METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR DECEMBER 1946

AEROLOGICAL OBSERVATIONS

[For description of change in Table 1 and charts, see REVIEW, January 1946, p. 6]

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during December 1946*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Albany, N. Y. (1,006.8 mb.)				Albuquerque, N. Mex. (838.7 mb.)				Apalachicola, Fla. (1,020.6 mb.)				Atlanta, Ga. (986.2 mb.)				Auburn, Calif. (959.0 mb.)				Big Spring, Tex. (929.7 mb.)				Bismarck, N. Dak. (955.7 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	86	−2.3	76	31	1,620	6.0	40	30	5	13.6	84	31	300	7.2	71	31	501	6.9	83	30	774	9.0	57	30	505	−8.7	84
1,000	31	139	(*)	----	31	150	(*)	----	30	178	15.4	72	31	183	(*)	----	31	154	(*)	----	30	159	(*)	----	30	149	(*)	----
950	31	550	−3.5	77	31	589	(*)	----	30	618	13.9	63	31	614	9.2	63	31	584	8.4	77	30	591	(*)	----	30	551	(*)	----
900	31	971	−5.1	77	31	1,041	(*)	----	30	1,067	12.4	51	31	1,057	8.6	60	30	1,027	8.9	52	30	1,044	11.1	46	30	970	−7.1	76
850	31	1,419	−6.2	74	31	1,509	(*)	----	30	1,545	10.7	45	31	1,529	7.7	47	30	1,499	7.1	45	30	1,520	9.9	41	30	1,417	−5.9	62
800	31	1,892	−7.6	71	31	2,007	5.7	39	30	2,048	9.4	33	31	2,027	6.2	42	30	1,995	4.6	43	30	2,021	7.9	39	30	1,892	−6.4	61
750	31	2,398	−9.0	67	31	2,536	2.9	41	30	2,586	7.2	----	31	2,561	4.3	33	30	2,524	1.0	45	30	2,553	6.0	31	30	2,396	−8.6	60
700	31	2,924	−11.1	56	31	3,088	−0.3	43	30	3,144	4.2	----	31	3,112	1.6	34	30	3,069	−2.3	42	30	3,113	3.1	29	30	2,927	−11.1	55
650	31	3,500	−13.9	53	31	3,680	−3.8	45	30	3,742	0.5	----	31	3,708	−1.9	----	30	3,658	−5.8	----	30	3,712	−0.2	----	29	3,498	−14.9	62
600	30	4,098	−16.7	54	31	4,304	−7.2	42	30	4,379	−3.4	----	31	4,338	−5.5	----	30	4,275	−10.0	----	30	4,346	−4.2	----	29	4,096	−18.0	59
550	30	4,753	−19.5	54	31	4,978	−11.2	38	30	5,061	−7.4	----	30	5,018	−9.7	----	30	4,942	−14.4	----	29	5,027	−8.5	----	29	4,742	−21.9	----
500	29	5,452	−23.7	----	31	5,702	−15.8	43	30	5,797	−12.2	----	30	5,744	−14.4	----	30	5,656	−19.4	----	29	5,761	−13.2	----	29	5,437	−26.2	----
450	28	6,214	−28.7	----	30	6,500	−21.1	----	30	6,600	−17.5	----	30	6,539	−19.7	----	29	6,433	−25.5	----	29	6,560	−18.7	----	28	6,201	−31.0	----
400	28	7,040	−33.7	----	30	7,354	−27.2	----	30	7,452	−23.5	----	30	7,398	−25.9	----	28	7,267	−31.5	----	29	7,422	−25.2	----	28	7,022	−36.6	----
350	28	7,964	−40.0	----	30	8,301	−34.5	----	30	8,426	−30.7	----	30	8,398	−32.8	----	28	8,197	−38.8	----	27	8,380	−32.1	----	24	7,968	−42.0	----
300	27	9,013	−46.6	----	30	9,357	−42.5	----	29	9,503	−38.8	----	30	9,418	−40.9	----	28	9,236	−46.6	----	23	9,438	−39.8	----	23	8,992	−48.9	----
250	27	10,205	−53.3	----	28	10,568	−51.3	----	29	10,729	−47.9	----	30	10,633	−49.9	----	28	10,426	−53.6	----	18	10,668	−49.0	----	15	10,175	−53.9	----
200	19	11,619	−57.9	----	21	11,971	−58.7	----	28	12,168	−57.8	----	29	12,057	−58.3	----	25	11,844	−58.4	----	11	12,123	−57.6	----	7	11,591	−53.2	----
175	13	12,445	−56.7	----	13	12,831	−59.6	----	26	13,002	−61.9	----	28	12,894	−61.2	----	24	12,673	−59.0	----	----	----	----	----	----	----	----	----
150	10	13,402	−55.4	----	8	13,771	−61.9	----	23	13,947	−64.7	----	23	13,838	−63.4	----	19	13,641	−59.6	----	----	----	----	----	----	----	----	----
125	6	14,585	−54.7	----	----	----	----	----	17	15,061	−67.6	----	14	14,947	−65.2	----	12	14,754	−60.0	----	----	----	----	----	----	----	----	----
100	----	----	----	----	----	----	----	----	10	16,390	−71.4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Boise, Idaho (919.1 mb.)				Brownsville, Tex. (1,017.6 mb.)				Buffalo, N. Y. (990.0 mb.)				Caribou, Maine (990.4 mb.)				Charleston, S. C. (1,019.8 mb.)				Ciudad Victoria, Mexico, (978.0 mb.)				Columbia, Mo. (990.5 mb.)			
Surface	31	868	2.2	76	31	6	16.8	86	31	221	−0.8	74	31	191	−10.3	88	31	14	9.4	81	31	335	19.2	61	31	239	4.0	68
1,000	31	179	(*)	----	31	154	17.2	83	31	139	(*)	----	31	115	(*)	----	31	177	12.7	70	31	141	(*)	----	31	159	(*)	----
950	31	691	(*)	----	31	597	15.7	78	31	552	−2.2	73	31	517	(*)	----	31	612	12.1	58	31	584	18.4	59	31	585	3.9	65
900	31	1,037	3.4	69	31	1,051	14.7	62	31	976	−4.4	79	31	926	−11.5	82	31	1,060	10.6	54	31	1,046	15.5	62	31	1,016	3.3	61
850	31	1,500	1.7	65	31	1,533	13.3	51	31	1,425	−5.8	76	31	1,363	−12.0	77	31	1,536	9.2	46	28	1,529	13.1	64	31	1,478	1.9	57
800	31	1,986	−1.0	68	31	2,042	11.8	43	31	1,899	−7.1	66	31	1,827	−12.8	69	31	2,037	7.5	38	28	2,037	11.3	61	31	1,967	1.2	50
750	31	2,505	−3.6	65	31	2,586	9.5	37	31	2,409	−8.9	55	31	2,324	−14.2	65	31	2,570	5.0	36	28	2,580	9.1	55	31	2,491	−0.7	43
700	31	3,042	−6.1	60	31	3,150	6.8	32	31	2,933	−10.5	51	31	2,839	−15.7	61	31	3,126	2.0	33	28	3,144	6.2	50	31	3,033	−3.2	39
650	31	3,624	−9.4	55	29	3,756	3.2	29	31	3,510	−13.2	50	31	3,404	−17.9	58	29	3,722	−1.5	34	27	3,750	2.6	46	31	3,622	−6.4	43
