RIVERS AND FLOODS

By R. E. SPENCER

As shown in the table at the end of this report, floods occurred in the North, Middle, and South Atlantic States, in several streams of the east Gulf, Great Lakes, and Ohio River drainage areas, in the Illinois, Meramec, Arkansas, and White (of Arkansas) Rivers, and in the Williamette River of Oregon; but reports indicate that, excepting those in the South Atlantic and East Gulf States and the Arkansas and White Rivers, the consequences of the rises were in the main unimportant. On the Connecticut and Potomac some inconvenience was experienced, but losses were negligible; on the James unavoidable losses to the extent of $1,000 were reported; in the Raleigh, N. C., district and on the Santee River no damage was done, but advance information of the rise proved of value to logging interests; on the Peedee a $10,000 loss in prospective crops occurred, while property to the value of $100,000 was saved through the flood warnings; and in the Macon, Ga., district a loss estimated at $10,000 resulted from delays to farming and logging operations. In the Great Lakes drainage, where the rises resulted from heavy rains and rapidly melting snow and ice, some farm land was overflowed and other slight damage occurred, while about $3,000 worth of property was saved through flood warnings. Damage in the Ohio drainage was slight, the only specific estimate received giving $2,000 at Pittsburgh, Pa. On the West Fork of the White River of Indiana, however, damage to farm lands overflowed will make considerable reseeding necessary. The Mississippi, Illinois, Meramec, Ouachita, Little Arkansas, and Trinity River rises were well forecast and without consequence. A saving of $6,000 in livestock was effected along the Trinity through the flood warnings.

The more important floods of the Apalachicola, Alabama, Pascagoula, and Pearl Rivers and their tributaries resulted, as did the South Atlantic drainage rises mentioned above, from heavy rains over the East Gulf and South Atlantic States from the 20th to the night of the 22d; and much of the damage was done directly by the rain—in washouts of track, bridges on small streams, highways, newly seeded farm lands, etc.—rather than by overflow from the channels of the larger streams. This was especially true of the Apalachicola system, where the damage to railroads was estimated at $50,000, to highways and bridges on small streams at $225,000, and to prospective crops at $300,000. In the drainage area of the Alabama River, damage was principally of the same kind, an itemized statement showing $8,050 to highways, railroad trackage, etc., $22,700 in prospective and matured crops, $750 in livestock, and $32,000 in suspension of business. There were also five deaths by drowning in small streams. The following note regarding the floods in this district is quoted from the report of the official in charge at Montgomery, Ala.:

> Great damage was done by washing rains and local floods. Early planted crops were ruined over considerable areas. Washouts along the railroads were numerous, and highways were badly injured in places. Hundreds of people were driven from their homes in Brewton, Ala., when flood waters from neighboring creeks inundated parts of the town.

A saving of $165,000 was accomplished through flood warnings in the Montgomery district. In the Pearl and Pascagoula systems the total of reported losses was $58,900, of which $38,500 was in prospective and matured crops, and $10,700 in damage to highways, bridges, and other tangible property. Property valued at $6,500 was saved through Weather Bureau warnings in this district, in addition to a considerable quantity of livestock.

Two rises occurred in the Arkansas and White Rivers of Arkansas—one following the moderate rains of April 4–6 and the other following the heavy rains of April 19–21. In the first, flood stages were not exceeded on the Arkansas proper, but damage to crops was estimated at $94,000, of which $14,000 occurred along the White. In the second flood (following April 21) higher stages and more extensive overflow occurred in both rivers, and along the White damage estimated at $75,000 occurred. On the Arkansas, however, no replanting had been done since the first rise, and the damage did not exceed $10,000. The total saving accomplished through warnings for both these rises is estimated at $118,000.

As on the Arkansas and White Rivers, floods occurred in the Sulphur River of Texas, and moderate rises in the Red River below Springbank, Ark., following the rains of April 4–6 and 19–21 in that section. Losses, chiefly in livestock and due to suspension of business, were estimated at $27,000, while savings to the amount of $45,000 were reported accomplished through the warnings.

