

Light flooding occurred on the Pearl River at Bogalusa, La., on the 8th, and again on the 11th and 12th. The first overflow was due to heavy rains which resulted from the tropical disturbance moving inland over southeastern Louisiana, on the morning of the 4th. The second overflow was due to heavy thundershowers over the local area on the 9th.

Missouri Basin.—Intense thundershowers (2 to 3 inches) north of Sioux City, Iowa, on the afternoon of the 3rd caused Perry Creek to rise to bankfull stage within a few hours. Most of the rain fell in one hour. Several streets were flooded in northwest Sioux City due to run-off from the hills and to water backing up into the streets from the sewers.

Heavy rain (4 to 5 inches) again fell over the Perry Creek basin on the 10th and 11th causing more serious flooding than during the first storm. The flooding again was mainly due to the water backing up into the streets from the sewers. Damages were confined mostly to bridges, heavy deposits of mud on streets and lawns, and the flooding of basements.

The Floyd River overflowed its banks from the vicinity of Merrill to near James, Iowa, due to heavy rain on the 10th and 11th. The heaviest rain occurred along the lower portion of the basin. LeMars and Merrill, Iowa, reported over 5 inches of rain during the 24-hour period ending at 8 a. m. on the 11th. About 1,500 acres of land were inundated, most of it pasture land, and willow wooded areas. Losses were not heavy.

Light flooding occurred along the Big and Little Blue Rivers in Nebraska and for a short distance into Kansas during the first half of the month. Slight flooding occurred on the Republican at Cambridge, Nebr., and along the Delaware River at Valley Falls, Kans. Losses were negligible.

Flood stages were exceeded on the Chariton, Grand, Weldon, and Thompson Fork Rivers in northwestern Missouri, the Lamine and Blackwater Rivers in central Missouri, and the Stranger Creek in northeastern Kansas, due to the heavy rain (5 to 6 inches) during the night of the 11th and 12th. An unofficial 8-inch fall in the headwaters of the Stranger Creek just south of Atchison, Kans., caused 2- to 3-foot overflows in that area and bankfull stages downstream to Tonganoxie. The Weldon River rose 12 feet during the early morning hours of the 12th at Mercer, Mo., but no flooding occurred except in the smaller streams to the north. Damages from the flooding were small except in the area south of Atchison, Kans., where 1,000 acres were inundated.

Arkansas Basin.—Minor flooding occurred on the upper Chikaskia on the 6th and 12th and on the Caney River above Hulah, Okla., on the 19th. The first overflow on the Chikaskia resulted from rains averaging about 3 inches during the 48-hour period ending on the 5th, and the second to rain averaging less than 1 inch. The damage from the overflows was negligible.

West Gulf of Mexico drainage.—A flash flood occurred in Bernalillo, N. Mex., during the early morning hours of the 30th. This flood was due to heavy thunder showers in the nearby Sandia Mountains. The Bernalillo and Sandia irrigation canals were destroyed as the water poured down the Sandia Mountains through numerous gullies and arroyos. A convent and 10 homes were destroyed and considerable land was flooded.

FLOOD STAGE REPORT FOR SEPTEMBER 1949

[All dates in September unless otherwise specified]

River and station	Flood stage	Above flood stages— dates		Crest ¹	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
Roanoke:	<i>Feet</i>			<i>Feet</i>	
Weldon, N. C.	31	1	1	32.4	1
Williamston, N. C.	10	3	11	10.9	7, 8
Tar: Enfield, N. C.	14	Aug. 31	1	14.4	1
Neuse:					
Smithfield, N. C.	13	Aug. 29	3	19.0	Aug. 31
Goldboro, N. C.	14	1	12	20.7	5
Kinston, N. C.	14	4	15	17.7	8
Cape Fear: Lock No. 2, Elizabeth- town, N. C.	20	Aug. 30	Aug. 31	30.0	Aug. 31
Yadkin: Wilkesboro, N. C.	14	Aug. 29	Aug. 29	17.1	Aug. 29
Pee Dee: Pee Dee, S. C.	19	Aug. 24	4	21.9	4
Saluda:					
Pelzer, S. C.	6	6	12	9.2	7
Chappells, S. C.	13	10	10	14.2	10
Broad: Blairs, S. C.	14	8	8	16.0	8
Edisto: Givhans Ferry, S. C.	10	Aug. 28	4	14.4	4
EAST GULF OF MEXICO DRAINAGE					
Chattahoochee: Norcross, Ga.	16	8	8	19.4	8
Pearl: Bogalusa, La.	15	8	8	15.0	8
		11	12	15.2	12
MISSISSIPPI SYSTEM					
<i>Missouri Basin</i>					
Floyd: James, Iowa	14	11	13	18.1	12
Republican: Cambridge, Nebr.	5	1	1	6.2	1
Little Blue:					
Endicott, Nebr.	9	6	8	12.2	7
Hanover, Kans.	14	7	7	14.2	8
Big Blue:					
Crete, Nebr.	16	11	12	17.8	11
Barnston, Nebr.	18	7	7	20.3	7
		12	13	20.4	12
		8	8	21.8	8
Blue Rapids, Kans.	20	12	13	22.0	12-13
Delaware: Valley Falls, Kans.	22	12	13	22.9	12
Stranger Creek: Tonganoxie, Kans.	23	15	15	23.1	15
Grand:					
Chillicothe, Mo.	18	13	13	19.1	13
Sumner, Mo.	25	13	13	25.1	13
Brunswick, Mo.	12	14	14	12.2	14
Chariton: Nowinger, Mo.	20	12	13	21.3	13
Lamine: Clifton City, Mo.	15	12	13	18.0	13
Blackwater: Blue Lick, Mo.	25	15	15	25.0	15
<i>Arkansas Basin</i>					
Caney: Hulah, Okla.	30	19	19	33.4	19