600	31	4,233	−12.8	51	29	4,397	−1.1	29	31	4,107	−16.5	49	31	3,991	−20.8	53	29	4,358	−5.3	31	27	4,391	−1.2	40	31	4,238	−9.9	39
550	31	4,895	−16.7	50	26	5,088	−5.1	29	31	4,760	−20.3	50	31	4,633	−24.2	----	28	5,032	−9.3	----	26	5,078	−5.2	41	31	4,909	−13.9	39
500	30	5,602	−20.8	56	28	5,827	−9.7	32	31	5,456	−24.6	----	30	5,310	−28.6	----	28	5,762	−14.2	----	23	5,823	−9.6	----	31	5,622	−18.5	40
450	29	6,374	−26.6	----	28	6,641	−15.2	42	27	6,219	−29.7	----	29	6,063	−33.3	----	28	6,560	−19.5	----	17	6,634	−15.0	----	29	6,406	−23.8	----
400	27	7,222	−32.3	----	26	7,520	−21.1	----	26	7,051	−34.7	----	28	6,871	−38.5	----	27	7,416	−26.1	----	15	7,515	−21.5	----	29	7,247	−29.8	----
350	24	8,141	−40.0	----	25	8,485	−28.3	----	26	7,971	−40.7	----	28	7,777	−43.8	----	27	8,368	−33.0	----	10	8,485	−28.5	----	28	8,197	−36.2	----
300	23	9,176	−48.1	----	25	9,571	−36.3	----	22	9,028	−46.2	----	27	8,790	−48.6	----	25	9,439	−40.6	----	7	9,575	−36.7	----	27	9,255	−44.1	----
250	22	10,366	−55.7	----	23	10,810	−45.3	----	15	10,241	−52.0	----	26	9,978	−52.2	----	24	10,660	−50.0	----	7	10,812	−46.4	----	25	10,462	−52.6	----
200	17	11,776	−60.9	----	21	12,267	−55.1	----	11	11,671	−55.4	----	22	11,413	−52.3	----	23	12,094	−58.8	----	6	12,251	−58.3	----	20	11,886	−58.7	----
175	10	12,552	−59.9	----	16	13,120	−59.5	----	6	12,474	−54.1	----	15	12,267	−51.5	----	21	12,928	−61.6	----	5	13,084	−63.1	----	11	12,774	−61.1	----
150	9	13,508	−58.7	----	7	14,060	−61.8	----	5	13,444	−53.8	----	9	13,270	−51.3	----	19	13,871	−63.7	----	----	----	----	----	5	13,722	−61.7	----
125	----	----	----	----	----	----	----	----	----	----	----	----	6	14,424	−53.2	----	15	14,980	−66.4	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Dodge City, Kans. (926.0 mb.)				El Paso, Tex. (883.2 mb.)				Ely, Nev. (809.8 mb.)				Fort Worth, Tex. (994.0 mb.)				Glasgow, Mont. (939.1 mb.)				Grand Junction, Colo. (854.9 mb.)				Great Falls, Mont. (884.4 mb.)			
Surface	31	787	2.3	68	31	1,195	8.6	49	31	1,908	−1.3	80	31	211	11.2	68	31	648	−9.2	86	31	1,474	0.5	70	31	1,128	−2.9	68
1,000	31	154	(*)	----	31	149	(*)	----	31	186	(*)	----	31	159	(*)	----	31	154	(*)	----	31	192	(*)	----	31	141	(*)	----
950	31	577	(*)	----	31	591	(*)	----	31	613	(*)	----	31	593	11.2	60	31	559	(*)	----	31	623	(*)	----	31	562	(*)	----
900	31	1,018	5.9	54	31	1,045	(*)	----	31	1,055	(*)	----	31	1,040	10.1	54	31	978	−5.8	79	31	1,065	(*)	----	31	994	(*)	----
850	31	1,486	6.0	39	31	1,514	10.4	39	31	1,518	(*)	----	31	1,515	9.2	48	31	1,427	−5.2	68	31	1,521	(*)	----	31	1,443	−1.3	57
800	31	1,981	4.1	36	31	2,015	7.3	43	31	2,005	0.6	71	31	2,016	7.5	40	31	1,903	−6.5	67	31	2,008	0.6	56	31	1,925	−3.3	58
750	31	2,508	1.5	38	31	2,550	5.3	36	31	2,529	−0.8	58	31	2,550	5.5	37	31	2,408	−9.1	70	31	2,529	−1.5	56	31	2,437	−5.9	60
700	31	3,056	−1.0	33	31	3,105	2.1	35	31	3,071	−3.3	52	31	3,106	2.7	32	31	2,936	−11.8	73	31	3,071	−4.6	59	31	2,971	−8.7	62
650	31	3,646	−4.4	32	31	3,702	−1.0	32	31	3,657	−6.4	53	31	3,705	−0.6	----	31	3,505	−15.0	72	31	3,653	−8.0	60	31	3,548	−12.1	60
600	31	4,268	−8.5	35	31	4,333	−5.0	31	31	4,276	−9.9	54	30	4,338	−4.3	----	31	4,101	−18.4	68	31	4,269	−11.8	63	31	4,150	−15.7	56
550	30	4,941	−13.1	37	31	5,014	−9.3	33	31	4,942	−14.3	52	30	5,019	−8.6	----	31	4,747	−22.3	----	30	4,932	−15.6	61	31	4,804	−19.9	54
500	30	5,660	−17.8	43	31	5,742	−14.6	----	31	5,658	−19.1	42	28	5,746	−13.6	----	31	5,441	−26.4	----	30	5,644	−20.1	66	31	5,501	−24.7	----
450	30	6,448	−23.1	----	30	6,546	−20.2	----	31	6,443	−24.5	----	27	6,543	−19.2	----	31	6,198	−31.5	----	29	6,420	−25.4	----	31	6,265	−30.1	----
400	30	7,296	−29.1	----	30	7,400	−26.4	----	30	7,277	−31.0	----	27	7,403	−25.6	----	30	7,025	−37.3	----	28	7,257	−31.3	----	30	7,090	−36.3	----
350	30	8,233	−36.2	----	30	8,350	−33.8	----	29	8,210	−37.5	----	27	8,357	−32.9	----	30	7,933	−43.9	----	25	8,203	−37.3	----	30	8,003	−43.1	----
300	30	9,284	−43.7	----	30	9,412	−41.8	----	29	9,257	−45.1	----	26	9,423	−41.0	----	27	8,939	−51.3	----	24	9,250	−45.2	----	29	9,023	−50.5	----
250	30	10,485	−52.1	----	29	10,618	−51.1	----	28	10,459	−53.3	----	24	10,633	−50.0	----	22	10,092	−56.4	----	24	10,445	−53.0	----	27	10,202	−56.6	----
200	28	11,917	−58.8	----	26	12,051	−58.6	----	24	11,867	−59.3	----	18	12,078	−58.0	----	8	11,508	−56.0	----	13	11,832	−57.4	----	11	11,640	−59.4	----
175	24	12,766	−60.6	----	13	12,843	−59.8	----	19	12,723	−60.2	----	13	12,907	−61.1	----	----	----	----	----	9	12,680	−57.8	----	----	----	----	----
150	16	13,718	−60.8	----	----	----	----	----	15	13,665	−60.5	----	7	13,851	−62.3	----	----	----	----	----	----	----	----	----	----	----	----	----
125	5	14,829	−62.7	----	----	----	----	----	10	14,793	−60.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during December 1946*—Continued

