TABLE 4.—*Tropopause summary, May 1940*—Continued

Stations	Phoenix, Ariz.			St. Louis, Mo.			San Antonio, Tex.			San Diego, Calif.			Sault Ste. Marie, Mich.			Seattle, Wash.			Spokane, Wash.		
Potential temperatures ° A.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature ° C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature ° C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature ° C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature ° C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature ° C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature ° C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature ° C.
290–299													1	6.7	43.0						
300–309													5	7.9	49.4				4	7.9	45.5
310–319				11	8.1	38.1	1	9.8	42.0				6	8.8	46.3	5	9.2	53.0	6	9.2	53.2
320–329	6	9.9	45.7	19	9.7	47.7	4	11.0	53.0	3	11.2	56.3	22	10.1	52.9	8	10.7	56.2	22	10.3	51.6
330–339	20	11.3	53.0	23	11.4	56.9	11	10.9	49.0	16	11.5	56.4	17	11.5	59.7	3	11.3	55.3	20	11.6	59.2
340–349	25	12.8	62.3	16	12.7	62.8	26	12.4	58.0	13	12.8	62.9	4	11.8	57.0	5	12.8	63.8	12	12.6	62.4
350–359	9	13.7	63.8	1	13.1	61.0	19	13.7	64.1	5	13.8	65.6									
360–369	1	14.7	68.0	1	13.3	56.0	4	14.2	65.2	1	14.4	67.0	1	12.8	54.0				1	14.1	66.0
370–379	3	14.5	62.3	2	13.9	55.5	1	14.8	67.0												
380–389	1	15.9	70.0	1	14.6	60.0	2	15.8	64.5				1	14.4	57.0				1	14.2	54.0
390–399	3	16.3	67.0	4	15.0	56.2	7	16.3	66.9	1	15.3	60.0							2	14.9	55.5
400–409	1	16.6	63.0	4	15.9	60.0	5	16.8	68.6	3	16.6	66.7	1	15.6	58.0				2	15.8	57.5
Weighted means		12.6	58.8		11.4	53.5		13.2	59.8		12.7	60.6		10.5	54.2		10.9	57.1		11.2	56.0
Mean potential temperature °A (weighted)	346.5			340.3			354.4			343.4			328.4			328.4			334.8		
Number days with observation	29			29			28			24			25			16			28		

Stations	Atlantic Sta. 1 (lat. 36, long. 53)			Atlantic Sta. 2 (lat. 42, long. 38)		
Potential temperatures, °A.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature °C.	Number of cases	Mean altitude (km.) m. s. l.	Mean temperature °C.
290–299						
300–309				1	8.1	48.0
310–319				3	8.6	44.7
320–329	10	10.7	54.0	12	10.2	51.2
330–339	11	11.9	61.6	23	11.7	58.7
340–349	18	12.9	65.1	19	12.9	63.4
350–359	8	13.6	66.1	4	13.9	67.0
360–369	1	14.7	71.0	4	14.3	67.0
370–379						
380–389				2	14.9	60.5
390–399	1	15.8	65.0	2	15.7	62.5
400–409	2	16.0	63.0			
Weighted means		12.6	62.4		12.0	59.0
Mean potential temperature °A. (weighted)	343.5			340.9		
Number days with observations	20			27		

RIVERS AND FLOODS

[River and Flood Division, MERRILL BERNARD in Charge]

By BENNETT SWENSON

Except for floods in the Ohio Valley that continued from April, only a few minor to moderate floods occurred during May 1940. The month was generally deficient in precipitation, except in the northeast, the Great Lakes region, Kansas, and New Mexico.

Atlantic Slope Drainage.—The following report on a flood in the Merrimack River Basin is submitted by the Concord, N. H., office:

A moderate rise in stages on the Pemigewasset and Merrimack Rivers occurred on May 3 to 6. Flood stages were reached in the headwater reach of the Pemigewasset near Lincoln, and thence down-stream to Manchester.

The Pemigewasset was the only tributary which contributed to the high flow. The Contoocook rose less than one foot. Crest stages at Plymouth, Franklin, Concord, and Manchester were the highest reached since the September 1938 flood.

