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NOTICE

A REPORT ON THE HURRICANE OF OCTOBER 13–21, 1944, WILL APPEAR IN THE NOVEMBER ISSUE OF THE MONTHLY WEATHER REVIEW

METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR OCTOBER 1944

[Climate and Crop Weather Division, W. A. Mattice, Acting in charge]

AEROLOGICAL OBSERVATIONS

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidities in percent, obtained by radiosondes during October 1944*

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

Altitude (meters) m. s. l.	Albany, N. Y. (86 m.)				Albuquerque, N. Mex. (1,620 m.)				Apalachicola, Fla. (5 m.)				Atlanta, Ga. (300 m.)				Big Spring, Tex. (774 m.)				Bismarck, N. Dak. (505 m.)				Boise, Idaho (868 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	1,008	7.5	81	26	842	14.4	51	31	1,018	19.3	76	31	985	15.2	67	31	932	18.5	56	31	960	8.2	63	31	918	13.5	47
500	31	958	7.9	66					31	961	19.3	56	31	962	16.8	55												
1,000	31	902	5.4	65					31	907	15.9	58	31	908	13.9	56	31	908	18.4	52	31	905	11.6	48	31	904	16.4	41
1,500	31	850	3.1	62					31	855	13.4	46	31	855	11.2	51	31	856	15.1	53	31	852	9.4	44	31	853	15.1	35
2,000	31	798	1.3	60	26	805	13.2	48	31	805	11.4	40	31	805	8.9	45	31	807	11.7	52	31	802	6.9	43	31	803	11.4	37
2,500	31	749	−0.6	54	26	758	9.8	51	31	758	9.2	35	30	757	6.9	36	31	760	8.7	46	31	754	4.4	39	31	756	7.5	41
3,000	31	704	−3.3	49	26	714	5.7	57	31	714	6.4	34	30	712	4.3	35	31	715	5.4	42	31	709	2.0	40	31	712	3.6	43
4,000	31	620	−8.1	40	26	631	−1.6	57	31	631	0.7	29	28	630	−1.5	31	30	632	−0.7	27	31	626	−3.8	39	31	628	−3.4	48
5,000	30	544	−14.1	39	26	556	−8.4	50	31	556	−4.9		27	555	−7.4		30	556	−7.3	26	31	550	−10.1	40	31	553	−10.1	47
6,000	30	476	−21.1	40	26	488	−15.0	42	31	489	−11.3		25	487	−14.1		30	489	−13.7	25	31	483	−17.1	39	31	485	−16.9	39
7,000	30	415	−28.1	38	25	427	−22.2	36	31	429	−18.1		23	426	−20.7		30	428	−21.1	30	30	422	−24.7	43	31	424	−24.5	38
8,000	30	360	−35.2		23	371	−29.9		31	374	−25.1		21	372	−27.7		30	373	−28.6	32	29	366	−32.5	47	31	368	−32.6	
9,000	30	311	−42.5		22	321	−37.8		31	325	−32.2		19	323	−35.1		30	323	−36.2		29	317	−40.1		30	318	−40.6	
10,000	30	268	−48.5		22	278	−45.5		30	282	−39.6		14	280	−41.5		30	279	−43.9		28	273	−48.0		30	275	−47.9	
11,000	28	230	−53.1		21	238	−52.4		30	243	−46.3		12	242	−48.0		29	240	−50.8		25	235	−55.0		28	236	−52.8	
12,000	25	197	−56.2		19	204	−56.7		28	208	−52.2		9	208	−53.1		26	206	−56.2		21	200	−59.5		26	202	−57.2	
13,000	20	168	−58.0		15	174	−58.4		20	178	−58.1		7	178	−59.9		20	176	−60.2		18	170	−61.2		15	172	−58.4	
14,000	15	144	−59.9		9	149	−62.1		7	153	−63.0		5	153	−64.0		6	150	−63.7		7	144	−61.9					
15,000	8	124	−61.8																									