Standard pressure surface (mb.)	Greensboro, N. C. (988.6 mb.)				Hatteras, N. C. (1,020.3 mb.)				Havana, Cuba (1,011.1 mb.)				Honolulu, T. H. (1,011.2 mb.)				Huntington, W. Va. (1,000.4 mb.)				International Falls, Minn. (973.7 mb.)				Joliet, Ill. (996.7 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	273	5.3	73	31	3	11.7	81	18	50	22.6	89	31	3	23.9	70	29	172	2.4	73	31	360	−13.0	85	31	178	−0.2	80
1,000	31	177	(*)	----	31	171	12.2	71	18	146	22.4	87	31	100	22.7	71	29	174	(*)	----	31	154	(*)	----	31	150	(*)	----
950	31	603	6.9	60	31	601	10.6	63	18	596	19.4	85	31	550	19.2	75	29	596	3.5	61	31	549	−13.8	89	31	562	−0.7	74
900	31	1,043	5.8	56	31	1,049	8.8	57	18	1,056	16.3	87	31	1,008	15.9	77	28	1,027	0.8	66	31	956	−13.3	82	31	992	−1.5	66
850	31	1,510	4.2	53	31	1,521	7.0	51	18	1,542	13.4	84	31	1,492	12.7	78	28	1,485	−0.5	63	31	1,392	−12.4	70	31	1,446	−2.3	61
800	31	2,002	2.8	46	31	2,017	4.8	46	18	2,062	10.8	70	31	2,000	10.1	72	28	1,969	−1.5	55	31	1,855	−12.3	64	31	1,926	−3.7	60
750	31	2,529	1.0	45	31	2,546	2.9	38	18	2,593	9.3	----	31	2,541	8.1	53	27	2,483	−2.9	51	31	2,353	−13.6	56	31	2,439	−5.2	56
700	31	3,074	−1.9	44	31	3,097	0.0	32	18	3,158	6.2	----	31	3,102	5.3	45	27	3,024	−5.6	53	31	2,869	−15.7	47	31	2,975	−7.5	59
650	30	3,663	−4.9	42	31	3,689	−3.1	----	18	3,764	2.8	----	29	3,707	2.1	35	27	3,606	−8.2	51	31	3,433	−18.2	48	31	3,555	−10.4	56
600	30	4,287	−8.7	44	31	4,316	−6.8	----	18	4,406	−0.7	----	29	4,346	−1.7	33	26	4,228	−11.2	----	30	4,023	−21.8	----	31	4,162	−13.7	54
550	30	4,958	−12.5	45	31	4,992	−11.0	----	18	5,097	−4.7	----	29	5,035	−5.9	33	25	4,882	−15.3	----	30	4,659	−25.2	----	31	4,819	−17.8	55
500	30	5,679	−17.1	47	31	5,715	−15.7	----	18	5,840	−9.1	----	29	5,773	−10.8	35	25	5,596	−19.5	----	29	5,355	−29.0	----	31	5,525	−22.2	----
450	29	6,470	−22.4	----	31	6,504	−20.9	----	18	6,652	−14.4	----	28	6,582	−16.5	----	25	6,377	−24.6	----	29	6,108	−33.8	----	31	6,297	−27.0	----
400	29	7,319	−28.3	----	29	7,360	−26.9	----	18	7,531	−20.6	----	27	7,450	−22.6	----	24	7,214	−30.6	----	28	6,926	−39.6	----	31	7,133	−32.7	----
350	28	8,260	−34.9	----	29	8,308	−34.2	----	16	8,500	−27.8	----	27	8,416	−29.2	----	22	8,152	−37.0	----	28	7,826	−46.0	----	31	8,060	−39.3	----
300	28	9,317	−43.4	----	28	9,370	−41.8	----	16	9,588	−36.2	----	27	9,502	−36.2	----	18	9,213	−44.4	----	26	8,828	−51.6	----	29	9,109	−46.2	----
250	27	10,523	−52.1	----	27	10,587	−50.7	----	13	10,827	−46.1	----	25	10,744	−44.9	----	17	10,409	−51.8	----	18	9,986	−53.4	----	27	10,319	−52.7	----
200	25	11,949	−59.8	----	20	11,996	−58.1	----	8	12,292	−56.2	----	16	12,211	−53.1	----	11	11,847	−58.4	----	8	11,465	−52.3	----	23	11,757	−58.5	----
175	22	12,785	−62.6	----	16	12,840	−59.9	----	----	----	----	----	12	13,062	−58.3	----	8	12,651	−59.6	----	7	12,304	−50.3	----	18	12,595	−57.6	----
150	16	13,739	−62.1	----	8	13,773	−59.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	15	13,568	−57.3	----
125	5	14,896	−63.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	14,710	−57.0	----