Stages had been moderately high since the rise in mid-April. Snow in the Pemigewasset valley began to melt rapidly on April 29, due to unseasonably high temperatures. The resulting run-off gradually filled the channels to within a few feet of flood stage. Rain, attended by high temperatures began on the early morning of May 2, and continued intermittently until the early morning of May 5. The accelerated rate of snow melt, combined with the rainfall of this period resulted in a minor flood.

Moderate flooding occurred in the Connecticut River from May 2 to 10 as the result of the following conditions:

Several days of temperatures in the seventies during the last week of April caused a rapid melting of the snow which remained in the upper reaches of the basin. The resulting run-off increased the flow at South Newbury, Vt., from approximately 10,000 cubic feet per second on April 25 to 46,000 on May 5. To this run-off was added that from rains during the period May 2–5, the combined flow producing stages above the flood level quite generally.

East Gulf of Mexico Drainage.—Moderate to heavy rainfall over Mississippi and Alabama between April 29 and May 1, produced moderate flooding in the Tombigbee, Pearl, and Pascagoula Basins during the first part of May. In the Tombigbee River the flooding was confined mainly to the lower portion; no damage of consequence was reported.

An interesting feature of the flood in the Pascagoula River was the distribution of rainfall on April 30 and the resulting rapid rises in the Chickasawhay River by May 1. The 7-inch rainfall area seems to have covered narrow por-

tions of Clarke, Jasper, Smith, and Rankin Counties, with 24-hour amounts of rainfall ranging from 5 to 7 inches at numerous stations in this area. On May 1, the 24-hour rises in river stage were as follows: Shubuta, Miss., 24.3 feet; Enterprise, Miss., 14.8 feet; and Waynesboro., Miss., 18.2 feet.

The total damage in the Pearl and Pascagoula Basins has been estimated at about $15,000. Agricultural land to the extent of 1,200 acres was inundated.

Ohio Basin.—Moderately heavy floods occurred over the greater portion of the Ohio Basin, beginning at the close of March in the upper portion and continuing into the first week of May in the lower portion. Rainfall over the Allegheny and Monongahela Basins beginning March 27, plus the melting of snow on the ground, resulted in rises in these streams and a crest stage of 28.5 feet was reached at Pittsburgh on March 31. Flood stages were exceeded in the Ohio River from this rise only as far downstream as immediately below Wheeling, W. Va.

Frequent rains during April over much of the Ohio Basin resulted in a series of rises, culminating with generally heavy rains from April 17 to 20 with the result that flood stages were exceeded along the entire Ohio Valley.

On the morning of April 17, a low was centered over Oklahoma with a warm front extending nearly in an easterly direction from the center of the low. Warm-front rains were occurring quite generally over the Ohio Basin. The disturbance moved northeastward and on the morning of the 18th the center was located over Lake Huron. A cold front extended from this point south—southwestward to Louisiana where a wave was developing. The wave continued to develop, moved slowly northward, and on the 19th it was centered between Memphis and Nashville, Tenn., as a fully developed disturbance. A warm front lay parallel and just to the south of the Ohio River with general rains again spreading over most of the Ohio Valley.

This disturbance moved slowly east-northeastward, and on the early morning of the 21st was centered off the coast in the vicinity of Atlantic City. Rain continued over the Ohio Basin after the passage of the center as cyclonic winds overrode the cold dome of air to the rear of the disturbance. Rain ceased after the early morning of the 21st.

The floods in the Ohio Valley from March to May generally were not severe but there was considerable overflow with resulting damage to crops and farm lands and inconvenience and delay of business. The total damage throughout the Valley has been estimated at more than $600,000.

The reports by various river district offices along the Ohio River follow:

Report on flood in the Pittsburgh river district March 31 to April 7.—A rainy period set in during the night of March 27 and on the morning of March 28 precipitation was reported in amounts ranging from traces over the upper Monongahela Basin to over 1 inch in the middle Allegheny. Some of the precipitation was in the form of snow over the higher elevations. On March 29 the rivers showed small rises, 1 to 2 feet, with additional amounts of precipitation of less than 0.10 inch.

