METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR NOVEMBER 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 November 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	30	1,006	3.0	80	30	837	6.1	50	29	1,018	15.6	83	30	984	9.0	72	29	928	11.2	63	29	957	−3.9	89	29	917	4.1	75
500	30	956	1.9	77					29	960	15.2	65	30	961	10.1	66												
1,000	30	898	−0.1	75					29	905	12.6	59	30	905	8.1	65	29	903	12.0	57	29	899	−2.8	84	29	902	4.2	71
1,500	30	844	−1.3	70					29	853	11.1	51	30	852	6.9	56	29	851	9.9	52	29	844	−1.4	72	29	848	1.8	68
2,000	30	792	−2.3	63	30	799	5.2	49	29	803	9.3	45	30	801	6.2	46	29	801	7.6	49	29	792	−1.4	57	29	797	−1.2	72
2,500	30	744	−4.2	58	30	751	1.9	51	29	756	7.1	41	30	754	4.1	43	29	753	4.8	49	29	744	−2.6	50	29	748	−3.3	68
3,000	30	698	−6.8	57	30	706	−0.9	51	29	711	4.5	42	29	708	1.6	36	29	708	1.7	46	29	698	−5.1	52	29	702	−5.6	60
4,000	30	613	−11.7	48	30	622	−7.4	57	29	628	−0.5		28	623	−3.6	31	29	625	−4.0		29	614	−10.6	51	29	618	−10.8	61
5,000	29	538	−17.5		30	546	−13.6	42	27	554	−6.4		27	550	−9.6		29	550	−10.0		29	539	−16.7	52	28	542	−17.1	56
6,000	28	470	−24.6		30	478	−20.2		26	486	−13.0		27	482	−15.8		29	482	−16.5		29	471	−23.7	56	27	474	−23.4	
7,000	28	409	−31.7		30	417	−27.3		26	426	−19.9		24	422	−23.0		28	421	−23.4		29	410	−31.0	58	27	412	−30.1	
8,000	28	354	−39.1		30	362	−34.7		26	371	−27.5		22	367	−30.1		28	367	−30.5		29	354	−39.2		23	358	−36.8	
9,000	28	305	−46.2		29	313	−41.5		26	322	−34.8		18	318	−37.4		28	318	−37.8		29	305	−47.0		21	309	−44.0	
10,000	28	262	−52.3		28	270	−47.9		26	278	−42.1		16	273	−44.3		27	274	−45.1		27	262	−54.0		15	266	−51.1	
11,000	27	225	−56.4		28	231	−53.1		22	240	−49.5		12	237	−51.3		23	236	−51.6		20	225	−59.1		8	228	−58.0	
12,000	20	191	−57.7		22	198	−56.7		17	206	−55.8		9	202	−56.3		17	202	−57.6		12	192	−61.9					
13,000	17	163	−57.1		13	170	−56.3		11	176	−60.7		5	173	−60.4		10	173	−62.2									
14,000	13	139	−57.5		6	144	−57.5		6	149	−62.7						6	147	−64.0									
15,000	7	119	−58.9														5	122	−67.2									

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. (1,616 m.)				Dodge City, Kans. (787 m.)				El Paso, Tex. (1,195 m.)			
Surface	30	1,016	18.7	85	30	990	4.9	77	29	993	0.5	86	30	1,017	10.1	86	30	836	2.1	55	30	924	5.4	74	29	882	10.7	56
500	30	959	17.3	80	30	956	3.7	74	29	956	−0.4	85	30	959	11.7	67												
1,000	30	905	15.2	73	30	899	1.4	74	29	898	−1.6	78	30	904	8.8	65					30	901	6.7	64				
1,500	30	853	12.9	72	30	845	−0.5	68	29	844	−2.6	69	30	851	6.9	56					30	847	5.2	55	29	851	11.2	49
2,000	30	803	11.1	64	30	793	−2.8	68	29	791	−3.9	61	30	800	5.8	46	30	797	4.7	44	30	796	3.0	51	29	801	8.2	49
2,500	30	757	9.4	56	30	745	−5.2	67	29	743	−5.5	52	30	752	4.0	39	30	749	2.0	43	30	7 8	0.8	45	29	753	5.1	49
3,000	30	712	7.0	52	30	698	−7.5	66	29	697	−7.5	51	30	707	1.4	39	30	704	−1.6	47	30	703	−1.7	45	29	708	1.9	49
4,000	30	630	0.3	51	28	613	−12.7	57	29	612	−13.0	48	30	624	−4.0	34	30	620	−8.5	53	30	619	−7.9	40	29	625	−4.0	43
5,000	30	555	−5.6	41	28	537	−18.3		29	536	−19.5	51	28	549	−10.2	34	30	544	−15.3	57	30	544	−14.5		29	550	−10.5	
6,000	28	488	−12.0		28	469	−25.4		29	468	−26.1	49	28	481	−16.9	41	29	476	−22.5	51	30	476	−21.4		29	482	−17.2	
7,000	26	428	−19.2		28	408	−32.8		29	406	−33.2		27	421	−23.5		29	414	−29.9		30	414	−28.7		28	422	−23.8	
8,000	25	373	−26.4		28	353	−39.7		28	352	−40.6		27	366	−31.0		29	359	−37.8		28	359	−36.2		28	367	−31.2	
9,000	23	324	−33.7		28	304	−45.8		28	303	−48.2		25	317	−38.6		27	310	−44.9		28	310	−43.6		27	318	−38.5	
10,000	22	281	−41.0		26	261	−50.3		26	260	−54.2		22	274	−46.1		19	267	−50.5		27	267	−50.3		27	274	−45.3	
11,000	21	241	−48.7		22	224	−53.5		23	223	−57.0		17	235	−53.4		15	229	−54.3		24	229	−55.2		26	236	−51.8	
12,000	18	207	−55.5		17	192	−55.2		14	190	−56.9		10	202	−58.3		14	195	−58.1		16	196	−57.3		21	202	−56.7	
13,000	9	177	−61.2		11	163	−55.9		9	162	−57.0		7	172	−60.1		8	165	−57.3		8	166	−57.2		15	172	−60.2	
14,000					5	140	−55.9																		10	147	−62.6	
15,000																									5	125	−64.5	