Altitude (meters) m. s. l.	Brownsville, Tex. (6 m.)				Buffalo, N. Y. (221 m.)				Caribou, Maine (193 m.)				Charleston, S. C. (14 m.)				Denver, Colo. (1616 m.)				Dodge City, Kans. (787 m.)				El Paso, Tex. (1195 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	1,018	21.2	84	31	993	8.7	76	30	992	4.1	81	30	1,016	15.8	84	31	843	11.0	44	31	930	12.4	71	31	885	18.7	45
500	31	962	20.7	69	31	960	9.0	70	30	955	4.5	71	30	960	17.3	65												
1,000	31	908	17.0	67	31	904	6.5	63	30	898	1.7	71	30	905	14.2	63					31	907	15.0	58				
1,500	31	856	14.2	55	31	850	4.0	58	30	844	−0.7	67	30	853	11.2	60					31	855	13.0	54	31	855	19.0	41
2,000	31	806	11.6	44	31	799	2.0	58	30	792	−2.6	61	30	803	9.0	49	31	805	12.7	38	31	805	10.5	51	31	806	15.5	42
2,500	31	759	9.1	39	31	750	−0.3	55	30	744	−4.4	60	30	755	7.1	37	31	758	9.2	39	31	758	7.4	49	31	759	11.4	47
3,000	31	715	6.4	35	31	705	−2.7	53	30	698	−6.1	58	30	711	4.8	28	31	713	5.4	45	31	713	4.6	41	31	715	7.4	50
4,000	30	632	1.1	28	31	621	−7.8	49	30	614	−10.7	45	30	628	−1.3	26	31	630	−2.4	58	31	630	−2.2	40	31	632	0.5	51
5,000	30	558	−4.9	27	31	545	−13.5	42	30	538	−16.6	45	29	553	−7.0		31	555	−9.8	60	31	554	−8.8	33	31	557	−6.6	45
6,000	30	490	−10.8	26	30	477	−20.6	41	30	470	−23.4	46	29	485	−13.9		31	487	−16.7	47	31	486	−15.6	32	31	489	−13.1	40
7,000	29	430	−17.4		30	416	−27.8	44	30	409	−30.1	41	28	425	−20.6		31	426	−24.1	40	31	425	−23.2	33	31	429	−20.2	39
8,000	29	375	−24.9		30	361	−34.9		30	355	−37.1		25	370	−27.5		31	370	−31.8		31	370	−30.9	36	31	374	−27.5	39
9,000	29	326	−32.5		30	312	−41.4		27	307	−43.2		24	321	−34.8		30	320	−39.5		30	320	−38.9		30	324	−35.1	
10,000	29	283	−39.8		30	269	−47.0		25	264	−48.4		22	278	−41.9		28	276	−46.9		30	277	−46.4		30	280	−42.9	
11,000	29	244	−47.1		28	231	−51.8		22	226	−51.0		21	240	−48.7		28	237	−53.7		29	238	−52.8		30	241	−49.8	
12,000	26	209	−53.7		25	198	−55.5		17	196	−53.9		20	206	−55.5		21	203	−57.5		26	203	−57.2		27	207	−55.4	
13,000	23	179	−59.9		19	169	−56.4		14	168	−56.0		16	176	−59.5		11	173	−60.1		18	174	−59.9		22	176	−59.7	
14,000	18	152	−66.1		13	144	−58.1		11	143	−57.0		12	151	−63.0		5	147	−62.1		10	148	−61.8		10	151	−63.9	
15,000	7	129	−71.1		9	123	−60.3		8	122	−57.8		6	128	−68.2										6	129	−67.4	

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidities in percent, obtained by radiosondes during October 1944*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	Ely, Nev. (1908 m.)				Glasgow, Mont. (648 m.)				Grand Junction, Colo. (1416 m.)				Great Falls, Mont. (1128 m.)				Greensboro, N. C. (273 m.)				Hatteras, N. C. (3 m.)				Huntington, W. Va. (172 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	813	7.7	49	31	943	10.4	56	30	863	14.0	50	31	890	13.8	38	26	986	11.7	84	31	1,018	17.5	82	31	1,001	10.2	87
500																	26	960	14.3	68	31	960	15.7	65	31	962	13.4	67
1,000					31	904	14.0	43									26	905	11.6	62	31	906	12.6	63	31	907	10.6	65
1,500					31	852	11.3	42	30	854	15.3	41	31	852	14.1	35	26	852	8.6	62	31	853	9.9	61	31	854	8.1	60
2,000	31	804	9.8	45	31	802	8.4	42	30	805	13.1	37	31	802	10.6	38	26	802	6.0	57	31	803	7.7	53	31	803	5.4	61
2,500	31	757	9.1	40	31	755	5.4	43	30	758	9.1	42	31	755	6.7	41	26	754	3.5	48	31	755	5.8	45	31	755	2.9	67
3,000	31	713	5.2	43	31	710	2.1	44	30	713	5.0	47	31	710	3.1	43	26	709	0.9	42	31	710	3.2	41	31	710	0.6	50
4,000	31	630	−2.6	48	31	626	−3.8	43	30	630	−3.0	53	31	627	−3.3	42	25	626	−4.3	27	31	627	−2.2	29	31	626	−4.7	45
5,000	31	554	−9.3	43	31	551	−10.0	39	30	554	−10.3	48	31	552	−9.9	42	25	550	−9.8		30	552	−8.0		31	551	−10.5	38
6,000	31	486	−16.1	41	29	483	−17.0	39	29	486	−17.0	37	31	484	−17.1	40	25	483	−16.7		30	485	−14.7		31	483	−17.4	37
7,000	31	425	−23.7	35	29	422	−24.8	41	29	424	−24.5	36	30	423	−24.5	43	25	422	−24.1		29	425	−21.4		29	422	−24.5	
8,000	31	369	−31.6		29	367	−32.5	43	29	369	−32.3		30	367	−32.4	39	25	366	−31.2		28	371	−28.0		29	367	−31.4	
9,000	30	320	−39.7		29	317	−40.0		28	319	−40.4		29	317	−40.2		25	317	−38.4		27	322	−34.9		29	318	−38.2	
10,000	29	276	−46.7		29	274	−47.6		26	275	−48.1		29	274	−48.0		25	274	−45.6		27	278	−41.7		29	274	−44.5	
11,000	28	237	−52.8		27	235	−54.5		23	237	−54.5		27	235	−54.7		24	236	−51.4		25	239	−49.0		28	236	−49.8	
12,000	26	202	−57.0		24	201	−59.2		15	202	−58.6		25	201	−59.3		22	202	−56.4		23	205	−55.0		27	202	−53.9	
13,000	20	173	−60.6		21	171	−61.3		13	172	−61.3		21	171	−62.0		21	172	−60.5		16	175	−60.0		19	172	−57.3	
14,000	10	147	−61.9		9	146	−63.1		5	147	−62.9		13	145	−62.9		13	147	−63.6		12	150	−64.4		12	146	−59.8	
15,000	5	125	−65.3		5	123	−61.2						7	123	−61.8		8	125	−66.1						7	125	−62.8	