On the morning of March 30 precipitation ranging from traces over the headwaters of the Monongahela and Allegheny Rivers to 0.70 inch over the lower reaches was reported. Additional amounts of precipitation up to one-half inch were reported at 1 P. M. of the same day, and the 7 P. M. reports indicated a total rainfall for the storm of from one half-inch over the upper Allegheny Basin to 2.25 inches over the Central Basins, and 1.50 inches over the upper Monongahela. About 3 inches of water in the form of snow on the ground was present in the upper Allegheny Basin of which 2 inches was expected to melt on March 30 and 31.

The actual crest stage reached at Pittsburgh was 28.5 feet on March 31. The crest stages in the Allegheny and Monongahela Rivers were only slightly above the flood stages, and as a result the damage was slight. In the Allegheny River the water covered the lock walls, but at this season there is little navigation on that river; therefore, there was little loss due to suspension of navigation.

Report on flood in the Pittsburgh District April 4 to 10.—The Allegheny River was running almost bankful during the first week in April, due to melting snow in southern New York and in the mountains of western Pennsylvania at the head of the river and to the rains of the last week in March, which caused the flood of March 31 and April 1 previously reported. Additional rain on April 4 and again on the 9th raised the already swollen streams to flood stages or slightly above again on the 9th and 10th of April.

No damage resulted from this flood due to the fact that damage stages were not reached.

Report on flood in the Pittsburgh District April 20 to 23.—The rivers throughout the district were at high stages, and in some sections nearly bankful during most of the month of April, due to the frequent rains which kept the ground saturated and the run-off heavy. On the morning of the 20th the 24-hour amounts of rainfall averaged about 1.50 inches over the Allegheny River from Franklin down, nearly 1 inch over the Monongahela and nearly 2 inches over the Ohio River from Pittsburgh to Wheeling, W. Va. This heavy rainfall started a rapid rise in all the rivers, but flood stages were not reached except in the lower Allegheny and in the Ohio.

Flood stage was reached at Pittsburgh about 7:45 A. M. and the crest stage of 28.28 feet at 12:30 A. M. of the 21st. At Wheeling a crest of 42.6 feet was reached at 3 P. M. of the 21st.

Due to the timely warnings little damage resulted in the Pittsburgh district. All damageable property that could be moved was carried to a place of safety in ample time. As a result of the protracted wet weather little plowing had been done, the result of which was little loss by erosion. The principal money loss was the cost of cleaning up highways, basements, etc., after the water receded.

Report on flood in the Parkersburg River district.—Heavy rains over the upper Ohio Basin during the closing days of March caused rapid rises in this district, except in the Muskingum and Hocking Basins, during the first 2 days of April. However, flood stage was reached in the Ohio River only at Dam No. 14 where the crest on April 2 was 2 feet above flood stage. Other Ohio River stations downstream had crests ranging from 7 to 8 feet below their flood stages.

The Ohio River receded slowly and stages were above 20 feet at all stations when moderate rains set in on the 16th and continued until the 19 when heavy to excessive rains fell. The amounts were particularly heavy over the Hocking, the Muskingum and the immediate Ohio Valleys. Averages by basins were:

Basin	Apr. 16–18	Apr. 19–20
Ohio (New Cumberland to Point Pleasant)	1. 23	2. 13
Little Kanawha	1. 39	1. 75
Hocking	1. 56	2. 78
Muskingum (at and below Zanesville) and Licking	1. 32	2. 78
Great Kanawha (Kanawha Falls to Pt. Pleasant)	. 75	1. 61

The smaller tributaries started to rise on the 16th and all rivers were rising, the main river slowly, on the 17th. Late on the 18th the rise became rapid throughout the district. Flood stages were reached on the Hocking and on the lower Little Kanawha on the 19th and the Muskingum and at all but two of the Ohio River stations on the 20th. The Muskingum at Zanesville and the lower Little Kanawha at Creston crested on the 20th, the Hocking, the central Muskingum and Dam No. 14, Ohio River, on the 21st, and the Ohio from below Dam 14 to Point Pleasant on the 22nd, except at Pomeroy where the crest was reached shortly after midnight of the 22nd. The recession was slow; the time that the river was above flood stage ranging from about 75 hours at the upper limit of the district to about 130 hours at the lower limit. The crests were the highest of record for so late in the season at Marietta and Parkersburg. At Point Pleasant the crest was the second highest of record for so late in the season. Due to the impounding of water by the dams in the Muskingum Conservancy District, crests in the Muskingum River and in the Ohio River at and below Marietta were below those normally expected from the amount of rain that had fallen.

