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SECTION IV.—RIVERS AND FLOODS.

RIVERS AND FLOODS, JANUARY, 1917.

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[Dated: Weather Bureau, Mar. 1, 1917.]

A period of unusual quiet in the streams of the United States was followed in January by renewed activity on a small scale on a few of the principal streams.

Eastern Mississippi drainage.—Points on the headwaters of the Monongahela and Kiskeminitas Rivers reported on January 21, stages from 1 to 7 feet above flood. The Ohio at Pittsburgh rose to 25.2 feet, 2.2 feet above the flood stage, on the morning of the 23d. As this flood wave received very little support from the Allegheny it flattened out soon after reaching the Ohio. The stage at Dam No. 13, near Wheeling, W. Va., was 1.6 feet below the flood stage for Wheeling on the 24th.

The lower Ohio began to rise in the closing days of December, 1916, rose slowly to the flood stage, which was reached at Evansville on January 7, and crested at 37.7 feet, or 2.7 feet above flood stage, on the 12th. A second flood set in in this district on the 20th, as a result of the rains and thawing weather over the watershed. The flood stage at Evansville, 35 feet, was reached on the 26th and the crest stage, 38.7 feet, on the 28th. Thereafter the river fell slowly, passing below flood stage February 1.

In the Cairo district the river was above flood stage at Shawneetown, Ill., only, first on January 9 and again at the close of the month.

The Cumberland River passed flood stage at Burnside on the 5th, but did not quite reach flood stage at other points along the stream. Gage heights will be found in Table 1.

South Atlantic drainage.—The Santee was slightly above flood stage during the latter part of the month. Heavy rains over the watershed of the Ocmulgee and Oconee during the period January 21 to 25 caused some overflow of bottom lands but no serious damage, since ample warning was given for the removal of stock. Stages appear in Table 2 below.

East Gulf State drainage.—Flood stages were reached in the Pearl River on several dates and a stage of 3.2 feet above the flood level was reached in the Tombigbee at Demopolis on the 27th.

Minor flood stages were reached as follows: Black River at Black Rock, Ark., on the 6th; Salt River, Ariz., at Phoenix, Ariz., on the 21st; Sandusky River, Ohio, at Upper Sandusky, Ohio, on the 6th.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

TABLE 1.—Flood stages in rivers of the eastern Mississippi drainage, January, 1917.

River.	Station.	Flood stage.	Above flood stage.		Crest.	
			From—	To—	Stage.	Date.
		<i>Feet.</i>			<i>Feet.</i>	
Stony Creek.....	Johnstown, Pa.....	10.0	22	22	11.0	22
Allegheny.....	Harris Island Dam, Pa.	22.0	23	23	25.5	23
Chest.....	Rowlesburg, W. Va.	13.0	22	22	12.0	22
Youghiogheny.....	West Newton, Pa.	20.0			19.3	22
Do.....	Confluence, Pa.....	10.0	22	22	12.7	22

TABLE 1.—Flood stages in rivers of the eastern Mississippi drainage, January, 1917—Continued.