Altitude (meters) m. s. l.	Int'l Falls, Minn. (343 m.)				Jackson, Miss. (97 m.)				Joliet, Ill. (178 m.)				Lake Charles, La. (5 m.)				Lakehurst, N. J.[1] (39 m.)				Little Rock, Ark. (79 m.)				Louisville, Ky. (165 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	29	978	6.1	74	31	1,009	16.3	66	31	1,000	8.7	80	31	1,020	17.9	79	24	1,016	10.8	79	31	1,011	16.3	68	31	1,001	12.1	74
500	29	959	7.5	69	31	962	18.5	52	31	961	11.3	67	31	963	19.7	57	24	962	12.3	60	31	963	18.8	49	31	962	14.6	58
1,000	29	903	5.9	62	31	908	15.0	54	31	906	9.1	61	31	909	16.2	58	24	906	9.8	53	31	908	15.3	51	31	907	11.8	54
1,500	29	850	4.3	51	31	856	12.0	46	31	853	7.3	53	31	857	13.4	48	24	853	7.3	47	31	856	12.3	48	31	854	9.3	47
2,000	29	798	2.3	45	31	806	9.6	36	31	802	5.0	52	31	807	11.0	40	24	802	5.7	39	31	806	9.5	42	31	804	6.5	45
2,500	29	750	0.2	42	31	758	6.8	36	31	754	2.8	50	31	760	8.2	36	24	754	3.4	36	31	758	6.6	44	31	756	4.0	43
3,000	29	705	−2.3	44	31	713	4.0	34	31	709	0.2	50	31	715	5.9	32	24	709	0.9	31	31	714	3.8	38	31	711	1.6	32
4,000	29	621	−7.5	40	31	630	−2.2	29	30	625	−5.0	44	31	632	0.2	26	23	626	−4.4		31	630	−2.4	32	30	627	−3.9	32
5,000	29	545	−13.8	40	31	554	−8.3	27	30	550	−11.1	44	31	558	−5.2	24	23	550	−10.0		31	555	−8.2	28	30	552	−10.0	32
6,000	29	477	−20.7	38	31	487	−14.5		30	482	−17.7	33	30	490	−11.7	24	22	482	−17.1		31	487	−14.9		30	484	−17.0	29
7,000	29	416	−28.1	40	31	426	−21.6		30	421	−25.2	37	29	429	−18.9		21	422	−24.3		31	426	−22.2		30	423	−24.5	
8,000	29	361	−35.0		31	371	−28.8		30	365	−33.0		29	374	−26.5		18	368	−30.4		31	371	−29.7		29	368	−32.0	
9,000	29	312	−42.1		30	322	−35.9		30	316	−40.5		28	325	−34.2		17	319	−37.5		31	321	−37.2		29	318	−39.2	
10,000	27	269	−48.8		30	278	−42.7		30	273	−47.2		28	281	−41.3		15	275	−43.5		30	278	−44.7		29	274	−45.9	
11,000	24	231	−54.2		30	239	−49.0		30	234	−52.9		28	242	−48.0		14	237	−48.7		30	238	−50.8		29	236	−51.4	
12,000	15	198	−56.1		30	205	−55.0		27	200	−56.6		28	208	−54.2		11	204	−55.0		29	204	−55.7		26	202	−55.5	
13,000	14	169	−58.5		24	175	−60.3		25	171	−59.6		24	178	−59.7		8	175	−59.4		24	174	−60.0		20	172	−58.4	
14,000	8	144	−59.3		20	148	−64.0		15	146	−61.7		17	152	−64.6		7	149	−62.0		13	149	−62.4		11	149	−62.8	
15,000					12	126	−66.5		7	124	−62.3						5	127	−62.9		6	128	−64.2					
16,000					5	107	−69.7																					

Altitude (meters) m. s. l.	Mazatlan, Mexico[2] (80 m.)				Medford, Oreg. (409 m.)				Merida, Mexico (27 m.)				Miami, Fla. (4 m.)				Nashville, Tenn. (180 m.)				Norfolk, Va.[1] (4 m.)				Oakland, Calif. (2 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface					30	969	15.0	69	25	1,014	24.3	84	31	1,015	22.2	84	31	1,000	13.9	73	22	1,018	17.9	77	31	1,016	16.0	80
500					30	959	16.1	63	25	960	21.1	82	31	959	20.8	79	31	962	15.5	57	22	960	15.7	69	31	958	16.7	58
1,000					30	904	15.4	52	25	906	17.6	82	31	905	17.5	80	31	908	12.5	53	22	906	13.4	64	31	904	14.8	50
1,500					30	852	12.2	52	25	855	14.3	77	31	854	14.5	72	31	855	10.1	45	22	854	10.8	54	31	852	12.2	46
2,000					30	803	9.0	53	25	805	11.8	61	31	804	11.9	64	31	804	7.7	45	22	803	8.6	45	31	802	9.3	41
2,500					30	755	5.8	50	25	758	9.8	50	31	757	9.6	53	31	756	5.1	39	22	756	5.7	47	31	754	6.6	34
3,000					30	710	2.6	49	25	714	7.6	47	31	713	7.5	46	31	712	2.5	37	22	711	2.9	47	31	710	3.7	30
4,000					30	627	−3.5	41	25	632	3.5	34	31	631	2.6	38	31	628	−3.1	33	22	628	−2.1		31	626	−2.4	27
5,000					30	552	−9.8	40	25	558	−2.1		31	557	−3.0	39	30	553	−9.1	30	22	553	−7.7		31	551	−9.1	25
6,000					30	484	−16.5	37	25	491	−8.2		31	490	−9.0		29	485	−15.8		21	486	−14.4		31	484	−16.0	29
7,000					30	423	−24.0	38	25	431	−15.1		31	430	−15.4		28	424	−23.6		20	425	−21.1		31	423	−23.5	
8,000					30	368	−32.2		24	377	−22.2		31	376	−22.1		28	369	−31.1		13	369	−29.1		31	368	−31.0	
9,000					29	318	−40.4		24	328	−29.3		31	327	−29.3		28	319	−38.4		13	320	−36.1		31	319	−38.2	
10,000					27	274	−47.9		24	285	−36.8		30	284	−36.7		27	276	−44.9		13	277	−42.4		31	275	−45.5	
11,000					27	236	−53.8		24	246	−44.8		30	245	−44.2		25	237	−50.6		13	238	−48.3		30	236	−51.7	
12,000					27	201	−57.4		24	211	−53.0		28	211	−51.5		22	204	−55.4		7	205	−53.9		28	202	−56.4	
13,000					26	172	−59.8		24	180	−61.0		25	181	−58.8		16	175	−59.8		6	176	−59.0		26	172	−59.4	
14,000					17	146	−59.9		22	153	−68.1		17	154	−65.3		10	149	−62.8		5	149	−63.6		18	147	−61.7	
15,000					14	124	−61.0		12	129	−74.0														11	125	−62.8	
16,000					6	106	−59.8		5	109	−78.1														5	106	−61.4	

