MONTHLY WEATHER REVIEW

Acting Editor, Robert N. Culnan

VOL. 76, No. 2
W. B. No. 1512

FEBRUARY 1948

CLOSED APRIL 5, 1948
ISSUED MAY 15, 1948

METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR FEBRUARY 1948

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 February 1948*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Albany, N. Y. (1,012.9 mb.)				Albuquerque, N. Mex. (835.9 mb.)				Apalachicola, Fla. (1,021.3 mb.)				Atlanta, Ga. (986.8 mb.)				Auburn, Calif. (960.0 mb.)				Big Spring, Tex. (927.8 mb.)				Bismarck, N. Dak. (959.0 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	28	86	−8.2	72	29	1,620	3.3	61	29	5	13.7	90	29	300	7.8	82	29	501	6.8	64	29	774	6.9	63	27	505	−12.7	89
1,000	28	184	−8.6	68	29	136	(*)	----	29	183	14.3	86	29	189	(*)	----	29	162	(*)	----	29	150	(*)	----	27	181	(*)	----
950	28	588	−8.0	69	29	570	(*)	----	29	620	13.3	79	29	619	8.3	79	29	589	7.9	58	29	579	(*)	----	27	578	(*)	----
900	28	1,002	−8.9	66	29	1,017	(*)	----	29	1,071	12.2	70	29	1,060	7.6	79	29	1,030	5.4	54	29	1,023	6.7	63	27	989	−11.0	75
850	28	1,444	−9.5	57	29	1,482	(*)	----	29	1,549	10.6	61	29	1,531	6.4	75	29	1,495	2.3	54	29	1,493	7.2	57	27	1,429	−9.8	68
800	28	1,912	−9.9	49	29	1,975	2.7	57	29	2,053	9.0	52	29	2,027	4.7	65	29	1,982	−.7	54	29	1,992	6.5	46	27	1,897	−10.4	65
750	28	2,414	−11.6	50	29	2,499	−.3	57	29	2,591	6.7	51	29	2,558	3.1	58	29	2,500	−3.5	50	29	2,523	4.0	39	27	2,399	−11.4	63
700	28	2,935	−13.3	53	29	3,043	−3.6	57	29	3,149	4.0	49	29	3,108	.5	54	29	3,037	−6.8	48	29	3,077	1.1	33	27	2,920	−13.7	62
650	28	3,502	−15.2	51	29	3,631	−7.3	57	28	3,749	.7	40	28	3,705	−2.2	48	29	3,615	−10.2	44	29	3,670	−2.4	32	27	3,489	−16.4	60
600	28	4,098	−18.1	51	29	4,244	−11.5	56	28	4,384	−3.2	41	28	4,333	−5.8	50	29	4,224	−14.0	45	29	4,299	−6.4	----	27	4,079	−19.0	61
550	28	4,747	−21.9	----	29	4,908	−15.2	48	28	5,068	−7.5	38	28	5,012	−9.6	47	29	4,881	−18.3	50	29	4,977	−10.7	----	27	4,726	−22.6	----
500	28	5,439	−26.3	----	29	5,624	−19.6	----	28	5,803	−12.3	----	28	5,740	−14.3	48	29	5,583	−23.2	----	29	5,701	−15.5	----	26	5,416	−27.1	----
450	28	6,198	−31.2	----	29	6,402	−25.0	----	28	6,606	−17.7	----	28	6,536	−19.8	54	29	6,355	−28.8	----	29	6,491	−21.0	----	26	6,174	−32.4	----
400	27	7,021	−36.5	----	28	7,235	−30.9	----	28	7,471	−23.8	----	28	7,395	−25.8	----	29	7,181	−34.1	----	29	7,349	−26.8	----	26	6,987	−38.2	----
350	27	7,934	−42.7	----	28	8,168	−37.8	----	28	8,433	−30.8	----	28	8,347	−33.0	----	29	8,104	−40.2	----	29	8,298	−33.8	----	24	7,892	−45.0	----
300	26	8,953	−49.0	----	25	9,214	−44.6	----	28	9,506	−39.4	----	28	9,412	−41.3	----	28	9,147	−46.4	----	29	9,362	−41.4	----	21	8,915	−51.2	----
250	14	10,112	−52.2	----	19	10,432	−51.0	----	27	10,731	−49.4	----	28	10,624	−50.7	----	27	10,329	−53.4	----	28	10,577	−49.9	----	15	10,100	−55.9	----
200	9	11,596	−54.6	----	----	------	------	----	26	12,164	−57.2	----	24	12,049	−57.2	----	24	11,753	−55.7	----	18	12,040	−56.1	----	9	11,512	−54.0	----
175	----	------	------	----	----	------	------	----	24	12,999	−58.8	----	23	12,891	−58.2	----	20	12,616	−55.4	----	11	12,887	−57.7	----	7	12,411	−53.9	----
150	----	------	------	----	----	------	------	----	21	13,956	−61.9	----	16	13,863	−59.7	----	15	13,588	−55.7	----	----	------	------	----	6	13,409	−53.4	----
125	----	------	------	----	----	------	------	----	9	15,089	−66.2	----	10	14,988	−63.6	----	7	14,757	−56.9	----	----	------	------	----	----	------	------	----

Standard pressure surface (mb.)	Boise, Idaho (916.5 mb.)				Brownsville, Tex. (1,016.4 mb.)				Buffalo, N. Y. (995.2 mb.)				Caribou, Maine (996.7 mb.)				Charleston, S. C. (1,021.5 mb.)				Ciudad Victoria, Mexico (973.4 mb.)				Columbia, Mo. (992.6 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	29	868	0.3	71	29	6	16.3	90	29	221	−4.9	78	29	191	−15.6	76	29	13	8.6	88	28	335	21.3	59	29	239	0.0	76
1,000	29	161	(*)	----	29	144	16.2	87	29	181	(*)	----	29	164	(*)	----	29	189	9.7	84	28	99	(*)	----	29	178	(*)	----
950	29	583	(*)	----	29	588	15.0	82	29	587	−5.7	75	29	556	−14.0	68	29	622	9.3	80	28	551	20.0	60	29	594	−.9	74
900	29	1,014	2.0	61	29	1,039	15.0	66	29	1,007	−7.4	73	29	962	−15.6	66	29	1,065	9.1	80	28	1,009	17.1	64	29	1,020	−1.0	71
850	29	1,473	−.2	56	29	1,523	14.2	56	29	1,451	−8.1	65	29	1,392	−16.9	66	29	1,537	7.4	73	28	1,495	15.3	64	29	1,476	−.8	65
800	29	1,955	−3.5	59	29	2,035	13.8	40	29	1,921	−9.1	58	29	1,846	−17.8	61	29	2,036	5.7	60	28	2,008	14.0	57	29	1,960	−1.3	59
750	29	2,466	−6.8	64	29	2,581	11.4	37	29	2,425	−10.2	52	29	2,334	−18.8	55	29	2,568	3.9	53	28	2,557	12.1	50	29	2,481	−2.9	57
700	29	2,998	−10.1	67	29	3,149	8.1	33	29	2,949	−12.1	53	29	2,840	−20.5	56	29	3,121	1.2	48	28	3,126	8.5	45	29	3,016	−5.3	56
650	29	3,569	−13.6	69	29	3,756	4.0	32	29	3,520	−14.3	54	29	3,393	−22.3	----	29	3,717	−1.9	46	28	3,737	4.3	41	29	3,600	−8.4	53
600	29	4,170	−17.4	73	29	4,401	−.5	33	29	4,117	−17.5	53	29	3,970	−24.8	----	29	4,347	−5.8	45	28	4,382	.0	37	29	4,212	−11.5	48
550	29	4,818	−21.6	----	29	5,090	−5.2	37	29	4,767	−20.9	----	29	4,601	−28.2	----	29	5,025	−9.9	42	28	5,075	−4.5	----	29	4,877	−15.4	42
500	29	5,512	−26.4	----	29	5,832	−10.0	----	28	5,467	−25.4	----	29	5,276	−32.3	----	29	5,753	−14.7	46	28	5,817	−9.6	----	29	5,587	−20.0	----
450	28	6,278	−31.6	----	29	6,642	−15.3	----	28	6,231	−30.3	----	29	6,020	−36.3	----	29	6,551	−20.1	50	28	6,635	−15.2	----	29	6,364	−25.4	----
400	27	7,093	−37.3	----	29	7,515	−22.1	----	28	7,053	−36.0	----	29	6,823	−40.0	----	29	7,407	−26.1	----	28	7,504	−21.4	----	28	7,207	−31.6	----
350	25	7,998	−43.9	----	29	8,484	−29.2	----	26	7,957	−42.1	----	29	7,720	−46.0	----	28	8,362	−33.1	----	28	8,475	−29.1	----	28	8,139	−38.3	----
300	24	9,031	−49.9	----	28	9,566	−37.6	----	23	8,993	−48.8	----	29	8,736	−49.8	----	28	9,429	−41.1	----	28	9,558	−37.7	----	28	9,180	−46.0	----
250	19	10,203	−53.5	----	25	10,797	−47.6	----	17	10,208	−54.3	----	28	9,930	−51.9	----	23	10,637	−50.8	----	15	10,785	−47.4	----	26	10,378	−53.4	----
200	14	11,623	−53.7	----	24	12,239	−57.0	----	7	11,579	−54.3	----	23	11,362	−49.7	----	18	12,071	−58.3	----	----	------	------	----	10	11,753	−53.2	----
175	10	12,453	−52.0	----	21	13,087	−59.4	----	5	12,426	−53.3	----	19	12,222	−49.1	----	17	12,915	−59.1	----	----	------	------	----	5	12,615	−55.5	----
150	5	13,411	−52.5	----	13	14,044	−61.3	----	----	------	------	----	16	13,249	−50.0	----	11	13,852	−59.8	----	----	------	------	----	----	------	------	----
125	----	------	------	----	----	------	------	----	----	------	------	----	9	14,461	−50.9	----	----	------	------	----	----	------	------	----	----	------	------	----