Standard pressure surface (mb.)	Lake Charles, La. (1,019.7 mb.)				Lander, Wyo. (827.1 mb.)				Las Vegas, Nev. (951.3 mb.)				Little Rock, Ark. (1,011.1 mb.)				Mazatlan, Mexico (1,010.1 mb.)				Medford, Oreg. (972.1 mb.)				Merida, Mexico (1,012.8 mb.)			
Surface	30	5	12.6	84	31	1,696	−1.3	66	31	574	9.3	52	30	79	9.0	78	31	14	22.5	73	31	401	4.5	87	31	27	23.7	76
1,000	30	169	14.7	76	31	147	(*)	----	31	155	(*)	----	30	169	9.8	72	31	101	22.8	66	31	168	(*)	----	31	138	23.3	76
950	30	611	12.6	68	31	575	(*)	----	31	586	(*)	----	30	597	9.0	70	31	554	23.4	43	31	594	5.3	79	31	587	20.6	73
900	30	1,057	12.2	60	31	1,015	(*)	----	31	1,037	10.7	40	30	1,042	7.5	65	31	1,019	20.8	39	31	1,030	5.1	69	31	1,051	18.8	74
850	30	1,535	11.1	51	31	1,474	(*)	----	31	1,511	8.1	39	30	1,513	7.0	51	31	1,510	17.6	40	31	1,495	2.8	69	31	1,538	14.4	76
800	30	2,040	10.0	38	31	1,962	1.1	49	31	2,009	5.3	39	30	2,009	5.5	47	31	2,026	13.9	42	31	1,983	.1	69	31	2,048	12.0	61
750	30	2,578	7.8	34	31	2,485	−1.6	47	31	2,538	2.4	39	30	2,540	3.2	43	31	2,569	9.8	46	31	2,504	−2.1	58	31	2,591	10.1	46
700	30	3,140	4.9	----	31	3,025	−4.7	48	31	3,089	−.1	39	30	3,092	.9	38	31	3,136	5.8	49	31	3,044	−4.8	51	31	3,159	7.7	39
650	29	3,743	1.1	----	31	3,607	−8.7	52	31	3,679	−4.0	40	29	3,686	−2.2	30	27	3,744	2.1	48	31	3,626	−7.9	48	31	3,767	4.5	----
600	29	4,381	−3.0	----	31	4,220	−12.5	51	31	4,305	−8.1	44	29	4,314	−6.0	34	26	4,385	−1.8	47	31	4,241	−11.6	46	31	4,414	.7	----
550	29	5,066	−7.3	----	31	4,885	−16.4	53	31	4,975	−12.7	46	29	4,993	−10.2	----	25	5,072	−5.9	----	31	4,902	−15.7	48	30	5,105	−3.6	----
500	29	5,800	−12.1	----	31	5,590	−21.0	----	31	5,697	−17.3	49	29	5,718	−14.9	----	25	5,814	−10.4	----	31	5,614	−20.8	52	30	5,853	−8.1	----
450	29	6,604	−17.7	----	31	6,366	−26.8	----	31	6,482	−22.8	----	29	6,513	−20.1	----	23	6,619	−15.9	----	31	6,387	−26.6	----	30	6,671	−13.4	----
400	29	7,469	−23.8	----	31	7,198	−33.3	----	30	7,329	−29.2	----	29	7,369	−26.5	----	23	7,495	−22.0	----	30	7,219	−32.8	----	30	7,550	−19.7	----
350	27	8,434	−30.5	----	30	8,123	−40.4	----	30	8,269	−36.3	----	29	8,319	−33.5	----	18	8,465	−29.2	----	30	8,145	−39.7	----	29	8,526	−27.5	----
300	26	9,518	−38.3	----	30	9,155	−48.4	----	29	9,327	−44.0	----	29	9,383	−41.6	----	14	9,558	−37.2	----	30	9,181	−47.4	----	28	9,615	−36.2	----
250	25	10,751	−46.9	----	27	10,348	−55.5	----	27	10,535	−52.4	----	29	10,595	−50.5	----	13	10,793	−46.1	----	30	10,364	−55.4	----	26	10,859	−45.6	----
200	21	12,194	−55.3	----	21	11,787	−60.9	----	24	11,965	−58.8	----	24	12,024	−59.2	----	8	12,243	−56.2	----	29	11,765	−60.1	----	25	12,308	−56.5	----
175	19	13,030	−59.2	----	9	12,596	−60.5	----	19	12,804	−59.8	----	19	12,871	−61.9	----	----	----	----	----	25	12,599	−59.4	----	25	13,144	−61.7	----
150	12	13,993	−62.1	----	5	13,499	−59.1	----	14	13,762	−60.6	----	6	13,873	−62.3	----	----	----	----	----	11	13,552	−59.4	----	16	14,080	−66.7	----
125	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	8	14,698	−59.2	----	5	15,187	−72.7	----

