METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR JANUARY 1946

CHANGE IN SUMMARIZATION OF RADIOSONDE DATA

Effective January 1, 1946, all tabulations of radiosonde data are based on constant pressures rather than on standard heights as heretofore. Geometric height has been replaced by dynamic height (geopotential); dynamic height in units of 0.98 gdm. is numerically equal to geometric height in meters, if the acceleration of gravity is 980 cm^2/sec^2.

In Table 1 mean monthly values are given, insofar as they are available, for standard pressure surfaces. Where the standard pressures are greater than the station pressures, the values of the dynamic height, on which the means are based, are calculated by extrapolation. Values of temperatures and relative humidity for these standard pressures are not recorded. At some stations, standard pressures will be greater than the station pressures on some days and less on others, and hence the values of temperature and relative humidity will be recorded only part of the time. Monthly mean values of temperature and relative humidity are not computed for a standard pressure if the data are missing for more than 3 days due to fluctuation of the constant pressure surface, above and below ground. The high correlation of temperature and relative humidity with pressure would otherwise result in biased means.

In the accompanying Charts, VIII, IX, X, and XI, contour lines show the dynamic heights of the four constant pressure surfaces of 850, 700, 500, and 300 millibars. The resultant wind arrows shown on the charts are, however, based on standard height levels of 1,500, 3,000, 5,000, and 10,000 meters respectively, as heretofore.

AEROLOGICAL OBSERVATIONS

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

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Albany, N. Y. (1,006.7 mb.)				Albuquerque, N. Mex. (838.4 mb.)				Apalachicola, Fla. (1,020.4 mb.)				Atlanta, Ga. (986.0 mb.)				Big Spring, Tex. (928.9 mb.)				Bismarck, N. Dak. (954.6 mb.)				Boise, Idaho (922.1 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	93	−4.3	73	30	1,620	0.8	57	31	5	12.2	84	31	300	6.0	75	31	774	4.1	73	31	505	−11.0	84	31	868	−2.1	83
1,000	31	144	(*)	----	30	176	(*)	----	31	174	12.9	77	31	183	(*)	----	31	164	(*)	----	31	143	(*)	----	31	215	(*)	----
950	31	548	−5.8	74	30	600	(*)	----	31	606	11.8	69	31	608	6.1	69	31	589	(*)	----	31	543	(*)	----	31	631	(*)	----
900	31	970	−7.3	76	30	1,043	(*)	----	31	1,056	10.0	67	31	1,047	5.6	66	31	1,031	5.0	63	31	961	−6.3	73	31	1,061	−0.2	74
850	31	1,414	−8.7	72	30	1,508	(*)	----	31	1,530	8.7	52	31	1,514	5.0	61	31	1,497	4.1	54	31	1,406	−6.0	60	31	1,517	−2.2	68
800	31	1,883	−9.5	67	30	1,997	0.4	52	31	2,030	7.0	44	31	2,008	3.8	58	31	1,989	3.0	49	31	1,882	−7.2	57	31	1,997	−4.0	64
750	31	2,385	−10.4	59	30	2,514	−2.4	53	31	2,563	5.1	37	31	2,536	1.4	57	31	2,515	0.6	50	31	2,388	−0.7	56	31	2,511	−6.3	60
700	31	2,910	−12.1	60	30	3,057	−5.3	52	31	3,117	2.1	36	30	3,082	−1.3	50	31	3,061	−2.3	51	31	2,913	−12.4	53	31	3,042	−8.6	52
650	31	3,479	−14.3	58	30	3,637	−7.9	48	30	3,715	−0.7	----	29	3,672	−4.1	----	31	3,650	−5.5	43	31	3,480	−15.5	53	31	3,620	−11.7	52
600	31	4,077	−17.4	57	30	4,254	−11.7	51	30	4,349	−4.1	----	29	4,296	−7.7	----	31	4,270	−9.5	41	31	4,076	−18.9	52	31	4,223	−15.3	51
550	30	4,725	−21.2	----	30	4,914	−15.9	50	30	5,029	−8.4	----	29	4,968	−11.6	----	31	4,936	−13.8	42	31	4,719	−21.1	----	31	4,878	−19.3	55
500	30	5,422	−25.8	----	30	5,628	−20.8	----	30	5,761	−13.3	----	29	5,692	−16.5	----	31	5,655	−18.6	----	31	5,412	−27.4	----	30	5,577	−24.2	----
450	30	6,185	−30.6	----	30	6,401	−26.0	----	30	6,562	−18.6	----	29	6,483	−21.9	----	30	6,440	−23.9	----	31	6,167	−32.9	----	29	6,351	−29.3	----
400	30	7,006	−36.1	----	30	7,241	−32.4	----	30	7,423	−24.5	----	29	7,332	−28.2	----	29	7,281	−30.3	----	31	6,982	−36.1	----	29	7,179	−35.5	----
350	30	7,920	−42.4	----	30	8,169	−39.4	----	29	8,385	−31.5	----	27	8,264	−35.1	----	27	8,231	−36.9	----	31	7,885	−45.5	----	28	8,091	−42.3	----
300	30	8,947	−48.2	----	30	9,208	−46.3	----	29	9,457	−40.1	----	25	9,323	−42.2	----	27	9,284	−43.2	----	30	8,901	−52.1	----	27	9,130	−49.1	----
250	27	10,151	−52.6	----	30	10,403	−51.8	----	29	10,675	−49.4	----	25	10,535	−49.7	----	25	10,489	−49.5	----	25	10,087	−57.1	----	23	10,319	−55.1	----
200	17	11,625	−55.4	----	28	11,835	−53.7	----	29	12,106	−58.2	----	22	11,973	−55.8	----	24	11,932	−52.5	----	14	11,501	−53.0	----	19	11,739	−57.2	----
175	13	12,497	−56.1	----	24	12,670	−54.7	----	25	12,936	−60.8	----	19	12,814	−57.1	----	21	12,802	−54.9	----	9	12,344	−51.7	----	13	12,555	−54.0	----
150	12	13,473	−56.5	----	21	13,644	−56.5	----	17	13,895	−63.0	----	13	13,786	−57.9	----	17	13,777	−57.6	----	8	13,337	−50.8	----	8	13,516	−54.5	----
125	----	------	------	----	15	14,794	−59.8	----	11	14,995	−66.2	----	8	14,913	−59.9	----	7	14,923	−60.6	----	6	14,502	−51.4	----	6	14,699	−56.5	----
100	----	------	------	----	----	------	------	----	----	------	------	----	----	------	------	----	5	16,284	−63.5	----	----	------	------	----	----	------	------	----

