METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR DECEMBER 1945

AEROLOGICAL OBSERVATIONS

TABLE 1A.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during December 1945*

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

Altitude (meters) m. s. l.	Albany, N. Y. (93 m.)				Albuquerque, N. M. (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	1,004	−6.7	79	25	838	1.2	41	31	1,017	9.6	84	31	983	2.3	81	31	928	5.4	54	31	957	−12.3	85	31	918	−0.6	79
500	31	954	−7.0	77					31	959	10.2	66	31	959	2.8	74												
1,000	31	894	−8.3	74					31	903	8.8	49	31	901	2.6	62	31	903	8.1	44	31	897	−11.0	81	31	903	0.7	75
1,500	31	838	−9.2	65					31	850	7.9	44	31	847	2.8	54	31	850	6.6	38	31	840	−9.3	77	31	848	−1.6	73
2,000	31	785	−10.5	60	25	799	0.7	41	31	799	6.2	42	31	796	1.3	49	31	799	4.5	37	31	788	−9.5	71	31	796	−4.0	73
2,500	31	736	−12.4	59	25	751	−1.7	41	31	752	4.7	41	31	749	−0.6	46	31	752	2.3	36	31	738	−11.7	67	31	747	−6.2	68
3,000	31	689	−14.5	57	25	705	−4.6	43	31	707	2.6	42	31	703	−2.7	44	31	706	−0.2	37	31	691	−14.0	60	31	701	−9.1	71
4,000	31	603	−19.7	50	25	620	−9.6	42	31	624	−3.1	40	30	619	−7.4	46	31	622	−5.7	35	31	605	−20.1	59	31	615	−14.9	76
5,000	29	527	−25.1		25	544	−15.2		29	549	−9.1	40	29	544	−13.3	46	31	547	−11.9		31	528	−26.5		31	538	−21.3	
6,000	29	458	−30.8		24	476	−21.1		29	482	−15.6	42	29	476	−19.5		31	479	−18.5		31	459	−33.5		31	469	−27.9	
7,000	29	397	−37.4		24	415	−27.9		29	422	−22.4		29	416	−26.3		31	418	−25.5		30	397	−40.4		31	407	−35.0	
8,000	28	343	−44.0		24	360	−35.1		29	367	−29.2		29	361	−33.4		31	364	−32.7		29	342	−47.0		29	352	−41.8	
9,000	26	296	−48.5		24	312	−43.1		29	318	−36.5		29	312	−40.2		28	315	−39.7		24	295	−51.9		26	303	−48.1	
10,000	21	254	−51.9		24	268	−50.4		29	275	−44.2		28	269	−47.1		25	271	−46.5		21	254	−55.1		20	261	−54.0	
11,000	17	217	−54.2		24	229	−55.9		29	236	−51.6		28	231	−53.1		22	233	−52.2		19	217	−55.4		18	223	−58.3	
12,000	13	186	−56.7		19	196	−59.6		29	202	−58.1		28	197	−57.6		20	199	−56.9		14	184	−52.8		7	190	−57.7	
13,000	9	157	−55.0		12	167	−60.8		25	172	−62.4		16	168	−58.3		13	170	−60.0		11	157	−51.8					
14,000	6	134	−54.4		7	142	−61.1		17	146	−65.0		9	144	−59.4		10	144	−62.5		7	135	−50.5					
15,000									5	123	−66.0																	

Altitude (meters) m. s. l.	Brownsville, Tex. (6 m.)				Buffalo, N. Y. (221 m.)				Burrwood, La. (2 m.)				Caribou, Maine (191 m.)				Charleston, S. C. (14 m.)				Ciudad Victoria, Mexico (335 m.)				Clovis, N. Mex. (1,306 m.)			
Surface	31	1,016	15.2	82	31	989	−4.4	84	30	1,018	12.1	83	31	989	−10.4	91	30	1,016	5.8	83	17	976	17.6	66	30	867	0.7	56
500	31	959	16.0	74	31	955	−5.3	83	30	960	10.6	70	31	950	−10.7	90	30	958	6.8	70	17	958	17.6	65				
1,000	31	904	14.0	67	31	895	−7.5	78	30	903	9.3	53	31	890	−11.6	83	30	902	5.6	62	17	904	15.4	68				
1,500	31	852	12.5	56	31	839	−9.3	74	30	850	8.0	49	31	834	−11.6	76	30	848	4.1	50	17	852	13.2	72	30	847	4.1	46
2,000	31	802	10.5	54	31	786	−11.2	70	30	800	6.8	42	31	781	−12.6	71	30	797	2.3	50	17	803	11.7	68	30	796	3.0	37
2,500	31	756	8.6	47	31	737	−13.1	60	30	753	5.1	40	31	731	−14.4	64	30	749	0.8	49	17	756	10.5	62	30	749	0.8	36
3,000	31	711	5.6	45	31	689	−14.7	57	30	708	2.7	43	31	684	−16.9	63	30	704	−0.6	44	17	711	8.1	51	30	703	−2.3	37
4,000	31	628	0.0	32	29	604	−19.1	52	29	625	−2.8	37	31	598	−22.3		28	620	−5.6	44	17	630	1.9		30	619	−8.9	42
5,000	31	554	−5.7		28	527	−25.6		29	550	−8.8		31	521	−28.5		27	545	−11.4	47	17	555	−4.6		30	543	−14.5	43
6,000	31	486	−12.4		27	459	−31.5		29	483	−15.3		31	452	−35.1		25	478	−17.9	48	17	488	−11.3		30	475	−20.6	47
7,000	31	426	−19.5		26	398	−37.8		29	422	−22.2		31	391	−41.8		25	417	−24.6		17	428	−18.2		29	415	−27.8	
8,000	31	372	−26.8		25	343	−43.8		29	368	−29.9		31	336	−47.6		23	363	−31.6		17	374	−25.4		29	360	−35.5	
9,000	31	323	−34.7		21	296	−48.7		29	319	−37.4		30	289	−51.8		21	314	−38.8		17	325	−33.2		28	311	−43.0	
10,000	31	279	−42.5		18	255	−52.0		28	276	−44.8		27	248	−54.5		20	271	−46.2		17	281	−40.9		28	268	−50.0	
11,000	31	240	−50.0		15	219	−54.8		27	236	−52.3		25	213	−56.2		18	232	−52.0		17	242	−48.7		28	229	−55.1	
12,000	29	205	−57.1		8	187	−56.1		27	202	−58.8		20	180	−53.8		16	199	−55.9		16	208	−55.7		28	196	−58.8	
13,000	25	175	−61.9		6	160	−54.6		21	172	−61.9		14	154	−53.8		9	170	−58.7		16	177	−61.6		25	167	−59.9	
14,000	23	148	−64.9						8	146	−65.8		7	132	−54.2		5	144	−60.2		11	151	−64.7		14	142	−59.8	
15,000	14	126	−67.5																		9	127	−67.4		8	121	−61.5	
16,000	5	106	−70.7																		7	107	−69.7					

Altitude (meters) m. s. l.	Denver, Colo. (1,616 m.)				Dodge City, Kans. (787 m.)				El Paso, Tex. (1,195 m.)				Ely, Nev. (1,908 m.)				Fort Worth, Tex. (211 m.)				Glasgow, Mont. (648 m.)				Grand Junction, Colo. (1,414 m.)			
Surface	31	835	−2.3	57	28	925	−3.0	64	30	882	7.8	38	31	808	−4.4	77	31	994	5.8	63	30	939	−10.5	83	27	861	−3.1	69
500																	31	960	7.2	56								
1,000					28	901	0.4	54									31	903	6.0	53	30	897	−9.0	80				
1,500					28	846	0.2	47	30	851	8.4	37					31	849	4.5	44	30	841	−7.1	72	27	852	−2.6	67
2,000	31	796	−0.9	47	28	795	−1.6	45	30	800	5.5	39	31	799	−3.4	74	31	798	3.1	39	30	788	−8.2	66	27	800	−4.2	64
2,500	31	747	−3.9	47	28	746	−4.2	40	30	753	3.1	38	31	750	−4.2	64	31	751	1.1	36	30	739	−11.0	65	27	751	−5.5	63
3,000	31	700	−7.5	51	28	700	−7.4	41	30	707	0.6	33	31	704	−6.8	62	31	705	−1.4	32	30	692	−13.4	60	27	704	−8.0	65
4,000	31	615	−14.8	63	28	615	−13.5	50	30	624	−5.2		31	619	−11.3	54	31	621	−6.8	30	30	606	−19.2	62	27	618	−13.8	61
5,000	31	538	−22.1		28	538	−20.1	56	30	548	−11.2		31	542	−16.9	52	30	546	−13.6	33	29	529	−25.7		27	541	−19.5	52
6,000	31	469	−28.8		28	470	−26.2		30	480	−18.1		31	474	−23.7		30	478	−19.9		29	460	−32.1		26	472	−25.7	
7,000	31	407	−35.5		28	408	−32.8		30	420	−25.3		30	412	−31.3		29	417	−26.8		27	398	−39.0		26	410	−33.0	
8,000	24	353	−41.8		27	353	−39.2		29	364	−33.0		30	357	−38.6		29	362	−34.2		27	344	−46.0		26	355	−40.1	
9,000	21	304	−49.0		25	304	−45.5		29	315	−40.7		29	308	−45.7		28	313	−41.4		25	295	−51.6		25	306	−47.1	
10,000	16	262	−54.0		23	262	−51.3		27	272	−48.3		25	265	−52.3		26	270	−48.1		24	253	−54.6		24	263	−53.0	
11,000	12	225	−57.9		21	224	−54.5		23	234	−55.0		22	226	−56.7		25	231	−54.4		19	217	−54.6		22	225	−55.5	
12,000					19	191	−55.3		14	200	−58.8		15	193	−57.9		22	197	−58.9		13	186	−52.6		17	191	−55.8	
13,000					17	163	−56.5		7	170	−60.0		10	165	−56.3		17	168	−59.5		9	158	−50.1		14	164	−55.4	
14,000					14	140	−57.3										13	143	−61.1		6	136	−50.5		6	140	−57.2	
15,000					6	120	−59.4										7	122	−63.2									
16,000																	6	104	−64.3									