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 January 1948*—Continued

Standard pressure surface (mb.)	Dodge City, Kans. (926.3 mb.)				El Paso, Tex. (880.6 mb.)				Ely, Nev. (806.4 mb.)				Fort Worth, Tex. (994.7 mb.)				Glasgow, Mont. (941.6 mb.)				Grand Junction, Colo. (851.1 mb.)				Great Falls, Mont. (886.3 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	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	29	787	−1.7	83	29	1,195	9.6	45	29	1,908	−4.0	73	29	211	7.4	79	29	648	−11.8	78	29	1,474	−1.5	71	29	1,128	−6.9	72
1,000	29	170	(*)	----	29	122	(*)	----	29	169	(*)	----	29	167	2.5	77	29	179	(*)	----	29	166	(*)	----	29	171	(*)	----
950	29	586	(*)	----	29	563	(*)	----	29	591	(*)	----	29	592	6.5	75	29	580	(*)	----	29	588	(*)	----	29	584	(*)	----
900	29	1,016	−.8	78	29	1,016	(*)	----	29	1,029	(*)	----	29	1,033	6.5	73	29	994	−9.6	70	29	1,029	(*)	----	29	1,010	(*)	----
850	29	1,473	−.2	69	29	1,488	9.6	39	29	1,487	(*)	----	29	1,504	7.1	66	29	1,436	−9.3	66	29	1,484	−1.2	67	29	1,453	−7.2	69
800	29	1,959	−.2	57	29	1,988	6.5	40	29	1,972	−2.0	65	29	2,002	6.2	51	29	1,904	−9.9	65	29	1,967	−2.3	62	29	1,924	−8.6	70
750	29	2,478	−2.3	55	29	2,520	3.3	40	29	2,486	−4.3	61	29	2,535	3.7	46	29	2,405	−11.4	60	29	2,482	−5.0	65	29	2,428	−10.7	72
700	29	3,019	−4.5	51	29	3,070	−.1	37	29	3,022	−8.2	65	29	3,087	.9	38	29	2,927	−13.7	61	29	3,017	−7.6	67	29	2,951	−12.9	69
650	29	3,603	−7.4	45	29	3,662	−4.1	39	29	3,596	−11.8	66	29	3,683	−2.2	----	29	3,493	−16.8	60	28	3,591	−11.8	70	29	3,518	−15.8	60
600	28	4,219	−10.9	45	29	4,286	−8.3	43	29	4,202	−15.3	66	29	4,310	−6.2	----	29	4,085	−20.0	58	28	4,197	−15.8	69	29	4,112	−19.4	59
550	28	4,882	−15.3	----	29	4,960	−12.7	45	29	4,852	−19.4	66	28	4,984	−10.6	----	29	4,727	−23.8	----	28	4,849	−20.1	67	28	4,752	−23.9	----
500	28	5,596	−20.0	----	29	5,676	−17.7	----	29	5,555	−24.3	----	28	5,709	−15.6	----	28	5,412	−28.2	----	28	5,547	−24.4	----	28	5,440	−28.6	----
450	28	6,378	−25.4	----	29	6,462	−22.8	----	29	6,314	−30.1	----	27	6,507	−21.3	----	28	6,164	−33.5	----	27	6,317	−29.7	----	28	6,190	−33.8	----
400	28	7,214	−31.4	----	29	7,309	−28.9	----	28	7,140	−35.8	----	27	7,356	−27.3	----	28	6,978	−39.2	----	26	7,147	−35.2	----	28	7,003	−39.7	----
350	28	8,145	−38.3	----	28	8,250	−35.8	----	27	8,062	−41.5	----	27	8,303	−34.3	----	27	7,873	−45.9	----	25	8,069	−42.0	----	28	7,903	−46.1	----
300	27	9,190	−46.2	----	26	9,314	−43.8	----	25	9,091	−47.7	----	27	9,364	−42.1	----	27	8,883	−52.4	----	25	9,096	−48.9	----	27	8,917	−52.0	----
250	24	10,388	−54.2	----	21	10,532	−52.7	----	23	10,296	−53.5	----	27	10,574	−50.8	----	24	10,060	−55.9	----	25	10,277	−54.5	----	27	10,087	−55.4	----
200	21	11,814	−57.4	----	19	11,955	−57.7	----	20	11,723	−55.2	----	26	12,003	−57.1	----	15	11,491	−53.7	----	20	11,709	−55.5	----	20	11,529	−54.9	----
175	16	12,653	−56.2	----	17	12,807	−58.8	----	13	12,577	−53.8	----	24	12,849	−58.2	----	10	12,376	−52.0	----	18	12,555	−53.8	----	16	12,393	−52.8	----
150	13	13,625	−56.5	----	10	13,789	−60.9	----	9	13,576	−56.6	----	22	13,822	−59.4	----	7	13,406	51.3	----	10	13,595	−54.4	----	6	13,390	−51.7	----
125	6	14,840	−59.6	----	5	14,923	−65.8	----	----	----	----	----	12	14,965	−62.8	----	----	----	----	----	5	14,807	−57.0	----	----	----	----	----