Altitude (meters) m. s. l.	Ely, Nev. (1,908 m.)				Glasgow, Mont. (648 m.)				Grand Junction, Colo. (1,416 m.)				Great Falls, Mont. (1,128 m.)				Greensboro, N. C. (273 m.)				Hatteras, N. C. (3 m.)				Huntington, W. Va. (172 m.)			
Surface	30	808	−1.0	81	30	941	−3.3	85	29	859	4.6	63	29	885	1.0	69	30	986	6.1	80	27	1017	11.2	82	30	999	4.7	83
500																	30	959	7.5	71	27	958	9.9	71	30	960	5.8	77
1,000					30	900	−2.7	79									30	903	4.8	72	27	902	7.1	68	30	902	3.6	76
1,500					30	846	−1.4	62	29	850	5.0	59	29	845	1.8	61	30	849	2.6	68	27	849	4.6	67	30	848	1.7	73
2,000	30	798	−0.7	78	30	793	−2.2	57	29	799	3.0	53	29	794	0.0	57	30	798	1.2	60	27	798	2.9	59	30	797	−0.2	67
2,500	30	750	−1.7	70	30	745	−4.0	55	28	851	−0.1	59	29	746	−2.4	55	30	750	−0.3	50	27	750	0.6	54	30	748	−1.9	61
3,000	30	704	−4.1	67	30	699	−6.2	52	28	706	−3.5	61	29	700	−5.0	55	30	704	−2.4	43	27	704	−1.1	44	30	703	−3.8	55
4,000	30	620	−9.1	53	30	614	−11.2	52	28	621	−9.6	64	29	616	−10.8	52	29	620	−7.5		24	621	−6.4		30	618	−8.9	46
5,000	30	544	−15.2	44	29	539	−17.5	58	28	545	−15.9	61	29	540	−17.3	58	29	545	−13.7		21	546	−12.4		29	543	−14.5	36
6,000	30	476	−22.2	48	28	470	−24.5	58	28	476	−22.6	57	28	472	−24.3	60	29	477	−20.4		18	480	−17.1		29	475	−21.1	
7,000	30	414	−29.6	48	27	410	−31.7	57	27	414	−30.3		26	410	−31.8		29	416	−27.0		17	420	−24.5		28	414	−28.4	
8,000	29	359	−37.3		27	354	−39.5		27	358	−37.7		25	356	−38.8		27	361	−34.2		12	366	−31.8		27	359	−35.2	
9,000	29	310	−44.6		27	305	−47.5		26	309	−45.0		25	306	−46.2		25	313	−41.2		11	317	−39.7		27	310	−41.7	
10,000	29	266	−51.3		27	262	−54.7		24	266	−50.4		25	263	−53.3		21	269	−48.3		9	274	−47.2		26	268	−47.9	
11,000	26	228	−56.4		23	225	−59.3		21	228	−54.1		22	225	−58.5		18	232	−54.6		9	235	−55.1		24	230	−53.1	
12,000	19	195	−58.9		15	191	−59.5		8	192	−53.2		17	192	−60.7		14	199	−60.3		8	201	−60.9		19	197	−57.1	
13,000	14	166	−59.2		6	162	−58.2						9	162	−60.0		9	170	−61.3		5	170	−65.1		14	168	−60.5	
14,000	8	141	−56.5										6	138	−59.5										7	143	−59.0	
15,000																												

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 November 1944*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