TABLE 1A.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during December 1945*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	Great Falls, Mont. (1,128 m.)				Green Bay, Wis. (182 m.)				Greensboro, N. C. (273 m.)				Hatteras, N. C. (3 m.)				Havana, Cuba [1] (51 m.)				Huntington, W. Va. (172 m.)				International Falls, Minn. (343 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	884	−4.3	68	30	994	−7.5	78	20	985	−0.2	81	26	1,017	6.1	81	----	----	----	----	31	998	−1.4	82	30	976	−14.0	90
500	----	----	----	----	30	954	−8.2	77	20	957	0.8	73	26	957	5.1	73	----	----	----	----	31	958	−1.8	81	30	956	−14.1	91
1,000	----	----	----	----	30	894	−8.9	69	20	899	−0.8	67	26	900	3.0	61	----	----	----	----	31	899	−3.7	80	30	895	−14.1	83
1,500	31	843	−3.0	64	30	838	−9.6	68	20	844	−2.1	60	26	846	1.8	52	----	----	----	----	31	844	−5.0	76	30	838	−12.6	70
2,000	31	791	−5.2	65	30	785	−10.8	65	20	792	−2.9	51	26	795	0.0	50	----	----	----	----	31	792	−5.7	69	30	785	−13.5	64
2,500	31	742	−8.6	69	29	736	−12.9	60	20	744	−4.9	47	26	747	−1.8	50	----	----	----	----	31	743	−7.4	64	30	735	−15.3	62
3,000	31	695	−11.8	67	28	688	−14.6	55	19	698	−7.3	----	26	701	−3.6	48	----	----	----	----	31	696	−9.1	61	30	687	−17.8	60
4,000	31	609	−17.6	68	28	603	−19.6	58	19	613	−12.7	----	26	617	−8.3	47	----	----	----	----	31	611	−14.0	60	30	600	−23.3	----
5,000	31	532	−24.2	----	28	526	−25.5	----	19	537	−17.6	----	26	541	−14.4	54	----	----	----	----	31	535	−19.6	57	29	523	−29.0	----
6,000	31	464	−30.9	----	28	458	−32.2	----	17	469	−23.9	----	26	474	−20.8	59	----	----	----	----	30	467	−26.2	----	29	454	−35.3	----
7,000	31	402	−37.9	----	27	396	−39.4	----	17	408	−30.1	----	26	413	−27.7	----	----	----	----	----	30	406	−32.4	----	28	392	−42.3	----
8,000	30	346	−45.2	----	27	342	−46.1	----	17	354	−37.5	----	26	358	−34.3	----	----	----	----	----	30	351	−39.0	----	28	338	−48.8	----
9,000	29	297	−51.2	----	25	294	−51.1	----	17	305	−44.5	----	26	310	−41.5	----	----	----	----	----	30	303	−45.6	----	25	290	−52.2	----
10,000	28	255	−55.4	----	25	252	−54.4	----	16	263	−50.8	----	26	267	−48.8	----	----	----	----	----	30	260	−51.8	----	24	249	−55.0	----
11,000	23	218	−56.1	----	21	215	−54.8	----	13	225	−55.9	----	25	229	−55.5	----	----	----	----	----	28	223	−55.5	----	19	213	−55.7	----
12,000	16	185	−54.3	----	19	183	−54.2	----	10	193	−57.9	----	22	195	−58.1	----	----	----	----	----	25	190	−56.6	----	15	182	−54.9	----
13,000	11	158	−52.5	----	16	156	−52.9	----	6	165	−58.9	----	16	167	−59.5	----	----	----	----	----	20	162	−56.5	----	10	156	−51.5	----
14,000	7	135	−54.7	----	12	133	−52.6	----	5	141	−61.1	----	8	142	−60.4	----	----	----	----	----	17	139	−57.3	----	6	134	−52.1	----
15,000	5	115	−55.8	----	9	114	−51.8	----	----	----	----	----	5	121	−62.4	----	----	----	----	----	12	118	−59.3	----	----	----	----	----

Altitude (meters) m. s. l.	Joliet, Ill. (178 m.)				Lake Charles, La. (5 m.)				Lander, Wyo. (1,632 m.)				Las Vegas, Nev. (574 m.)				Little Rock, Ark. (79 m.)				Louisville, Ky. (165 m.)				Mazatlan, Mexico (80 m.)			
Surface	31	996	−6.7	84	30	1,018	9.5	80	30	834	−10.0	82	31	952	5.9	48	31	1,009	2.7	72	31	998	−1.2	77	26	1,005	21.9	76
500	31	956	−6.7	82	30	959	9.8	64	----	----	----	----	----	----	----	----	31	959	2.9	63	31	957	−2.5	79	26	958	22.0	45
1,000	31	896	−7.2	69	30	903	9.0	51	----	----	----	----	31	904	7.4	41	31	901	2.0	60	31	899	−3.8	74	26	904	19.8	14
1,500	31	840	−7.1	60	30	850	7.5	44	----	----	----	----	31	851	4.7	40	31	846	1.6	52	31	844	−4.2	64	26	853	16.4	38
2,000	31	788	−8.4	56	30	800	5.9	41	30	795	−5.0	62	31	800	2.2	40	31	795	−0.3	50	31	791	−4.8	59	26	803	13.6	34
2,500	31	739	−10.1	55	29	752	4.0	36	30	746	−6.9	55	31	752	0.0	42	31	747	−2.1	43	31	743	−6.7	54	26	757	10.3	34
3,000	30	692	−12.7	52	29	707	1.9	33	30	700	−9.9	55	31	706	−2.4	40	31	701	−4.5	41	31	696	−8.7	50	26	712	7.2	34
4,000	30	606	−17.7	55	29	624	−3.8	31	30	614	−16.9	62	31	621	−8.2	39	31	617	−9.4	38	31	611	−13.8	48	24	630	1.2	----
5,000	30	530	−23.6	----	29	594	−9.0	32	30	536	−23.3	----	31	545	−14.3	44	31	541	−15.7	----	31	535	−19.5	51	24	556	−5.1	----
6,000	30	462	−30.6	----	29	482	−15.4	----	29	467	−29.9	----	31	477	−21.4	----	31	474	−22.4	----	31	467	−25.8	----	24	489	−11.7	----
7,000	30	399	−37.4	----	29	422	−22.5	----	29	405	−36.9	----	31	416	−28.5	----	31	412	−29.4	----	30	407	−32.0	----	23	428	−18.8	----
8,000	30	345	−43.7	----	29	367	−29.3	----	28	350	−43.5	----	31	361	−35.6	----	31	357	−36.0	----	30	352	−39.0	----	22	374	−26.2	----
9,000	28	297	−48.8	----	29	318	−36.7	----	27	301	−49.1	----	31	312	−43.2	----	31	309	−42.6	----	29	304	−45.6	----	22	324	−33.9	----
10,000	25	255	−52.3	----	29	275	−44.3	----	24	259	−53.3	----	30	268	−50.5	----	30	266	−48.9	----	25	261	−51.6	----	22	280	−41.8	----
11,000	25	219	−54.5	----	28	236	−51.5	----	20	222	−55.5	----	29	230	−56.4	----	30	228	−54.1	----	19	224	−55.1	----	22	241	−49.7	----
12,000	21	188	−55.6	----	27	202	−57.2	----	13	189	−54.7	----	28	196	−60.1	----	26	195	−57.2	----	15	192	−56.9	----	20	207	−57.0	----
13,000	17	160	−55.6	----	24	172	−60.9	----	8	161	−53.0	----	19	167	−59.4	----	23	166	−57.7	----	9	165	−56.1	----	19	176	−63.7	----
14,000	10	137	−55.1	----	17	147	−63.5	----	5	138	−54.1	----	16	142	−59.8	----	12	142	−57.6	----	7	141	−57.0	----	14	149	−68.5	----
15,000	5	118	−56.6	----	13	124	−65.6	----	----	----	----	----	10	120	−60.7	----	6	122	−59.8	----	----	----	----	----	8	126	−72.9	----

Altitude (meters) m. s. l.	Medford, Oreg. (409 m.)				Merida, Mexico (27 m.)				Miami, Fla. (4 m.)				Nashville, Tenn. (180 m.)				North Platte, Nebr. (849 m.)				Oakland, Calif. (2 m.)				Ogden, Utah (1,355 m.)			
Surface	30	968	5.4	84	31	1,012	23.1	73	31	1,018	17.8	88	31	996	1.4	78	31	917	−7.3	85	26	1,017	10.0	80	31	866	−2.3	74
500	30	958	5.1	83	31	959	20.7	69	31	961	16.6	82	31	958	0.4	74	----	----	----	----	26	959	8.4	72	----	----	----	----
1,000	30	900	3.6	79	31	905	17.6	73	31	906	13.6	78	31	900	−0.9	68	31	900	−4.7	75	26	902	5.9	66	----	----	----	----
1,500	30	846	1.5	77	31	853	14.2	77	31	853	11.3	71	31	845	−1.3	63	31	844	−4.1	64	26	848	3.2	60	31	851	−1.7	70
2,000	30	795	−1.2	73	31	804	11.6	66	31	803	9.5	57	31	793	−2.5	59	31	792	−5.3	61	26	797	0.8	56	31	798	−4.3	68
2,500	30	747	−4.1	71	31	757	9.8	51	31	756	7.5	49	31	745	−4.3	52	31	744	−7.2	59	26	749	−1.4	54	31	749	−7.7	69
3,000	30	700	−6.8	70	31	713	7.4	45	31	712	5.2	45	31	699	−6.5	46	31	697	−10.0	57	26	703	−4.1	50	31	702	−10.6	71
4,000	29	615	−12.8	56	30	631	2.2	----	31	629	0.3	42	29	614	−11.3	----	31	611	−16.2	61	26	618	−9.6	49	31	616	−15.9	70
5,000	29	539	−19.1	60	30	557	−3.7	----	31	554	−6.0	----	27	538	−17.6	----	31	534	−23.0	----	25	543	−16.2	58	31	538	−21.5	----
6,000	29	470	−26.2	----	29	490	−10.1	----	31	487	−12.2	----	25	471	−23.9	----	31	465	−30.0	----	24	474	−22.8	----	31	470	−28.1	----
7,000	28	409	−33.2	----	29	430	−16.9	----	31	427	−19.3	----	25	409	−30.9	----	30	404	−37.0	----	24	413	−29.8	----	30	407	−35.4	----
8,000	28	354	−40.4	----	29	375	−24.5	----	31	373	−26.6	----	24	355	−37.8	----	30	348	−43.3	----	23	357	−37.0	----	30	352	−42.2	----
9,000	27	305	−47.3	----	29	326	−32.2	----	30	323	−34.5	----	23	306	−44.6	----	29	300	−48.8	----	20	309	−43.8	----	28	303	−48.6	----
10,000	27	262	−53.6	----	29	283	−40.0	----	30	280	−42.2	----	23	263	−51.2	----	27	257	−52.7	----	19	265	−51.0	----	27	260	−53.4	----
11,000	26	224	−57.4	----	29	243	−47.9	----	29	240	−50.0	----	18	226	−55.6	----	21	220	−53.8	----	18	227	−56.6	----	22	223	−57.4	----
12,000	21	190	−57.4	----	29	209	−55.5	----	24	206	−57.2	----	13	193	−56.1	----	15	187	−53.8	----	12	194	−58.2	----	18	190	−56.4	----
13,000	14	162	−56.6	----	28	178	−62.3	----	19	175	−62.8	----	6	165	−54.5	----	9	161	−53.3	----	11	166	−59.3	----	15	162	−55.4	----
14,000	8	138	−56.9	----	23	151	−67.7	----	13	149	−65.4	----	----	----	----	----	----	----	----	----	----	----	----	----	11	138	−56.1	----
15,000	5	117	−57.7	----	16	128	−71.0	----	7	126	−68.0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