Standard pressure surface (mb.)	Greensboro, N. C. (990.7 mb.)				Hatteras, N. C. (1,022.1 mb.)				Havana, Cuba [1] (---- mb.)				Honolulu, T. H. (1,013.3 mb.)				Huntington, W. Va. (1,001.2 mb.)				International Falls, Minn. (978.7 mb.)				Joliet, Ill. (1,000.4 mb.)			
Surface	29	273	3.2	78	29	3	8.3	86	----	----	----	----	29	3	23.5	65	28	172	2.9	79	29	360	−15.8	80	29	178	−4.2	79
1,000	29	196	(*)	----	29	183	9.6	79	----	----	----	----	29	118	21.9	66	28	179	(*)	----	29	195	(*)	----	29	180	(*)	----
950	29	617	3.9	75	29	615	8.8	70	----	----	----	----	29	564	18.2	71	28	599	2.5	76	29	585	−14.7	75	29	591	−3.9	72
900	29	1,053	3.7	76	29	1,056	7.0	70	----	----	----	----	29	1,022	14.9	71	28	1,031	.7	77	29	992	−14.7	72	29	1,011	−4.6	63
850	29	1,516	2.8	73	29	1,524	4.9	69	----	----	----	----	29	1,504	11.9	67	28	1,490	−.2	68	29	1,426	−13.6	67	29	1,461	−4.8	53
800	29	2,006	1.0	70	29	2,017	2.8	66	----	----	----	----	29	2,010	10.0	49	28	1,974	−1.5	67	29	1,886	−14.2	63	29	1,938	−5.2	56
750	28	2,530	−.7	60	29	2,543	.8	60	----	----	----	----	29	2,551	8.0	41	28	2,492	−3.0	67	29	2,380	−15.2	58	29	2,449	−6.4	55
700	28	3,074	−2.9	52	29	3,091	−1.3	55	----	----	----	----	29	3,111	5.4	----	28	3,032	−5.4	65	29	2,895	−16.6	58	29	2,981	−8.8	57
650	28	3,659	−5.6	52	29	3,680	−4.2	54	----	----	----	----	29	3,713	2.2	----	28	3,611	−8.3	63	29	3,453	−19.1	61	29	3,557	−11.6	56
600	28	4,283	−9.0	54	28	4,307	−7.7	49	----	----	----	----	29	4,354	−1.9	----	28	4,227	−11.8	60	29	4,041	−22.4	----	29	4,161	−15.0	55
550	28	4,953	−13.3	57	28	4,980	−11.7	42	----	----	----	----	29	5,040	−6.5	----	28	4,886	−15.7	60	29	4,674	−25.7	----	29	4,816	−19.0	54
500	28	5,669	−18.3	56	28	5,703	−16.5	48	----	----	----	----	29	5,778	−11.5	----	28	5,601	−20.2	60	29	5,361	−29.7	----	29	5,517	−23.4	----
450	28	6,456	−23.6	----	27	6,492	−21.8	----	----	----	----	----	28	6,579	−17.6	----	28	6,381	−25.4	----	28	6,114	−34.1	----	29	6,281	−28.9	----
400	28	7,301	−29.4	----	27	7,342	−27.9	----	----	----	----	----	28	7,446	−24.2	----	28	7,220	−31.1	----	28	6,928	−39.5	----	29	7,113	−34.5	----
350	27	8,236	−36.3	----	26	8,291	−34.9	----	----	----	----	----	28	8,406	−31.0	----	28	8,152	−38.1	----	28	7,829	−45.7	----	29	8,034	−40.9	----
300	27	9,286	−44.7	----	26	9,349	−42.6	----	----	----	----	----	28	9,487	−36.8	----	27	9,206	−45.0	----	27	8,849	−52.0	----	29	9,066	−47.8	----
250	27	10,479	−53.4	----	24	10,561	−51.6	----	----	----	----	----	28	10,736	−41.3	----	18	10,403	−53.0	----	23	10,021	−54.4	----	27	10,246	−54.1	----
200	22	11,884	−57.1	----	18	11,992	−58.9	----	----	----	----	----	28	12,226	−49.2	----	13	11,817	−55.0	----	14	11,441	−48.7	----	15	11,685	−55.3	----
175	20	12,724	−58.2	----	14	12,836	−58.4	----	----	----	----	----	28	13,092	−54.3	----	9	12,670	−54.4	----	11	12,307	−48.0	----	10	12,553	−54.5	----
150	13	13,679	−59.1	----	6	13,795	−59.6	----	----	----	----	----	28	14,066	−60.0	----	5	13,636	−54.3	----	8	13,353	−47.9	----	----	----	----	----
125	9	14,810	−62.0	----	----	----	----	----	----	----	----	----	28	15,152	−65.9	----	----	----	----	----	----	----	----	----	----	----	----	----
100	----	----	----	----	----	----	----	----	----	----	----	----	26	16,530	−71.6	----	----	----	----	----	----	----	----	----	----	----	----	----
80	----	----	----	----	----	----	----	----	----	----	----	----	20	17,846	−71.0	----	----	----	----	----	----	----	----	----	----	----	----	----
60	----	----	----	----	----	----	----	----	----	----	----	----	16	19,571	−66.8	----	----	----	----	----	----	----	----	----	----	----	----	----
50	----	----	----	----	----	----	----	----	----	----	----	----	9	20,682	−63.0	----	----	----	----	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Lake Charles, La. (1,019.9 mb.)				Lander, Wyo. (826.0 mb.)				Las Vegas, Nev. (948.6 mb.)				Little Rock, Ark. (1,011.9 mb.)				Mazatlan, Mexico (1,010.9 mb.)				Medford, Oreg. (972.0 mb.)				Merida, Mexico (1,013.1 mb.)			
Surface	29	5	11.7	89	29	1,696	−6.8	71	29	574	9.5	38	29	79	5.4	77	29	14	20.5	79	29	401	3.8	80	29	27	25.3	68
1,000	29	170	11.9	86	29	173	(*)	----	29	131	(*)	----	29	175	5.1	76	29	108	20.5	73	29	170	(*)	----	29	141	24.7	69
950	29	606	11.3	84	29	588	(*)	----	29	562	(*)	----	29	596	4.4	72	29	558	21.9	48	29	589	4.1	73	29	593	22.3	66
900	29	1,052	10.8	75	29	1,019	(*)	----	29	1,010	8.9	31	29	1,035	4.6	71	29	1,021	20.0	41	29	1,026	2.1	68	29	1,059	19.2	69
850	29	1,528	10.1	59	29	1,469	(*)	----	29	1,480	5.6	33	29	1,501	4.8	66	29	1,511	17.0	40	29	1,485	−1.0	72	29	1,549	15.9	71
800	29	2,032	8.7	54	29	1,946	−5.4	67	29	1,972	2.5	36	29	1,995	3.7	62	29	2,025	13.7	37	29	1,965	−4.1	74	29	2,061	12.6	64
750	29	2,572	6.9	44	29	2,455	−6.6	58	29	2,495	−1.5	42	29	2,520	1.9	55	29	2,570	9.9	39	29	2,476	−7.1	68	29	2,591	10.3	46
700	29	3,128	4.2	42	29	2,988	−9.2	58	29	3,035	−5.5	44	29	3,071	−.9	53	29	3,135	5.9	41	29	3,007	−9.8	58	29	3,173	8.8	----
650	29	3,730	.6	42	29	3,562	−12.8	57	29	3,617	−9.5	48	29	3,659	−3.7	43	29	3,738	2.1	38	29	3,581	−13.0	56	29	3,784	5.9	----
600	29	4,365	−3.6	42	29	4,164	−16.2	53	29	4,227	−13.6	50	29	4,288	−7.2	----	29	4,380	−1.8	----	29	4,181	−16.6	56	29	4,432	2.0	----
550	29	5,046	−8.3	44	29	4,817	−20.5	53	29	4,884	−17.6	44	28	4,965	−11.3	----	28	5,064	−6.5	----	29	4,830	−20.7	----	29	5,127	−2.7	----
500	28	5,782	−12.9	----	29	5,511	−25.6	----	29	5,590	−22.7	----	28	5,688	−16.2	----	28	5,804	−11.2	----	29	5,528	−25.1	----	29	5,877	−7.9	----
450	27	6,582	−18.6	----	29	6,272	−31.4	----	29	6,360	−27.9	----	28	6,480	−21.5	----	28	6,609	−17.1	----	29	6,291	−30.3	----	29	6,605	−13.7	----
400	27	7,447	−24.7	----	29	7,090	−37.7	----	29	7,193	−33.2	----	27	7,329	−27.4	----	28	7,478	−23.2	----	29	7,113	−36.1	----	29	7,574	−20.2	----
350	27	8,405	−31.5	----	29	7,996	−44.5	----	28	8,123	−39.3	----	25	8,280	−34.0	----	28	8,442	−30.4	----	29	8,028	−41.8	----	29	8,548	−28.5	----
300	26	9,479	−39.6	----	29	9,012	−51.0	----	27	9,165	−46.1	----	24	9,342	−41.5	----	28	9,521	−38.7	----	29	9,058	−48.0	----	29	9,631	−37.6	----
250	24	10,662	−50.2	----	28	10,173	−55.6	----	27	10,359	−52.8	----	17	10,567	−50.5	----	18	10,781	−48.1	----	29	10,242	−53.9	----	27	10,859	−47.3	----
200	17	12,109	−59.1	----	20	11,610	−53.7	----	26	11,788	−54.9	----	10	11,981	−57.4	----	7	12,205	−58.1	----	25	11,652	−55.0	----	19	12,305	−56.7	----
175	16	12,949	−59.3	----	15	12,458	−53.2	----	26	12,641	−54.6	----	----	----	----	----	6	13,059	−60.1	----	24	12,512	−54.8	----	10	13,132	−60.2	----
150	14	13,914	−61.6	----	10	13,456	−53.8	----	22	13,626	−55.3	----	----	----	----	----	6	14,012	−63.9	----	20	13,488	−54.4	----	----	----	----	----
125	7	15,055	−66.5	----	----	----	----	----	12	14,759	−55.9	----	----	----	----	----	----	----	----	----	11	14,611	−54.7	----	----	----	----	----
100	----	----	----	----	----	----	----	----	5	16,165	−58.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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 February 1948*—Continued