No severe losses were reported, due to timely warnings and efficient methods of evacuation. However, inconvenience of moving was considerable, but was deemed more of a nuisance than otherwise. About 700 homes in the district were evacuated. Most of the business districts in Point Pleasant and Marietta were under water. Pomeroy had three feet of water on Main Street, and about eight blocks of the wholesale-warehouse section of Parkersburg were under several feet of water.

Report on flood in the Cincinnati river district.—Heavy rains during the latter part of March 1940 resulted in flood conditions in the extreme upper Ohio Basin and threatened conditions in the river

below. These flood waters resulted in a crest of 42.8 feet at Cincinnati on April 5. Rainfall over the valley on April 7, 8, and 11 was sufficient to prevent a rapid fall in river stages, so that by the morning of April 17 the river was still moderately high at a stage of 34.9 feet. Heavy rains fell over the district between April 18 and 20, the fall being more than 5 inches in southwestern Ohio. All of the tributaries began to rise during April 19, the rise being especially rapid in the Licking and the two Miamis, although, except at the mouth, flood stages were reached only in the Little Miami with a crest of 26.77 feet at Kings Mills, Ohio, at 1 A. M. on April 20.

On the morning of April 20 flood warnings were issued for the district along the Ohio River, with tentative crests ranging from 52 feet in the upper portion to 59 feet at Cincinnati indicated within the following four or five days. Crest stages above Cincinnati were revised somewhat during the next few days, but no change was made for Cincinnati until the morning of April 22 when the crest was raised 1 foot to 60 feet with no change in the time of occurrence. Actual crests were close to the final crest forecasts at all places in the district.

The effects of the heavier rains in southwestern Ohio caused a rather complex river situation, as shown in the abnormal stage relation between Portsmouth, Ohio, and Cincinnati. On the morning of April 20 the stage at Cincinnati (50.5 feet) was eight feet higher than Portsmouth; by the morning of the 21st Cincinnati was only 4.3 feet higher than Portsmouth, and on the morning of the 22d the Portsmouth stage was 56.6 feet, 0.8 of a foot higher than Cincinnati. This was due to the local tributaries having run out while Portsmouth was feeling the effects of the floodwaters from above.

The hourly river stages at Cincinnati, Ohio, are given in following table:

Hourly river stages (flood stage 52) Apr. 19 to Apr. 28, 1940, at Cincinnati, Ohio

[Elevation of gage zero 428.8 feet above m. s. l.]

Date	A. M.												P. M.											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
19							39.4	39.7	40.0	40.0	41.0	41.6	42.2	42.7	43.1	43.6	43.8	44.4	44.8	45.4	46.0	46.6	47.3	47.8
20	48.3	48.8	49.2	49.6	49.9	50.2	50.5	50.7	51.2	51.4	51.6	51.8	52.0	52.2	52.4	52.6	52.8	52.9	53.1	53.3	53.4	53.6	53.8	53.9
21	54.1	54.2	54.3	54.3	54.4	54.4	54.5	54.6	54.6	54.7	54.8	54.8	54.8	54.8	54.8	54.9	54.9	54.9	55.0	55.0	55.1	55.1	55.2	55.2
22	55.3	55.4	55.4	55.5	55.6	55.7	55.8	55.8	55.9	56.0	56.1	56.2	56.4	56.5	56.6	56.6	56.7	56.8	56.9	57.0	57.1	57.1	57.2	57.3
23	57.4	57.5	57.6	57.7	57.8	57.9	58.0	58.0	58.1	58.2	58.3	58.4	58.4	58.5	58.6	58.7	58.8	58.9	59.0	59.0	59.1	59.2	59.2	59.2
24	59.4	59.4	59.5	59.6	59.6	59.6	59.6	59.7	59.8	59.8	59.8	59.8	59.9	59.9	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0
25	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	60.0	59.9	59.9	59.9	59.8	59.8	59.8	59.8	59.7	59.7	59.6	59.6	59.5	59.5	59.4
26	59.4	59.3	59.2	59.2	59.1	59.0	59.0	58.9	58.8	58.7	58.7	58.6	58.5	58.4	58.3	58.2	58.0	57.9	57.9	57.8	57.6	57.5	57.4	57.3
27	57.2	57.1	57.0	56.9	56.7	56.6	56.5	56.4	56.2	56.1	55.9	55.8	55.7	55.5	55.4	55.2	55.0	54.9	54.8	54.6	54.4	54.2	54.1	53.9
28	53.7	53.5	53.3	53.1	52.9	52.7	52.6	52.4	52.1	52.0	51.7	51.6	51.3	51.1	50.9	50.7	50.4	50.2	50.0	49.8	49.5	49.3	49.1	48.9