TABLE 1A.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during December 1945*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	Oklahoma City, Okla. (391 m.)				Omaha, Nebr. (308 m.)				Phoenix, Ariz. (339 m.)				Pittsburgh, Pa. (382 m.)				Portland, Maine (20 m.)				Rapid City, S. Dak. (981 m.)				St. Louis, Mo. (171 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	972	0.9	66	31	981	−6.0	80	31	978	7.8	60	31	971	−3.3	80	31	1,012	−6.7	82	31	901	−6.4	73	31	997	−3.0	78
500	31	959	1.8	64	31	957	−6.8	81	31	959	13.5	42	31	957	−3.7	80	31	952	−6.2	74	----	----	----	----	31	957	−3.2	76
1,000	31	901	2.3	57	31	898	−6.6	76	31	904	10.8	37	31	898	−6.0	81	31	892	−7.1	69	31	899	−6.2	73	31	898	−3.4	71
1,500	31	846	1.8	46	31	842	−5.9	71	31	851	7.7	36	31	842	−7.0	77	31	837	−8.3	64	31	844	−4.5	66	31	843	−3.7	65
2,000	31	795	0.7	41	31	790	−6.1	63	31	800	4.6	35	31	789	−8.7	74	31	784	−9.9	62	31	792	−6.0	67	31	791	−4.9	58
2,500	31	747	−1.6	38	31	741	−8.4	60	31	753	2.2	33	31	740	−10.0	64	30	735	−12.3	59	31	742	−8.8	71	31	742	−6.8	47
3,000	31	702	−4.3	40	31	694	−10.8	57	31	707	−0.3	34	31	693	−11.6	60	30	688	−14.9	56	31	696	−11.7	71	31	696	−9.3	47
4,000	31	617	−10.4	47	31	609	−16.5	54	31	623	−6.1	35	29	607	−16.4	55	27	602	−20.3	56	31	610	−18.1	76	30	611	−14.9	46
5,000	31	541	−16.5	45	31	532	−23.0	----	31	547	−12.1	35	29	531	−22.1	----	27	525	−26.0	----	31	532	−24.5	----	29	534	−20.8	46
6,000	29	473	−22.7	----	31	464	−29.9	----	31	480	−19.1	41	29	463	−28.4	----	27	457	−32.3	----	31	463	−31.5	----	29	466	−27.4	----
7,000	29	412	−29.5	----	31	402	−36.8	----	31	419	−26.8	----	29	402	−34.9	----	26	395	−38.7	----	31	401	−38.6	----	29	404	−34.3	----
8,000	28	357	−36.2	----	31	347	−43.3	----	30	363	−34.5	----	29	347	−40.7	----	26	341	−44.2	----	30	346	−45.6	----	28	350	−41.3	----
9,000	28	308	−42.8	----	31	299	−48.9	----	30	314	−42.1	----	28	299	−47.0	----	26	294	−48.8	----	30	297	−51.0	----	28	302	−47.6	----
10,000	28	266	−49.1	----	30	256	−52.4	----	29	270	−49.6	----	27	257	−51.5	----	20	252	−52.2	----	30	254	−53.8	----	27	259	−52.4	----
11,000	26	228	−54.3	----	28	219	−54.1	----	28	232	−56.2	----	25	220	−55.1	----	18	214	−53.9	----	21	218	−54.2	----	25	221	−55.0	----
12,000	22	195	−57.6	----	27	187	−54.5	----	24	198	−59.9	----	20	187	−55.2	----	14	183	−53.9	----	15	187	−54.2	----	19	189	−57.4	----
13,000	20	166	−58.4	----	21	160	−53.9	----	16	169	−60.8	----	13	160	−54.5	----	12	156	−53.9	----	7	159	−50.9	----	13	162	−56.5	----
14,000	16	142	−59.0	----	11	136	−52.7	----	5	143	−61.0	----	7	135	−54.0	----	----	----	----	----	5	137	−52.4	----	5	139	−57.8	----
15,000	9	120	−59.1	----	5	117	−52.9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
16,000	8	103	−61.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
17,000	5	87	−62.2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

	St. Paul, Minn. (225 m.)				San Antonio, Tex. (240 m.)				San Juan, P. R. (15 m.)				Santa Maria, Calif. (71 m.)				Sault Ste. Marie, Mich. (221 m.)				Spokane, Wash. (598 m.)				Swan Island, W. I. (10 m.)			
Surface	31	990	−9.8	84	31	990	9.4	71	31	1,014	23.9	83	31	1,010	11.0	79	30	988	−7.6	87	31	945	−1.1	88	31	1,014	24.5	79
500	31	956	−10.9	85	31	960	10.2	64	31	959	20.7	83	31	960	11.4	64	30	953	−8.3	86	----	----	----	----	31	959	21.4	79
1,000	31	895	−10.7	81	31	904	8.9	55	31	905	17.4	83	31	904	9.3	57	30	893	−9.8	80	31	899	−1.8	86	31	905	17.9	79
1,500	31	839	−9.8	69	31	850	8.2	48	31	852	14.1	77	31	851	7.3	47	30	837	−11.7	72	31	844	−4.1	85	31	854	14.7	77
2,000	31	786	−10.4	70	31	800	6.3	43	31	804	11.7	64	31	800	4.9	42	30	784	−13.5	65	31	792	−5.8	81	31	804	12.4	69
2,500	31	737	−12.1	67	31	753	4.4	35	31	758	10.1	42	31	753	2.2	42	30	734	−15.4	65	31	743	−8.1	75	31	758	10.3	62
3,000	31	689	−14.5	63	31	707	2.4	28	31	713	7.8	----	31	707	−0.5	40	30	686	−17.8	63	31	696	−10.9	73	31	713	8.3	47
4,000	31	603	−20.1	58	31	624	−3.7	----	31	631	2.4	----	30	624	−6.0	40	30	600	−23.0	----	31	610	−17.1	72	31	632	3.2	37
5,000	31	526	−26.3	----	31	550	−9.1	----	31	557	−3.5	----	30	548	−12.2	45	30	522	−29.2	----	30	533	−23.6	----	31	557	−2.7	32
6,000	30	458	−33.0	----	31	482	−15.6	----	30	490	−9.2	----	30	480	−18.6	54	29	454	−35.6	----	30	464	−30.4	----	30	490	−8.6	32
7,000	30	396	−40.0	----	31	422	−22.3	----	30	430	−15.7	----	30	419	−25.9	----	29	392	−42.2	----	29	402	−37.4	----	28	431	−15.1	----
8,000	29	341	−46.5	----	31	367	−29.5	----	30	376	−23.0	----	30	364	−33.6	----	26	339	−47.2	----	28	347	−44.8	----	28	377	−21.7	----
9,000	28	294	−51.3	----	31	318	−37.0	----	30	327	−30.9	----	30	315	−41.4	----	20	294	−51.4	----	28	298	−51.2	----	28	328	−28.9	----
10,000	26	252	−54.0	----	30	275	−44.5	----	29	284	−39.0	----	30	271	−49.2	----	17	252	−53.6	----	27	256	−54.9	----	28	285	−36.7	----
11,000	25	216	−54.7	----	27	236	−51.8	----	28	244	−47.1	----	25	233	−55.9	----	14	217	−54.4	----	19	218	−55.6	----	27	245	−44.9	----
12,000	21	184	−54.6	----	26	202	−58.0	----	28	209	−55.4	----	22	199	−60.3	----	7	187	−56.8	----	13	186	−52.8	----	27	211	−53.2	----
13,000	13	157	−51.3	----	24	172	−61.5	----	21	179	−62.1	----	17	169	−61.1	----	----	----	----	----	9	160	−49.6	----	23	180	−61.1	----
14,000	13	135	−52.0	----	9	145	−61.8	----	10	152	−68.4	----	10	144	−62.1	----	----	----	----	----	8	137	−51.8	----	19	153	−67.4	----
15,000	6	116	−53.3	----	6	124	−64.5	----	----	----	----	----	----	----	----	----	----	----	----	----	6	117	−54.2	----	7	129	−72.9	----