Standard pressure surface (mb.)	Miami, Fla. (1,020.6 mb.)				Nantucket, Mass. (1,021.6 mb.)				Nashville, Tenn. (1,000.2 mb.)				New Orleans, La. (1,020.7 mb.)				North Platte, Nebr. (918.4 mb.)				Oakland, Calif. (1,019.3 mb.)				Ogden, Utah (863.7 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	29	4	20.1	84	29	14	−1.3	78	28	180	5.4	80	29	2	13.0	87	29	849	−3.3	73	29	6	10.0	71	29	1,355	−0.6	68
1,000	29	180	20.4	80	29	183	−1.5	76	28	181	(*)	----	29	174	13.1	85	29	167	(*)	----	29	165	9.4	71	29	165	(*)	----
950	29	624	17.4	80	29	592	−3.6	76	28	603	3.9	80	29	609	11.6	82	29	581	(*)	----	29	596	7.3	65	29	588	(*)	----
900	29	1,082	14.7	75	29	1,016	−5.8	70	28	1,039	3.4	78	29	1,057	11.1	73	29	1,009	−2.4	70	29	1,032	5.0	58	29	1,028	(*)	----
850	29	1,564	12.5	66	29	1,463	−6.7	56	28	1,502	3.2	68	29	1,534	10.2	60	29	1,461	−3.9	68	29	1,496	2.5	53	29	1,483	.1	60
800	29	2,072	11.2	46	29	1,935	−7.3	49	28	1,993	1.7	62	29	2,038	8.5	56	29	1,939	−4.3	63	29	1,985	.3	50	29	1,967	−2.5	58
750	29	2,614	9.0	39	29	2,443	−8.3	45	27	2,518	−.5	59	29	2,572	6.7	50	29	2,454	−5.6	58	29	2,507	−2.4	49	29	2,482	−5.9	62
700	29	3,177	6.3	30	29	2,971	−9.6	46	27	3,063	−2.9	57	29	3,133	4.0	42	29	2,986	−8.0	57	29	3,044	−5.6	46	29	3,013	−9.5	66
650	29	3,782	3.0	25	29	3,544	−12.5	50	27	3,649	−5.8	54	28	3,734	.6	39	29	3,564	−11.1	57	29	3,628	−9.2	43	29	3,589	−13.2	71
600	29	4,424	−.6	----	29	4,148	−15.9	50	26	4,269	−9.5	52	26	4,375	−3.2	----	29	4,169	−14.6	58	29	4,236	−13.0	44	29	4,187	−16.8	71
550	29	5,113	−4.8	----	29	4,800	−19.5	49	26	4,938	−13.3	----	25	5,062	−7.6	----	29	4,826	−19.1	59	29	4,898	−17.0	43	29	4,840	−20.9	----
500	29	5,857	−9.9	----	28	5,503	−24.1	----	26	5,657	−17.8	----	25	5,794	−12.5	----	29	5,525	−23.9	----	29	5,603	−21.9	----	29	5,533	−25.6	----
450	29	6,669	−15.5	----	28	6,270	−28.7	----	26	6,441	−23.0	----	25	6,600	−17.7	----	29	6,296	−29.1	----	29	6,379	−27.2	----	29	6,296	−31.2	----
400	29	7,540	−22.0	----	27	7,097	−34.5	----	26	7,290	−29.0	----	25	7,464	−23.4	----	29	7,118	−35.0	----	29	7,209	−32.8	----	29	7,114	−37.1	----
350	29	8,507	−29.7	----	25	8,012	−40.6	----	26	8,231	−35.8	----	25	8,426	−30.8	----	29	8,036	−41.5	----	29	8,137	−38.6	----	29	8,024	−43.5	----
300	28	9,586	−38.4	----	23	9,044	−47.2	----	24	9,291	−43.8	----	25	9,501	−39.1	----	28	9,066	−48.9	----	29	9,181	−45.5	----	29	9,047	−49.0	----
250	27	10,814	−48.1	----	20	10,226	−52.5	----	21	10,500	−52.2	----	25	10,723	−49.3	----	28	10,244	−54.9	----	26	10,381	−52.1	----	27	10,241	−54.5	----
200	20	12,254	−56.0	----	9	11,694	−53.8	----	15	11,946	−58.9	----	25	12,152	−58.5	----	22	11,665	−54.8	----	22	11,803	−55.8	----	25	11,667	−55.3	----
175	19	13,098	−59.1	----	6	12,514	−54.3	----	11	12,777	−59.1	----	22	12.998	−59.9	----	17	12,507	−53.2	----	20	12,654	−54.2	----	23	12,517	−53.6	----
150	14	14,044	−63.3	----	----	----	----	----	6	13,726	−59.4	----	20	13,967	−62.0	----	11	13,514	−54.4	----	18	13,655	−54.8	----	17	13,525	−54.1	----
125	8	15,139	−67.6	----	----	----	----	----	----	----	----	----	14	15,099	−65.9	----	----	----	----	----	9	14,778	−55.4	----	9	14,683	−56.8	----