	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	30	976	−0.6	86	30	1,007	11.7	77	30	996	4.7	86	30	1,018	14.7	86	25	1,013	5.0	78	30	1,009	10.4	75	30	999	6.9	73
500	30	957	−1.2	86	30	959	12.5	68	30	957	3.9	82	30	960	14.8	72	25	957	4.6	70	30	959	10.6	66	30	959	6.3	70
1,000	30	899	−4.0	87	30	904	10.5	67	30	900	1.6	83	30	905	12.7	68	25	900	2.9	68	30	904	8.0	68	30	902	3.5	72
1,500	30	844	−3.6	81	30	852	9.0	61	30	846	0.3	74	30	853	10.7	63	25	846	0.8	65	30	851	6.4	64	30	849	1.4	72
2,000	30	792	−4.4	67	30	801	7.2	51	30	794	−1.0	64	30	803	9.1	55	25	795	−1.3	61	30	800	5.1	56	30	797	1.0	58
2,500	30	743	−5.7	63	30	754	5.0	47	30	746	−2.8	55	30	756	7.0	52	25	746	−3.7	58	30	752	3.4	49	30	749	−0.6	53
3,000	30	697	−8.1	61	30	709	2.5	43	30	700	−4.7	47	29	711	4.8	48	25	700	−6.1	53	29	707	0.9	42	30	703	−3.2	50
4,000	29	612	−13.3	57	29	626	−2.7	45	30	616	−10.8	47	29	628	−0.4	42	24	615	−11.5	----	29	624	−4.4	37	30	619	−8.3	39
5,000	28	536	−18.8	----	28	551	−8.5	----	30	540	−16.7	----	28	554	−6.3	----	24	540	−17.7	----	29	549	−10.5	----	30	544	−14.4	----
6,000	28	468	−25.7	----	27	483	−15.4	----	30	472	−23.1	----	28	487	−12.9	----	23	471	−24.5	----	29	481	−17.1	----	30	476	−21.3	----
7,000	26	407	−32.4	----	27	423	−22.5	----	30	411	−30.1	----	28	426	−20.0	----	20	410	−31.9	----	29	420	−24.0	----	29	415	−27.8	----
8,000	26	352	−39.8	----	27	368	−29.9	----	29	356	−37.1	----	27	371	−27.2	----	15	352	−39.7	----	29	366	−31.2	----	29	360	−34.9	----
9,000	26	304	−46.7	----	27	319	−37.5	----	29	308	−43.9	----	27	322	−34.6	----	13	305	−45.3	----	28	316	−38.7	----	27	312	−41.7	----
10,000	25	261	−53.1	----	27	276	−45.3	----	28	265	−49.8	----	27	279	−41.9	----	13	262	−50.1	----	27	274	−45.9	----	23	239	−48.7	----
11,000	24	223	−57.5	----	26	236	−52.6	----	26	227	−54.4	----	26	240	−49.2	----	12	226	−53.5	----	27	235	−53.0	----	22	230	−54.4	----
12,000	20	190	−58.4	----	23	202	−58.4	----	22	195	−57.3	----	24	208	−55.8	----	6	193	−53.9	----	23	201	−58.8	----	17	198	−58.8	----
13,000	13	162	−56.8	----	21	172	−62.7	----	14	166	−56.5	----	18	176	−60.5	----	----	----	----	----	17	170	−60.8	----	10	168	−60.5	----
14,000	9	137	−57.1	----	14	146	−64.3	----	9	140	−55.9	----	14	149	−63.4	----	----	----	----	----	11	144	−61.2	----	----	----	----	----
15,000	----	----	----	----	----	----	----	----	----	----	----	----	8	126	−66.4	----	----	----	----	----	9	123	−61.9	----	----	----	----	----
16,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	7	104	−63.9	----	----	----	----	----
17,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	6	88	−65.8	----	----	----	----	----
18,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	75	−64.8	----	----	----	----	----