See footnotes at end of table.

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidities in percent, obtained by radiosondes during October 1944*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	Ogden, Utah (1355 m.)				Oklahoma City, Okla. (391 m.)				Omaha, Nebr. (301 m.)				Pensacola, Fla.[1] (24 m.)				Phoenix, Ariz. (339 m.)				Pittsburgh, Pa. (392 m.)				Portland, Maine (20 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	868	12.4	53	30	975	16.0	73	31	984	13.2	68	20	1,018	20.8	68	31	974	21.8	46	31	974	10.7	71	31	1,014	7.4	81
500					30	962	18.2	62	31	962	14.5	58	20	963	19.0	52	31	956	26.0	28	31	961	11.0	68	31	957	8.5	62
1,000					30	908	16.5	56	31	907	12.4	54	20	909	15.9	52	31	904	23.7	25	31	905	9.0	66	31	901	6.2	54
1,500	31	853	15.3	40	30	856	13.4	57	31	854	10.2	53	20	857	12.7	52	31	853	19.8	29	31	852	6.7	62	31	848	3.9	51
2,000	31	804	12.6	36	29	806	10.6	49	31	804	8.1	48	20	806	9.9	40	31	804	15.7	34	31	801	4.0	59	31	796	2.2	48
2,500	31	757	8.7	41	29	759	7.6	42	31	756	5.4	45	20	759	7.5	30	31	758	11.4	39	31	753	1.9	53	31	748	0.4	46
3,000	31	712	4.7	43	29	714	4.5	37	31	711	2.5	44	20	714	4.8	26	31	713	7.4	41	31	708	−0.6	50	31	703	−2.1	40
4,000	31	629	−3.0	45	29	631	−1.7	33	31	628	−3.7	39	20	631	−1.8	27	31	631	0.1	42	31	624	−5.5	43	31	619	−7.5	47
5,000	31	554	−10.0	44	29	555	−8.0	34	31	552	−10.2	32	20	556	−8.1	24	30	556	−6.6	36	30	549	−11.1	39	30	544	−13.4	48
6,000	31	486	−17.1	42	29	487	−14.7	31	31	484	−16.8	28	20	488	−15.2	26	30	489	−13.3	32	29	481	−18.1	35	30	477	−19.6	43
7,000	31	424	−24.6	36	29	426	−22.1	35	31	423	−24.3	33	20	427	−22.3		30	428	−20.4	40	27	420	−25.7		30	416	−26.6	46
8,000	31	368	−32.6	41	29	371	−29.8	40	30	368	−31.9		17	371	−29.2		28	373	−28.2	41	26	364	−33.4		29	360	−34.5	
9,000	31	318	−40.5		29	321	−37.4		30	318	−39.4		17	322	−36.1		28	323	−35.9	47	26	315	−40.1		28	312	−41.6	
10,000	31	275	−47.7		29	278	−45.2		30	275	−46.7		17	278	−43.0		28	280	−43.4		26	272	−46.0		26	268	−48.5	
11,000	31	236	−53.1		28	239	−51.7		26	236	−52.2		17	240	−49.8		26	240	−50.3		25	234	−50.7		24	230	−52.7	
12,000	31	202	−57.4		26	204	−56.6		24	202	−57.0		16	205	−55.8		26	206	−55.5		22	200	−54.8		23	197	−54.5	
13,000	27	172	−59.4		22	174	−60.4		15	172	−59.7		14	176	−61.4		22	176	−59.4		15	172	−57.9		19	168	−57.4	
14,000	25	146	−61.3		13	149	−63.3		7	147	−60.7		10	150	−66.4		15	150	−62.0		9	146	−58.4		12	144	−58.4	
15,000	17	124	−62.9														6	128	−64.4		5	124	−58.3		6	123	−60.9	
16,000	7	106	−63.8																									