Standard pressure surface (mb.)	Oklahoma City, Okla. (973.2 mb.)				Omaha, Nebr. (984.5 mb.)				Phoenix, Ariz. (975.4 mb.)				Pittsburgh, Pa. (975.8 mb.)				Portland, Maine (1,020.7 mb.)				Rapid City, S. Dak. (902.4 mb.)				St. Cloud, Minn. (982.5 mb.)			
Surface	29	391	2.5	82	29	308	−3.1	73	29	339	12.5	46	29	382	−0.6	69	29	20	−7.6	66	29	980	−7.1	76	29	317	−11.9	88
1,000	29	169	(*)	----	29	182	(*)	----	29	128	(*)	----	29	183	(*)	----	29	179	−6.7	62	29	166	(*)	----	29	179	(*)	----
950	29	586	2.6	77	29	590	−4.9	78	29	568	13.7	40	29	599	−1.3	67	29	581	−8.3	61	29	578	(*)	----	29	581	−10.8	80
900	29	1,023	2.5	74	29	1,013	−4.9	73	29	1,014	10.5	41	29	1,025	−2.5	69	29	996	−9.9	60	29	1,001	(*)	----	29	990	−9.9	70
850	29	1,486	3.5	66	29	1,464	−4.0	68	29	1,487	6.8	45	29	1,478	−3.6	63	29	1,436	−11.0	56	29	1,446	−5.2	62	29	1,431	−9.2	60
800	29	1,978	3.1	57	29	1,941	−4.5	68	29	1,982	3.0	50	29	1,956	−4.6	63	29	1,901	−11.6	51	29	1,923	−5.8	60	29	1,900	−9.7	60
750	29	2,504	1.1	52	29	2,454	−5.2	54	29	2,509	−.4	49	29	2,469	−6.3	59	29	2.402	−12.9	----	29	2,434	−7.6	62	29	2,404	−10.7	62
700	29	3,052	−1.3	47	29	2,989	−7.6	50	29	3,050	−3.7	47	29	3,000	−8.4	59	29	2,919	−14.3	----	29	2,962	−9.9	60	29	2,926	−12.7	61
650	29	3,639	−4.6	46	29	3,568	−10.8	50	29	3,638	−7.1	42	29	3,578	−10.9	57	29	3,484	−16.7	----	29	3,537	−12.9	59	29	3,494	−15.0	55
600	28	4,262	−8.5	43	29	4,174	−14.4	50	29	4,253	−10.7	41	29	4,184	−14.1	58	29	4,076	−19.6	----	28	4,140	−16.5	57	29	4,091	−18.1	58
550	28	4,932	−13.0	45	29	4,832	−18.8	52	29	4,923	−15.2	42	28	4,844	−18.2	60	29	4,718	−23.2	----	28	4,795	−20.3	52	29	4,740	−21.5	----
500	28	5,651	−17.6	47	29	5,532	−23.2	----	29	5,630	−20.0	44	28	5,548	−22.6	----	29	5,409	−27.6	----	27	5,487	−24.2	----	29	5,433	−25.7	----
450	27	6,439	−23.0	----	29	6.301	−28.5	----	29	6,413	−25.0	----	27	6,325	−27.6	----	29	6,164	−32.6	----	26	6,241	−31.0	----	29	6,194	−30.7	----
400	27	7,286	−29.3	----	29	7,131	−34.5	----	28	7,254	−31.0	----	27	7,155	−33.6	----	29	6,980	−38.3	----	26	7,063	−37.3	----	29	7,017	−36.7	----
350	24	8,244	−35.5	----	28	8,051	−41.5	----	25	8,206	−36.9	----	27	8,079	−40.1	----	27	7,885	−43.7	----	26	7,972	−44.2	----	29	7,927	−43.5	----
300	24	9,299	−43.1	----	27	9,083	−49.3	----	24	9,271	−43.9	----	26	9,116	−47.5	----	26	8,904	−49.0	----	23	8,993	−50.1	----	28	8,954	−49.9	----
250	18	10,503	−51.0	----	27	10,260	−55.8	----	22	10,464	−52.0	----	23	10,314	−55.2	----	24	10,083	−52.4	----	21	10,177	−54.4	----	22	10,137	−54.5	----
200	6	11,961	−54.9	----	21	11,678	−55.0	----	18	11,891	−55.5	----	19	11,741	−58.7	----	18	11,485	−51.5	----	18	11,602	−51.8	----	13	11,574	−52.4	----
175	5	12,812	−58.2	----	8	12,541	−52.8	----	10	12,666	−53.8	----	13	12,563	−56.5	----	15	12,324	−51.0	----	17	12,470	−51.4	----	7	12,437	−49.5	----
150	----	----	----	----	----	----	----	----	----	----	----	----	7	13,488	−56.2	----	11	13,297	−52.5	----	10	13,483	−51.4	----	----	----	----	----
125	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	9	14,475	−53.2	----	6	14,706	−53.1	----	----	----	----	----
100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	6	15,946	−53.7	----	----	----	----	----	----	----	----	----
80	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	5	17,380	−55.2	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	San Antonio, Tex. (989.7 mb.)				San Juan, P. R. (1,016.5 mb.)				Santa Maria, Calif. (1,010.4 mb.)				Sault Ste. Marie, Mich. (993.5 mb.)				Spokane, Wash. (931.9 mb.)				Swan Island, W. I. (1,015.6 mb.)				Tacubaya, Mexico (773.5 mb.)			
Surface	29	240	11.2	79	29	15	24.0	77	29	71	10.1	72	29	221	−10.1	84	29	721	−1.6	75	29	10	25.2	80	28	2,306	17.3	41
1,000	29	152	(*)	----	29	158	22.7	77	29	157	10.2	67	29	169	(*)	----	29	154	(*)	----	29	146	24.4	80	28	49	(*)	----
950	29	588	10.8	78	29	606	19.1	80	29	584	8.9	57	29	569	−10.5	81	29	571	(*)	----	29	599	20.6	83	28	513	(*)	----
900	29	1,033	10.3	78	29	1,067	15.6	82	29	1,028	6.5	49	29	979	−12.0	79	29	997	−2.6	74	29	1,060	17.6	78	28	991	(*)	----
850	29	1,509	9.6	70	29	1,551	12.6	77	29	1,495	3.8	45	29	1,415	−13.5	77	29	1,449	−4.9	73	29	1,547	14.8	72	28	1,489	(*)	----
800	29	2,012	9.2	47	29	2,058	10.7	62	29	1,985	.9	43	29	1,875	−14.4	69	29	1,924	−6.9	71	29	2,058	12.0	60	28	2,018	(*)	----
750	29	2,552	7.3	38	29	2,602	9.5	36	29	2,504	−1.6	37	29	2,371	−15.1	61	29	2,428	−9.5	72	29	2,604	10.1	43	28	2,571	15.6	41
700	29	3,111	4.4	36	29	3,165	7.1	----	29	3,047	−4.3	37	29	2,883	−16.6	60	29	2,955	−12.5	70	29	3,169	7.9	----	28	3,150	10.9	46
650	29	3,710	.7	35	29	3,772	4.0	----	29	3,629	−7.4	37	29	3,445	−18.9	58	29	3,522	−15.6	69	29	3,783	5.1	----	28	3,764	5.8	52
600	29	4,348	−3.3	32	29	4,416	.7	----	29	4,246	−11.2	37	29	4,031	−21.7	----	29	4,118	−19.2	71	29	4,425	1.7	----	28	4,413	.4	58
550	29	5,032	−7.8	33	29	5,113	−3.3	----	29	4,912	−15.6	40	29	4,673	−24.9	----	29	4,761	−23.3	----	29	5,122	−2.4	----	28	5,104	−4.8	54
500	29	5,764	−13.0	34	29	5,855	−8.2	----	29	5,622	−20.2	----	28	5,358	−28.6	----	29	5,451	−27.8	----	29	5,872	−7.0	----	28	5,849	−9.1	----
450	29	6,563	−19.0	43	29	6,676	−13.9	----	29	6,403	−25.2	----	26	6,117	−33.3	----	29	6,205	−33.1	----	29	6,693	−12.6	----	28	6,662	−14.7	----
400	29	7,425	−25.2	----	28	7,546	−20.8	----	29	7,241	−31.0	----	25	6,922	−38.5	----	29	7,019	−38.7	----	29	7,574	−19.5	----	28	7,538	−21.2	----
350	28	8,379	−31.9	----	28	8,518	−28.4	----	29	8,176	−37.4	----	24	7,834	−43.9	----	29	7,923	−45.0	----	29	8,550	−27.4	----	27	8,507	−29.2	----
300	27	9,450	−39.6	----	25	9,612	−36.0	----	27	9,208	−44.8	----	20	8,881	−48.7	----	28	8,936	−51.1	----	29	9,640	−36.1	----	27	9,589	−38.0	----
250	25	10,675	−49.2	----	24	10,854	−44.4	----	23	10,436	−52.5	----	----	----	----	----	26	10,115	−54.5	----	29	10,880	−45.4	----	23	10,818	−47.6	----
200	21	12,109	−57.2	----	23	12,319	−53.4	----	17	11,869	−57.8	----	----	----	----	----	14	11,564	−53.1	----	29	12,336	−54.7	----	9	12,278	−56.8	----
175	19	12,954	−59.3	----	21	13,168	−58.8	----	14	12,725	−56.0	----	----	----	----	----	13	12,415	−51.3	----	28	13,182	−60.2	----	8	13,125	−60.7	----
150	14	13,911	−61.0	----	16	14,129	−64.6	----	10	13,710	−56.5	----	----	----	----	----	10	13,397	−52.3	----	25	14,127	−66.5	----	5	14,107	−64.8	----
125	----	----	----	----	----	----	----	----	5	14,860	−60.3	----	----	----	----	----	----	----	----	----	13	15,210	−73.7	----	----	----	----	----

