

TABLE 3.—Maximum free air wind velocities (m. p. s.), for different sections of the United States based on pilot balloon observations during October 1944

Section	Surface to 2,500 meters (m. s. l.)				Above 2,500 to 5,000 meters (m. s. l.)				Above 5,000 meters (m. s. l.)						
	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station
Northeast <sup>1</sup>	41.8	WNW.	1,197	19	Portland, Maine	54.8	NW.	4,157	30	Portland, Maine	80.0	WNW.	12,507	19	Portland, Maine.
East-Central <sup>2</sup>	48.0	E.	1,164	21	Huntington, W. Va.	39.0	NNW.	4,676	28	Greensboro, N. C.	86.4	WNW.	15,879	30	Huntington, W. Va.
Southeast <sup>3</sup>	34.7	SSE.	813	18	Miami, Fla.	40.0	N.	3,832	27	Spartanburg, S. C.	65.8	WSW.	9,021	22	Jacksonville, Fla.
North-Central <sup>4</sup>	41.0	WNW.	2,395	24	St. Paul, Minn.	44.6	NNW.	4,892	26	Milwaukee, Wis.	68.0	WNW.	9,852	30	Marquette, Mich.
Central <sup>5</sup>	33.6	N.	1,766	11	Springfield, Mo.	40.8	NNW.	3,868	26	Joliet, Ill.	57.0	SSW.	19,101	16	Omaha, Nebr.
South-Central <sup>6</sup>	23.8	SSW.	1,376	31	Tulsa, Okla.	34.2	NW.	4,530	11	Oklahoma City, Okla.	51.2	SSW.	15,245	19	Jackson, Miss.
Northwest <sup>7</sup>	32.4	W.	1,757	23	Havre, Mont.	44.0	WNW.	3,737	24	Havre, Mont.	68.0	WNW.	10,785	24	Glasgow, Mont.
West-Central <sup>8</sup>	32.5	SSW.	2,305	31	Winnemucca, Nev.	35.2	S.	3,978	20	Red Bluff, Calif.	69.8	E.	12,951	23	Ely, Nev.
Southwest <sup>9</sup>	35.0	ENE.	2,500	25	Mt. Laguna, Calif.	47.0	SW.	4,910	1	Tucson, Ariz.	60.0	SSW.	7,983	1	Phoenix, Ariz.

<sup>1</sup> Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.  
<sup>2</sup> Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.  
<sup>3</sup> South Carolina, Georgia, Florida, and Alabama.  
<sup>4</sup> Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.  
<sup>5</sup> Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.  
<sup>6</sup> Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.  
<sup>7</sup> Montana, Idaho, Washington, and Oregon.  
<sup>8</sup> Wyoming, Colorado, Utah, northern Nevada, and northern California.  
<sup>9</sup> Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS

By BENNETT SWENSON

**P**RECIPITATION during October was above normal in only seven States, i. e., Florida, South Carolina, Virginia, West Virginia, Maryland, Delaware, and New Mexico. The above-normal precipitation in the eastern States was due mainly to the hurricane which passed northward from Florida on October 19-21. In most sections between the Appalachian and the Rocky Mountains the month was abnormally dry, especially in the lower Mississippi and Ohio valleys, portions of the East Gulf, the extreme upper Mississippi and Missouri valleys and the Great Basin, where monthly totals were less than 50 percent of normal.

River stages were above normal in the Middle and South Atlantic States, Tennessee, Kentucky, and the upper Mississippi valley. Elsewhere stages were generally below normal. Flooding during the month was generally light and confined principally to the eastern Carolinas, West Virginia, and the Neosho River in Kansas.

**Atlantic Slope drainage.**—There were two periods of flooding in this area. The first was a result of heavy rains on the last 2 days of September, centered principally over the Carolinas and southern Virginia. The second was due to heavy rains during the period October 19-21 associated with a tropical hurricane. The heavy rain area extended along the Atlantic Slope from Florida to New England, but flooding was confined mainly to the Carolinas and southern Virginia.

The first period of rainfall, September 29-30, was heaviest in the upper and middle portions of the Roanoke, Tar, Neuse, Cape Fear, and Pee Dee River basins, several stations reporting over 5 inches of rainfall in 24 hours. Overflows were moderately heavy in these rivers during the first week or 10 days of October.

The second period of rainfall, October 19-21, averaged between 1 and 2 inches over the entire drainage area with some totals of over 7 inches in Florida and southeastern Georgia. Flooding resulted only in the Roanoke and Pee Dee Rivers and the crests were lower than in the earlier rise.

**Ohio Basin.**—The rain area in connection with the hurricane previously mentioned extended into the upper Ohio valley in West Virginia and western Pennsylvania

on October 20-21. Moderate to high stages resulted in the Allegheny and Monongahela Rivers with light overflows occurring in the West Fork of the Monongahela River in West Virginia. Elsewhere in the Ohio Basin, except in Kentucky, and Tennessee, stages continued generally well below normal.

**Arkansas Basin.**—Rains averaging 2 inches over the Neosho and Verdigris Rivers on October 2-3 resulted in light overflows. The Neosho River which had subsided from an earlier flood in September rose to a stage of 19.0 feet on October 4 at Oswego, Kans., 2 feet above flood stage.

[All dates in October unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest <sup>1</sup>	
		From—	To—	Stage	Date
<b>ATLANTIC SLOPE DRAINAGE</b>					
Dan: Danville, Va.	11	Sept. 30	1	12.9	1
Roanoke:					
Randolph, Va.	21	22	23	22.0	22
Weldon, N. C.	31	Sept. 30	5	40.2	1
		22	24	36.4	24
		Sept. 25	13	12.9	Sept. 27,
Williamston, N. C.	10				7
		26	(?)	10.9	28
Fishing Creek: Enfield, N. C.	14	1	3	14.2	2
Tar:					
Rocky Mount, N. C.	9	Sept. 30	5	12.1	2
Tarboro, N. C.	18	3	7	21.8	5-6
Greenville, N. C.	13	3	9	15.5	6
Neuse:					
Neuse, N. C.	14	Sept. 30	6	20.6	3
Smithfield, N. C.	13	1	8	20.0	3
Goldboro, N. C.	14	6	11	16.9	10
Kinston, N. C.	14	10	13	14.6	12
Haw: Moncure, N. C.	20	Sept. 30	2	27.3	1
Cape Fear:					
Fayetteville, N. C.	35	1	4	44.5	2
Lock No. 2, Elizabethtown, N. C.	20	1	6	30.8	3
Pee Dee:					
Cheraw, S. C.	30	2	3	34.0	1
Mars Bluff Bridge, S. C.	17	4	8	18.1	6
		24	27	17.7	26
Catawba: Catawba, N. C.	8	Sept. 30	Sept. 30	8.8	Sept. 30
<b>MISSISSIPPI SYSTEM</b>					
<b>Ohio Basin</b>					
West Fork:					
Weston, W. Va.	15	21	21	17.0	• 21
Clarksburg, W. Va.	5	21	21	6.2	21
<b>Arkansas Basin</b>					
Neosho: Oswego, Kans.	17	3	7	19.0	4

<sup>1</sup> Provisional.  
<sup>2</sup> Estimated.  
<sup>3</sup> Continued at end of month.