River.	Station.	Flood stage.	Above flood stage.		Crest.	
			From—	To—	Stage.	Date.
		<i>Feet.</i>			<i>Feet.</i>	
Monongahela.....	Fairmont, W. Va.....	25.0	22	22	31.0	22
Do.....	Lock No. 4, Pa.....	31.0	22	23	40.3	22
Do.....	Greensboro, Pa.....	20.0	22	23	32.0	22
Shenango.....	Sharon, Pa.....	9.0	6	7	11.0	6
Walhonding.....	Walhonding, Ohio.....	8.0	23	25	10.1	23
Tuscarawas.....	Coshocton, Ohio.....	8.0	6	6	8.2	6
Do.....	Norris Point, Ohio.....	8.0	6	8	10.4	7
Muskingum.....	Marietta, Ohio.....	32.0			30.8	24
Little Kanawha.....	Glenville, W. Va.....	22.0	22	22	28.5	22
Do.....	Creston, W. Va.....	20.0	22	23	24.1	22
Licking.....	Farmers, Ky.....	25.0	22	22	25.6	22
Do.....	Falmouth, Ky.....	28.0	22	23	28.8	22
Kentucky.....	Jackson, Ky.....	24.0	5	6	30.5	5
Do.....	High Bridge, Ky.....	30.0	22	22	33.0	22
Do.....	Frankfort, Ky.....	31.0	23	23	33.8	23
Do.....	Beattyville, Ky.....	30.0	6	6	32.5	6
East Fork of White.....	Shoals, Ind.....	20.0			18.2	11
West Fork of White.....	Elliston, Ind.....	19.0			18.3	7
White.....	Decker, Ind.....	18.0	11	12	18.0	11-12
Wabash.....	Lafayette, Ind.....	11.0	7	7	12.7	7
Do.....	Mount Carmel, Ill.....	15.0			14.8	12
Kiskiminitas.....	Saltsburg, Pa.....	8.0	22	22	12.2	22
Hocking.....	Athens, Ohio.....	17.0			16.4	23
Cumberland.....	Burnside, Ky.....	50.0	5	5	51.4	5
Do.....	Carthage, Tenn.....	40.0			38.6	8
Do.....	Celina, Tenn.....	45.0			44.6	8
Do.....	Clarksville, Tenn.....	46.0			43.5	7
Do.....	Nashville, Tenn.....	40.0			39.5	11
Powell.....	Tazewell, Tenn.....	20.0			19.0	6
Clinch.....	Clinton, Tenn.....	25.0	6	7	31.5	7
Ohio.....	Pittsburgh, Pa.....	22.0	23	23	25.2	23
Do.....	Lock No. 2, Coraopolis, Pa.....	26.0			25.8	23
Do.....	Beaver Dam, Pa.....	30.0	23	23	33.0	23
Do.....	Dam No. 13, near Wheeling, W. Va.....	36.0			34.4	24
Do.....	Point Pleasant, W. Va.....	40.0			37.5	24
Do.....	Cincinnati, Ohio.....	50.0			46.0	26
Do.....	Cloverport, Ky.....	40.0			39.3	27
Do.....	Evansville, Ind.....	35.0	7	14	37.7	12
Do.....	do.....	35.0	26	(*)	38.7	28
Do.....	Henderson, Ky.....	33.0	8	14	35.3	12
Do.....	do.....	33.0	27	(*)	36.0	29-30
Do.....	Mount Vernon, Ind.....	35.0	9	15	36.7	13
Do.....	do.....	35.0	28	(*)	36.7	30
Do.....	Shawneetown, Ill.....	35.0	9	16	37.2	18
Do.....	do.....	35.0	29	(*)	36.8	31

* Continued above flood stage after end of month.

TABLE 2.—Flood stages in rivers of south Atlantic drainage, January, 1917.

River.	Station.	Flood stage.	Above flood stage.		Crest.	
			From—	To—	Stage.	Date.
		<i>Feet.</i>			<i>Feet.</i>	
Neuse.....	Neuse, N. C.....	12.0	31	(*)	12.9	31
Santee.....	Ferguson, S. C.....	12.0	28	29	12.2	29
Do.....	Rimmi, S. C.....	12.0	26	28	12.5	27
Oconee.....	Milledgeville, Ga.....	22.0			20.0	25

* Continued above flood stage after end of month.

MEAN LAKE LEVELS DURING JANUARY, 1917.

By UNITED STATES LAKE SURVEY.

[Dated: Detroit, Mich., Feb. 5, 1917.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes.			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during January, 1917:	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Above mean sea level at New York.....	602.78	580.48	571.68	245.26
Above or below—				
Mean stage of December, 1916.....	-0.38	-0.08	+0.12	-0.11
Mean stage of January, 1916.....	+0.18	+1.28	+0.02	+0.21
Average stage for January, last 10 years.....	+0.82	+0.64	-0.06	-0.20
Highest recorded January stage.....	±0.0	-2.19	-1.87	-2.34
Lowest recorded January stage.....	+1.90	+1.40	+0.72	+1.46
Average relation of the January level to—				
December level.....	-0.3	-0.2	+0.1	+0.1
February level.....	+0.2	0.0±	+0.1	-0.2