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 February 1948*—Continued

Standard pressure surface (mb.)	Tampa, Fla. (1,020.8 mb.)				Tatoosh Island, Wash. (1,011.3 mb.)				Toledo, Ohio (998.7 mb.)				Washington, D. C. (1,022.0 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	29	9	17.0	83	28	31	4.8	82	29	191	−4.1	77	29	25	2.1	65
1,000	29	184	17.4	79	28	121	(*)	----	29	180	−6.8	78	29	199	2.1	58
950	29	626	15.5	76	28	540	1.7	81	29	589	−4.5	77	29	616	.8	60
900	29	1,080	13.3	74	28	971	−.8	79	29	1,010	−4.9	69	29	1,046	−.1	59
850	29	1,560	11.3	65	28	1,426	−3.0	75	29	1,459	−5.2	59	29	1,503	−1.0	55
800	29	2,065	9.7	50	28	1,904	−5.3	75	29	1,935	−6.1	57	29	1,985	−2.5	52
750	29	2,606	7.9	37	28	2,414	−7.8	73	29	2,444	−7.6	56	29	2,501	−3.8	53
700	29	3,165	5.0	35	28	2,942	−10.9	71	29	2,974	−9.2	54	29	3,039	−5.5	47
650	29	3,768	1.4	37	28	3,514	−14.3	67	29	3,553	−12.0	54	29	3,619	−8.4	50
600	29	4,405	−2.5	37	28	4,111	−17.8	63	29	4,154	−15.3	57	29	4,235	−11.8	47
550	29	5,089	−6.4	----	28	4,759	−22.1	----	28	4,809	−19.8	59	29	4,897	−15.9	45
500	29	5,829	−11.1	----	27	5,456	−26.6	----	28	5,507	−24.2	----	29	5,608	−20.2	----
450	29	6,636	−16.8	----	26	6,218	−32.0	----	28	6,271	−29.2	----	29	6,388	−25.2	----
400	29	7,504	−23.0	----	26	7,035	−37.3	----	28	7,101	−35.1	----	29	7,226	−31.3	----
350	28	8,466	−30.5	----	26	7,946	−42.8	----	28	8,019	−41.5	----	28	8,160	−38.2	----
300	28	9,540	−39.4	----	26	8,972	−48.7	----	27	9,049	−48.6	----	27	9,200	−46.5	----
250	26	10,753	−49.4	----	23	10,161	−52.3	----	26	10,234	−55.0	----	22	10,392	−54.8	----
200	26	12,185	−57.3	----	19	11,573	−51.1	----	18	11,666	−56.9	----	20	11,807	−58.0	----
175	26	13,023	−60.0	----	16	12,436	−49.0	----	11	12,503	−56.9	----	17	12,645	−58.2	----
150	22	13,985	−63.5	----	14	13,449	−48.8	----	----	----	----	----	12	13,634	−58.7	----
125	10	15,091	−68.5	----	13	14,639	−50.5	----	----	----	----	----	8	14,796	−62.8	----
100	----	----	----	----	7	16,108	−51.9	----	----	----	----	----	7	16,155	−65.6	----
80	----	----	----	----	----	----	----	----	----	----	----	----	6	17,507	−65.0	----

[1] Data not yet received.

* 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 for 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 2200 G. C. T., during February 1948. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Speeds in meters per second*

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)			Albuquerque, N. Mex. (1,627 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)		
	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	21	212	1.5	29	201	1.4	22	242	0.7	28	240	3.6	27	327	0.5	27	322	1.3
500	----	----	----	----	----	----	22	251	.9	----	----	----	----	----	----	----	----	----
1,000	21	202	3.8	----	----	----	21	243	2.6	----	----	----	27	280	3.7	27	315	1.6
1,500	16	229	7.0	----	----	----	16	269	7.0	28	254	6.6	24	285	7.5	27	296	3.0
2,000	16	247	10.4	29	206	2.1	15	277	7.2	27	276	9.0	24	287	8.8	24	288	4.8
2,500	16	252	12.5	29	247	4.1	13	292	8.4	24	281	11.6	23	290	11.0	22	287	6.0
3,000	16	253	13.9	28	259	6.7	12	285	12.0	21	283	11.5	21	288	12.9	21	290	7.6
4,000	16	259	16.2	23	270	13.5	11	285	17.3	17	292	13.1	18	280	16.4	16	291	9.1
5,000	16	261	17.9	21	269	17.3	10	281	21.3	15	304	15.3	15	282	18.6	14	311	9.4
6,000	12	265	21.3	21	271	20.9	----	----	----	15	302	16.6	12	293	18.1	10	325	11.4
8,000	6	270	27.5	16	269	23.2	----	----	----	----	----	----	10	290	21.6	----	----	----
10,000	----	----	----	13	268	22.7	----	----	----	----	----	----	----	----	----	----	----	----
12,000	----	----	----	7	256	40.0	----	----	----	----	----	----	----	----	----	----	----	----

Altitude (meters) m. s. l.	Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (273 m.)			Denver, Colo. (1,618 m.)			El Paso, Tex. (1,198 m.)		
	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	28	254	2.3	28	254	2.3	16	352	1.1	23	228	0.5	25	260	1.2	29	67	0.9	29	256	3.0
500	28	243	3.9	28	243	3.9	16	306	1.9	23	244	2.0	25	235	2.1	----	----	----	----	----	----
1,000	21	257	6.0	21	257	6.0	16	281	4.3	18	240	5.0	23	256	3.9	----	----	----	----	----	----
1,500	16	262	8.1	16	262	8.1	14	270	6.1	18	261	5.9	21	272	7.0	----	----	----	29	252	4.2
2,000	16	273	11.5	16	273	11.5	10	299	10.8	15	277	8.8	18	281	9.6	29	54	.6	29	238	5.0
2,500	14	282	13.6	14	282	13.6	10	291	12.6	15	280	10.2	17	283	12.5	26	295	1.6	28	238	7.9
3,000	11	286	16.7	11	286	16.7	----	----	----	15	282	10.8	16	281	14.7	23	262	3.8	26	243	11.6
4,000	----	----	----	----	----	----	----	----	----	12	278	13.6	15	278	19.1	20	284	10.1	25	252	15.1
5,000	----	----	----	----	----	----	----	----	----	10	285	18.6	12	273	23.7	16	277	12.9	22	253	18.4
6,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	14	271	19.3	21	256	20.7
8,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	18	262	25.6
10,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	12	268	29.1
12,000	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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.)		
	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	27	322	1.8	29	272	1.1	21	289	1.1	24	253	2.3	22	348	0.2	25	282	1.6
500	----	----	----	----	----	----	21	291	2.0	----	----	----	22	237	1.9	25	261	2.9
1,000	----	----	----	----	----	----	21	279	3.4	24	248	4.3	20	241	3.4	20	246	4.8
1,500	----	----	----	29	267	1.2	20	272	5.3	23	260	9.6	20	255	4.9	18	268	6.7
2,000	27	324	1.8	29	237	1.5	13	289	10.1	23	271	10.5	17	262	7.8	18	269	10.0
2,500	27	298	2.7	28	226	3.1	13	286	13.3	23	281	11.5	16	270	9.7	16	271	11.0
3,000	23	296	4.0	27	232	5.6	11	287	17.5	20	287	13.8	16	274	11.3	15	277	13.9
4,000	20	306	6.9	22	266	9.3	11	284	20.4	15	288	16.4	15	276	14.3	12	282	16.5
5,000	16	318	9.4	18	270	12.4	----	----	----	14	292	17.0	12	278	15.6	----	----	----
6,000	13	344	12.2	16	274	15.3	----	----	----	10	298	14.1	10	283	20.2	----	----	----
8,000	11	341	14.6	12	259	22.9	----	----	----	----	----	----	----	----	----	----	----	----