Altitude (meters) m. s. l.	Rapid City, S. Dak. (981 m.)				St. Louis, Mo. (171 m.)				St. Paul, Minn. (225 m.)				San Antonio, Tex. (240 m.)				San Diego, Calif.[1] (19 m.)				San Juan, P. R. (15 m.)				Santa Maria, Calif. (71 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	909	9.2	59	31	1,001	13.2	69	31	993	9.8	68	31	992	18.9	66	30	1,014	17.0	86	31	1,010	26.0	84	31	1,008	13.9	90
500					31	963	14.7	54	31	961	10.9	58	31	963	21.1	56	30	958	16.2	70	31	956	22.9	83	31	959	16.3	69
1,000	31	906	9.7	57	31	908	12.1	50	31	905	8.6	58	31	909	17.5	59	30	903	17.3	40	31	903	19.6	82	31	904	16.4	47
1,500	31	854	11.2	47	31	855	9.7	51	31	852	6.8	53	31	857	13.7	61	30	852	15.4	34	31	852	16.6	79	31	852	14.0	39
2,000	31	804	8.2	51	31	804	7.1	46	31	801	4.6	50	31	807	11.3	52	30	802	12.4	33	31	803	14.1	73	31	803	11.4	30
2,500	31	756	5.6	47	31	757	4.6	42	31	753	2.5	46	31	760	8.6	42	30	756	9.4	34	31	757	11.9	60	31	756	8.5	30
3,000	31	712	3.2	40	31	711	1.8	38	31	708	0.0	44	31	716	6.2	32	30	711	6.5	31	31	713	9.4	52	31	711	5.0	33
4,000	31	628	−2.8	35	31	628	−4.1	34	31	624	−5.6	40	31	632	0.2	26	30	629	0.3	24	31	613	3.9	42	31	628	−1.1	29
5,000	31	553	−9.7	41	31	552	−10.4	33	31	549	−11.8	37	30	558	−5.9		30	554	−5.9	23	31	558	−1.8	32	31	554	−7.4	
6,000	31	485	−16.6	40	31	484	−17.4	30	31	481	−18.8	42	29	490	−11.7		30	487	−12.9	28	31	491	−7.7	34	31	486	−14.2	
7,000	31	424	−24.1	40	31	423	−24.6	36	31	420	−26.0	39	29	430	−18.8		30	426	−20.5	31	29	431	−14.2	33	31	425	−21.6	
8,000	30	368	−31.6		31	368	−32.3		31	364	−33.3		28	374	−26.4		28	372	−28.2		29	377	−20.9	36	31	370	−29.4	
9,000	28	318	−39.6		31	318	−39.9		31	315	−40.7		27	324	−34.1		28	322	−36.2		29	328	−28.2		30	321	−37.2	
10,000	25	274	−47.1		29	274	−46.9		31	272	−47.6		26	281	−41.1		27	279	−43.5		29	285	−35.9		29	277	−44.2	
11,000	19	236	−53.2		26	236	−52.7		29	233	−53.6		25	242	−48.0		22	240	−49.8		29	246	−43.8		29	238	−50.7	
12,000	15	202	−58.2		25	202	−56.8		29	199	−57.9		24	207	−54.2		22	206	−55.3		26	212	−51.5		28	204	−56.2	
13,000	11	172	−60.7		20	172	−59.9		23	170	−60.2		21	177	−59.6		21	175	−59.5		25	181	−58.7		23	174	−60.1	
14,000					12	147	−62.3		16	145	−62.2		18	151	−64.3		19	149	−63.2		23	154	−65.7		15	149	−61.6	
15,000									7	124	−63.5		15	129	−67.4		13	127	−64.8		11	131	−70.7		7	128	−63.3	
16,000													12	109	−70.7		13	108	−66.4									
17,000													7	92	−70.6		6	92	−67.2									
18,000													5	78	−67.1													

Altitude (meters) m. s. l.	S. S. Marie, Mich. (221 m.)				Seattle, Wash.[1] (22 m.)				Spokane, Wash. (598 m.)				Swan Island, West Indies (10 m.)				Tacubaya, Mexico (2,306 m.)				Tampa, Fla. (3 m.)				Tatoosh Island, Wash. (31 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	993	5.1	86	30	1,015	14.6	79	31	948	12.1	67	31	1,011	25.7	83	31	776	12.8	69	30	1,018	20.7	76	31	1,013	12.3	89
500	31	960	5.3	83	30	959	13.8	67					31	956	22.1	84					30	961	19.3	62	31	958	13.6	71
1,000	31	903	3.6	72	30	904	11.7	59	31	904	14.1	53	31	902	18.8	82					30	907	16.3	60	31	903	11.2	66
1,500	31	849	2.2	58	30	851	8.9	55	31	852	11.5	51	31	852	16.0	77					30	855	13.7	54	31	850	9.0	59
2,000	31	797	.6	56	30	800	6.5	50	31	802	8.5	51	31	803	13.3	78					30	805	11.6	50	31	800	6.6	55
2,500	31	749	−1.2	53	30	753	3.8	51	31	754	5.3	48	31	756	11.1	72	31	758	11.4	71	30	758	9.3	41	31	752	3.8	53
3,000	31	703	−3.6	55	30	708	.9	45	31	710	2.1	44	30	712	9.2	66	31	714	7.7	77	30	714	6.9	32	31	707	1.1	51
4,000	31	619	−9.4	52	29	624	−5.7	47	31	626	−4.5	41	28	630	3.7	62	31	632	1.0	85	30	631	1.5	25	30	624	−4.9	45
5,000	30	543	−15.2	49	28	549	−11.7	53	31	551	−11.1	44	25	558	−1.6	51	31	558	−3.2	51	30	557	−4.1		30	549	−11.6	45
6,000	30	475	−21.7	45	28	481	−18.7	52	30	483	−17.7	44	23	491	−6.9	39	31	491	−8.8	34	29	489	−10.1		27	481	−18.3	45
7,000	30	414	−29.1	49	28	420	−26.0	52	29	422	−24.9	44	21	432	−12.9	35	31	431	−15.1	29	29	429	−17.2		27	420	−25.7	48
8,000	30	359	−36.2		26	365	−33.8		29	367	−32.5	42	19	378	−19.2		31	376	−22.0	33	29	374	−23.9		27	365	−33.1	
9,000	30	310	−42.9		26	315	−41.8		29	317	−40.6		19	329	−26.4		31	328	−29.4		29	326	−30.9		27	315	−40.8	
10,000	29	267	−48.5		26	272	−49.0		28	274	−48.0		18	287	−34.0		31	285	−37.2		29	283	−38.1		26	272	−47.9	
11,000	27	230	−53.0		26	233	−56.0		28	235	−53.8		17	247	−42.4		31	246	−45.0		28	244	−45.2		24	233	−54.9	
12,000	21	196	−55.3		24	198	−59.9		28	201	−57.8		15	213	−50.7		30	211	−52.9		27	209	−52.0		19	199	−59.0	
13,000	12	166	−55.5		21	169	−61.8		21	171	−60.7		15	182	−58.7		24	180	−60.5		23	179	−58.1		17	169	−59.0	
14,000	9	142	−57.4		17	144	−62.1		8	145	−61.8		13	155	−65.3		6	153	−67.3		19	152	−64.6		10	144	−57.9	
15,000					12	123	−63.2						7	132	−69.4										6	124	−59.0	
16,000					7	104	−62.7																					