	Mazatlan, Mexico (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.)			
Surface	20	1,005	22.7	76	30	967	6.1	85	30	1,013	24.0	78	30	1,018	17.9	85	29	998	8.3	73	28	1,017	10.7	74	30	1,016	12.0	78
500	20	958	21.6	63	30	957	6.6	82	30	959	22.2	74	30	961	17.7	75	29	960	7.7	70	28	958	8.1	67	30	957	10.3	73
1,000	20	904	19.1	58	30	900	5.8	69	30	906	19.3	74	30	906	14.5	74	29	903	4.7	73	28	902	5.6	64	30	901	7.6	69
1,500	20	853	16.3	46	30	847	3.3	70	30	854	15.7	76	30	854	12.3	60	29	850	3.7	63	28	848	3.7	58	30	848	5.1	63
2,000	20	804	13.4	42	30	796	0.8	67	30	805	13.9	61	30	804	11.3	43	29	798	2.8	53	26	797	1.5	61	30	797	2.5	58
2,500	20	757	10.5	38	30	748	−1.7	62	30	758	11.9	47	30	757	9.4	38	29	750	1.3	44	25	748	−0.6	58	30	749	−0.2	52
3,000	20	713	7.7	----	29	702	−4.2	54	30	714	9.7	35	30	713	6.9	37	29	705	−0.7	38	23	703	−2.7	----	30	704	−2.5	48
4,000	19	631	1.3	----	28	618	−9.8	51	30	633	4.5	----	30	630	1.5	30	27	622	−6.2	----	23	619	−7.4	----	30	620	−7.8	39
5,000	19	556	−4.7	----	28	542	−16.0	48	30	559	−1.6	----	29	556	−4.3	----	26	546	−12.7	----	22	544	−13.4	----	30	544	−13.6	40
6,000	19	489	−11.4	----	28	474	−22.8	51	30	492	−7.7	----	29	489	−10.6	----	26	478	−19.1	----	22	476	−20.0	----	30	476	−20.5	46
7,000	19	428	−18.9	----	27	412	−30.3	----	29	432	−14.6	----	29	429	−17.6	----	25	417	−26.2	----	22	415	−27.5	----	30	415	−27.9	44
8,000	16	374	−26.4	----	26	357	−37.9	----	28	377	−22.6	----	29	374	−24.9	----	20	364	−32.6	----	16	361	−33.8	----	30	360	−35.4	----
9,000	16	324	−34.0	----	25	308	−44.9	----	28	328	−30.4	----	29	325	−32.3	----	20	315	−39.7	----	15	312	−40.1	----	29	312	−42.4	----
10,000	16	281	−41.6	----	23	265	−50.6	----	28	285	−38.5	----	29	282	−39.9	----	20	272	−47.0	----	14	269	−46.2	----	28	268	−49.0	----
11,000	13	242	−49.3	----	21	228	−56.0	----	26	246	−46.3	----	26	243	−47.7	----	19	233	−53.8	----	14	231	−52.2	----	27	231	−54.2	----
12,000	12	206	−57.2	----	12	195	−60.1	----	23	211	−54.3	----	25	208	−54.7	----	15	200	−58.5	----	10	197	−58.5	----	18	197	−57.6	----
13,000	7	176	−60.8	----	6	164	−58.4	----	18	180	−61.0	----	22	178	−60.5	----	7	171	−60.4	----	10	167	−61.7	----	13	168	−59.9	----
14,000	----	----	----	----	----	----	----	----	11	153	−67.0	----	16	151	−64.8	----	5	145	−62.6	----	5	142	−60.2	----	8	143	−59.2	----
15,000	----	----	----	----	----	----	----	----	8	130	−71.4	----	5	129	−67.9	----	----	----	----	----	5	121	−60.9	----	----	----	----	----

	Ogden, Utah (1,355 m.)				Oklahoma City, Okla. (391 m.)				Omaha, Nebr. (308 m.)				Pensacola, Fla.[1] (24 m.)				Phoenix, Ariz. (339 m.)				Pittsburgh, Pa. (392 m.)				Portland, Maine (20 m.)			
Surface	30	865	2.0	79	28	971	9.4	77	28	980	4.1	79	17	1,017	17.1	----	30	975	12.2	72	30	972	4.9	81	30	1,013	2.0	87
500	----	----	----	----	28	958	10.5	71	28	957	3.5	79	17	961	14.8	----	30	956	14.7	57	30	958	4.7	80	30	955	2.2	81
1,000	----	----	----	----	28	902	8.8	63	28	900	1.7	78	17	906	12.5	----	30	901	12.5	51	30	901	2.8	78	30	897	−0.1	81
1,500	30	849	2.7	71	28	850	6.2	61	28	846	1.1	69	17	854	10.5	----	30	849	8.7	54	30	847	0.4	76	30	843	−1.4	74
2,000	30	798	0.0	66	28	798	4.4	55	28	794	−0.4	62	17	803	8.0	----	30	798	5.1	52	30	795	−1.5	72	30	791	−2.4	64
2,500	30	749	−2.4	66	28	751	2.4	49	28	746	−2.1	55	17	756	6.0	----	30	751	1.9	51	29	746	−4.1	69	30	743	−3.9	58
3,000	30	704	−5.1	62	28	706	0.5	40	28	700	−4.6	55	17	711	3.5	----	30	706	−1.0	47	29	701	−6.1	62	30	697	−6.4	55
4,000	30	619	−10.8	61	26	622	−5.6	42	28	616	−9.8	50	17	628	−1.7	----	30	622	−6.8	46	29	616	−10.6	50	30	613	−11.5	50
5,000	30	542	−17.4	60	25	547	−11.4	----	28	541	−16.1	----	15	553	−8.1	----	30	546	−12.9	44	29	540	−16.0	----	29	537	−17.6	50
6,000	30	474	−24.3	64	25	480	−18.4	----	28	473	−22.8	----	15	485	−14.9	----	29	478	−19.9	42	28	472	−23.1	----	27	469	−24.5	50
7,000	30	412	−31.3	----	25	418	−25.3	----	28	412	−30.0	----	15	424	−22.3	----	29	417	−27.4	42	26	412	−29.5	----	27	408	−31.8	51
8,000	30	357	−38.7	----	25	364	−32.3	----	27	357	−37.1	----	12	369	−30.0	----	29	361	−35.2	----	24	356	−36.3	----	26	353	−39.6	----
9,000	30	308	−46.3	----	24	315	−39.3	----	25	309	−44.2	----	12	320	−37.5	----	28	312	−41.7	----	24	308	−42.9	----	26	304	−46.8	----
10,000	29	264	−52.7	----	24	272	−46.1	----	20	267	−49.7	----	11	276	−45.0	----	27	269	−47.8	----	23	265	−49.0	----	25	261	−52.3	----
11,000	28	227	−57.4	----	23	234	−52.6	----	17	229	−54.7	----	7	239	−51.4	----	26	231	−53.1	----	22	228	−53.6	----	24	224	−54.7	----
12,000	22	193	−58.7	----	18	200	−58.7	----	10	195	−56.4	----	6	205	−57.5	----	22	198	−56.6	----	17	195	−57.5	----	21	191	−55.6	----
13,000	18	164	−59.2	----	11	171	−62.3	----	8	166	−57.4	----	5	174	−62.1	----	14	169	−58.8	----	11	166	−58.4	----	17	163	−54.9	----
14,000	12	140	−58.6	----	6	144	−62.1	----	----	----	----	----	----	----	----	----	5	145	−64.1	----	7	141	−58.2	----	6	138	−56.1	----
15,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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 November 1944*—Continued