Altitude (meters) m. s. l.	Tacubaya, Mexico (2,306 m.)				Tampa, Fla. (3 m.)				Tatoosh Island, Wash. (31 m.)				Toledo, Ohio (191 m.)				Washington, D. C. (25 m.)			
Surface	31	774	14.4	52	31	1,018	14.0	82	31	1,008	6.3	87	30	994	−5.1	86	30	1,015	−0.1	74
500	----	----	----	----	31	960	13.6	74	31	951	4.3	79	30	955	−5.3	82	30	957	−2.0	70
1,000	----	----	----	----	31	904	11.6	63	31	895	1.4	76	30	896	−7.4	80	30	898	−4.2	72
1,500	----	----	----	----	31	852	10.0	58	31	841	−1.0	71	30	840	−8.7	70	30	843	−5.6	69
2,000	----	----	----	----	31	802	8.1	53	31	789	−3.6	68	30	788	−10.4	65	30	790	−6.5	64
2,500	31	756	14.0	50	31	755	5.7	52	31	740	−6.4	67	30	738	−11.8	56	30	742	−7.7	59
3,000	31	712	10.7	52	31	710	3.3	44	31	694	−9.3	65	30	691	−13.5	51	30	695	−9.6	58
4,000	31	631	2.5	66	31	627	−1.6	39	30	610	−15.2	60	30	603	−17.9	49	30	610	−14.7	60
5,000	31	557	−4.2	56	31	552	−7.6	42	30	533	−22.1	----	30	529	−23.7	----	30	534	−20.1	59
6,000	31	490	−10.1	38	31	484	−13.9	37	30	465	−28.6	----	30	461	−30.4	----	30	466	−26.7	----
7,000	31	430	−16.7	----	31	424	−20.8	----	28	404	−35.1	----	30	399	−37.0	----	30	405	−32.9	----
8,000	31	376	−23.8	----	31	370	−27.6	----	27	349	−42.2	----	29	345	−42.8	----	29	350	−39.7	----
9,000	31	326	−31.3	----	31	321	−35.0	----	24	302	−48.6	----	28	297	−48.2	----	28	302	−47.0	----
10,000	30	283	−39.1	----	30	278	−42.8	----	19	258	−54.4	----	28	255	−52.7	----	28	260	−53.0	----
11,000	29	244	−46.9	----	28	238	−50.7	----	14	222	−55.8	----	27	218	−54.6	----	27	222	−57.5	----
12,000	28	209	−54.7	----	22	204	−57.1	----	9	190	−55.4	----	23	186	−54.7	----	21	189	−57.1	----
13,000	23	178	−61.6	----	17	174	−62.8	----	7	163	−54.0	----	22	159	−54.6	----	15	161	−56.6	----
14,000	9	152	−66.3	----	11	148	−65.5	----	6	140	−54.3	----	15	135	−55.1	----	10	137	−57.6	----
15,000	----	----	----	----	5	126	−68.1	----	----	----	----	----	10	115	−53.8	----	----	----	----	----
16,000	----	----	----	----	----	----	----	----	----	----	----	----	6	99	−56.8	----	----	----	----	----

[1] Data not yet received.

NOTE.—All observations scheduled between 10 p. m. and midnight, E. S. T. (0300 and 0500, G. C. T.), except at Mazatlan and Merida, where they are taken near 9 p. m., E. S. T. (0200, G. C. T.).

"Number of observations" refers to pressure only. (In a few cases temperature or humidity data may be missing for one or more levels of some observations). Relative humidity data are not published for levels having a corresponding mean temperature below −20° C.

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. For explanation of the adjustment see article entitled "Curve Method for Obtaining Monthly Means of Relative Humidity," p. 241, MONTHLY WEATHER REVIEW, December 1944.

None of the means included in these tables are based on less than 15 surface or 5 standard level observations.

Raob data for Havana, Cuba, will appear in a later issue.

TABLE 2A.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during December 1945. 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. (534 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (150 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,198 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	29	253	2.0	30	293	1.3	24	295	3.2	29	254	4.1	28	300	2.1	30	109	2.2	29	83	1.4	28	256	1.8	27	290	1.5	26	286	2.1	28	276	1.7	31	321	2.7	27	249	2.2
500	---	---	---	---	---	---	24	292	3.3	---	---	---	---	---	---	---	---	---	29	104	1.5	28	237	4.4	27	273	3.7	26	273	4.3	28	248	3.5	---	---	---	---	---	---
1,000	29	240	3.5	---	---	---	24	283	4.6	---	---	---	27	300	3.8	30	125	2.8	24	193	1.5	23	243	5.8	25	289	5.8	22	278	8.8	25	247	4.6	---	---	---	---	---	---
1,500	28	266	5.2	---	---	---	21	284	7.6	29	266	8.2	26	297	5.5	30	194	2.2	20	285	3.3	16	284	5.7	20	306	7.7	21	287	11.3	18	270	8.2	---	---	---	27	272	3.8
2,000	25	273	9.0	30	302	3.0	20	287	10.8	28	276	9.9	20	295	7.7	29	234	3.9	18	293	6.4	12	294	5.7	15	308	10.3	21	274	13.9	15	284	11.8	31	311	3.4	27	277	5.2
2,500	25	278	11.2	30	301	6.8	16	284	13.5	27	284	10.8	17	293	8.8	25	261	6.8	16	280	8.0	---	---	---	13	304	11.8	19	276	14.0	13	285	12.2	31	300	4.6	27	281	7.4
3,000	25	276	11.8	29	300	11.0	12	275	16.6	26	287	11.9	15	290	9.1	22	270	8.2	15	280	10.2	---	---	---	12	308	14.4	19	274	16.2	11	280	14.2	29	297	8.0	27	285	10.8
4,000	25	285	14.6	28	298	15.6	---	---	---	20	297	14.7	13	296	11.7	13	311	12.6	13	280	13.2	---	---	---	11	292	17.4	18	267	21.7	---	---	---	27	302	12.0	23	287	15.8
5,000	22	282	18.1	27	294	19.9	---	---	---	15	300	15.7	11	295	14.1	10	320	17.0	12	292	15.9	---	---	---	10	292	17.8	11	263	23.2	---	---	---	24	300	15.8	12	281	13.6
6,000	15	289	18.1	25	288	23.0	---	---	---	10	307	18.4	10	293	14.3	---	---	---	10	272	17.8	---	---	---	---	---	---	10	256	27.0	---	---	---	22	290	19.1	---	---	---
8,000	11	286	23.6	19	293	24.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	11	276	28.3	---	---	---
10,000	---	---	---	12	295	24.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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. (416 m.)			Miami, Fla. (12 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	353	0.8	28	324	0.8	19	277	2.5	29	247	2.6	26	14	1.1	25	271	2.3	31	70	1.0	28	206	1.0	24	352	0.1	31	177	1.5	20	332	2.3	25	233	2.0	26	301	4.9
500	---	---	---	---	---	---	19	284	4.4	---	---	---	26	294	1.8	25	277	3.7	---	---	---	28	243	2.6	24	119	0.6	31	194	1.6	20	305	2.6	25	245	2.6	26	296	5.8
1,000	---	---	---	---	---	---	19	291	6.4	29	256	6.0	25	263	4.1	21	278	4.7	31	66	1.4	26	270	5.6	24	162	3.7	30	221	2.5	17	298	3.4	22	266	5.6	23	313	8.0
1,500	---	---	---	28	313	0.9	18	296	10.3	29	274	9.9	23	264	7.9	16	272	8.9	31	309	0.4	24	285	7.7	22	199	5.6	30	245	3.8	17	292	6.6	20	282	10.0	22	307	9.6
2,000	31	298	0.7	28	284	0.9	18	293	12.9	27	284	10.4	21	265	10.8	15	277	10.6	31	283	2.4	23	289	11.0	19	215	7.2	26	250	6.2	16	281	10.8	18	277	13.1	18	294	11.0
2,500	31	258	1.9	24	242	2.5	16	291	14.9	25	288	12.1	20	262	12.7	12	276	12.8	29	292	3.9	21	298	12.6	15	217	6.4	24	239	7.3	15	288	12.8	16	279	15.0	14	289	10.8
3,000	28	284	4.8	23	256	5.5	15	287	16.7	19	286	12.2	19	269	14.2	---	---	---	27	305	6.2	20	297	15.0	13	234	6.3	24	255	8.3	12	285	14.8	14	273	16.2	---	---	---
4,000	23	299	10.0	20	286	9.8	11	285	23.7	---	---	---	12	269	15.6	---	---	---	27	295	10.1	15	285	20.2	---	---	---	22	254	10.9	10	277	17.3	10	273	21.8	---	---	---
5,000	20	304	15.4	16	290	14.0	---	---	---	---	---	---	---	---	---	---	---	---	26	294	13.4	12	292	25.6	---	---	---	21	256	13.0	---	---	---	---	---	---	---	---	---
6,000	19	297	17.8	12	292	17.8	---	---	---	---	---	---	---	---	---	---	---	---	23	301	15.5	---	---	---	---	---	---	21	258	14.7	---	---	---	---	---	---	---	---	---
8,000	12	310	22.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	16	297	23.4	---	---	---	---	---	---	13	264	20.2	---	---	---	---	---	---	---	---	---
10,000	11	307	25.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 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. (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	29	172	0.9	26	310	2.4	26	327	2.5	31	179	0.3	29	345	3.7	27	290	1.7	26	282	2.2	29	335	1.1	29	281	3.0	26	5	0.9	28	124	0.8	28	191	0.5	24	289	2.2
500	29	212	1.7	26	306	2.5	26	309	3.0	31	231	0.3	---	---	---	27	272	4.0	26	292	2.1	29	335	0.9	29	284	2.0	26	335	0.7	28	183	3.5	---	---	---	24	294	5.6
1,000	27	235	1.4	26	290	3.5	24	286	4.5	31	292	0.5	29	342	3.8	22	267	5.9	23	274	4.7	25	304	2.1	27	279	0.6	25	280	1.9	25	195	5.2	28	199	3.2	23	301	7.8
1,500	25	266	2.7	26	291	7.0	20	277	8.6	31	287	1.1	29	306	7.3	21	279	8.2	19	294	7.3	24	290	5.0	27	292	1.2	17	305	2.2	19	194	5.1	22	222	6.3	22	299	8.6
2,000	21	282	3.9	26	296	9.6	17	286	11.1	30	266	2.2	28	301	9.3	20	282	9.6	19	295	8.9	24	283	8.0	25	300	2.5	16	298	4.6	15	189	3.8	19	241	7.1	20	292	10.5
2,500	20	311	6.4	24	292	11.2	16	283	10.7	29	285	4.0	23	301	9.5	17	286	11.7	17	306	11.7	24	280	11.3	23	312	4.8	10	321	5.8	13	217	3.2	14	263	7.3	19	289	13.6
3,000	18	299	6.8	24	292	12.0	16	288	13.0	28	292	6.0	20	305	11.0	16	284	15.7	15	304	12.6	24	283	14.0	23	311	6.0	---	---	---	11	300	2.2	13	269	9.4	18	285	16.1
4,000	17	297	8.8	23	288	14.8	14	291	15.3	27	294	10.1	15	296	13.5	16	282	20.0	---	---	---	23	274	17.7	20	305	10.1	---	---	---	---	---	---	---	---	---	16	279	22.0
5,000	14	295	10.2	22	288	18.9	11	289	15.4	25	294	13.2	14	295	15.0	15	273	24.4	---	---	---	22	280	20.6	16	303	12.5	---	---	---	---	---	---	---	---	---	10	269	24.6
6,000	13	292	12.3	20	288	22.1	10	290	18.3	23	291	16.7	---	---	---	13	272	27.1	---	---	---	19	271	24.8	14	295	14.6	---	---	---	---	---	---	---	---	---	---	---	---
8,000	---	---	---	---	---	---	---	---	---	17	285	20.9	---	---	---	---	---	---	---	---	---	---	---	---	11	289	18.3	---	---	---	---	---	---	---	---	---	---	---	---
10,000	---	---	---	---	---	---	---	---	---	10	294	25.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 3A.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during December 1945*