Altitude (meters) m. s. l.	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	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	29	24	1.5	20	108	0.6	28	302	1.1	29	106	3.3	28	145	0.8	20	260	0.8	25	331	3.0
500	----	----	----	20	169	.5	28	305	1.2	29	104	4.5	27	195	2.0	20	235	1.6	25	298	4.5
1,000	29	43	1.5	17	211	2.6	28	258	1.3	27	100	2.6	10	70	.1	17	262	1.5	24	299	6.4
1,500	29	301	1.1	17	225	4.3	27	226	3.7	26	114	.7	10	299	1.2	12	274	5.0	21	302	9.5
2,000	28	298	2.8	16	250	7.2	24	240	4.1	24	325	.5	10	233	3.6	12	273	6.8	17	290	14.3
2,500	27	277	4.1	16	258	10.7	20	255	4.2	19	260	1.3	10	281	6.6	11	271	9.7	14	283	18.7
3,000	27	275	5.5	15	258	12.4	16	288	4.0	16	250	3.3	----	----	----	11	275	13.3	----	----	----
4,000	24	292	7.8	8	261	13.2	14	334	7.3	14	276	5.1	----	----	----	11	283	17.7	----	----	----
5,000	21	290	12.0	6	266	17.6	10	5	8.8	11	289	8.4	----	----	----	----	----	----	----	----	----
6,000	18	306	14.8	6	270	20.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
8,000	12	291	25.3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 2200 G. C. T., during February 1948. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Speeds in meters per second*—Continued

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. Cloud, Minn. (318 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (13 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (116 m.)			Spokane, Wash. (725 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	27	283	2.6	17	291	0.9	27	299	0.5	29	199	0.3	27	326	0.5	22	218	1.0	27	250	1.1	23	107	1.0	29	285	4.3	21	219	0.6	23	256	2.0	28	210	2.0	26	309	2.1
500	27	330	3.2	17	135	.1	27	236	.6	29	205	.5	---	---	---	22	226	2.1	27	247	2.0	23	173	.8	29	288	4.1	21	225	1.5	23	220	3.2	---	---	---	26	304	3.7
1,000	23	331	3.0	16	191	1.5	25	255	2.7	29	206	1.4	27	319	.6	20	235	4.0	24	281	4.8	17	180	1.9	26	309	2.4	20	262	3.0	19	207	3.9	28	209	3.4	26	286	5.7
1,500	22	333	4.3	15	227	4.8	23	284	4.8	29	228	2.2	27	284	3.4	19	267	6.7	23	286	7.9	14	238	3.3	23	326	2.7	17	277	6.7	17	201	2.2	25	225	5.3	25	290	8.7
2,000	21	332	5.9	14	245	8.6	19	283	7.7	25	247	3.7	22	292	5.8	19	267	9.6	21	282	11.0	11	263	7.2	23	327	4.2	15	279	10.1	12	22	.7	22	243	7.1	22	289	11.6
2,500	21	336	6.9	13	253	13.1	17	279	10.2	25	246	5.0	20	291	7.8	19	263	11.6	19	282	13.7	11	260	10.1	22	326	4.8	12	286	12.8	12	360	1.6	17	267	6.9	20	284	15.5
3,000	21	337	8.4	12	261	12.9	16	275	11.6	25	252	6.4	20	292	9.2	17	281	13.9	18	286	15.8	11	260	11.4	21	314	6.6	12	288	15.6	12	14	2.6	12	293	7.5	20	279	18.2
4,000	19	319	13.1	10	263	17.9	15	272	16.0	22	256	10.6	18	285	11.6	15	281	17.8	17	293	20.0	11	253	15.0	19	304	9.4	10	287	17.9	---	---	---	11	290	10.2	16	284	23.1
5,000	18	318	14.0	9	272	20.8	13	276	21.3	16	268	11.7	17	286	15.6	11	285	22.0	13	285	21.5	10	264	17.0	14	291	11.9	---	---	---	---	---	---	---	---	---	15	282	25.4
6,000	14	331	17.2	7	274	22.1	12	275	23.8	12	281	16.0	14	285	14.0	---	---	---	11	280	24.0	9	265	21.1	14	295	15.0	---	---	---	---	---	---	---	---	---	10	280	31.8
8,000	---	---	---	---	---	---	---	---	---	---	---	---	10	291	13.6	---	---	---	---	---	---	6	264	25.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 3.—*Free-air resultant winds based on rawin observations made near 0300 G. C. T., during February 1948. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Speeds in meters per second*

Altitude (meters) m. s. l.	Albuquerque, N. Mex. (1,636 m.)			Big Spring, Tex. (774 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Caribou, Maine (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			Grand Junction, Colo. (1,473 m.)			Hatteras, N. C. (3 m.)			International Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Miami, Fla. (12 m.)			Nantucket, Mass. (14 m.)		
	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	29	107	0.5	29	111	2.6	27	95	1.0	29	127	2.7	29	268	2.7	28	330	0.8	29	85	0.9	29	87	0.7	29	17	1.7	29	250	1.2	28	61	0.8	29	52	1.7	29	341	1.6
500	---	---	---	---	---	---	---	---	---	29	153	7.2	28	281	6.9	26	211	1.9	29	190	1.5	---	---	---	26	190	1.7	28	251	3.0	28	169	.5	29	99	4.3	28	307	3.6
1,000	---	---	---	29	152	2.5	27	273	2.8	29	172	6.4	28	286	9.1	26	245	4.7	29	232	3.5	---	---	---	26	300	1.1	28	280	6.0	28	205	2.9	29	99	3.2	27	307	5.4
1,500	---	---	---	29	214	4.8	26	282	5.0	29	192	6.3	28	287	10.4	26	252	5.8	29	261	5.4	29	81	.7	26	275	3.6	28	291	8.0	28	233	6.9	29	108	1.2	27	290	8.2
2,000	29	262	3.4	29	237	8.0	26	292	7.0	29	205	6.3	28	237	12.3	25	260	6.8	28	269	7.3	29	196	1.1	25	266	6.7	29	290	9.9	28	239	9.2	29	210	.8	25	292	12.2
2,500	29	262	5.9	29	247	10.7	26	285	9.0	29	213	6.1	27	236	14.7	24	265	9.7	28	265	9.9	29	223	2.9	23	272	8.8	28	288	11.5	28	238	11.4	29	243	1.9	24	287	14.0
3,000	29	254	7.4	29	249	12.7	26	288	10.8	29	232	6.6	27	279	17.0	24	269	12.0	28	263	12.3	29	235	5.4	24	280	13.1	26	285	12.8	28	242	14.2	29	259	2.8	25	278	17.6
4,000	29	254	10.7	28	251	16.2	26	287	14.4	29	246	9.5	27	278	19.0	24	265	16.2	27	265	15.5	29	258	8.2	24	277	15.2	19	280	16.4	27	250	18.8	28	285	5.2	24	277	21.6
5,000	28	251	14.4	25	250	17.4	25	285	16.9	29	250	13.0	23	269	21.3	22	272	18.2	27	263	20.9	26	266	10.9	23	278	18.2	16	274	16.7	24	248	22.1	29	270	8.6	22	275	26.0
6,000	28	249	17.9	22	249	19.5	24	284	18.9	28	248	16.1	19	269	22.0	21	272	19.7	25	263	23.7	21	268	14.0	20	280	19.2	14	273	20.5	24	248	23.3	29	277	11.2	20	277	29.6
8,000	17	264	14.8	16	256	20.2	18	264	20.2	26	247	23.0	12	269	25.4	16	281	24.0	22	263	28.1	13	290	18.3	16	286	22.9	8	283	17.8	19	252	28.3	29	275	17.0	10	274	33.3
10,000	11	259	24.8	10	250	19.0	11	260	23.9	20	251	25.4	---	---	---	---	---	---	15	268	30.4	7	294	13.6	7	281	26.4	5	284	21.9	12	258	33.1	28	283	21.1	---	---	---
12,000	---	---	---	---	---	---	---	---	---	13	244	24.2	---	---	---	---	---	---	5	274	34.1	5	267	10.5	---	---	---	---	---	---	---	---	---	19	287	24.4	---	---	---
14,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5	281	8.9	---	---	---	---	---	---	---	---	---	8	280	35.0	---	---	---