	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	28	903	−0.4	79	30	998	7.4	74	30	989	3.2	83	30	990	14.1	81	28	1,014	15.1	78	27	1,011	24.7	81	30	1,008	11.3	89
500					30	959	5.7	76	30	956	1.3	84	30	960	14.5	73	28	958	12.7	74	27	957	21.5	79	30	957	11.8	67
1,000	28	900	−0.2	80	30	902	3.7	76	30	898	−1.1	87	30	904	12.3	71	28	902	10.4	65	27	903	18.0	79	30	902	9.2	62
1,500	28	847	+1.1	63	30	848	2.2	71	30	844	−2.3	82	30	852	10.4	64	28	849	7.6	57	27	852	15.3	73	30	849	6.4	58
2,000	28	795	+1.0	47	30	797	0.7	65	30	792	−2.9	72	30	802	8.8	55	28	799	5.3	53	27	803	13.0	67	30	798	3.9	51
2,500	28	747	−1.4	47	30	749	−0.5	52	30	744	−4.4	64	30	755	6.9	45	28	751	2.9	43	27	757	10.8	61	30	750	1.5	45
3,000	28	701	−4.2	49	30	703	−2.8	48	30	698	−6.6	55	30	710	4.5	35	28	706	0.4	40	27	712	8.5	50	30	705	−1.2	43
4,000	28	617	−10.1	50	30	619	−8.5	45	27	613	−12.4	49	30	628	−1.0		28	623	−5.2	37	27	630	3.2	40	30	621	−6.9	34
5,000	28	541	−16.6	48	29	543	−14.7	42	27	537	−18.5		29	553	−7.2		28	547	−11.5		27	556	−2.7		30	546	−13.0	
6,000	27	473	−23.5	50	29	475	−21.3		27	469	−25.2		29	486	−13.9		28	479	−18.7		26	490	−8.8		30	477	−19.9	
7,000	26	411	−31.0		29	414	−28.3		26	408	−32.3		29	425	−20.9		28	418	−26.9		26	430	−15.3		30	416	−27.5	
8,000	26	356	−38.3		28	359	−35.2		26	353	−39.9		29	370	−28.2		25	363	−34.4		24	376	−22.2		30	361	−34.9	
9,000	26	307	−45.9		28	310	−41.9		26	304	−46.7		26	322	−35.4		25	314	−41.3		22	327	−29.5		30	312	−42.2	
10,000	25	264	−53.1		28	267	−48.6		24	261	−52.2		25	278	−42.7		25	270	−47.6		21	284	−36.8		29	269	−48.7	
11,000	18	227	−56.7		25	230	−54.1		23	224	−56.6		25	239	−50.0		25	232	−52.9		20	246	−44.3		23	231	−54.1	
12,000	9	194	−60.2		23	197	−57.6		20	191	−58.0		24	205	−56.2		22	199	−56.2		17	211	−52.3		18	198	−57.2	
13,000					13	168	−58.6		14	163	−58.2		21	175	−61.8		22	170	−60.0		13	186	−59.3		8	170	−58.0	
14,000					9	142	−59.1		9	138	−57.0		19	149	−64.6		19	144	−61.9		9	153	−65.9		5	146	−60.8	
15,000					5	121	−60.5		6	118	−58.0		19	126	−67.6		14	123	−64.0						5	124	−63.0	
16,000													16	107	−70.7		9	104	−64.5									
17,000													13	90	−71.7													
18,000													7	76	−70.0													
19,000													5	64	−68.1													