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]	47.3	NW. WNW.	2,097 2,309	13 18	Portland, Maine Richmond, Va	50.0	WSW.	4,866	9	Toledo, Ohio	77.0	WNW.	9,262	12	Columbus, Ohio.
East-Central [2]	36.8	W.	2,004	26	Lynchburg, Va	55.5	WNW.	3,851	21	Greensboro, N. C	80.8	SW.	7,382 12,496	31 8	Hatteras, N. C.
Southeast [3]	43.0	W.	2,189	26	Atlanta, Ga	57.6	W.	4,421	16	Charleston, S. C	68.0	W.	11,316	12	Charleston, S. C.
North-Central [4]	36.9	S.	1,188	24	Muskegon, Mich	44.4	NW.	4,630	20	St. Paul, Minn	72.2	N.	9,382	3	Rapid City, S. Dak.
Central [5]	34.8	NW.	2,437	16	Moline, Ill	44.0	NW.	5,000	31	Wichita, Kans	81.2	WSW.	7,018	14	Springfield, Ill.
South-Central [6]	39.1	N.	1,897	31	Brownsville, Tex	65.0	WNW.	4,500	13	Big Spring, Tex	83.0	W.	13,229	7	Waco, Tex.
Northwest [7]	35.8	WNW.	1,311	7	Billings, Mont	52.0	NW.	3,586	19	Butte, Mont	62.0	WNW.	14,051	1	Missoula, Mont.
West-Central [8]	44.8	SSW.	2,052	21	Oakland, Calif	62.2	WSW.	3,801	28	Reno, Nev	78.0	W.	8,287	8	Denver, Colo.
Southwest [9]	45.2	SE.	1,063	21	Santa Maria, Calif	58.2	W.	4,498	26	El Paso, Tex	71.5	WNW.	11,232	17	Raton, N. Mex.

[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.

AEROLOGICAL OBSERVATIONS FOR THE YEAR 1945

TABLE 1B.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during year 1945*

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL

Altitude (meters) m. s. l.	Albany, N. Y. (93 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	358	1,005	7.1	80	354	837	14.7	34	365	1,017	19.6	84	357	983	15.2	76	363	926	17.6	52	357	955	4.4	73	360	916	11.2	57
500	358	956	6.5	74					365	961	18.6	69	357	961	15.9	68												
1,000	358	900	4.3	74					365	906	16.2	61	357	906	13.8	65	363	902	17.9	47	357	899	5.1	63	360	901	12.0	51
1,500	358	846	2.4	71					365	854	13.7	58	356	853	11.5	62	363	851	15.6	44	357	845	3.2	60	360	849	9.5	48
2,000	358	795	0.2	67	354	800	13.4	33	365	804	11.3	52	355	803	9.2	55	363	801	12.9	41	357	794	1.0	59	360	798	6.1	50
2,500	358	747	−2.0	62	354	753	9.9	35	364	758	8.9	46	354	756	6.7	50	363	755	9.8	39	357	746	−1.8	59	360	751	2.0	52
3,000	358	701	−4.3	59	354	709	6.1	39	364	713	6.4	46	354	711	4.2	46	363	710	6.7	37	357	700	−4.6	58	360	705	−1.1	55
4,000	354	616	−9.3	53	353	626	−1.4	44	359	631	1.0		347	629	−1.2	44	361	628	0.8		353	616	−10.4	57	358	622	−7.5	55
5,000	351	541	−15.1		349	552	−8.6		354	556	−4.9		341	554	−7.2		357	554	−6.6		349	540	−16.8	54	355	546	−14.1	54
6,000	347	473	−21.4		343	484	−15.5		350	489	−11.4		337	486	−13.6		350	486	−13.3		345	472	−23.5		354	478	−20.8	
7,000	344	412	−28.0		336	424	−22.3		345	429	−18.0		334	426	−20.5		344	426	−20.1		341	411	−30.4		352	416	−28.0	
8,000	341	358	−34.8		334	369	−29.4		344	374	−24.9		330	371	−27.7		335	372	−27.3		334	356	−37.8		347	362	−35.0	
9,000	338	310	−41.2		332	320	−36.8		333	325	−32.3		321	322	−34.9		326	322	−34.5		321	307	−44.5		325	312	−42.1	
10,000	331	267	−47.0		326	276	−43.8		323	282	−40.0		309	279	−42.1		317	279	−41.8		302	264	−49.9		304	269	−48.4	
11,000	317	229	−51.7		318	238	−50.1		315	243	−47.7		292	240	−49.0		308	240	−48.7		280	227	−53.1		278	231	−53.4	
12,000	288	196	−54.7		292	204	−54.8		306	208	−54.0		284	206	−54.7		292	206	−54.4		252	194	−54.0		226	197	−55.6	
13,000	267	167	−56.4		253	174	−57.9		278	178	−59.4		256	176	−58.5		269	176	−58.5		205	166	−54.2		179	170	−56.0	
14,000	201	143	−57.3		189	149	−60.6		233	151	−63.7		210	150	−61.8		216	150	−61.8		163	142	−54.8					
15,000	136	122	−58.5						155	129	−67.3						124	128	−65.4									

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	364	1,013	22.3	84	357	990	7.4	80	359	991	2.9	84	356	1,017	16.5	87	353	837	8.7	57	362	924	11.1	65	360	880	19.1	33
500	364	958	20.4	77	357	957	7.2	74	359	954	3.0	77	356	961	17.1	70												
1,000	364	904	18.6	64	357	900	4.9	72	359	897	1.2	75	356	906	14.6	65					362	901	12.6	57				
1,500	364	852	16.6	54	357	846	2.6	68	359	843	−0.8	73	356	854	12.1	62					362	849	11.2	51	360	850	18.8	31
2,000	364	803	14.6	47	357	795	0.2	64	359	791	−2.8	70	356	804	9.7	52	353	799	9.0	48	361	799	8.9	47	360	801	15.1	33
2,500	364	757	12.2	40	357	747	−2.0	60	357	743	−5.0	65	356	757	7.4	52	353	752	5.9	48	361	752	6.2	44	360	755	11.5	34
3,000	364	713	9.2	37	357	701	−4.3	56	357	696	−7.2	61	356	712	4.9	48	353	707	2.4	50	361	707	3.1	43	360	711	7.7	36
4,000	361	631	2.9		350	617	−9.5	53	357	612	−12.2	57	348	629	−0.5		353	623	−4.6	56	360	624	−3.3	43	360	629	0.5	40
5,000	358	557	−3.7		342	541	−15.3		349	536	−18.1		338	554	−6.3		350	548	−11.8	58	356	549	−10.0	42	358	554	−6.3	
6,000	352	490	−10.3		327	474	−21.5		346	468	−24.4		334	487	−12.6		343	480	−18.8		356	482	−16.6		356	487	−13.2	
7,000	351	436	−17.2		317	413	−28.4		343	407	−31.2		318	427	−19.4		336	419	−25.9		354	421	−23.6		348	426	−20.0	
8,000	346	375	−24.4		308	358	−35.1		339	353	−38.2		303	373	−26.5		326	365	−33.2		352	366	−30.8		341	372	−27.3	
9,000	342	326	−31.9		270	309	−41.9		333	305	−44.5		293	323	−33.9		315	315	−40.6		344	317	−38.0		333	323	−34.6	
10,000	338	283	−39.4		243	266	−47.6		319	262	−49.6		277	280	−41.4		293	272	−47.2		334	274	−44.9		325	279	−42.0	
11,000	330	244	−46.9		202	229	−51.8		296	225	−52.7		253	241	−48.4		271	234	−52.5		324	235	−51.0		316	240	−49.1	
12,000	318	209	−53.9		160	195	−54.3		259	192	−54.1		225	207	−54.7		231	200	−55.5		307	202	−55.0		280	206	−54.4	
13,000	289	178	−59.5		125	167	−55.4		198	164	−54.2		182	176	−58.7		187	171	−57.1		271	172	−57.6		243	176	−58.4	
14,000	247	152	−64.2						148	141	−55.0										221	147	−59.7		179	151	−62.4	
15,000	163	129	−68.4																		145	126	−62.3					