Standard pressure surface (mb.)	Miami, Fla. (1,018.1 mb.)				Nantucket, Mass. (1,016.1 mb.)				Nashville, Tenn. (999.2 mb.)				New Orleans, La.[1] (------ mb.)				North Platte, Nebr. (918.1 mb.)				Oakland, Calif.[2] (1,017.9 mb.)				Ogden, Utah (866.5 mb.)			
Surface	31	4	20.7	86	31	14	3.3	73	31	180	7.9	68	----	----	----	----	31	849	−2.4	75	26	6	8.8	79	31	1,355	1.6	76
1,000	31	159	21.3	83	31	142	3.0	69	31	173	(*)	----	----	----	----	----	31	158	(*)	----	30	153	9.7	75	31	182	(*)	----
950	31	605	18.6	84	31	560	1.2	67	31	600	7.4	66	----	----	----	----	31	576	(*)	----	30	586	8.8	68	31	610	(*)	----
900	31	1,066	15.6	84	31	990	−.8	66	31	1,040	5.9	65	----	----	----	----	31	1,007	1.2	63	30	1,026	8.6	54	31	1,050	(*)	----
850	31	1,550	12.8	77	31	1,445	−2.2	58	31	1,507	4.8	58	----	----	----	----	31	1,468	1.4	49	30	1,498	7.7	46	31	1,510	2.6	68
800	31	2,057	10.8	61	31	1,925	−3.9	58	31	2,000	3.5	53	----	----	----	----	31	1,955	.4	47	30	1,995	5.4	40	31	1,999	.6	59
750	31	2,599	8.7	48	31	2,439	−5.0	50	31	2,529	1.3	51	----	----	----	----	31	2,477	−2.3	49	30	2,524	2.7	39	31	2,517	−2.5	62
700	30	3,162	6.1	41	31	2,972	−7.5	49	31	3,074	−1.2	48	----	----	----	----	31	3,015	−5.2	48	30	3,075	−.6	----	31	3,059	−5.8	63
650	29	3,768	3.1	34	30	3,549	−10.1	51	30	3,669	−4.0	45	----	----	----	----	31	3,599	−9.1	54	30	3,668	−4.0	----	31	3,639	−8.6	62
600	29	4,410	−.7	35	30	4,154	−13.4	45	29	4,293	−7.4	----	----	----	----	----	31	4,209	−12.5	52	30	4,290	−8.1	----	31	4,253	−12.0	61
550	29	5,098	−4.9	----	30	4,814	−17.0	----	27	4,969	−11.7	----	----	----	----	----	31	4,872	−16.8	55	29	4,969	−12.3	----	31	4,916	−15.8	58
500	29	5,843	−9.5	----	30	5,521	−21.4	----	26	5,694	−16.4	----	----	----	----	----	31	5,578	−21.3	----	29	5,688	−17.3	----	31	5,626	−20.4	58
450	29	6,657	−14.8	----	30	6,297	−26.5	----	26	6,488	−21.5	----	----	----	----	----	31	6,356	−26.3	----	28	6,470	−22.9	----	31	6,406	−26.0	----
400	28	7,532	−21.0	----	30	7,130	−31.9	----	25	7,346	−27.4	----	----	----	----	----	31	7,189	−32.4	----	28	7,319	−29.0	----	30	7,240	−31.9	----
350	28	8,503	−28.5	----	30	8,062	−38.0	----	24	8,302	−34.3	----	----	----	----	----	31	8,118	−39.0	----	28	8,260	−36.3	----	30	8,169	−39.2	----
300	27	9,590	−36.8	----	30	9,107	−44.8	----	20	9,366	−42.1	----	----	----	----	----	30	9,166	−46.1	----	26	9,313	−43.6	----	30	9,203	−47.1	----
250	27	10,828	−45.7	----	30	10,307	−51.5	----	16	10,568	−51.3	----	----	----	----	----	30	10,357	−53.6	----	23	10,518	−51.0	----	29	10,393	−54.4	----
200	25	12,232	−55.3	----	26	11,741	−56.8	----	8	12,038	−59.2	----	----	----	----	----	29	11,770	−58.7	----	17	11,956	−55.8	----	26	11,798	−59.0	----
175	22	13,121	−60.0	----	23	12,582	−56.7	----	----	----	----	----	----	----	----	----	24	12,592	−58.3	----	12	12,787	−57.0	----	21	12,618	−58.9	----
150	17	14,074	−64.2	----	15	13,559	−56.5	----	----	----	----	----	----	----	----	----	18	13,571	−57.8	----	7	13,748	−58.0	----	17	13,577	−59.7	----
125	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	16	14,710	−59.4	----	----	----	----	----	8	14,768	−60.9	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	16,147	−60.3	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meters, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during December 1946*—Continued

