in Missouri was not particularly severe. The Grand River in Missouri was also in severe flood with a crest stage at Chillicothe, Mo., only 0.8 foot below the record stage of 32.1 feet in 1929.

The crest in the Missouri River that passed Waverly, Mo., was augmented by the large flow from the Grand River and other tributaries and the stage at Boonville, Mo., equalled that of the 1903 flood at 30.9 feet. At Hermann and St. Charles, Mo., the crest stages were 0.5 and 0.1 foot, respectively, lower than the May 1943 flood.

The near record flow in the Missouri River and in the Mississippi River below the mouth of the Illinois River resulted in a stage of 39.1 feet at St. Louis, Mo., 0.2 foot above the May 1943 flood and exceeded only by the flood of 1844 when a stage of 41.4 feet was recorded.

Ohio River Basin.—Light to moderate overflows occurred in the Scioto and Green Rivers and severe, but not record-breaking floods prevailed in the Wabash River Basin during the month. Flood stages were also reached in portions of the Cumberland River and in the lower Tennessee River.

A moderate rise in the Ohio River reached Tell City, Ind., with above flood stages prevailing to the mouth. No

flooding occurred above Tell City. Below the mouth of the Wabash the flood was of moderate proportions. The crest at Cairo, Ill., was 51.2 feet on April 29, compared to 53.0 feet in May 1943. The lower stage this year was due largely to the fact that the Ohio River crest passed ahead of the main Mississippi River crest.

White and Arkansas Basins.—Floods in the White River were mostly light and little damage occurred.

Severe floods resulted in the middle Arkansas River Basin from widespread heavy rain during two separate rainfall periods. The first flood was confined mostly to the Neosho and Walnut Rivers in Kansas and the Verdigris River in Kansas and Oklahoma. The second flood period from April 22-29 was the most severe.

Widespread general rains of 1 to nearly 2 inches were reported on the 9th in south-central and southeastern Kansas, followed by rainfall amounts of 1 to 2½ inches over the same area on the 10th. There were locally heavy amounts of 3 to more than 5 inches extending from central Oklahoma northeastward through Perry and Ralston, Okla., to Sedan and Chanute, Kans., and from 2 to 4 inches in the Verdigris, Walnut, Little Arkansas, and Ninnescah River Basins in Kansas. Unofficial reports indicate that as much as 7 inches occurred in portions of the Little Arkansas and lower Ninnescah River Basins.

During the period April 9-11 floods developed in the lower Cottonwood, Neosho, Verdigris, Walnut, Little Arkansas, and Arkansas Rivers in Kansas. These crests moved downstream into Oklahoma causing above flood stage on the Arkansas River to Van Buren, Ark.

The second period of rainfall, following within 9 days of the first period with streams still high, caused severe floods in the Arkansas River from Wichita, Kans., to below Tulsa, Okla., and in most streams in south-central and southeastern Kansas, spreading into Oklahoma. The flood was the greatest of record in the Neosho River in Kansas below Neosho Rapids and in the Cottonwood River. Record or near record stages occurred in the Arkansas River at Ralston, Okla., and Wichita, Kans., and the Little Arkansas River at Sedgwick, Kans. While the Walnut River proper did not reach record stage, the City of Winfield, Kans., suffered probably the worst flood of history caused by Timber and Dutch Creeks and breaks in the levee. Flood damages in the Wichita and Winfield areas will run into the millions and approximately 5,000 people were homeless for several days. Much livestock was lost and five persons were drowned.

Red and Lower Mississippi River Basins.—Moderately severe flooding occurred in the Ouachita River in Arkansas and in the Yazoo River in Mississippi. The Yazoo at Greenwood, Miss., crested at 38.4 feet, 1.7 feet below the 1932 flood.

The Mississippi River exceeded flood stage at New Madrid, Mo., on March 31, and by April 29 flood stages prevailed along most of the river as far south as Donaldsonville, La. Stages continued to rise at the close of the month except at New Madrid where the crest occurred on the 30th.

Further report on the floods in the Mississippi System will be made at a later date.