	Sault Ste. 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.)			
Surface	30	991	1.1	84	26	1,010	8.9	81	30	946	2.5	88	16	1,014	25.0	77	29	774	14.3	63	28	1,018	17.4	81	30	1,008	9.0	85
500	30	957	0.1	84	26	954	6.4	74					16	959	21.4	80					28	961	16.1	69	30	952	7.0	79
1,000	30	900	−1.3	81	26	897	3.4	77	30	900	1.8	84	16	905	17.6	82					28	906	13.3	63	30	896	4.0	78
1,500	30	845	−2.3	78	26	843	0.4	77	30	846	−0.4	80	16	854	15.6	67					28	854	11.6	49	30	842	1.1	80
2,000	30	793	−3.7	73	26	792	−2.0	72	30	794	−2.2	76	16	805	13.4						28	804	10.4		30	791	−1.3	78
2,500	30	744	−5.8	66	26	743	−4.7	66	30	746	−4.2	68	16	758	11.4		29	757	13.3	61	28	757	8.4		30	743	−4.1	74
3,000	30	698	−7.9	62	26	697	−7.6	60	30	700	−6.7	64	16	714	9.7		29	713	10.1	63	28	712	5.8		30	697	−6.7	65
4,000	30	613	−13.0	57	26	612	−13.5	58	30	615	−11.6	59	16	632	5.4		29	631	2.5	72	28	629	0.1		30	612	−12.2	54
5,000	30	537	−19.1	67	26	536	−19.9	57	30	539	−18.1	59	16	559	−0.7		29	557	−3.6	55	28	555	−6.0		28	537	−18.6	53
6,000	29	468	−25.7		26	468	−26.7	56	30	471	−24.5		14	492	−6.6		29	490	−9.3	40	28	487	−12.8		26	469	−26.0	50
7,000	29	407	−32.8		26	406	−34.5	57	30	409	−32.3		14	432	−13.6		28	430	−15.9		28	427	−19.9		25	408	−33.1	
8,000	28	352	−39.9		25	351	−41.9		30	354	−40.0		11	378	−20.9		27	376	−22.8		27	372	−27.1		23	353	−40.1	
9,000	28	304	−46.5		23	302	−48.3		30	305	−46.6		9	329	−27.6		27	327	−30.4		26	323	−34.6		22	304	−46.3	
10,000	27	261	−52.0		22	259	−54.1		28	262	−52.8		9	286	−35.0		27	284	−38.4		25	280	−42.7		19	261	−53.3	
11,000	25	224	−55.5		21	222	−57.2		24	225	−56.9		8	247	−43.4		27	245	−46.7		24	240	−50.0		17	224	−57.8	
12,000	19	190	−55.9		19	189	−58.6		18	192	−59.2		8	213	−51.3		24	210	−55.1		24	206	−56.6		10	190	−59.7	
13,000	11	163	−57.8		16	161	−57.6		7	164	−58.5		8	182	−58.8		15	179	−62.2		20	176	−61.4					
14,000	5	140	−59.8		11	137	−57.4						8	154	−65.6						10	149	−64.5					
15,000					6	117	−59.3																					

	Toledo, Ohio (191 m.)				Tongue Point, Oreg. (21 m.)[1 2]				Washington, D. C. (25 m.)					Toledo, Ohio (191 m.)				Tongue Point, Oreg. (21 m.)[1 2]				Washington, D. C. (25 m.)			
Surface	30	995	4.4	82					30	1,015	7.6	73	7,000	28	409	−31.0						29	412	−29.2	
500	30	958	3.9	78					30	958	6.0	69	8,000	27	354	−37.6						29	357	−35.8	
1,000	30	900	1.3	78					30	901	3.3	67	9,000	27	306	−43.9						29	309	−42.3	
1,500	30	846	−0.5	75					30	848	1.1	68	10,000	26	264	−49.3						28	266	−48.4	
2,000	30	794	−2.3	66					30	796	−0.8	61	11,000	24	226	−53.3						25	229	−53.0	
2,500	30	746	−4.1	60					30	747	−3.3	61	12,000	22	194	−56.6						24	196	−57.2	
3,000	30	700	−6.1	52					30	702	−5.1	51	13,000	16	164	−57.2						20	167	−57.8	
4,000	29	615	−11.6	51					29	617	−10.1	45	14,000	10	139	−54.5						14	142	−57.8	
5,000	29	540	−17.7	52					29	542	−16.1	45	15,000	6	118	−54.0						9	121	−59.7	
6,000	28	471	−24.3						29	474	−22.7		16,000									6	103	−62.3	

[1] U. S. Navy.
[2] No observations taken.

NOTE.—All observations taken near 11 p. m. E. S. T. except at Mazatlan and Merida where they are taken near 9:00 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.

All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the values occurring below the operating range of the humidity element.