¹ Provisional.ESTIMATED FLOOD LOSSES FOR 1947¹

Monetary losses from floods in the United States, estimated at \$272,000,000, was slightly greater than in 1944 and 1945 combined and four times greater than in 1946. It was the 4th greatest monetary loss from floods since 1924, being exceeded in 1927, 1936, and 1937. The loss in life was greater than in 1944, and 1946, but less than in 1945, when 91 lives were lost as compared with 55 during 1947.

The major flood event of the year occurred in the Middle West in the lower Missouri and middle Mississippi Rivers in June and July. It was one of the most disastrous floods on record with the Mississippi reaching its highest stage since 1844, at St. Louis, Mo. Record stages were reached on several streams, including the Des Moines and Raccoon in Iowa, the Platte in Nebraska, the Grand River in Missouri, and also at a few stations on the Mississippi and Missouri Rivers.

¹ Flood loss statistics for 1944 and 1945 were published in the June 1948 and for 1946 in the September 1948 issues of the Monthly Weather Review. The issues in which flood losses previous to 1944 were published are indicated in vol. 73, No. 8, August 1945.

ESTIMATED FLOOD LOSSES FOR 1947

TABLE 1

River and drainage	Urban property				Rural property				Other property		Miscellaneous	Unclassified	Total loss	Lives lost	
	Residential		Commercial		Public	Crops		Live-stock	Other	RR's, bridges, highways, etc.					Public Utilities
	Fixed	Movable	Fixed	Movable		Growing	Stored								
HUDSON RAY DRAINAGE															
Red River of the North	\$140,300	\$6,400	\$13,500	\$313,500	\$15,000					\$275,000	\$10,000	\$13,100	\$786,800		
ST. LAWRENCE DRAINAGE															
<i>Lake Michigan</i>															
Menomonee River	336,000	12,500	320,500	187,500						2,000			2,000		
Grand, Red Cedar and Flat Rivers	101,300		670,400	4,500	1,000					48,200		34,600	946,200	1	
Kalamazoo River	5,000		132,000	62,000						56,000		17,200	1,000,600		
Faw Faw River and Ox Creek													229,000		
Total	502,500	12,500	1,122,900	289,000	1,000			1,000	200	106,200	55,000	51,800	2,177,800	1	
<i>Lake Huron</i>															
Saginaw River and tributaries	16,900		4,600	4,200	10,000				2,000	1,400	5,700	42,500	99,500		
Bad River	3,000		3,000	32,000	20,000			5,000	50,000	100,000	10,000	179,000	681,000		
Clinton River	181,000		50,000	66,200	30,000			5,000	52,000	101,400	15,700	222,600	796,800		
Total	172,900		57,600	73,500	30,000			5,000	52,000	101,400	15,700	222,600	796,800		
<i>Lake Champlain</i>															
East Creek (Vermont)												\$2,000,000	2,000,000		
ATLANTIC SLOPE DRAINAGE															
Androscoggin, Kennebec, St. John, and Penobscot Rivers	4,000			5,000						4,000			13,000		
Connecticut River										75,000		5,000	80,000		
Lackawanna River												100,000	100,000		
Susquehanna River				20,000	25,000	\$100,000		1,100	1,100	7,500		52,500	157,700		
Cape Fear, Tar, Neuse, and Roanoke Rivers	3,000		3,000	10,000	408,500							2,000	486,500		
Santee River and tributaries				240,000	493,500	100,000		1,100	1,100	88,500		50,500	1,142,200		
Total	7,000		23,000	25,000	314,800	3,000		16,700	19,800	194,000	2,500	70,300	651,100	2	
EAST GULF OF MEXICO DRAINAGE															
Apalachicola River					10,000			2,700		117,500			130,200		
Choctawhatchee River					20,000	3,000		1,000		10,000	1,000		122,000		
Alabama River and tributaries	85,000	10,000	5,000	5,000	284,800			11,800	500	3,500		15,500	325,100		
Black Warrior and Tombigbee Rivers	1,000		3,000	5,000				11,000	8,000	23,000	1,500	22,500	73,500		
Pearl, Pascagoula and tributaries															
Total	86,000	10,000	5,000	15,000	314,800	3,000		16,700	19,800	194,000	2,500	70,300	651,100	2	
MISSISSIPPI SYSTEM															
<i>Upper Mississippi Basin</i>															
Zumbro and Whitewater Rivers	400	200		200	600				100	3,500		100	5,000		
Trempealeau River	2,500				800				2,000	15,000		500	20,800		
Root River										2,000			2,000		
Kickapoo River	800				45,400				200	1,000			47,400		
Iowa, Maquoketa, Turkey and Wapsipinicon Rivers	277,500	29,000	114,000	1,278,500	4,419,200	57,000		54,000	834,000	2,885,000	82,700	178,400	10,517,300	1	
Grand and Platte Rivers in Wisconsin; Rock, Galena, and Edwards Rivers in Illinois	155,200	24,100	15,200	20,200	665,300			1,000	82,500	300,700	5,200	1,100	1,311,900		
Skunk River					3,500,000					10,000			3,510,000		
Des Moines River					5,622,500	2,000			1,000	3,000			5,625,500	25	
Fox River					529,500					10,000			539,500		
Fabus and Wyaconda Rivers					803,900				5,200	7,500		302,000	1,103,600		
Bear Creek					555,100				300	43,000			603,500		
Salt River					66,000					4,000			70,000		
Culivie River					2,370,700					510,500			2,881,200		
Illinois River					309,200					247,000			556,200		
Meramec River					272,800					247,000			519,800		
Kaskaskia River					23,155,900					11,979,600			35,135,500		
Mississippi River (Upper)	5,000		2,600					99,500	1,000	3,225,000			38,469,600		
Total	441,400	50,300	131,800	244,100	1,303,900	59,000		154,500	926,600	3,230,400	87,900	7,187,200	87,986,900	27	