Altitude (meters) m. s. l.	Nashville, Tenn. (177 m.)			New Orleans, La. (6 m.)			Oakland, Calif. (31 m.)			Oklahoma City, Okla. (391 m.)			Rapid City S. Dak. (980 m.)			San Antonio, Tex. (242 m.)			San Juan, P. R. (28 m.)			St. Cloud, Minn. (318 m.)			Santa Maria, Calif. (72 m.)			Sault Ste Marie, Mich. (224 m.)			Spokane, Wash. (721 m.)			Tatoosh Is. Wash (33 m.)		
Surface	28	131	1.4	29	92	1.4	29	302	2.0	29	83	1.7	29	324	2.1	29	68	2.4	29	77	4.3	27	256	0.6	29	281	0.8	28	269	0.5	29	194	1.1	26	123	1.0
500	28	195	2.1	29	176	2.5	29	305	3.5	28	110	1.7	---	---	---	29	116	3.4	29	76	6.9	27	256	1.7	28	349	3.6	28	271	2.6	---	---	---	25	210	1.6
1,000	28	236	3.9	28	210	3.3	28	315	4.4	28	162	3.8	29	323	2.2	29	166	4.8	29	75	7.1	27	268	4.6	28	353	4.2	27	269	5.4	29	201	3.0	25	241	2.6
1,500	27	268	5.9	28	236	4.6	28	325	5.1	27	222	4.4	29	294	4.7	29	203	6.3	28	68	5.8	27	273	7.6	29	343	4.7	27	269	7.7	28	230	3.9	25	240	3.1
2,000	27	267	8.5	28	243	7.2	27	320	5.1	27	241	7.8	29	297	6.3	29	219	7.1	27	66	5.0	26	280	11.0	29	338	4.9	26	281	10.5	28	249	5.0	24	268	6.0
2,500	27	268	10.7	28	243	8.9	27	316	5.8	28	247	9.1	29	297	7.5	27	243	8.6	27	72	4.4	26	278	13.5	29	325	5.6	26	280	12.8	28	260	5.9	24	267	7.9
3,000	26	269	12.7	28	247	10.9	27	323	6.3	28	248	12.6	29	299	9.5	27	248	10.5	27	73	4.4	26	277	15.0	29	317	7.3	25	284	15.3	28	271	5.9	23	276	8.1
4,000	23	278	16.2	27	244	12.1	28	312	8.6	28	246	17.4	29	290	11.0	26	252	14.2	24	67	4.0	23	277	18.2	29	311	9.8	24	285	18.7	25	290	8.1	19	303	8.7
5,000	19	277	18.9	25	253	15.9	26	309	9.6	26	246	19.3	29	282	12.8	23	262	16.5	24	27	4.2	23	274	21.9	28	299	13.5	19	280	20.7	23	296	10.7	18	305	12.1
6,000	13	264	21.9	24	262	20.5	26	310	11.3	24	253	23.7	28	280	15.0	23	258	19.8	24	7	4.2	18	267	22.6	26	288	15.8	17	274	22.3	21	309	10.6	17	302	11.8
8,000	9	272	30.5	24	262	28.7	23	288	15.5	14	265	26.4	25	273	17.5	18	262	25.8	23	317	9.8	15	271	23.2	22	276	18.4	11	275	26.7	18	292	11.4	10	322	17.7
10,000	5	269	33.2	21	265	34.7	20	285	17.0	9	261	30.7	21	268	24.6	6	261	20.4	21	297	18.2	9	269	31.4	16	282	20.6	---	---	---	14	315	12.7	8	330	16.6
12,000	---	---	---	17	269	36.1	14	282	18.1	---	---	---	15	264	24.8	---	---	---	20	280	24.0	---	---	---	9	268	20.0	---	---	---	9	302	11.3	5	327	10.2
14,000	---	---	---	7	255	36.8	7	281	18.0	---	---	---	9	261	24.4	---	---	---	14	300	22.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

ADDITIONS TO AEROLOGICAL DATA FOR JANUARY 1948

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 2200 G. C. T., during January 1948. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Speeds in meters per second*

Altitude (meters) m. s. l.	St. Cloud, Minn. (318 m.)			Altitude (meters) m. s. l.	St. Cloud, Minn. (318 m.)		
	Observations	Direction	Speed		Observations	Direction	Speed
Surface	30	281	2.5	2,500	20	308	9.2
500	30	281	3.5	3,000	19	309	10.5
1,000	30	290	5.8	4,000	18	312	13.4
1,500	25	301	7.4	5,000	16	309	14.7
2,000	21	306	9.5	6,000	15	309	16.3

TABLE 3.—*Free-air resultant winds based on rawin observations made near 0300 G. C. T., during January 1948. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Speeds in meters per second*

Altitude (meters) m. s. l.	Albuquerque, N. Mex. (1,636 m.)			Big Spring, Tex. (774 m.)			Bismarck, N. Dak. (505 m.)			Brownsville, Tex. (7 m.)			Caribou, Maine (191 m.)			Charleston, S. C. (13 m.)			Columbia, Mo. (237 m.)			Grand Junction, Colo. (1,473 m.)			Hatteras, N. C. (3 m.)			International Falls, Minn. (360 m.)			Little Rock, Ark. (80 m.)			Miami, Fla. (12 m.)			Nantucket, Mass. (14 m.)		
	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	31	87	2.0	31	124	1.6	31	317	1.1	31	6	0.8	31	313	2.6	31	339	1.1	31	303	1.8	31	20	1.0	30	351	3.1	31	251	1.0	31	360	1.0	31	47	1.2	31	331	3.8

Altitude (meters) m. s. l.	Nashville, Tenn. (177 m.)			New Orleans, La. (6 m.)			Oakland, Calif. (31 m.)			Oklahoma City, Okla. (391 m.)			Rapid City, S. Dak. (980 m.)			San Antonio, Tex. (242 m.)			St. Cloud, Minn. (318 m.)			Sault Ste. Marie, Mich. (224 m.)			Spokane, Wash. (721 m.)			Tatoosh Is. Wash. (33 m.)		
Surface	29	328	0.6	31	17	2.1	31	7	0.6	31	26	1.5	31	298	4.4	31	18	2.9	31	278	1.7	30	281	0.5	31	200	1.3	30	103	3.7

Altitude (meters) m. s. l.	Grand Junction, Colo. (1,473 m.)			San Juan, Puerto Rico (28 m.)			Santa Maria, Calif. (72 m.)			Altitude (meters) m. s. l.	Grand Junction, Colo. (1,473 m.)			San Juan, Puerto Rico (28 m.)			Santa Maria, Calif. (72 m.)		
	Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed		Observations	Direction	Speed	Observations	Direction	Speed	Observations	Direction	Speed
Surface	---	---	---	31	91	4.1	31	34	0.4	4,000	30	315	10.0	31	82	5.2	31	313	7.2
500	---	---	---	31	84	8.2	31	13	3.4	5,000	30	316	14.9	30	64	5.9	31	304	8.6
1,000	---	---	---	31	86	7.7	31	11	3.2	6,000	29	310	18.0	29	10	4.3	31	301	8.8
1,500	30	16	1.1	31	81	7.3	31	1	3.0	8,000	23	313	20.3	27	303	8.4	30	304	10.4
2,000	30	342	.9	31	79	6.8	31	351	3.7	10,000	13	312	19.7	26	295	15.6	25	308	13.3
2,500	30	310	1.8	31	79	6.2	31	326	4.9	12,000	7	310	18.5	27	278	22.6	17	304	31.7
3,000	30	303	4.7	31	84	6.0	31	320	5.8	14,000	---	---	---	16	290	19.8	9	321	12.8