See footnotes at end of table.

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidities in percent, obtained by radiosondes during October 1944*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	Toledo, Ohio (191 m.)				Tongue Point, Oreg.[1] (21 m.)				Washington, D. C. (25 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	998	9.1	76	21	1,019	14.7	84	31	1,017	11.9	77
500	31	961	10.4	68	21	963	13.4	81	31	961	11.9	64
1,000	21	905	7.7	63	21	907	12.0	70	31	905	9.5	63
1,500	31	852	5.9	56	21	855	10.0	64	31	852	6.8	63
2,000	31	800	3.8	53	21	804	7.8	48	31	802	4.6	56
2,500	31	753	1.5	51	21	756	5.5	35	31	754	2.4	52
3,000	31	707	−0.9	48	21	712	2.5	40	31	708	0.2	45
4,000	31	623	−6.3	45	21	628	−3.0	40	31	625	−4.9	36
5,000	30	548	−12.7	40	21	553	−9.4	48	31	550	−10.9	35
6,000	30	480	−19.7	41	20	485	−16.7	----	31	482	−17.6	----
7,000	29	419	−26.8	35	20	423	−24.0	----	31	420	−24.7	----
8,000	29	364	−34.1	----	18	368	−32.4	----	31	366	−31.7	----
9,000	27	314	−41.0	----	17	317	−41.1	----	31	316	−38.7	----
10,000	25	271	−46.9	----	16	274	−49.2	----	30	274	−44.4	----
11,000	25	233	−51.4	----	14	235	−54.9	----	26	235	−50.2	----
12,000	22	199	−54.7	----	13	201	−58.7	----	24	201	−55.0	----
13,000	15	171	−57.8	----	12	172	−59.0	----	19	172	−58.5	----
14,000	10	146	−60.1	----	12	146	−60.2	----	12	146	−61.5	----
15,000	7	123	−60.6	----	9	124	−63.0	----	5	126	−63.9	----

LATE REPORT FOR AUGUST

Altitude (meters) m. s. l.	Rapid City, S. Dak. (981 m.)				Altitude (meters) m. s. l.	Rapid City, S. Dak. (981 m.)				Altitude (meters) m. s. l.	Rapid City, S. Dak. (981 mf.)			
	Number of observations	Pressure	Temperature	Relative humidity		Number of observations	Pressure	Temperature	Relative humidity		Number of observations	Pressure	Temperature	Relative humidity
Surface	31	902	20.3	52	5,000	31	555	−5.1	45	11,000	31	242	−46.5	----
1,000	31	900	20.7	51	6,000	31	488	−11.8	39	12,000	29	208	−51.2	----
1,500	31	849	19.6	44	7,000	31	428	−18.6	43	13,000	27	178	−55.0	----
2,000	31	801	16.3	46	8,000	31	373	−25.7	----	14,000	24	152	−58.5	----
2,500	31	754	12.9	48	9,000	31	324	−33.1	----	15,000	16	130	−60.8	----
3,000	31	711	9.4	48	10,000	31	281	−40.4	----	16,000	11	110	−61.5	----
4,000	31	629	2.3	44										

LATE REPORT FOR SEPTEMBER

Surface	30	904	14.3	54	5,000	30	552	−7.9	49	11,000	29	238	−50.2	----
1,000	30	902	14.6	53	6,000	30	484	−14.9	45	12,000	26	204	−54.2	----
1,500	30	850	14.0	48	7,000	30	424	−22.2	45	13,000	23	174	−56.7	----
2,000	30	801	11.0	50	8,000	29	369	−29.5	----	14,000	15	149	−58.2	----
2,500	30	754	7.8	51	9,000	29	320	−37.1	----	15,000	8	127	−58.3	----
3,000	30	709	5.2	50	10,000	29	276	−44.2	----	16,000	6	108	−57.9	----
4,000	30	627	−1.3	47										

[1] U. S. Navy.
[2] Insufficient observations.
[3] No observations taken.
[4] Data not yet received.