ESTIMATED FLOOD LOSSES FOR 1947—Continued

River and drainage	Urban property				Rural property				Other property RR's, bridges, high-ways, etc.	Public Utilities	Miscellaneous	Unclassified	Total loss	Lives lost	
	Residential		Commercial		Public	Crops	Live-stock	Other							
	Fixed	Movable	Fixed	Movable				Fixed							Movable
<i>Missouri Basin</i>															
Yellowstone River and tributaries.....			\$2,300		\$900	\$23,100		\$15,100	\$72,000		\$12,000	\$182,000	\$326,500		
Little Missouri River.....	\$4,900		2,200		7,600			8,200	\$2,400		17,600	130,200	130,200		
Knife and Heart Rivers.....	6,700		4,000		6,500			3,100	13,100		25,500	88,400	88,400		
Cannonball, Grand and Moreau Rivers.....	24,200		130,300		1,000	7,800		54,300	6,000		4,200	128,200	128,200		
Cheyenne River and tributaries.....					58,200	40,000			5,400		15,000	354,300	354,300		
White River.....						36,300					8,000	63,200	63,200		
Ponca and Kayapaha Creeks (South Dakota).....						38,300					16,700	128,600	128,600		
Verdigris River.....						618,000	\$91,800				121,900	307,800	468,000		
James River.....						71,900					108,000	102,500	828,500		
Big Sioux River.....						187,100					11,000	398,700	398,700		
Little Sioux River.....						489,700					52,000	159,600	159,600		
Little River.....						37,300					251,500	97,800	97,800		
Foot River.....						101,500					2,000	360,800	360,800		
Mosquito Creek (Iowa).....						340,000	2,000	3,500	800		152,000	675,700	2,471,500		
Loup River.....	100					6,840,500		1,127,200			486,900	2,771,900	10,226,500		
Republican Creek (Nebraska).....						10,000					3,100	10,400	23,500		
Ne River and tributaries.....						4,000,000					179,600	346,100	786,800		
Nebraska River and tributaries.....						3,616,800		1,965,900			41,800	278,800	320,600		
Tarkio River and tributaries.....						2,814,000		1,830,000			2,470,000	4,800,800	11,270,900	2	
Nodaway River and tributaries.....						10,063,100		1,109,600			53,800	789,900	4,402,600	1	
Republican River and tributaries.....						709,500		1,157,000			1,026,100	3,979,700	3,979,700		
Solomon River.....						2,505,100		2,800			2,907,400	14,127,500	14,127,500	14	
Little Blue and Big Blue Rivers.....						1,854,500		41,500			4,300	716,600	716,600		
Kansas River and minor tributaries.....						616,000		13,100			627,700	3,183,000	3,183,000		
Fishing River and tributaries.....						19,972,300		128,400			55,100	80,100	80,100		
Grand River and tributaries.....						8,317,400		1,162,500			10,000	532,900	1,185,300		
Charlton River.....						2,676,200		131,300			24,200	8,684,600	23,727,500		
Lamine River.....						2,344,700		126,800			5,200	684,900	684,900		
Osage River and tributaries.....						845,300		167,000			24,000	109,500	2,565,000		
Gasconade River.....	15,000		5,700		44,300	44,014,100		11,232,400	132,100		1,312,900	17,082,500	63,928,900		
Total.....	51,400		144,500		118,400	112,200,900	63,800	3,289,100	229,400	13,000	6,456,600	40,283,800	103,173,800	18	
<i>Ohio Basin</i>															
Allegheny River.....	712,900		541,300	1,035,400	344,400	45,000		2,000	17,000	1,600	168,000	41,300	4,319,300	1	