TABLE 2.—*Free-air resultant winds based on pilot-balloon observations made near 5 p. m. (75th meridian time) during November 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	27	199	1.6	30	244	0.9	28	316	1.8	27	294	1.8	21	7	0.9	30	133	1.5	28	135	2.6	27	299	1.5	27	341	0.4	28	302	1.2	29	278	1.4	29	28	1.2	30	227	1.2
500							28	307	1.8										28	137	4.3	27	263	1.8	27	220	0.9	28	266	2.8	29	249	2.3						
1,000	27	228	3.7				26	292	2.6	27	276	3.3	26	310	2.0	30	139	1.9	26	146	3.3	18	249	5.1	23	244	2.7	27	274	3.8	24	277	3.2						
1,500	25	229	5.4				24	302	3.9	27	276	3.3	12	263	2.9	30	156	2.4	22	165	2.2	16	261	6.0	18	260	4.1	24	296	6.7	15	247	4.0				30	234	1.2
2,000	24	246	5.9	30	233	2.0	22	300	7.3	27	266	4.9	11	281	3.5	26	197	2.9	20	216	3.1	12	259	6.1	14	284	3.4	23	295	8.1	12	249	5.2	29	53	1.3	30	234	2.9
2,500	23	263	6.9	30	252	3.2	21	301	9.1	27	268	6.1	11	297	4.8	16	205	6.7	18	224	4.3				12	273	3.7	21	288	10.9	10	252	6.2	29	239	0.7	27	241	5.5
3,000	21	264	9.1	28	260	5.2	19	296	8.7	26	270	6.9	10	299	4.2	14	221	6.6	17	254	5.0				12	259	4.8	19	286	2.7	10	255	7.9	29	280	2.9	25	251	7.7
4,000	18	265	11.4	23	263	9.2	18	288	11.0	22	286	6.5	10	297	5.1				13	251	7.8				11	276	5.1	13	290	14.1				26	288	5.5	23	254	11.6
5,000	17	271	13.4	21	264	12.0	17	288	12.2	20	294	9.2							12	257	9.3				11	284	6.2	12	291	15.2				25	292	7.6	15	264	14.1
6,000	15	271	14.9	20	266	12.4	16	282	13.0	17	295	6.1							10	258	12.9													20	278	7.5			
8,000	10	272	22.5	16	255	15.2	10	275	17.4	11	326	8.6																						17	278	10.5			
10,000				11	270	22.1																												12	265	13.6			
12,000				10	245	23.2																																	
14,000																																							

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	28	160	0.4	28	303	1.6	26	302	1.7	22	291	1.0	30	44	1.5	27	233	1.4	30	49	1.5	28	184	1.0	27	255	0.6	30	56	1.4	27	295	1.2	28	300	1.5	25	312	4.2
500							26	297	2.5				29	288	1.6	27	232	2.3				28	221	1.0	27	296	0.4	30	44	2.5	27	273	1.8	28	270	1.0	25	308	3.8
1,000							24	310	3.7	22	263	2.7	27	273	3.6	21	196	4.3	30	61	1.7	26	244	2.1	27	159	2.6	30	38	2.5	25	293	2.5	27	248	2.2	23	328	5.6
1,500				28	304	1.6	24	317	5.6	21	263	4.7	27	283	5.4	14	220	4.5	30	50	0.5	26	268	4.3	26	189	3.5	30	5	2.3	24	290	4.8	23	273	3.9	22	327	5.9
2,000	28	176	0.4	28	288	1.0	22	307	7.3	18	275	5.2	26	287	6.9				29	234	1.0	21	290	6.4	24	204	3.8	28	341	3.2	24	274	5.7	19	279	6.8	17	311	7.5
2,500	28	220	1.1	28	233	1.9	18	308	8.3	18	272	6.6	26	284	9.2				28	258	1.6	19	281	8.9	21	232	2.6	28	322	3.3	22	274	7.2	19	290	8.7	15	319	5.8
3,000	26	221	2.4	28	229	3.2	17	310	10.3	17	275	8.2	26	282	11.3				25	296	1.9	18	284	9.7	17	336	2.6	28	303	4.3	17	284	7.5	19	291	9.5	14	315	5.9
4,000	18	239	3.7	25	248	3.8	16	301	11.5	14	279	7.5	24	282	12.4				23	316	4.3	16	283	12.4	15	333	3.0	24	284	6.4	12	284	8.3	19	286	14.0			
5,000	15	266	3.1	17	267	6.0	15	294	14.7	13	268	8.8	22	279	13.6				22	296	5.4	13	294	13.9	12	8	5.6	23	285	9.4				19	290	16.8			
6,000	13	288	2.9	14	305	7.5	13	299	16.9	10	260	9.9	20	278	16.1				21	295	8.8	12	293	15.6	10	4	7.1	20	279	12.5				14	289	17.3			
8,000	11	300	6.8										15	277	19.9				15	331	13.7							17	288	19.3									
10,000													10	292	22.4													14	290	28.0									
12,000																																							
14,000																																							