Altitude (meters) m. s. l.	Ely, Nev. (1,908 m.)				Glasgow, Mont. (648 m.)				Grand Junction, Colo. (1,414 m.)				Great Falls, Mont. (1,128 m.)				Greensboro, N. C. (273 m.)				Hatteras, N. C. (3 m.)				Huntington, W. Va. (172 m.)			
Surface	365	809	6.6	61	352	938	5.2	64	353	857	12.8	48	362	885	7.5	55	350	986	12.6	80	307	1,018	16.5	84	356	998	10.6	83
500																	350	959	13.6	70	307	960	15.4	72	356	960	12.0	71
1,000					352	899	6.1	59									350	904	11.4	67	307	905	12.7	66	356	903	9.5	70
1,500					352	845	4.0	57	353	849	12.4	45	362	849	6.6	51	350	851	8.7	66	306	853	10.2	62	356	850	6.9	69
2,000	365	800	7.6	56	352	794	1.2	59	353	799	9.9	43	362	796	3.5	53	350	801	6.3	62	305	803	7.8	59	356	800	4.5	66
2,500	365	753	5.6	50	352	746	−2.0	62	353	752	6.4	46	362	748	0.0	57	350	754	3.7	53	304	756	5.4	54	356	752	2.2	61
3,000	365	708	1.9	53	351	700	−5.2	63	353	708	2.6	50	362	702	−3.6	61	349	708	1.2	53	301	710	2.8	52	356	706	−0.1	56
4,000	365	624	−4.8	55	346	616	−11.2	61	351	624	−4.9	56	362	618	−10.2	62	346	625	−4.1	47	295	627	−2.3		353	623	−5.2	50
5,000	364	549	−11.5		341	540	−17.5		350	549	−11.8	52	360	542	−16.7		342	550	−9.9		289	552	−8.1		351	548	−10.9	45
6,000	363	481	−18.4		334	472	−24.1		344	480	−18.7		357	473	−23.4		336	482	−16.4		285	485	−14.5		348	480	−17.2	
7,000	359	420	−25.6		324	410	−31.0		344	420	−25.7		354	412	−30.6		335	422	−23.3		280	424	−21.3		347	420	−23.9	
8,000	355	365	−32.6		316	355	−38.1		334	365	−33.0		346	357	−37.9		329	367	−30.6		272	370	−28.3		342	365	−30.9	
9,000	340	316	−39.9		307	307	−44.8		322	316	−40.2		336	308	−44.7		320	318	−37.8		261	321	−35.6		341	316	−38.0	
10,000	320	273	−46.9		286	264	−50.0		310	272	−46.8		324	265	−50.4		306	275	−44.9		248	277	−42.9		335	273	−44.8	
11,000	293	234	−52.6		255	226	−52.9		281	234	−52.0		297	227	−54.1		290	236	−51.3		228	238	−50.3		326	235	−51.0	
12,000	255	201	−56.5		213	194	−53.7		245	200	−55.0		248	194	−55.2		271	202	−56.2		197	204	−55.5		312	201	−55.4	
13,000					172	167	−53.4		190	171	−56.8		206	166	−55.5		231	172	−59.5		172	174	−59.1		268	171	−58.2	
14,000					134	143	−54.1		136	146	−58.7		151	143	−55.8		191	146	−62.1		135	149	−62.1		220	146	−60.1	
15,000																									162	125	−62.2	

TABLE 1B.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during year 1945*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	International Falls, Minn. (343 m.)				Joliet, Ill. (178 m.)				Lake Charles, La. (5 m.)				Little Rock, Ark. (79 m.)				Louisville, Ky. (166 m.)				Mazatlan, Mexico (79 m.)				Medford, Oreg. (409 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	362	973	2.0	79	362	995	7.7	82	359	1,016	19.0	86	363	1,007	15.5	78	364	998	11.9	76	343	1,004	23.9	79	356	969	14.5	60
500	362	955	2.2	76	362	957	8.2	73	359	960	18.1	72	363	959	15.3	67	364	958	12.0	68	343	957	23.4	54	356	959	14.3	59
1,000	362	897	0.3	73	362	901	6.4	69	359	905	15.9	63	363	903	12.9	66	364	903	9.6	67	343	904	22.0	45	356	903	11.9	58
1,500	362	843	−1.4	70	362	847	4.6	63	359	853	13.8	58	363	851	10.9	61	364	850	7.3	64	343	853	19.4	44	356	850	8.6	61
2,000	362	791	−3.2	66	362	796	2.6	58	359	804	11.6	51	362	801	8.6	55	364	799	5.2	58	343	804	16.5	40	356	800	5.3	63
2,500	362	743	−5.5	63	362	749	0.6	53	358	757	9.4	46	362	754	6.4	49	364	752	3.0	53	343	758	13.5	39	356	753	2.3	61
3,000	362	696	−7.8	59	360	703	−2.0	50	358	712	6.9	42	362	709	3.8	45	364	706	0.5	49	343	714	10.3	42	356	707	−0.5	57
4,000	361	612	−13.3	56	357	619	−7.5	47	355	630	1.2	----	359	627	−1.8	40	358	623	−4.8	46	328	633	3.6	----	351	623	−6.4	52
5,000	357	536	−19.2	54	353	544	−13.4	----	350	556	−4.9	----	357	552	−8.1	41	354	548	−10.7	----	318	558	−3.1	----	345	548	−12.4	49
6,000	356	468	−25.6	----	350	476	−19.8	----	347	489	−11.5	----	354	484	−14.7	----	350	481	−17.0	----	312	491	−9.6	----	331	480	−19.0	----
7,000	350	407	−32.4	----	346	416	−26.6	----	347	428	−18.4	----	353	424	−21.6	----	346	420	−23.8	----	297	431	−16.3	----	324	419	−26.2	----
8,000	349	352	−39.1	----	338	361	−33.8	----	343	374	−25.6	----	348	369	−28.8	----	336	365	−31.0	----	285	377	−23.5	----	310	364	−33.9	----
9,000	342	304	−45.1	----	328	312	−40.6	----	340	325	−32.9	----	345	320	−36.0	----	315	317	−38.2	----	275	328	−31.1	----	296	315	−41.4	----
10,000	331	261	−49.8	----	313	269	−47.0	----	331	281	−40.4	----	343	277	−43.2	----	296	274	−45.0	----	260	284	−38.8	----	292	271	−48.2	----
11,000	301	224	−52.4	----	287	231	−51.8	----	316	242	−47.9	----	334	238	−50.0	----	273	235	−51.2	----	226	245	−46.4	----	280	233	−53.8	----
12,000	272	192	−53.0	----	260	197	−54.6	----	293	208	−54.3	----	318	201	−55.1	----	238	201	−55.4	----	----	----	----	----	248	199	−56.7	----
13,000	225	164	−52.5	----	218	169	−56.1	----	268	177	−59.4	----	287	174	−58.6	----	199	173	−58.1	----	----	----	----	----	206	169	−57.4	----
14,000	178	141	−53.3	----	169	145	−57.8	----	212	152	−63.6	----	224	148	−61.4	----	----	----	----	----	----	----	----	----	160	145	−57.9	----
15,000	----	----	----	----	----	----	----	----	143	129	−67.2	----	148	126	−64.1	----	----	----	----	----	----	----	----	----	101	124	−59.5	----

Altitude (meters) m. s. l.	Merida, Mexico (22 m.)				Miami, Fla. (4 m.)				Nashville, Tenn. (180 m.)				North Platte, Nebr. (849 m.)				Oakland, Calif. (2 m.)				Ogden, Utah (1,355 m.)				Oklahoma City, Okla. (391 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	341	1,011	26.2	71	364	1,018	22.3	83	365	996	14.5	74	355	918	8.2	73	360	1,016	14.0	75	361	864	9.4	60	350	969	14.1	72
500	341	958	23.6	68	364	961	20.6	85	365	959	14.0	68	----	----	----	----	360	958	13.2	63	----	----	----	----	350	957	14.6	68
1,000	339	905	20.7	68	364	907	17.7	73	365	904	11.5	66	355	901	8.3	69	360	903	13.1	48	----	----	----	----	350	902	13.4	61
1,500	339	854	17.5	68	364	856	15.2	66	365	851	9.2	63	355	848	7.3	60	360	850	11.0	41	361	849	10.4	52	349	850	11.7	56
2,000	339	805	14.5	65	364	806	13.0	58	365	801	7.0	57	355	798	5.8	55	360	800	8.3	38	361	799	7.6	50	349	800	9.7	48
2,500	339	758	11.8	57	364	760	10.6	54	364	754	4.8	51	355	750	3.6	52	360	753	5.5	37	361	752	3.9	54	349	754	7.1	43
3,000	337	714	9.6	----	364	715	8.2	49	364	708	2.2	49	355	705	0.6	51	360	708	2.6	32	361	707	0.2	57	348	708	4.3	40
4,000	331	633	4.2	----	360	633	2.8	----	349	625	−3.0	----	355	622	−5.5	51	357	625	−3.9	----	360	623	−6.5	58	343	626	−1.7	----
5,000	316	559	−1.9	----	356	558	−3.1	----	343	550	−9.2	----	351	547	−11.8	49	356	549	−10.5	----	360	547	−13.1	53	337	551	−8.2	----
6,000	304	492	−8.3	----	353	491	−9.2	----	336	483	−15.7	----	351	479	−18.3	----	354	482	−17.1	----	360	479	−19.9	----	332	484	−14.9	----
7,000	298	432	−15.0	----	349	432	−15.8	----	330	422	−22.6	----	349	418	−25.2	----	350	421	−24.2	----	358	418	−27.0	----	329	423	−22.0	----
8,000	294	378	−22.1	----	343	377	−22.9	----	321	368	−29.7	----	346	363	−32.3	----	346	366	−31.5	----	356	363	−34.3	----	321	369	−29.3	----
9,000	288	329	−29.6	----	337	328	−30.3	----	315	319	−37.0	----	339	315	−39.3	----	336	317	−38.8	----	348	313	−41.4	----	315	320	−36.6	----
10,000	282	285	−37.3	----	332	285	−37.9	----	302	276	−44.0	----	329	271	−45.6	----	329	274	−45.6	----	343	271	−47.9	----	307	276	−43.8	----
11,000	276	246	−45.0	----	321	245	−45.6	----	288	237	−50.6	----	313	233	−50.5	----	310	235	−51.2	----	326	232	−53.2	----	296	238	−50.4	----
12,000	266	211	−52.4	----	305	211	−53.0	----	261	203	−55.4	----	291	200	−53.6	----	274	202	−55.0	----	299	199	−56.3	----	272	203	−55.6	----
13,000	227	181	−59.1	----	278	180	−59.5	----	225	173	−58.4	----	258	171	−54.8	----	221	172	−57.0	----	256	170	−57.3	----	234	174	−58.7	----
14,000	153	154	−65.6	----	234	153	−64.7	----	----	----	----	----	220	147	−56.3	----	----	----	----	----	211	145	−58.7	----	185	148	−61.1	----
15,000	----	----	----	----	141	130	−69.1	----	----	----	----	----	----	----	----	----	----	----	----	----	126	124	−59.8	----	124	126	−63.5	----