River and station	Flood stage	Above flood stage—dates		Crest	
		From—	To—	Stage	Date (all dates in April except as otherwise specified)
ATLANTIC DRAINAGE					
Connecticut:	*Feet*			*Feet*	
White River Junction, Vt	15	6	13	22.0	10
Hartford, Conn	16	8	14	18.6	10
Potomac: Cumberland, Md	8	30	(1)	10.4	May 1
James:					
Columbia, Va	18	28	28	19.7	28
Richmond, Va	10	29	29	11.5	29
Ronoke: Weldon, N. C	30	29	(1)	39.2	29
Neuse:					
Neuse, N. C	15	28	(1)	19.3	30
Smithfield, N. C	14	29	(1)	16.9	30
Cape Fear:					
Fayetteville, N. C	35	29	(1)	44.4	29
Elizabethtown, N. C	22	29	(1)	30.2	30
Haw: Moncure, N. C	22	28	28	26.0	28
Peedee:					
Cheraw, S. C	27	29	30	34.0	29
Mars Bluff, S. C	17	15	19	17.2	18–19
		26	(1)	18.0	30
Lynches: Effingham, S. C	14	24	24	14.0	24
Black: Kingstree, S. C	12	25	28	12.3	26–27
Santee:					
Rimini, S. C	12	(2)	2	12.3	Mar. 30–Apr. 1
		13	(1)	15.4	Apr. 16
Ferguson, S. C	12	2	3	12.0	2–3
		15	(1)	13.5	28–29
Altamaha:					
Charlotte, Ga	15	24	(1)	21.2	26
Everett City, Ga	10	26	(1)	12.0	30
Oconee: Milledgeville, Ga	22	23	24	26.0	24
Ocmulgee:					
Macon, Ga	18	23	24	19.8	23
Abbeville, Ga	11	23	(1)	14.9	29
Lumber City, Ga	15	24	(1)	17.9	25
EAST GULF DRAINAGE					
Apalachicola:					
River Junction, Fla	18	23	(1)	26.6	27
Blountstown, Fla	20	24	(1)	24.6	28
Flint:					
Montezuma, Ga	20	25	26	21.3	26
Albany, Ga	20	23	(1)	29.3	24
Bainbridge, Ga	25	24	(1)	32.7	27
Chattahoochee:					
Eufaula, Ala	40	24	25	45.0	25
Alaga, Ala	30	23	27	39.4	24
Alabama:					
Montgomery, Ala	35	23	28	45.1	25
Selma, Ala	35	23	(1)	48.0	27
Coosa:					
Lock No. 4, Lincoln, Ala	17	23	25	19.3	24
Wetumpka, Ala	45	25	25	46.0	25
Cahaba: Centerville, Ala	25	21	23	29.5	22
Tombigbee:					
Aberdeen, Miss	33	24	26	35.4	25
Lock 4, Demopolis, Ala	39	14	(1)	61.2	May 1
Black Warrior: Lock 10, Tuscaloosa, Ala	46	22	27	62.5	23

[1] Continued at end of month.

[2] Continued from last month.

River and station	Flood stage	Above flood stage—dates From—	Above flood stage—dates To—	Crest Stage	Crest Date (all dates in April except as otherwise specified)
EAST GULF DRAINAGE—continued					
	Feet			*Feet*	
Pascagoula: Merrill, Miss	20	26	29	20.7	27
Chickasawhay:					
Enterprise, Miss	21	23	26	26.0	25
Shubuta, Miss	27	24	29	29.2	28
Leaf: Hattiesburg, Miss	19	24	25	20.3	24
Pearl:					
Edinburg, Miss	21	24	28	23.3	26
Jackson, Miss	20	11	(1)	29.8	30
Monticello, Miss	18	22	28	20.8	23
Columbia, Miss	18	23	(1)	22.9	25
West Pearl: Pearl River, La	13	11	(1)	16.0	28
GREAT LAKES DRAINAGE					
Saginaw: Saginaw, Mich	19	8	11	20.0	9
Tittabawassee:					
Midland, Mich	18	6	9	20.0	8
Shields, Mich	16	8	9	17.4	8
Pine: Alma, Mich	7	4	9	8.0	7
Grand:					
Eaton Rapids, Mich	5	3	11	5.1	9
Grand Rapids, Mich	11	7	10	11.4	8
MISSISSIPPI DRAINAGE					
Allegheny: Lock 5, Freeport, Pa	24	(2)	(2)	----------	----------
Stony Creek: Johnstown, Pa	10	30	(1)	13.0	30
Youghiogheny: Confluence, Pa	10	30	30	11.0	30
Tuscarawas: Gnadenhutten, Ohio	9	(2)	3	11.4	Mar. 31
		23	24	9.6	23
Walhonding: Walhonding, Ohio	8	22	22	8.2	22
Scioto: Larue, Ohio	11	22	22	11.2	22
Tippecanoe: Norway, Ind	6	2	2	6.0	2
		16	16	6.0	16
White: Decker, Ind	18	26	29	18.6	28
White, West Fork:					
Elliston, Ind	19	23	24	19.5	23
Edwardsport, Ind	15	2	4	15.7	3
		23	26	16.9	24
Tennessee:					
Florence, Ala	18	24	25	18.1	24
Riverton, Ala	33	23	27	37.8	25
Elk: Fayetteville, Tenn	14	22	25	20.1	24
Mississippi:					
Louisiana, Mo	12	14	15	12.1	15
Hannibal, Mo	13	9	16	13.5	14
Illinois:					
Morris, Ill	13	9	9	13.0	9
Peru, Ill	14	1	28	17.0	10
Henry, Ill	10	9	23	11.2	12–14
Havana, Ill	14	10	29	15.1	16–18
Beardstown, Ill	14	10	(1)	16.0	16–18
Pearl, Ill	12	9	27	13.3	18
Meramec:					
Steelville, Mo	12	7	7	14.7	7
Pacific, Mo	11	6	9	20.0	9
Valley Park, Mo	14	6	10	23.0	9
Bourbeuse: Union, Mo	12	6	8	16.4	8
St. Francis: St. Francis, Ark	17	9	19	21.3	12
		22	(1)	21.2	27
Arkansas:					
Fort Smith, Ark	22	23	25	23.4	25
Dardanelle, Ark	20	24	27	21.5	25
Morrilton, Ark	20	24	27	21.0	26
Yancopin, Ark	29	8	(1)	36.5	30
Little Arkansas: Sedgwick, Kans	18	5	5	18.0	5
Petit Jean: Danville, Ark	20	6	10	25.6	7
		22	25	23.5	23
White: Cotter, Ark	21	7	8	22.8	7
		23	25	25.5	24
Calico Rock, Ark	18	6	9	28.8	7
		21	26	31.8	22
Batesville, Ark	23	6	10	32.6	7
		22	26	33.4	22
Newport, Ark	26	8	13	30.3	10
		23	30	32.0	25
Georgetown, Ark	22	10	(1)	28.2	28–29
DeValls Bluff, Ark	24	12	(1)	27.9	30
Clarendon, Ark	30	28	(1)	----------	----------
Black:					
Poplar Bluff, Mo	14	7	9	16.6	8
		22	25	15.8	23
Corning, Ark	11	7	(1)	13.5	24–28
Block Rock, Ark	14	6	(1)	24.9	22
Cache: Patterson, Ark	9	8	17	9.7	13–14
		23	(1)	9.6	27–29
Tallahatchie: Swan Lake, Miss	25	(2)	10	29.4	Mar. 25–26
		24	(1)	30.6	May 3–4
Sulphur:					
Ringo Crossing, Tex	20	6	9	25.8	6
		22	25	22.4	24
Finley, Tex	24	10	15	25.9	11
		29	30	24.0	29–30