Standard pressure surface (mb.)	Oklahoma City, Okla. (972.7 mb.)				Omaha, Nebr. (981.4 mb.)				Phoenix, Ariz. (975.8 mb.)				Pittsburgh, Pa. (973.1 mb.)				Portland, Maine (1,014.2 mb.)				Rapid City, S. Dak. (901.3 mb.)				St. Paul, Minn. (989.9 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	391	6.6	76	31	308	−0.2	73	31	339	11.1	60	31	382	1.8	68	31	20	−3.4	76	31	980	−3.3	71	31	225	−5.7	80
1,000	31	161	(*)	----	31	156	(*)	----	31	131	(*)	----	31	160	(*)	----	31	130	−3.8	73	31	143	(*)	----	31	143	(*)	----
950	31	586	7.5	69	31	572	.1	68	31	573	16.3	38	31	580	1.4	68	31	541	−3.7	71	31	558	(*)	----	31	546	−6.7	80
900	31	1,030	6.9	61	31	1,001	.1	62	31	1,024	14.1	33	31	1,009	−.4	69	31	962	−5.0	69	31	992	(*)	----	31	968	−6.3	74
850	31	1,500	7.0	51	31	1,458	.0	54	31	1,504	11.3	34	31	1,464	−2.1	63	31	1,410	−6.5	64	31	1,447	−.7	57	31	1,414	−6.8	71
800	31	1,998	5.4	46	31	1,943	−1.0	48	31	2,006	8.1	34	31	1,945	−3.5	60	31	1,882	−7.6	63	31	1,930	−2.1	54	31	1,887	−7.1	63
750	31	2,528	3.2	44	31	2,463	−3.1	41	31	2,545	5.2	35	31	2,461	−5.0	57	31	2,389	−9.2	60	31	2,444	−4.2	54	31	2,393	−8.4	59
700	31	3,080	.5	43	31	3,000	−6.0	42	31	3,096	1.8	31	31	2,994	−7.1	55	31	2,914	−11.4	58	31	2,982	−7.3	54	31	2,922	−11.2	60
650	31	3,676	−2.6	39	31	3,580	−8.9	39	31	3,695	−1.8	30	31	3,576	−10.1	53	31	3,486	−14.0	56	31	3,559	−10.8	57	31	3,494	−14.4	63
600	31	4,302	−6.4	37	31	4,192	−12.6	43	31	4,321	−6.0	----	31	4,182	−13.2	51	30	4,082	−17.3	56	31	4,167	−14.6	58	31	4,090	−17.8	60
550	31	4,980	−10.7	40	31	4,853	−16.9	50	31	4,998	−10.8	----	31	4,843	−17.1	54	30	4,731	−21.0	----	30	4,822	−18.7	52	31	4,740	−21.8	----
500	31	5,704	−15.5	42	30	5,563	−21.0	----	31	5,722	−16.1	----	31	5,549	−21.4	----	30	5,428	−24.5	----	30	5,524	−23.4	----	31	5,433	−26.2	----
450	31	6,498	−20.6	45	30	6,339	−26.2	----	31	6,520	−21.9	----	29	6,331	−26.2	----	30	6,195	−29.7	----	29	6,291	−28.7	----	31	6,194	−30.7	----
400	31	7,352	−26.8	----	30	7,176	−32.2	----	31	7,365	−28.0	----	29	7,167	−31.9	----	30	7,017	−35.0	----	28	7,124	−33.8	----	31	7,016	−35.8	----
350	31	8,302	−33.9	----	29	8,110	−38.6	----	31	8,310	−35.0	----	29	8,098	−38.0	----	29	7,936	−40.5	----	26	8,032	−40.5	----	31	7,931	−42.2	----
300	31	9,363	−41.9	----	29	9,153	−45.8	----	30	9,371	−43.0	----	28	9,138	−44.9	----	28	8,969	−46.5	----	22	9,091	−46.9	----	30	8,968	−48.7	----
250	30	10,571	−50.6	----	28	10,352	−52.4	----	27	10,581	−51.4	----	26	10,346	−51.8	----	28	10,164	−51.9	----	15	10,312	−53.6	----	29	10,142	−54.4	----
200	25	12,007	−58.1	----	27	11,771	−57.2	----	20	11,975	−58.5	----	23	11,787	−57.6	----	25	11,615	−56.3	----	11	11,740	−59.6	----	23	11,550	−54.8	----
175	18	12,835	−59.8	----	21	12,597	−55.8	----	15	12,777	−58.6	----	21	12,633	−59.1	----	20	12,435	−56.0	----	7	12,629	−59.0	----	21	12,392	−54.6	----
150	12	13,817	−61.1	----	13	13,564	−56.7	----	5	13,797	−61.3	----	16	13,587	−58.5	----	15	13,408	−55.1	----	----	----	----	----	14	13,358	−54.6	----
125	----	----	----	----	5	14,647	−56.6	----	----	----	----	----	7	14,754	−60.4	----	9	14,556	−55.9	----	----	----	----	----	6	14,506	−54.5	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	15,954	−56.3	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	San Antonio, Tex. (990.5 mb.)				San Juan, P. R. (1,013.8 mb.)				Santa Maria, Calif. (1,008.9 mb.)				Sault Ste. Marie, Mich. (987.1 mb.)				Spokane, Wash. (946.6 mb.)				Swan Island, W. I. (1,012.7 mb.)				Tacubaya, Mexico (774.3 mb.)			
Surface	31	240	11.5	79	31	15	24.4	81	31	71	10.0	86	31	221	−5.9	85	31	598	0.3	85	31	10	25.7	81	30	2,306	13.5	55
1,000	31	159	(*)	----	31	135	23.5	83	31	145	10.3	83	31	119	(*)	----	31	153	(*)	----	31	121	24.3	82	30	87	(*)	----
950	31	592	13.7	65	31	584	20.4	86	31	579	10.4	67	31	524	−7.1	86	31	571	(*)	----	31	574	21.1	83	30	545	(*)	----
900	31	1,046	12.4	65	31	1,048	17.3	84	31	1,022	10.1	46	31	940	−8.7	86	31	1,002	−.1	79	31	1,037	18.0	81	30	1,016	(*)	----
850	31	1,525	11.0	54	31	1,535	14.3	83	31	1,497	8.7	38	31	1,382	−9.7	80	31	1,458	−1.4	72	31	1,525	15.1	78	30	1,508	(*)	----
800	31	2,030	9.7	44	31	2,046	12.0	72	31	1,995	6.4	36	31	1,848	−11.2	70	31	1,940	−3.4	69	31	2,036	12.6	71	30	2,030	(*)	----
750	31	2,565	7.7	38	31	2,591	10.3	52	31	2,528	3.6	34	31	2,349	−12.8	64	31	2,454	−5.7	67	31	2,582	9.9	60	30	2,575	11.9	56
700	31	3,129	4.9	33	31	3,157	7.8	48	31	3,077	.0	35	31	2,866	−14.5	58	31	2,986	−8.7	68	31	3,147	7.1	50	30	3,149	8.0	62
650	30	3,727	1.1	34	31	3,770	4.9	----	31	3,669	−3.8	35	31	3,432	−17.1	59	31	3,564	−12.0	66	31	3,755	3.8	45	30	3,758	3.5	70
600	30	4,368	−2.9	----	31	4,413	1.3	----	31	4,293	−7.9	37	30	4,021	−19.7	60	31	4,165	−15.4	62	30	4,400	.5	----	30	4,401	−1.1	76
550	30	5,051	−7.1	----	30	5,109	−2.4	----	31	4,965	−12.5	44	30	4,668	−23.3	----	31	4,820	−19.6	60	30	5,090	−3.7	----	30	5,094	−4.9	62
500	30	5,788	−11.9	----	29	5,858	−7.0	----	31	5,685	−17.3	44	30	5,353	−27.4	----	31	5,518	−24.3	----	29	5,839	−8.3	----	30	5,836	−9.1	43
450	29	6,600	−17.0	----	29	6,680	−12.8	----	31	6,472	−22.7	----	30	6,113	−32.5	----	31	6,285	−29.4	----	28	6,661	−13.1	----	30	6,654	−13.5	----
400	29	7,467	−23.5	----	29	7,559	−19.1	----	31	7,321	−28.7	----	30	6,925	−37.9	----	31	7,110	−35.1	----	28	7,539	−18.8	----	30	7,530	−19.9	----
350	28	8,426	−31.0	----	29	8,538	−26.3	----	30	8,261	−35.6	----	29	7,838	−43.8	----	30	8,023	−41.9	----	28	8,520	−26.1	----	30	8,507	−27.2	----
300	27	9,500	−38.8	----	29	9,633	−34.6	----	30	9,317	−42.9	----	28	8,849	−49.9	----	30	9,050	−49.2	----	27	9,618	−34.6	----	30	9,599	−35.8	----
250	24	10,732	−47.6	----	29	10,882	−43.8	----	28	10,520	−50.7	----	27	10,032	−54.1	----	29	10,222	−56.4	----	27	10,865	−44.6	----	30	10,840	−45.6	----
200	21	12,177	−56.0	----	27	12,347	−54.1	----	24	11,941	−57.0	----	20	11,471	−54.0	----	19	11,595	−59.8	----	26	12,318	−56.1	----	28	12,295	−56.4	----
175	18	13,010	−59.7	----	26	13,191	−59.6	----	22	12,792	−58.1	----	17	12,324	−52.4	----	13	12,392	−57.0	----	23	13,151	−61.6	----	22	13,139	−61.5	----
150	13	13,974	−62.7	----	17	14,140	−65.1	----	13	13,721	−57.8	----	11	13,336	−53.1	----	7	13,351	−55.1	----	14	14,094	−65.9	----	15	14,080	−66.4	----
125	7	15,084	−65.5	----	6	15,276	−68.8	----	10	14,859	−58.8	----	7	14,517	−54.1	----	6	14,510	−55.1	----	----	----	----	----	5	15,178	−70.9	----