Altitude (meters) m. s. l.	Omaha, Nebr. (308 m.)				Phoenix, Ariz. (339 m.)				Pittsburgh, Pa. (382 m.)				Portland, Oreg. (20 m.)				Rapid City, S. Dak. (981 m.)				St. Louis, Mo. (171 m.)				St. Paul, Minn. (225 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	348	979	10.4	72	365	972	20.5	44	357	972	9.7	75	353	1,013	5.5	83	358	902	6.3	68	362	996	11.8	75	364	988	6.4	74
500	348	957	10.1	68	365	955	23.3	32	357	959	9.6	73	353	956	6.6	69	----	----	----	----	362	958	11.0	69	364	956	5.6	70
1,000	348	901	8.3	65	365	901	20.5	30	357	902	7.5	70	353	899	4.7	67	358	900	6.6	67	362	902	9.2	66	364	899	3.6	69
1,500	348	848	6.6	63	365	850	16.7	32	357	849	5.0	68	353	845	2.6	67	358	847	6.8	56	361	849	7.4	63	364	845	2.0	64
2,000	348	797	4.6	58	365	801	12.8	35	357	798	2.6	65	353	794	0.4	64	358	796	4.0	57	361	799	5.5	56	364	794	0.0	60
2,500	348	750	2.3	53	365	754	8.9	37	357	750	0.2	60	351	746	−1.7	61	358	749	1.0	59	361	751	3.4	51	364	746	−2.1	54
3,000	347	704	−0.5	51	365	710	5.4	37	357	704	−2.0	56	351	700	−4.2	58	358	703	−2.1	59	361	706	0.7	50	364	700	−4.6	52
4,000	344	621	−6.2	49	363	627	−1.4	37	352	620	−7.2	52	345	616	−9.4	55	356	619	−8.4	59	358	623	−5.0	47	359	616	−10.2	51
5,000	342	546	−12.5	48	357	552	−8.0	----	350	545	−12.7	----	342	541	−15.3	49	353	544	−14.9	----	352	547	−11.2	47	356	540	−16.3	----
6,000	342	478	−19.1	----	355	485	−14.8	----	348	477	−18.9	----	340	473	−21.5	----	351	475	−21.7	----	349	480	−17.7	----	353	472	−22.8	----
7,000	338	417	−26.1	----	352	424	−21.9	----	346	417	−25.6	----	335	412	−28.3	----	345	414	−28.8	----	342	419	−24.7	----	352	411	−29.8	----
8,000	335	362	−33.2	----	346	369	−29.3	----	341	362	−32.4	----	331	358	−35.1	----	340	359	−36.1	----	334	364	−31.8	----	345	357	−36.8	----
9,000	335	314	−40.1	----	341	320	−36.6	----	335	313	−39.1	----	317	309	−41.6	----	332	310	−43.1	----	328	316	−39.0	----	342	308	−43.5	----
10,000	326	271	−46.3	----	328	277	−43.6	----	330	271	−45.4	----	305	266	−47.3	----	322	267	−49.0	----	313	273	−45.8	----	332	265	−49.2	----
11,000	320	232	−51.6	----	312	238	−50.2	----	320	232	−50.9	----	293	229	−51.9	----	291	229	−53.1	----	294	234	−51.6	----	325	227	−52.8	----
12,000	286	199	−55.0	----	272	204	−55.2	----	294	199	−54.4	----	253	196	−55.0	----	249	196	−55.1	----	262	200	−55.8	----	298	194	−54.8	----
13,000	250	170	−56.5	----	224	175	−58.5	----	250	170	−55.5	----	213	167	−56.3	----	207	167	−55.6	----	211	171	−57.9	----	263	166	−55.0	----
14,000	182	146	−58.0	----	169	149	−60.8	----	198	145	−58.1	----	151	143	−57.2	----	155	143	−57.0	----	134	146	−59.3	----	213	142	−55.7	----
15,000	130	125	−59.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	150	121	−56.7	----

TABLE 1B.—*Mean free-air barometric pressure in millibars, temperature in degrees centigrade, and relative humidity in percent, obtained by radiosondes during year 1945*—Continued

STATIONS AND ELEVATIONS IN METERS ABOVE SEA LEVEL—Continued

Altitude (meters) m. s. l.	San Antonio, Tex. (240 m.)				San Juan, P. R. (15 m.)				Santa Maria, Calif. (71 m.)				Sault Ste Marie, Mich. (221 m.)				Spokane, Wash. (598 m.)				Swan Island, W. I. (10 m.)				Tacubaya, Mexico (2,306 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	362	987	19.8	72	362	1,014	24.7	83	365	1,008	12.3	82	349	989	2.8	84	362	944	10.4	66	362	1,013	25.5	82	362	774	16.0	57
500	362	957	19.7	67	362	960	21.4	81	365	958	13.1	71	349	955	3.5	76	----	----	----	----	362	958	22.3	82	----	----	----	----
1,000	362	904	17.3	66	362	906	18.2	79	365	903	13.9	50	349	898	1.6	71	362	900	9.1	60	362	905	19.4	75	----	----	----	----
1,500	362	852	15.0	61	362	854	15.3	74	365	851	12.1	44	349	844	−0.6	68	362	847	5.7	62	362	854	16.5	69	----	----	----	----
2,000	362	803	13.0	51	361	805	12.9	64	365	801	9.4	39	349	792	−2.6	62	362	796	2.4	63	362	804	13.9	62	----	----	----	----
2,500	362	756	10.6	43	361	758	10.9	52	364	754	6.6	33	349	744	−4.7	58	362	748	−1.0	64	362	758	11.9	54	362	757	15.0	56
3,000	362	712	8.0	37	361	714	8.6	----	364	709	3.6	32	349	697	−7.1	55	362	702	−4.3	63	361	714	9.3	46	362	713	11.5	57
4,000	360	630	1.8	----	358	632	3.4	----	359	626	−2.5	----	347	613	−12.2	----	361	618	−10.3	59	361	632	4.1	----	362	632	4.0	66
5,000	359	556	−4.6	----	349	558	−2.3	----	357	551	−9.0	----	345	537	−18.1	----	356	542	−16.6	----	358	558	−1.7	----	361	558	−2.7	65
6,000	358	489	−11.2	----	344	491	−8.5	----	354	483	−15.7	----	342	469	−24.5	----	355	474	−23.2	----	354	492	−7.8	----	351	491	−8.6	59
7,000	356	429	−18.0	----	341	432	−15.1	----	353	423	−22.9	----	339	408	−31.5	----	354	412	−30.1	----	351	432	−14.3	----	344	431	−14.7	----
8,000	353	374	−25.2	----	334	379	−22.2	----	347	368	−30.3	----	331	354	−38.3	----	351	358	−37.3	----	345	378	−21.1	----	336	377	−21.7	----
9,000	351	325	−32.7	----	330	328	−29.6	----	339	319	−37.7	----	313	305	−44.6	----	345	309	−44.3	----	343	329	−28.4	----	330	328	−29.1	----
10,000	347	281	−40.2	----	320	285	−37.2	----	331	275	−44.8	----	300	263	−49.5	----	330	265	−50.3	----	339	286	−36.2	----	319	285	−36.6	----
11,000	340	242	−47.6	----	315	246	−44.9	----	313	237	−51.2	----	274	226	−52.5	----	297	228	−54.1	----	332	247	−44.2	----	306	246	−44.5	----
12,000	328	208	−54.2	----	305	211	−52.6	----	295	203	−56.1	----	244	193	−53.8	----	256	195	−55.0	----	329	212	−52.2	----	268	212	−52.1	----
13,000	310	177	−59.0	----	279	180	−59.7	----	260	173	−58.6	----	209	165	−53.6	----	204	166	−54.8	----	309	181	−59.9	----	185	181	−59.2	----
14,000	247	151	−62.9	----	227	153	−66.3	----	221	147	−60.8	----	179	142	−54.5	----	160	143	−54.9	----	272	154	−66.4	----	----	----	----	----
15,000	178	128	−66.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	179	130	−71.9	----	----	----	----	----

Altitude (meters) m. s. l.	Tampa, Fla. (3 m.)				Tatoosh Island, Wash. (31 m.)				Toledo, Ohio (191 m.)				Washington, D. C. (25 m.)			
Surface	335	1,018	20.2	82	365	1,012	9.0	87	361	994	8.0	80	363	1,015	12.8	73
500	335	961	19.6	73	365	957	7.7	77	361	957	8.4	72	363	959	11.2	66
1,000	335	907	17.1	67	365	900	5.7	71	361	901	6.1	70	363	903	8.8	65
1,500	334	855	14.5	64	365	847	3.4	67	361	847	3.9	66	363	850	6.4	64
2,000	334	806	11.8	60	365	796	0.9	61	361	796	1.9	61	363	799	4.0	61
2,500	333	759	9.4	55	365	748	−1.7	56	361	748	−0.3	56	363	752	1.7	57
3,000	333	714	6.9	49	365	702	−4.5	53	361	703	−2.7	53	362	706	−0.8	53
4,000	331	632	1.5	----	360	617	−10.2	51	357	619	−8.0	49	361	622	−6.0	49
5,000	326	557	−4.6	----	356	541	−16.5	----	351	543	−13.9	40	360	547	−11.7	43
6,000	321	490	−10.8	----	350	473	−23.0	----	349	476	−20.3	----	356	479	−18.1	----
7,000	318	430	−17.4	----	344	412	−29.8	----	346	415	−27.0	----	354	419	−24.7	----
8,000	308	375	−24.6	----	335	358	−37.0	----	340	360	−33.8	----	347	364	−31.8	----
9,000	302	326	−32.1	----	314	309	−43.7	----	333	312	−40.5	----	337	315	−38.8	----
10,000	289	283	−39.7	----	280	266	−49.9	----	321	269	−46.6	----	320	272	−45.6	----
11,000	271	243	−47.3	----	232	229	−53.7	----	308	231	−51.5	----	308	234	−51.6	----
12,000	255	209	−54.3	----	196	195	−54.9	----	287	198	−54.4	----	281	200	−55.6	----
13,000	225	178	−60.3	----	----	----	----	----	248	169	−55.7	----	238	171	−58.2	----
14,000	179	152	−64.9	----	----	----	----	----	198	144	−57.1	----	181	146	−60.7	----
15,000	104	128	−69.3	----	----	----	----	----	149	123	−58.3	----	----	----	----	----

NOTE.—All data for Table 1 and Table 2 are based on observations for 12 months. Data are not published for any level where observations were missing for more than 1 month in the same season or more than 2 months during the year. At some stations the data for higher levels were not available during 1 or 2 months.