N. B.—Crest stage 60.04 from 10 p. m. Apr. 24th to 6 a. m. Apr. 25th.

Report on flood in the Louisville river district.—Heavy rains that fell rather generally in the immediate Ohio Valley, and especially affecting the tributaries in the State of Ohio, in the period April 17–20, caused a rapid rise in the Ohio River that brought flood stages to this district by the morning of April 21.

Warnings were issued on April 20 stating that flood stages were expected within the next 24 to 36 hours. Tentative crests were given in the bulletin of Sunday, April 21. On the 22d crests were estimated as follows: Madison, Ind., 51 feet; Louisville, 35 feet upper and 62 feet lower gage; Dam No. 45, 54 feet. Due to a shower area that passed over the section on the 23d, crests in some instances were raised 0.5 foot. No appreciable run-off resulted from these showers.

The crests reached were as follows: Madison, 50.8 feet on the 25th; Louisville, 35 feet upper, 61.9 feet lower gage on the 26th; Dam No. 43, 62.9 feet on the 26th; Dam No. 44, 62.1 feet on the 26th; Dam No. 45, 53.6 feet on the 26–27th.

Roads along the river were flooded at some low places. In quite a few instances families living at low levels in New Albany, Louisville, and Jeffersonville, were forced to move. Most of the damage was the result of flooding of crops that were growing on low ground. Delay in preparing bottom lands for planting also resulted from the flood.

Report on flood in the Indianapolis, Ind., river district.—The flood period was caused by the rain reported from April 16 to 20 inclusive. These rains were not of uniform intensity over the entire basin, and in fact, were comparatively light in the upper Wabash Valley, and of only moderate intensity in the middle Wabash and upper West Fork of the White. Excessively heavy rains occurred in the lower White Valley and over the East Fork, particularly on the last day of the 4-day period of rainfall.

Advices and forecasts were issued in advance of the flood throughout the lower Wabash and the lower West Fork of White and the entire East Fork and Main White stretches.

However, the conditions of soil, state of vegetation, and irregular distribution of the rain, together with the lack of reports received daily, did not result in an altogether accurate picture of the actual distribution of rainfall. In the lower part of the West Fork, and in the upper part of the East Fork of the White, crest stages were reached very shortly after the cessation of excessive rains and at these places the estimated crests to follow were somewhat in excess of those actually occurring. This affected in a similar manner the expected stages for crests in the Main White and the Lower Wabash, which were also somewhat under those originally predicted.

On the other hand, the amount of savings in the worst affected sections were considerable in amount, and it is believed that the advices were, in practically all cases, greatly appreciated. The amount of damage and savings were heaviest in the East Fork White River Valley, where the accumulated rainfall was much greater than in other stretches.

Report on flood in the Evansville, Ind., river district.—The April–May 1940 flood started with a rain period during the last few days of March. Rains at this time were generally of a moderate character. As a result of these general rains the Ohio River began a moderate rapid rise by the 2d of April in this district. The Green and Barren Rivers rose rapidly passing flood stages by a few tenths of a foot. Flood warning was issued for Woodbury on April 1 to crest near 34 feet, flood stage, on the 2d. River came to a stand at 7 a. m. on the morning of the 3d at 34.3 feet. No warnings were issued for either Munfordville or Bowling Green as flood stages were not expected because of the moderate amounts of precipitation reported from the river station Observers. Greater amounts of rainfall were recorded at rainfall stations in upper regions, reports of which were not available at the time of the forecast.