NOTE.—All observations taken near 11 p. m. E. S. T. except at Mazatlan and Merida where they are taken near 9 p. m.
"Number of Observations" refers to pressure only, as temperature and humidity data are sometimes missing for some observations at certain levels. Relative humidity data are not used in daily observations when the temperature is below −40.0° C.
None of the means included in these tables are based on less than 15 surface or 5 standard level observations.
Means for observations obtained by the electric hygrometer have been adjusted to compensate for the values occurring below the operating range of the humidity element.
Electric hygrometers are now in use at all stations.

TABLE 2.—*Free-air resultant winds based on pilot-balloon observations made near 5 p. m. (75th meridian time) during October 1944. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second*

Altitude (meters) m. s. l.	Abilene, Tex. (538 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (870 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (132 m.)			Charleston, S. C. (17 m.)			Cincinnati, Ohio (152 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,196 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	132	2.8	31	181	1.9	31	341	1.9	30	231	1.8	31	241	1.8	31	332	1.8	29	72	3.8	31	251	3.9	27	243	1.1	29	355	1.0	31	298	1.1	31	36	1.5	31	122	1.4
500							31	338	2.7										29	75	4.1	31	257	5.2	27	235	3.6	29	14	1.9	31	301	2.0						
1,000	30	164	2.5				31	349	3.4				31	246	2.3	31	307	1.1	29	58	2.5	29	257	6.6	26	267	5.6	29	351	2.4	30	303	2.6						
1,500	30	182	2.4				30	358	3.6	30	255	3.1	31	262	3.1	31	178	0.8	28	21	2.2	25	276	7.5	24	275	8.5	29	353	3.3	28	304	3.4				31	123	1.6
2,000	28	202	1.7	31	183	2.0	28	338	4.9	30	269	5.5	30	283	4.4	31	142	2.0	27	22	2.6	24	283	8.3	20	290	11.0	25	328	4.1	28	309	5.8	31	58	1.9	31	135	1.6
2,500	27	247	2.1	31	194	2.0	26	338	6.1	29	277	4.2	30	295	6.2	31	168	2.8	27	22	2.7	19	285	9.2	18	288	13.7	23	312	4.7	25	308	7.1	29	68	1.6	29	156	1.6
3,000	26	271	3.1	31	221	2.1	25	336	6.8	29	292	4.5	30	300	7.1	31	185	3.3	26	14	3.2	19	287	10.2	18	292	15.0	23	322	4.5	24	310	9.1	29	339	0.9	29	219	1.5
4,000	24	305	3.3	27	243	3.9	25	328	7.7	28	290	5.9	27	298	8.5	29	175	2.8	21	13	3.3	17	291	12.6	16	287	17.0	19	313	6.7	18	307	6.1	28	283	5.1	27	240	3.5
5,000	24	306	4.7	22	261	5.8	20	308	10.4	27	287	5.7	26	304	8.6	27	244	3.5	19	318	1.9	12	307	13.6	13	291	20.4	18	305	7.7	16	304	8.0	27	286	5.7	23	269	6.2
6,000	21	280	5.5	22	258	7.6	18	302	10.6	25	286	4.8	23	308	8.0	27	255	4.0	18	289	4.2	11	309	15.2				18	294	9.4	13	283	6.5	24	289	6.2	21	262	5.5
8,000	16	266	10.5	18	275	11.1	15	304	13.9	23	302	5.8	19	308	10.2	22	256	5.7	16	293	8.6							12	269	14.1				17	303	6.7	13	274	8.9
10,000	12	274	12.3	16	271	16.8	13	287	18.0	22	294	4.8	17	294	11.8	13	239	5.6	11	285	12.3													13	286	8.2			
12,000				12	263	19.0				11	167	3.1							10	278	20.1																		
14,000				10	271	19.9																																	

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,413 m.)			Greensboro N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (573 m.)			Little Rock, Ark. (88 m.)			Medford, Oreg. (410 m.)			Miami, Fla. (15 m.)			Mobile Ala. (66 m.)			Nashville, Tenn. (194 m.)			New York, N. Y. (15 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	176	1.1	31	321	1.3	26	322	0.9	31	261	2.3	29	40	2.8	30	283	1.7	31	108	1.7	31	309	0.5	30	316	1.3	31	61	2.5	31	358	2.7	31	329	2.2	30	303	1.7
500							26	328	1.4				29	33	3.6	30	278	2.5				31	312	1.8	30	312	1.2	31	61	5.8	31	4	3.3	31	333	2.6	30	289	3.1
1,000							26	318	1.7	31	263	3.3	28	22	2.9	28	273	3.7	31	120	2.4	31	323	2.1	30	178	0.3	28	53	4.7	31	8	3.6	31	323	2.3	27	295	5.3
1,500				31	312	1.5	25	305	4.1	30	256	4.5	27	351	3.4	26	277	5.4	31	144	1.9	31	315	2.8	30	177	2.6	27	50	3.9	30	9	4.5	31	323	3.1	27	305	6.8
2,000	31	175	1.1	31	286	1.3	25	311	5.6	30	261	6.0	26	319	3.8	25	288	6.2	31	175	1.6	29	322	2.9	30	185	3.1	25	24	3.0	28	15	5.5	27	323	4.3	26	302	7.1
2,500	31	188	1.6	31	259	1.6	25	312	7.4	29	260	5.6	25	314	3.8	23	296	8.1	31	187	2.3	29	317	4.7	28	181	3.9	24	11	1.7	26	6	4.2	26	324	5.2	22	291	8.1
3,000	31	189	1.9	31	244	2.2	24	299	9.5	28	270	6.3	24	302	3.7	21	295	9.0	31	203	2.5	26	328	4.9	26	183	4.3	23	334	1.2	22	350	4.9	24	325	6.0	17	281	8.1
4,000	29	205	2.2	27	246	2.3	22	298	9.7	23	272	4.6	21	276	5.4	12	316	12.1	30	194	2.8	24	322	7.1	20	185	4.2	21	245	2.5	14	341	2.8	23	320	6.8			
5,000	23	196	3.3	24	226	2.7	21	289	11.5	17	262	4.7	20	271	8.0	10	310	11.1	28	228	2.5	22	314	7.2	20	206	4.8	18	268	3.9				19	309	7.5			
6,000	22	205	3.8	23	270	1.8	20	289	11.3	14	267	5.6	18	260	10.8				28	251	4.5	21	318	7.5	15	225	4.8	17	263	8.2				19	306	8.8			
8,000	18	274	2.1				13	279	13.8	11	267	5.7	15	263	17.3				26	264	8.4	18	304	10.7	12	225	8.0	14	262	16.0				14	304	12.0			
10,000	16	268	3.8				12	257	18.2				11	264	21.6				22	264	13.3	15	298	16.0				11	267	24.3									
12,000	12	270	9.4																15	263	19.9	10	280	19.3															
14,000																																							