Chestnut Creek (SW Virginia).....	72,000		158,300		5,000	20,000		500	10,000	4,000	3,200	1,500	247,300		
Kentucky River.....	20,000			1,000									90,000		
Blue River and Brock Creek (Indiana).....						308,000					1,000	500,000	500,000		
Wabash River.....					8,500	290,500			106,500	6,000	15,000	2,000	317,000		
Cumberland River.....	97,100		234,000	13,000		1,500,000		500	2,000		5,400	740,900	740,900	2	
Small streams in area of Green County, Tennessee.....	1,800		500			62,500			100		2,400	1,600	1,536,700	2	
Tennessee River and tributaries.....	600												1,600		
Ohio River.....	700												65,700		
Total.....	905,100		327,600	1,049,400	357,800	2,196,000	5,000	2,500	133,600	11,000	394,100	1,232,000	7,312,400	5	
<i>Arkansas Basin</i>															
Small mountain streams in Pueblo and Huerfano Counties, Colorado.....	65,000		15,000								145,000		225,000	1	
Fountain Creek.....								1,000	5,000		216,500		100,000		
Nineseah and Chickasha Rivers.....						11,000			6,000		26,000		222,500		
Walnut River.....						14,000					6,000		63,000		
Cimarron River.....					1,000	114,000			19,000		5,700		20,000		
Verdigris and Caneey Rivers.....			500			46,600		500	12,500		21,700		182,700		
Neosho River.....						15,000			17,500		350,000		109,300		
Canadian River.....						104,500			3,500		13,000		390,000		
Arkansas River.....					1,000	305,100		1,500	51,000		56,700		151,000		
Total.....	65,000		15,500		1,000	1,219,000		3,500	199,000		5,000		1,423,500	1	
<i>Red Basin</i>															
Little River.....						1,214,000		2,500	18,000		18,000		1,433,500		
Sulphur River.....						5,000		1,000	200,000		5,000		12,000		
Total.....						1,219,000		3,500	200,000		5,000		1,445,500		

<i>Lower Mississippi Basin</i>														
Yazoo and Tallahatchie Rivers.....	2,000	12,500	5,700	90,000	6,000	1,600	14,600	1,700	67,500	500	200,000	410,000	700,000	1
Mississippi River (Lower).....	2,000	12,500	5,700	1,405,300	6,000	1,600	14,600	1,700	67,500	500	338,100	410,000	1,555,300	1
Total.....	2,000	12,500	5,700	1,495,300	6,000	1,600	14,600	1,700	67,500	500	538,100	410,000	2,555,300	1
<i>WEST GULF OF MEXICO DRAINAGE</i>														
Nezperque River.....													90,000	
Sabine River.....													300,000	
Trinity River.....				700	3,100				20,000		300	300,000	9,100	
Guadalupe River.....				900					6,000				900	
Total.....				700	900	3,100			25,000		300	300,000	330,000	
<i>GULF OF CALIFORNIA DRAINAGE</i>														
Colorado River.....									3,000				3,000	
<i>PACIFIC SLOPE DRAINAGE</i>														
<i>Columbia Basin</i>														
Flathead River.....				15,000			8,500		2,500		1,000		27,000	
Kootenai River.....				55,000					5,000				60,000	
Potlatch River.....									1,000				1,000	
Total.....				70,000			8,500		8,500		1,000		88,000	
Grand Total.....	2,323,600	407,500	2,465,100	1,418,700	2,700,600	3,479,600	1,652,600	147,000	5,372,800	264,200	15,056,200	76,244,700	272,328,100	55

1 Includes movable farm property.
 2 Damage to bridges and urban property.
 3 Includes all crop losses.