A second period of light to moderate and locally heavy rains in southern sections occurred on the 5th, 6th, and 7th of April. This was just during the period when the Ohio River was cresting, all below flood stages, from the first rain. These rains had little effect on the stages.

On April 11 and 12 precipitation was generally moderate throughout the valley, giving a rise of a few tenths of a foot in the district at the time when stages were already high. The effect was to retard the slowly falling stages.

Beginning on the 17th and continuing for a period of 4 days precipitation was heavy throughout the valley. Forecasts were first issued on the 19th.

Flood stages did not materialize as anticipated in the upper region of the Green River and all of the Barren River. Neither did the stage at Woodbury, Ky., rise as high as expected. The only way it can be accounted for is that the rain period spread out over several days with only moderate amounts daily, although total rainfall averaged more than an inch over that of the period in the latter part of March which carried higher stages. Then, too, precipitation was not so heavy in the source regions which was not known at the time.

This was a major flood. Only nine previous times did the high water exceed the present one and one other time it was equaled in the 48 years that records have been maintained. Loss was mostly to unprotectable property. Due to lateness in the season loss was great to the grasses and grains, killing the major part in its path. Principal loss resulted from suspension of farm operations at a time when a great deal of work should have been in progress. Considerable farming implements were moved out of the lowlands. It is estimated that 100 to 175 families left their homes.

Arkansas Basin.—The following account of a heavy rainstorm in the vicinity of Wichita, Kans., was submitted by the official in charge at that place:

On the early morning of the 8th a very heavy rainstorm passed to the north of the city of Wichita sending a great volume of water

into the city through the small creeks in north Wichita. A bridge on the Chisolm Creek, which runs through north Wichita, was washed away at a cost to the city of $4,000. There was more water in the drainage canal and in the north part of Wichita during the early morning hours than had been seen in the city since 1925.

Red Basin.—Slight overflows were recorded in the Little and Sulphur Rivers in Texas during the month; very little damage occurred. In the Sulphur River, Ringo Crossing, Tex., reported crest stages of 22.5 feet on May 10; 23.1 feet on May 22; 24.0 feet on May 29. Naples, Tex., reported 24.8 feet on May 4–5 and 26.2 feet on June 2.

West Gulf of Mexico drainage.—The upper portion of the Trinity River experienced two principal rises to above flood stage. Heavy rains on the early morning of the 18th resulted in a crest stage slightly below flood stage at Dallas, Tex., but exceeding flood stage at Trinidad, Tex., on May 22 by 3.7 feet. Moderately heavy rains again on the 22d, and on the 28th in the extreme upper portion, produced the second rise approximately reacing flood stage at Dallas on the 30th and Trinidad on the 27th. Damages were slight.

Pacific slope drainage.—Kings River at Piedra, Calif., reached and passed flood stage slightly on May 11, 15, 16, and 25. These stages were fully anticipated and no areas were endangered, as maximum diversions for irrigation were being made, except for the discharge entering Tulare Lake Basin.

Table of flood losses during May 1940

River and drainage	Tangible property	Matured crops	Prospective crops	Livestock and other movable farm property	Suspension of business	Total
Atlantic slope drainage:						
Connecticut River			$50,000		$12,500	$62,500
James River	[1] $400				25	425
East Gulf of Mexico drainage:						
Pearl and Pascagoula Rivers	10,968		500	225	3,250	14,943
Mississippi system:						
Ohio Basin:[2]						
Allegheny	1,000					1,000
Monongahela	700					700
Scioto	26,000		16,500			42,500
White in Indiana	28,100	38,000	110,200	1,000	22,350	199,650
Wabash	15,500	450	15,000		2,600	33,550
Green in Kentucky	1,350		17,800		15,000	34,150
Ohio River	63,600	500	115,075	6,800	139,950	325,925
Arkansas Basin: Chisolm Creek in Wichita, Kans	4,000					4,000
Red Basin: Sulphur River			500			500
West Gulf of Mexico drainage:						
Trinity River			2,500			2,500

[1] Roads and crops. [2] Floods March–May.