TABLE 2B.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during year 1945. 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. (534 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (150 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,198 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	350	158	2.3	364	242	2.4	333	264	1.8	352	269	1.8	353	287	2.2	355	321	2.0	354	125	4.5	330	254	3.5	337	242	1.4	342	181	1.0	339	256	1.1	356	9	1.3	350	238	2.5
500							333	266	2.0										354	136	5.4	330	251	5.2	337	232	3.5	342	206	2.6	339	245	2.7						
1,000	350	186	3.2				326	262	2.6				349	291	3.2	355	316	2.1	309	153	4.3	293	250	6.9	320	252	5.0	320	244	3.1	309	247	4.2						
1,500	339	211	3.6				311	269	3.7	352	266	4.0	323	288	4.4	355	292	2.4	290	175	3.0	245	257	7.8	283	267	6.6	303	268	4.3	284	258	6.0				350	238	2.9
2,000	319	233	5.0	364	242	3.0	288	274	5.1	344	276	5.2	289	287	6.4	340	277	3.6	238	214	2.0	206	266	8.4	234	276	8.6	284	274	6.0	243	268	7.4	356	360	1.3	350	245	3.2
2,500	297	245	6.3	361	253	3.6	247	279	6.2	330	278	6.8	257	286	8.2	320	273	4.6	222	233	2.0				197	281	9.9	265	276	6.9	203	271	8.8	341	309	1.2	345	252	4.0
3,000	276	255	7.6	356	263	4.8	215	277	6.9	306	278	8.5	238	285	9.6	293	270	5.4	210	251	2.5				148	284	11.2	248	276	7.9	165	279	10.0	322	279	2.8	334	257	5.6
4,000	253	269	9.7	334	272	7.8	148	282	8.6	256	285	11.0	194	288	12.5	238	272	7.1	186	271	3.4							215	274	10.2				300	282	6.9	292	259	9.1
5,000	209	273	12.5	316	272	10.8				216	281	12.7	148	288	14.2				174	270	4.7							159	274	10.7				259	284	10.7	213	259	11.8
6,000				293	270	13.0				180	282	13.5							160	265	5.9													222	282	13.5			
8,000				242	268	14.8																																	
10,000				182	268	16.8																																	

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. (416 m.)			Miami, Fla. (12 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	364	267	0.9	357	304	1.6	322	238	1.6	341	275	2.2	350	99	1.9	335	235	1.9	365	184	0.6	335	191	1.1	342	308	1.2	361	129	3.0	323	195	1.1	341	241	1.4	330	255	1.9
500							322	243	2.6				349	153	1.2	335	242	2.6				335	217	2.1	342	305	1.3	361	126	3.8	322	208	2.0	341	235	1.8	328	262	3.9
1,000							316	250	3.8	341	271	4.0	338	230	1.9	301	248	4.4	364	186	1.3	310	235	2.8	342	279	1.0	356	128	2.5	281	245	1.6	318	238	3.4	311	276	5.8
1,500				357	301	1.9	303	265	4.8	339	275	5.6	326	257	3.6	269	260	6.2	363	206	1.7	293	254	4.2	336	247	2.0	343	137	0.8	250	287	2.0	292	250	4.6	300	282	7.6
2,000	364	259	1.1	357	284	2.4	284	275	6.6	317	276	6.3	308	264	4.7	228	267	7.6	358	228	2.4	256	270	5.7	308	243	2.8	315	260	0.6	221	287	3.4	272	258	5.9	242	283	8.8
2,500	363	256	2.1	348	259	3.2	250	282	7.9	278	277	7.9	283	267	5.5	186	276	9.1	352	239	3.2	237	274	6.5	270	252	2.6	304	260	0.8	190	289	4.6	259	264	7.2	207	286	9.5
3,000	348	257	2.9	338	250	4.6	227	283	9.5	225	279	8.8	258	271	6.3				337	251	3.9	20[illegible]	279	7.4	245	260	2.7	292	265	1.3	149	282	4.8	236	269	8.1			
4,000	294	269	4.7	282	259	6.4	191	287	12.1				206	272	6.8				321	269	5.6	168	286	9.3				238	257	3.1				188	271	10.3			
5,000	249	277	7.3				144	286	13.3				165	277	8.4				295	274	7.4	138	286	12.4				199	262	4.6									
6,000	206	277	9.3																271	279	8.4							184	268	6.1									
8,000	150	274	11.1																198	278	11.5																		
10,000																			135	271	12.3																		

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 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. (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	357	271	3.8	324	184	2.1	347	252	0.8	364	253	1.0	351	352	2.4	336	233	1.1	345	257	1.3	352	128	1.6	341	274	3.7	336	283	2.3	339	234	1.7	353	226	1.9	331	246	1.5
500	353	286	3.2	324	185	2.5	347	230	1.2	364	252	1.5				336	234	2.0	345	255	1.7	352	136	2.2	339	283	3.0	336	276	2.7	339	221	2.3				331	254	3.3
1,000	327	304	2.1	322	198	3.1	324	237	2.7	364	244	1.8	351	351	2.4	314	244	3.9	313	259	3.4	339	154	2.4	302	280	1.2	305	272	3.8	312	222	3.1	353	226	3.5	320	263	4.9
1,500	311	313	2.4	303	224	4.3	288	251	4.6	364	236	2.1	351	318	3.2	291	257	5.6	272	269	4.9	306	198	1.9	284	293	0.8	254	275	4.5	264	221	3.3	317	235	4.6	303	274	6.6
2,000	300	307	2.5	289	245	5.8	260	263	7.0	359	233	2.4	326	293	4.0	259	273	7.5	248	278	6.7	280	235	2.8	269	292	1.0	230	276	5.9	215	230	3.2	262	244	5.2	284	281	8.6
2,500	296	308	2.8	278	254	7.0	244	273	8.6	355	240	2.9	297	285	5.9	235	277	8.9	213	288	8.3	257	255	4.1	255	294	1.5	180	283	7.1	159	247	3.0	216	255	5.3	263	282	10.4
3,000	289	309	3.2	255	263	8.2	224	276	10.2	353	249	3.9	262	285	8.2	211	279	10.4	176	286	9.6	235	263	5.4	252	291	2.5										248	283	11.7
4,000	274	297	5.3	229	272	10.9	181	285	12.2	339	256	5.7	197	282	10.6	165	288	13.7				205	270	8.0	232	282	4.3										210	282	14.1
5,000	248	291	6.3	194	279	13.7				317	258	7.4				145	286	15.9				173	273	11.2	219	278	6.5										165	282	14.6
6,000	234	294	7.6	173	280	15.4				293	259	9.6										143	272	13.7	204	278	8.4												
8,000										230	262	11.8													156	270	10.9												
10,000										159	266	13.1																											

See footnote at end of Table 1B.

TABLE 3B.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during the year 1945*

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]	54.6	W.	1,365	Apr. 1	Boston, Mass.	61.6	W.	4,690	Feb. 16	Boston, Mass.	85.0	SW.	11,020	July 11	Boston, Mass.
East-Central [2]	52.8	NW.	1,821	Jan. 24	Lynchburg, Va.	61.2	WSW.	3,270	Feb. 20	Knoxville, Tenn.	80.8	SW.	7,382	Dec. 31	Hatteras, N. C.
Southeast [3]	43.0	W.	2,189	Dec. 26	Atlanta, Ga.	57.6	W.	4,421	Dec. 16	Charleston, S. C.	85.0	WNW	11,022	Jan. 11	Charleston, S. C.
North-Central [4]	48.8	WSW	2,472	Sept. 23	Williston, N. Dak.	57.3	WNW	5,000	May 30	S. Ste. Marie, Mich.	78.0	NNW	11,525	May 5	St. Paul, Minn.
Central [5]	49.2	SSW	1,790	June 27	Dodge City, Kans.	56.2	WNW	5,000	Mar. 6	Dodge City, Kans.	92.8	W	19,908 20,193	July 26	Goodland, Kans.
South-Central [6]	47.8	SW.	1,916	Mar. 28	Tulsa, Okla.	65.0	WNW	4,500	Dec. 13	Big Spring, Tex.	100.0	WSW	14,151	Nov. 13	Big Spring, Tex.
Northwest [7]	50.3	W.	2,500	Nov. 11	Glasgow, Mont.	56.0	W.	4,979	Jan. 13	Great Falls, Mont.	86.8	WNW.	10,738	July 26	Spokane, Wash.
West-Central [8]	47.0	S.	2,464	Sept. 21	Salt Lake City, Utah.	62.2	WSW.	3,801	Dec. 28	Reno, Nev.	91.2	WNW.	16,197	Aug. 17	Denver, Colo.
Southwest [9]	53.9	NNW	2,180	Feb. 12	Sandberg, Calif.	72.4	N.	4,443	Feb. 21	Las Vegas, Nev.	104.0	W.	6,143	Nov. 8	El Paso, Tex.

[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.