Altitude (meters) m. s. l.	Okland, Calif. (8 m.)			Oklahoma City, Okla. (402 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (682 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. (116 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	28	214	1.3	27	227	2.2	28	300	1.0	30	112	0.5	26	348	3.5	28	195	1.6	27	179	0.4	27	166	0.8	26	246	3.0	26	54	1.6	26	182	1.8	28	156	0.5	27	308	2.6
500	28	253	1.1	27	227	3.0	28	273	1.4	30	124	0.4				28	223	2.9	27	143	1.3	27	178	1.4	26	277	2.4	26	74	1.9	25	187	5.4				27	306	4.4
1,000	23	308	0.6	27	232	4.7	23	246	3.6	30	171	0.7	26	344	3.4	21	216	5.1	15	183	2.8	25	187	2.7	24	318	1.4	19	315	1.3	22	190	7.5	28	162	2.1	26	303	5.5
1,500	23	315	1.6	24	251	7.0	15	246	6.3	30	166	1.8	26	312	4.5	13	233	6.5	12	189	4.7	24	201	3.1	22	15	1.4	12	296	1.7	20	203	6.1	23	199	4.5	26	307	6.0
2,000	20	313	2.5	24	252	9.5	12	244	8.3	26	167	2.4	25	307	6.2	12	245	8.2	10	200	5.9	18	244	4.2	22	351	2.3				14	204	6.6	16	197	4.6	20	297	6.0
2,500	19	317	3.6	22	257	11.0	10	258	8.0	26	194	2.8	25	310	7.0	11	261	9.4				17	252	6.1	21	336	2.4				13	210	5.7	13	205	4.3	17	310	6.9
3,000	18	329	4.4	20	272	13.4				25	202	3.2	25	304	6.3							14	259	7.3	20	335	3.5				12	223	5.0	10	222	3.0	15	295	7.4
4,000	18	332	6.0	18	276	15.7				25	242	5.1	22	305	7.4							13	269	9.3	17	321	4.5				12	245	5.5				12	300	8.9
5,000	17	331	8.4	17	275	16.5				21	248	7.4	19	296	8.1							11	269	13.7	16	305	6.3										12	291	11.4
6,000	14	340	9.7	12	277	16.6				21	257	9.6	18	290	7.8							10	264	16.6	16	309	7.5										10	310	14.7
8,000										17	256	15.3	11	292	10.6										13	336	13.2												
10,000										15	259	19.3													11	328	13.7												
12,000																																							
14,000																																							

TABLE 3.—*Maximum free air wind velocities, (m. p. s.), for different sections of the United States based on pilot balloon observations during November 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]	40.4	SW.	437	30	Nantucket, Mass.	48.4	NNW.	5,000	13	Burlington, Vt.	58.4	NE.	9,017	25	Philadelphia, Pa.
East-Central [2]	34.0	NW.	2,160	30	Greensboro, N. C.	60.5	W.	5,000	30	Knoxville, Tenn.	84.7	WNW.	10,022	18	Huntington, W. Va.
Southeast [3]	33.6	W.	2,472	30	Charleston, S. C.	47.6	NW.	3,871	23	Jacksonville, Fla.	74.2	W.	11,611	24	Jacksonville, Fla.
North-Central [4]	35.5	SSW.	1,783	23	Rapid City, S. Dak.	43.9	NNW.	5,000	23	Fargo, N. Dak.	69.6	SW.	8,952	24	Williston, N. Dak.
Central [5]	39.6	SSW.	2,330	24	Dodge City, Kans.	54.2	NW.	4,856	23	St. Louis, Mo.	52.4	NW.	5,126	23	St. Louis, Mo.
South-Central [6]	35.6	NNW.	1,011	9	Houston, Tex.	44.6	WSW.	4,957	13	Amarillo, Tex.	75.0	WSW.	10,107	13	Amarillo, Tex.
Northwest [7]	35.9	NW.	2,235	21	Glasgow, Mont.	41.5	NW.	4,548	21	Great Falls, Mont.	73.3	NNW.	6,582	24	Burns, Oreg.
West-Central [8]	33.3	N.	2,500	25	Pueblo, Colo.	53.0	NNW.	5,000	24	Reno, Nev.	68.0	WNW.	14,095	28	Ely, Nev.
Southwest [9]	32.6	WSW.	1,999	24	El Paso, Tex.	41.0	WSW.	4,258	13	Roswell, N. Mex.	79.0	WSW.	10,188	13	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 C. R. JORDAN

PRECIPITATION during November averaged well above normal over a considerable part of the country, particularly along the north Atlantic coast, central Gulf coast, in the northern Great Plains, and the Southwest. Some localities in the Dakotas and the far Southwest received over four times the normal precipitation for the month. Rainfall continued below normal in the Ohio Valley, the Southeast, western Texas, parts of Colorado and New Mexico, and the far Northwest.

River stages were generally low during November and little flooding was reported.

Atlantic Slope Drainage.—Light to heavy rain that occurred over North Carolina from November 27–30, caused rises in all rivers in that area. The Neuse River was above flood stage and still rising at Smithfield and Neuse, N. C., as the month closed.

Red Basin.—The Sulphur River at Hagansport, Tex., was slightly above flood stage on the 9th and again on the 25th–26th. Only minor flooding occurred and no damage was reported.

FLOOD-STAGE REPORT FOR NOVEMBER 1944

[All dates in November unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	*Feet*			*Feet*	
Roanoke: Williamston, N. C.	10	Oct. 26	1	10.9	Oct. 28
Neuse:					
Neuse, N. C.	14	28	(2)		
Smithfield, N. C.	13	29	(2)	14.2	30
MISSISSIPPI SYSTEM					
Red Basin					
Sulphur: Hagansport, Tex.	38	9	9	38.2	9
		25	26	28.6	26

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