FLOOD-STAGE REPORT FOR MAY 1940

[All dates in May unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	Feet			*Feet*	
Pemigewasset: Plymouth, N. H.	11	2	4	15.1	3.
Merrimack:					
Franklin, N. H.	14	2	6	19.6	3.
Concord, N. H.	12	3	6	14.6	4.
Manchester, N. H.	7	4	6	7.8	5.
Connecticut:					
South Newbury, Vt.	22	3	7	29.3	5.
White River Junction, Vt.	18	2	7	22.2	5.
Walpole, N. H.	30	3	6	34.3	5.
Montague City, Mass.	28	2	8	34.9	5.
Holyoke, Mass.	9	3	6	10.9	5–6.
Hartford, Conn.	16	1	10	23.6	6.
Neuse: Neuse, N. C.	14	26	27	14.5	27.
EAST GULF OF MEXICO DRAINAGE					
Leaf: Hattiesburg, Miss.	18	3	5	13.7	4.
Chickasawhay:					
Enterprise, Miss.	20	2	4	22.6	3.
Shubuta, Miss.	26	Apr. 30	7	32.8	1.

FLOOD-STAGE REPORT FOR MAY 1940—Continued

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
EAST GULF OF MEXICO DRAINAGE—continued					
	Feet			*Feet*	
Pascagoula: Merrill, Miss.	22	5	10	23.6	8.
Pearl:					
Jackson, Miss.	18	Apr. 30	13	25.45	8.
Monticello, Miss.	15	1	8	22.2	3.
Columbia, Miss.	17	3	9	20.8	5–6.
Pearl River, La.	12	[1]	19	15.0	11.
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Mississippi: Louisiana, Mo.	12	27	27	12.0	27.
Missouri Basin					
Grand: Chillicothe, Mo.	18	9	9	18.7	9.
Ohio Basin					
Allegheny:					
Red House, N. Y.	10	Mar. 31 Apr. 12	Apr. 11 Apr. 13	12.0 10.0	Apr. 5. Apr. 13.
Warren, Pa.	12	Apr. 4	Apr. 6	13.0	Apr. 5.
Franklin, Pa.	17	Apr. 4	Apr. 4	17.0	Apr. 4.
Lock No. 8, near Mosgrove, Pa.	24	Mar. 31 Apr. 9 Apr. 21	Apr. 7 Apr. 10 Apr. 21	27.3 24.3 24.1	Apr. 1, 4. Apr. 9. Apr. 21.
Lock No. 5, Schenley, Pa.	24	Mar. 31 Apr. 9 Apr. 20	Apr. 7 Apr. 10 Apr. 22	31.8 25.1 27.6	Mar. 31. Apr. 9. Apr. 21.
Lock No. 4, Natrona, Pa.	24	Mar. 31 Apr. 20	Apr. 6 Apr. 22	29.7 25.8	Mar. 31. Apr. 1
Lock No. 3, Acmetonia, Pa.	25	Mar. 31 Apr. 4 Apr. 20	Apr. 2 Apr. 6 Apr. 21	29.9 27.1 26.5	Mar. 31. Apr. 4. Apr. 20.
West Fork of Monongahela: Clarksburg, W. Va.	5	Mar. 31 Apr. 19	Mar. 31 Apr. 21	6.0 5.5	Mar. 31. Apr. 20.
Tygart: Dailey, W. Va.	9	31 24	31 24	5.8 9.3	31. 24.
Youghiogheny: Connellsville, Pa.	13	Mar. 31	Mar. 31	13.2	Mar. 31.
Muskingum:					
Lock No. 10, Zanesville, Ohio.	25	Apr. 20	Apr. 21	27.3	Apr. 20.
Lock No. 3, Lowell, Ohio.	25	Apr. 20	Apr. 22	30.0	Apr. 21.