[1] Continued at end of month.
[2] Continued from last month.

River and station	Flood stage	Above flood stage—dates From—	Above flood stage—dates To—	Crest Stage	Crest Date (all dates in April except as otherwise specified)
MISSISSIPPI DRAINAGE—continued					
Ouachita:	*Feet*			*Feet*	
Arkadelphia, Ark	12	7	8	17.3	8
		22	24	16.0	23
Camden, Ark	30	11	11	30.4	11
		25	28	32.2	27
WEST GULF DRAINAGE					
Trinity: Dallas, Tex	25	5	7	32.4	6
PACIFIC DRAINAGE					
Sacramento: Knights Landing, Calif	18	(3)	1	19.2	Mar. 28–30
Willamette:					
Harrisburg, Oreg	7	(3)	(4)	(4)	(4)
Portland, Oreg	15	1	4	15.5	3

[3] Continued from last month.
[4] Report missing.

[2] Below flood stage at 8 a. m. Apr. 1.

MEAN LAKE LEVELS DURING APRIL, 1928

By UNITED STATES LAKE SURVEY

[Detroit, Mich., May 4, 1928]

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

Data	Lakes[1] Superior	Michigan and Huron	Erie	Ontario
Mean level during April, 1928:	*Feet*	*Feet*	*Feet*	*Feet*
Above mean sea level at New York	601.51	579.52	571.79	246.42
Above or below—				
Mean stage of March, 1928	+0.09	+0.59	+0.29	+0.45
Mean stage of April, 1927	+0.41	+0.72	+0.03	+0.45
Average stage for April, last 10 years	+0.46	−0.12	−0.13	+0.54
Highest recorded April stage	−0.88	−3.71	−2.39	−2.01
Lowest recorded April stage	+1.71	+1.70	+0.98	+1.58
Average departure (since 1860) of the April level from the March level	+0.06	+0.24	+0.54	+0.59

[1] Lake St. Clair's level: In April, 1928, 574.18 feet.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, APRIL, 1928

By J. B. KINCER

General summary.—During the first decade of April, the unusually warm weather advanced fruit trees rapidly in the interior of the country, and at many places they had reached a stage susceptible to frost when a sudden change to cold weather and freezing in many districts occurred. As a result, more or less general damage was done to early fruit over most central trans-Mississippi sections from southern Iowa and Nebraska southward to the northern portions of Arkansas and Oklahoma, and also in northwest and west Texas and New Mexico, the heaviest damage apparently being in the southwestern portion of this area. Elsewhere there was no widespread harm, although some local frosting was reported. The weather was generally favorable in the more eastern States and field operations made good advance, but in the South work was retarded, and cool weather the latter part prevented good growth of vegetation. It was also too cool, cloudy, and wet in the interior valleys, but the Pacific Coast States had favorable weather, although it was generally too cool in the Rocky Mountain districts.