Standard pressure surface (mb.)	Tampa, Fla. (1,019.6 mb.)				Tatoosh Island, Wash. (1,012.4 mb.)				Toledo, Ohio (994.9 mb.)				Washington, D. C. (1,017.3 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	28	9	16.6	83	31	31	5.5	85	31	191	0.0	77	31	25	4.9	63
1,000	28	174	17.4	78	31	131	4.7	82	31	150	(*)	----	31	164	4.3	58
950	28	614	16.2	73	31	554	3.2	80	31	558	−.6	73	31	586	3.7	58
900	28	1,071	13.8	69	31	985	1.4	75	31	991	−2.4	69	31	1,020	2.2	60
850	28	1,551	11.2	62	31	1,444	−.8	74	31	1,444	−3.1	62	31	1,481	.5	57
800	28	2,056	9.8	40	31	1,926	−2.8	63	31	1,923	−4.2	54	31	1,966	−1.0	56
750	28	2,595	8.2	----	31	2,444	−5.2	57	31	2,434	−5.5	52	31	2,485	−2.5	51
700	28	3,156	5.2	----	31	2,975	−8.0	54	31	2,970	−7.6	54	31	3,025	−4.9	45
650	28	3,759	1.9	----	31	3,552	−11.1	55	31	3,549	−10.2	50	31	3,609	−7.7	46
600	28	4,398	−1.7	----	30	4,159	−14.5	58	31	4,158	−13.5	50	30	4,225	−11.5	44
550	28	5,083	−6.0	----	29	4,817	−18.7	60	31	4,814	−17.6	56	30	4,889	−15.6	46
500	28	5,825	−10.9	----	29	5,521	−22.9	----	31	5,521	−22.3	----	29	5,598	−20.5	53
450	27	6,630	−16.4	----	28	6,290	−27.7	----	31	6,291	−27.9	----	29	6,374	−26.0	----
400	26	7,502	−22.7	----	27	7,130	−33.5	----	31	7,123	−33.6	----	28	7,220	−31.6	----
350	26	8,467	−30.0	----	26	8,048	−40.1	----	29	8,035	−39.9	----	28	8,151	−38.3	----
300	26	9,545	−38.5	----	23	9,099	−46.7	----	27	9,054	−46.5	----	27	9,199	−45.6	----
250	23	10,774	−48.1	----	18	10,303	−53.8	----	23	10,216	−52.0	----	25	10,387	−53.9	----
200	18	12,217	−57.6	----	7	11,613	−55.7	----	19	11,652	−55.7	----	19	11,819	−58.9	----
175	16	13,047	−61.4	----	----	----	----	----	16	12,504	−56.2	----	11	12,646	−57.1	----
150	13	14,001	−64.5	----	----	----	----	----	11	13,473	−57.0	----	8	13,618	−58.5	----
125	10	15,114	−68.4	----	----	----	----	----	----	----	----	----	----	----	----	----

[1] Insufficient observations.

[2] Station elevation changed from 2 to 6 meters on December 6, 1946. Surface data for new location only.

NOTE.—Late report for Havana, Cuba, November 1946, omitted due to insufficient observations.

*Temperature and relative humidity data for this level are not available or are available only for certain days. See note entitled "Change in Summarization of Radiosonde Data," p. 6, in the January 1946 issue of the MONTHLY WEATHER REVIEW.

NOTE.—All observations scheduled between 0300 and 0500, G. C. T., except at Ciudad Victoria, Mazatlan, and Merida, where they are taken near 0200, G. C. T. "Number of observations" refers to those of dynamic height only. (In a few cases temperature or humidity data may be missing from one or more standard pressure surfaces of some observations.) Relative humidity data are not published for standard pressure surfaces 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 observations at the surface or 5 observations at a standard pressure level.

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during December 1946. 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	31	245	1.5	31	256	0.8	29	285	1.3	29	254	3.7	29	286	2.4	31	333	0.9	28	140	2.4	25	251	5.5	28	229	2.0	29	285	0.8	29	251	2.1	30	318	2.3	31	280	0.9
500	---	---	---	---	---	---	29	267	2.0	---	---	---	---	---	---	---	---	---	28	154	3.9	25	253	7.7	28	238	6.4	29	273	1.9	29	239	4.3	---	---	---	---	---	---
1,000	31	227	3.0	---	---	---	28	265	2.8	---	---	---	28	293	6.6	31	329	0.8	22	148	5.0	21	255	10.3	25	252	8.6	25	268	5.5	27	246	7.1	---	---	---	---	---	---
1,500	29	231	4.4	---	---	---	26	269	5.1	29	263	9.3	25	296	9.6	31	269	2.3	22	172	3.7	11	272	12.9	19	263	9.4	25	269	7.7	25	262	10.7	---	---	---	31	281	1.2
2,000	28	247	7.0	31	227	1.6	26	276	7.6	28	275	12.5	23	297	11.9	30	269	4.7	21	200	2.3	10	282	14.9	12	272	14.0	25	268	8.8	20	275	13.4	30	297	2.8	31	247	2.0
2,500	26	259	9.5	31	263	3.1	23	276	9.0	28	280	13.6	22	300	13.6	29	272	6.6	20	204	2.4	---	---	---	---	---	---	25	268	11.1	14	271	14.0	30	276	4.5	29	254	5.6
3,000	25	261	9.9	31	272	5.9	22	277	11.3	27	287	13.3	19	305	15.4	26	270	6.4	19	211	3.5	---	---	---	---	---	---	24	274	11.5	12	275	13.9	29	277	6.7	29	265	7.0
4,000	23	263	11.0	30	279	9.3	22	277	14.7	23	294	15.8	13	298	17.3	18	268	6.2	15	218	4.8	---	---	---	---	---	---	21	281	13.8	---	---	---	28	290	11.5	27	266	8.5
5,000	22	270	12.1	29	268	13.5	19	277	17.6	17	297	19.3	13	297	20.0	15	295	9.1	14	214	6.7	---	---	---	---	---	---	19	279	16.4	---	---	---	27	295	16.6	26	263	10.6
6,000	19	259	10.9	27	255	14.0	18	281	20.6	15	293	20.8	13	295	21.5	13	300	11.0	10	226	6.8	---	---	---	---	---	---	19	275	18.8	---	---	---	24	278	17.6	25	265	11.3
8,000	10	291	12.0	24	263	17.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	21	272	23.9	20	271	14.5
10,000	---	---	---	13	288	18.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	14	278	19.3