FLOOD-STAGE REPORT FOR APRIL 1944

[All dates in April unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest †	
		From—	To—	Stage	Date
ST. LAWRENCE DRAINAGE					
<i>Lake Erie</i>					
	<i>Feet</i>			<i>Feet</i>	
St. Marys: Decatur, Ind.....	13	{ 10 24	17 24	20.2 13.4	12 24
St. Joseph: Montpelier, Ohio.....	10	{ 11 25	17 25	11.5 10.2	13 25
Fort Wayne, Ind.....	12	{ 10 23	17 25	17.2 12.4	13 24
Maumee: Fort Wayne, Ind.....	15	{ 11 24	18 25	20.8 15.9	12 24
Defiance, Ohio.....	10	{ 11 16	16 16	14.8 14.8	13 13
Napoleon, Ohio.....	10	{ 11 15	15 15	13.9 13.1	13 12
Sandusky: Upper Sandusky, Ohio.....	13	{ 12 12	12 12	13.1 13.1	12 12
ATLANTIC SLOPE DRAINAGE					
Connecticut: Hartford, Conn.....	16	{ 13 25	14 29	16.4 18.6	13 26
Perkiomen Creek: Gratersford, Pa....	8	{ 24 24	25 25	11.7 11.7	24 24
Chenango: Sherburne, N. Y.....	8	{ 10 13	11 13	8.5 8.0	10 13
Susquehanna: Oneonta, N. Y.....	12	{ 10 24	14 27	12.6 12.7 13.2	11 13 25
Vestal, N. Y.....	14	{ 11 11	11 11	14.1 14.1	11 11
Roanoke: Weldon, N. C.....	31	{ Mar. 31 13	2 15	35.5 34.7	1 14
Williamston, N. C.....	10	Feb. 20	(?)	11.3	{ Feb. 27, Mar. 20, Apr. 6 20
Tar: Tarboro, N. C.....	18	17	17	18.2	17
Greenville, N. C.....	13	17	20	13.9	18
Neuse: Neuse, N. C.....	14	12	17	16.7	15
Smithfield, N. C.....	13	{ Mar. 31 12	2 19	14.0 18.0	2 16
Goldsboro, N. C.....	14	{ Mar. 10 14	1 23	20.9 17.8	Mar. 27 20
Kinston, N. C.....	14	{ Mar. 13 17	4 26	15.2 17.8 15.9	Mar. 16 Mar. 30 22
Haw: Moncure, N. C.....	20	12	13	21.8	12
Cape Fear: Fayetteville, N. C.....	35	13	15	38.5	13
Lock No. 2, Elizabethtown, N. C.....	20	{ Mar. 31 12	3 19	24.2 29.8	1 15
Ogeechee: Dover, Ga.....	7	{ Mar. 21 16 20	11 16 (?)	12.4 7.1 7.8	Mar. 28 16 26
Ocmulgee: Macon, Ga.....	18	27	29	19.0	28
Hawkinsville, Ga.....	25	2	3	25.6	2
Abbeville, Ga.....	11	15	(?)	13.3 14.0 20.6	17 29 Mar. 30
Lumber City, Ga.....	15	-----	-----	15.8 16.5	22 29-30
Oconee: Dublin, Ga.....	21	2	4	21.4	3-4
Altamaha: Charlotte, Ga.....	12	Feb. 25	(?)	24.8	Mar. 31
Piney Bluff, Ga.....	17	{ Mar. 24 17	(?) 14	26.0 19.1	1 21-22
EAST GULF OF MEXICO DRAINAGE					
Chattahoochee: Columbus, Ga.....	34	-----	-----	34.6	28
Eufaula, Ala.....	40	27	30	48.9	29
Columbia, Ala.....	42	28	30	45.5	29
Flint: Montezuma, Ga.....	20	{ Mar. 31 16	2 22	21.2 26.5	1 17
Albany, Ga.....	20	{ 27 18	May 3 26	26.9 28.9	29 22-23
Bainbridge, Ga.....	25	{ 29 29	May 6 May 6	29.5 29.5	May 2 May 2
Apalachicola: Chattahoochee, Fla.....	20	20	May 4	21.5 24.8 23.1	22 May 2 Mar. 29
Blountstown, Fla.....	15	Mar. 20	May 17	23.6 21.8 29.5	3 23-25 May 2

See footnotes at end of table.