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (402 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif.* (15 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (12 m.)			Spokane, Wash. (603 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	276	2.9	29	216	2.2	28	301	1.3	31	184	0.8	30	72	0.7	30	302	1.3	31	273	1.7	31	99	2.3				29	296	2.2	29	239	1.5	31	176	0.4	27	321	1.9
500	30	275	1.7	29	208	2.1	28	294	1.5	31	167	0.7				30	281	1.9	31	273	2.6	31	102	2.2				29	298	2.7	29	194	2.2				26	301	2.5
1,000	30	182	1.3	29	208	2.3	28	268	1.6	31	140	1.5	30	75	0.7	30	276	2.6	27	267	4.6	31	109	1.7				26	292	6.5	26	195	4.2	31	181	1.3	26	307	4.2
1,500	29	184	1.7	29	228	2.7	28	277	3.5	31	148	2.2	30	236	0.5	30	293	4.1	25	282	6.3	31	87	1.1				23	300	8.3	24	193	6.0	30	191	2.3	26	315	6.4
2,000	28	186	1.6	28	241	3.2	27	284	5.8	31	167	3.4	30	269	2.6	28	295	5.7	24	285	7.7	31	75	0.7				19	301	9.6	19	188	6.4	29	198	3.1	23	315	8.3
2,500	25	179	2.1	27	275	3.8	27	291	7.5	31	173	4.1	29	275	4.7	27	294	6.6	23	299	9.4	30	59	0.6				16	304	10.7	17	191	7.3	26	206	3.3	23	310	8.6
3,000	25	173	2.2	26	289	4.4	27	298	7.7	31	193	4.3	26	290	6.3	26	302	8.6	21	304	10.7	27	12	0.6				14	308	12.7	16	199	7.7	26	219	3.6	22	306	8.2
4,000	25	179	2.6	25	292	5.7	26	298	10.3	30	205	4.7	25	298	6.6	22	307	8.5	19	313	11.3	26	284	1.3				14	313	14.4	11	209	5.7	25	226	3.9	19	298	11.4
5,000	24	242	1.4	24	294	7.4	26	300	10.7	25	224	5.8	23	293	7.9	20	300	8.6	19	318	11.4	23	286	3.4				11	299	17.2				24	230	4.2	18	291	12.4
6,000	21	311	1.4	23	286	7.4	23	311	10.4	24	245	7.0	21	306	8.4	20	307	8.2	19	322	12.6	22	288	5.0										23	221	3.9	13	279	15.2
8,000	21	287	3.1	19	293	10.0	21	303	10.8	21	254	11.5	17	316	7.9	19	306	9.5	17	319	11.8	17	285	10.5										19	242	5.1			
10,000	18	274	7.1	16	280	12.8	15	310	13.9	18	272	13.8	13	303	5.6	17	291	12.0	17	319	16.5	13	276	15.9										16	261	5.3			
12,000	12	252	8.7	12	275	14.3				14	271	18.6				15	295	13.9	11	317	16.4	12	265	23.0															
14,000																10	290	13.6																					

*Insufficient data; new theodolite platform and inflation room under construction.

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 [1]	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 [2]	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 [3]	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 [4]	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 [5]	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 [6]	28.8	SSW.	1,376	31	Tulsa, Okla	34.2	NW.	4,530	11	Oklahoma City, Okla	51.2	SSW.	15,245	19	Jackson, Miss.
Northwest [7]	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 [8]	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 [9]	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.

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

RIVER STAGES AND FLOODS

By BENNETT SWENSON

PRECIPITATION 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 [1]	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	Feet			*Feet*	
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	[2] 40.2	1
		22	24	[2] 36.4	24
Williamston, N. C	10	Sept. 25	13	12.9	Sept. 27, 7
		26	(3)	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
Goldsboro, 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
MISSISSIPPI SYSTEM					
Ohio Basin					
West Fork:					
Weston, W. Va	15	21	21	17.0	21
Clarksburg, W. Va	5	21	21	6.2	21
Arkansas Basin					
Neosho: Oswego, Kans	17	3	7	19.0	4

[1] Provisional.
[2] Estimated.
[3] Continued at end of month.