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,475 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (575 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	30	202	0.8	31	298	1.8	29	237	1.4	28	241	3.1	28	25	1.2	28	243	2.8	31	47	0.8	29	211	1.0	27	335	0.1	31	87	3.0	29	21	0.6	29	227	1.9	28	279	5.0
500	---	---	---	---	---	---	29	254	2.9	---	---	---	28	268	0.9	28	242	4.3	---	---	---	29	225	3.0	27	286	0.2	31	74	6.4	29	140	0.1	29	216	3.5	28	279	8.1
1,000	---	---	---	---	---	---	29	257	5.1	28	244	7.6	27	240	2.3	24	253	6.8	31	50	1.4	27	241	4.8	27	173	1.6	30	79	5.5	28	228	1.0	27	234	5.6	28	278	9.9
1,500	---	---	---	31	297	1.8	29	270	8.1	28	278	10.7	27	245	3.5	24	275	9.9	31	25	1.2	26	260	6.8	27	208	3.7	28	85	4.4	26	259	2.7	24	248	7.4	26	279	12.5
2,000	30	197	0.9	31	300	1.0	27	274	10.9	26	283	11.4	25	250	3.7	21	282	14.0	31	269	1.2	25	267	9.1	24	230	4.5	26	83	2.7	25	262	4.8	23	263	10.6	19	279	14.3
2,500	30	240	1.4	31	223	2.7	27	276	13.3	23	283	12.8	24	264	5.1	17	283	15.5	31	271	3.1	22	271	11.9	17	233	3.0	23	98	2.2	24	265	6.1	20	270	12.4	14	273	15.8
3,000	28	276	3.5	30	241	5.2	25	278	15.3	22	286	13.6	24	267	5.7	15	285	14.8	30	275	4.2	20	279	14.3	16	242	3.0	23	111	1.6	22	275	8.2	19	276	13.2	---	---	---
4,000	23	300	9.4	25	285	9.1	23	271	21.2	16	298	14.2	23	270	8.5	---	---	---	26	283	6.1	18	280	16.4	14	251	7.2	17	280	1.5	18	279	8.6	18	277	17.1	---	---	---
5,000	21	295	12.7	19	292	12.8	19	271	22.3	10	286	15.1	23	275	10.1	---	---	---	24	281	9.4	15	293	19.1	10	291	10.2	14	310	3.6	17	279	10.7	16	282	18.9	---	---	---
6,000	19	298	15.6	17	290	16.6	16	274	23.9	---	---	---	20	274	13.4	---	---	---	21	290	12.6	12	281	21.1	---	---	---	13	269	5.5	15	289	11.6	13	286	18.9	---	---	---
8,000	14	308	16.6	---	---	---	---	---	---	---	---	---	13	289	16.9	---	---	---	14	291	19.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10,000	---	---	---	---	---	---	---	---	---	---	---	---	12	285	20.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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. (13 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	317	1.1	28	206	1.7	28	276	2.0	31	87	0.4	29	299	1.4	29	177	1.7	28	263	2.2	30	169	1.1	29	291	2.3	18	302	2.0	23	202	2.0	27	215	1.7	27	286	2.0
500	29	34	1.6	28	213	1.9	28	274	2.5	31	99	0.7	---	---	---	29	218	3.0	28	254	3.9	30	169	1.6	29	260	1.0	23	199	3.2	23	199	3.9	---	---	---	27	265	5.4
1,000	26	17	2.1	28	226	3.9	27	254	4.8	30	109	1.3	29	299	1.5	25	246	5.2	26	254	7.0	30	188	2.4	27	147	1.6	13	285	8.1	19	220	4.1	27	223	3.7	26	268	8.7
1,5000	24	352	1.4	26	249	4.8	26	274	7.7	30	136	1.7	29	296	6.0	22	269	7.5	22	274	10.1	25	234	3.4	26	131	0.7	---	---	---	17	239	3.9	23	240	8.0	25	278	12.5
2,000	21	357	1.7	24	253	8.0	26	279	10.9	29	159	1.3	29	291	9.0	21	270	10.8	21	281	11.5	25	237	6.3	25	8	0.4	---	---	---	13	271	3.5	21	249	8.8	25	277	14.7
2,500	19	346	2.9	24	260	10.3	24	281	12.7	29	203	1.2	26	296	11.2	20	270	13.8	20	287	13.2	22	238	7.2	21	330	1.0	---	---	---	13	294	5.8	17	263	9.3	25	278	17.2
3,000	19	331	4.1	22	269	11.8	24	282	14.0	29	269	1.7	26	297	13.1	20	270	16.1	17	289	15.6	21	238	8.1	21	320	1.8	---	---	---	11	308	4.9	12	292	9.6	23	278	18.1
4,000	16	309	5.4	20	272	15.7	19	274	18.5	28	278	4.4	24	291	15.3	16	273	18.9	15	289	18.6	20	246	8.6	17	321	3.5	---	---	---	---	---	---	---	---	---	18	274	19.2
5,000	13	321	8.2	20	276	17.0	17	275	21.6	27	267	6.3	21	284	17.4	14	279	17.5	11	291	21.3	19	262	9.0	13	327	8.7	---	---	---	---	---	---	---	---	---	13	282	20.2
6,000	11	333	11.9	17	275	20.5	14	280	25.1	24	268	8.4	16	282	20.6	12	279	21.1	---	---	---	17	269	9.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8,000	---	---	---	---	---	---	---	---	---	14	309	13.2	---	---	---	---	---	---	---	---	---	16	275	10.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	12	281	13.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 3.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during December 1946*

Section	Surface to 2,500 meters (m. s. l.)					2,501 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]	51.5	w.	2,500	26	Nantucket, Mass	64.8	wsw.	4,912	31	Caribou, Maine	81.2	sw.	7,892	2	Caribou, Maine.
East-Central [2]	47.2	wsw.	1,946	13	Richmond, Va	54.2	wnw.	2,852	13	Elkins, W. Va	80.6	wsw.	10,820	14	Hatteras, N. C.
Southeast [3]	50.0	n.	2,476	21	Charleston, S. C	49.8	n.	2,501	21	Charleston, S. C	63.0	w.	11,847	22	Spartanburg, S. C.
North-Central [4]	41.3	sw.	1,182	12	Alpena, Mich	50.0	nw.	3,732	26	Marquette, Mich	81.2	wsw.	9,748	9	Green Bay, Wis.
Central [5]	48.2	sw.	1,537	27	Moline, Ill	64.0	wsw.	3,552	8	Indianapolis, Ind	88.0	sw.	10,963	31	Goodland, Kans.
South-Central [6]	34.0	nw.	2,500	21	Memphis, Tenn	50.8	ssw.	4,423	12	Fort Worth, Tex	89.8	nnw.	16,551	5	New Orleans, La.
	34.0	ssw.	1,196	8	Tulsa, Okla										
Northwest [7]	42.8	w.	2,477	11	Havre, Mont	60.0	wsw.	5,000	15	Tatoosh Island, Wash	71.3	nnw.	13,606	22	Ellensburg, Wash.
West-Central [8]	56.4	wnw.	2,489	23	Cheyenne, Wyo	59.8	nnw.	4,136	28	Reno, Nev	82.0	s.	11,600	24	Oakland, Calif.
Southwest [9]	45.2	wnw.	2,500	29	El Paso, Tex	54.0	wnw.	4,778	28	El Paso, Tex	62.4	w.	12,965	29	Tucson, 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.