Little Kanawha: Creston, W. Va.	20	Apr. 20	Apr. 20	21.45	Apr. 20.
Hocking: Athens, Ohio.	17	Apr. 19	Apr. 23	22.75	Apr. 21.
Little Sandy: Grayson, Ky.	15	Mar. 31 Apr. 20	Apr. 1 Apr. 21	18.5 18.1	Mar. 31. Apr. 20.
Scioto:					
La Rue, Ohio.	11	Apr. 17	Apr. 22	12.8	Apr. 21.
Prospect, Ohio.	10	Apr. 19	Apr. 23	12.0	Apr. 22.
Chillicothe, Ohio.	16	Apr. 19	Apr. 23	23.9	Apr. 21.
Little Miami: Kings Mills, Ohio.	17	Apr. 19	Apr. 21	26.8	Apr. 20.
Miami: Middletown, Ohio.	15	Apr. 19	Apr. 20	15.7	Apr. 20.
Barren: Bowling Green, Ky.	20	Apr. 1	Apr. 2	20.8	Apr. 2.
Green:					
Munfordville, Ky.	28	Apr. 2	Apr. 2	28.4	Apr. 2.
Lock No. 4, Woodbury, Ky.	33	Apr. 2 Apr. 20	Apr. 3 Apr. 24	34.3 36.9	Apr. 3. Apr. 22.
Lock No. 2, Rumsey, Ky.	34	Apr. 20	4	39.9	Apr. 27.
West Fork of White:					
Anderson, Ind.	10	Apr. 18	Apr. 23	12.8	Apr. 21.
Elliston, Ind.	18	Apr. 18	Apr. 25	25.05	Apr. 20.
Edwardsport, Ind.	12	Apr. 18 2	Apr. 29 5	19.1 13.8	Apr. 21. 4.
East Fork of White:					
Seymour, Ind.	14	Apr. 19	Apr. 23	18.4	Apr. 20.
Williams, Ind.	10	Apr. 21	Apr. 27	17.9	Apr. 23.
Shoals, Ind.	25	Apr. 23	Apr. 27	28.9	Apr. 25.
White:					
Petersburg, Ind.	16	Apr. 19	3	23.3	Apr. 26.
Hazleton, Ind.	16	Apr. 20	5	24.5	Apr. 27.
Wabash:					
Bluffton, Ind.	10	Apr. 21	Apr. 23	11.6	Apr. 22.
Wabash, Ind.	12	Apr. 21	Apr. 23	12.6	Apr. 23.
Lafayette, Ind.	11	Apr. 22	Apr. 23	11.3	Apr. 23.
Mt. Carmel, Ill.	17	Apr. 21	4	21.1	Apr. 27.
New Harmony, Ind.	15	Apr. 24	3	16.6	Apr. 30.
Cumberland:					
Celina, Tenn.	28	Mar. 31 Apr. 21	Apr. 4 Apr. 25	35.3 35.0	Apr. 2. Apr. 23.
Lock F, Eddyville, Ky.	50	Apr. 26	Apr. 29	51.1	Apr. 28.
Ohio:					
Pittsburgh, Pa.	25	Mar. 31 Apr. 20	Apr. 2 Apr. 22	28.5 28.3	Mar. 31. Apr. 21.
Coraopolis, Pa.	26	Mar. 31 Apr. 20	Apr. 1 Apr. 21	26.7 27.0	Apr. 1. Apr. 21.
Dam No. 7, Midland, Pa.	30	Mar. 31 Apr. 5 Apr. 20	Apr. 2 Apr. 5 Apr. 23	37.0 31.0 39.6	Apr. 1. Apr. 5. Apr. 21.
Dam No. 12, near Wheeling, W. Va.	36	Apr. 1 Apr. 20	Apr. 2 Apr. 23	38.05 42.6	Apr. 1. Apr. 21.
Marietta, Ohio.	35	Apr. 20	Apr. 24	44.5	Apr. 22.
Parkersburg, W. Va.	36	Apr. 20	Apr. 24	44.8	Apr. 22.
Dam No. 19, Little Hocking, Ohio.	40	Apr. 20	Apr. 24	47.7	Apr. 22.
Dam No. 20, near Belleville, W. Va.	45	Apr. 21	Apr. 23	48.0	Apr. 22.

[1] Continued from preceding month.