Standard pressure surface (mb.)	Brownsville, Tex. (1,017.1 mb.)				Buffalo, N. Y. (990.4 mb.)				Burrwood, La. (1,020.0 mb.)				Caribou, Maine (990.7 mb.)				Charleston, S. C. (1,020.7 mb.)				Ciudad Victoria, Mexico (976.8 mb.)				Clovis, N. Mex. (868.3 mb.)			
Surface	31	6	13.6	86	31	221	−2.6	75	30	2	12.8	87	31	191	−12.6	90	30	10	8.4	83	28	335	16.8	63	31	1,306	0.6	65
1,000	31	148	14.0	82	31	143	(*)	----	30	168	13.4	82	31	121	(*)	----	30	184	9.4	78	28	131	(*)	----	31	150	(*)	----
950	31	586	13.0	77	31	555	−4.1	75	30	604	11.2	82	31	512	−12.9	87	30	610	8.6	70	28	573	16.3	63	31	576	(*)	----
900	31	1,034	11.8	68	31	974	−5.9	76	30	1,051	10.8	70	31	921	−13.7	83	30	1,056	7.6	66	28	1,029	14.3	65	31	1,017	(*)	----
850	31	1,512	11.0	63	31	1,420	−7.9	74	30	1,524	9.7	59	31	1,355	−13.6	79	30	1,526	6.0	58	28	1,510	12.0	66	31	1,477	2.6	55
800	31	2,018	10.0	52	31	1,891	−8.8	63	30	2,030	8.1	55	31	1,815	−14.8	76	30	2,021	4.8	52	28	2,018	11.1	61	31	1,967	1.6	46
750	31	2,558	8.8	34	31	2,396	−10.4	54	30	2,565	5.5	47	31	2,310	−16.2	70	30	2,550	3.0	41	28	2,562	9.6	49	31	2,490	−1.0	42
700	31	3,120	5.4	32	31	2,919	−12.3	48	30	3,123	3.1	42	31	2,820	−18.0	67	30	3,102	0.2	41	28	3,126	7.1	37	31	3,033	−3.2	41
650	31	3,722	1.8	----	31	3,488	−15.0	49	29	3,726	0.0	38	31	3,384	−20.0	68	29	3,691	−3.2	41	27	3,732	3.2	33	31	3,620	−6.5	39
600	31	4,363	−2.4	----	31	4,083	−18.2	53	28	4,358	−3.8	----	31	3,961	−22.9	----	28	4,318	−6.5	38	26	4,375	−0.8	----	31	4,237	−10.4	40
550	29	5,050	−7.1	----	30	4,737	−21.2	----	28	5,041	−8.0	----	31	4,596	−26.1	----	28	4,990	−10.8	----	25	5,065	−5.3	----	31	4,903	−14.9	42
500	29	5,786	−12.1	----	30	5,432	−25.5	----	28	5,774	−12.6	----	31	5,279	−30.1	----	27	5,721	−15.5	----	24	5,806	−10.6	----	31	5,615	−20.1	----
450	29	6,590	−18.2	----	29	6,199	−30.2	----	28	6,579	−18.4	----	31	6,034	−35.2	----	26	6,514	−20.9	----	24	6,611	−16.0	----	31	6,398	−25.4	----
400	28	7,455	−24.3	----	29	7,020	−35.7	----	27	7,439	−24.8	----	30	6,829	−40.2	----	26	7,369	−26.6	----	23	7,489	−22.4	----	31	7,232	−31.7	----
350	28	8,414	−31.2	----	26	7,945	−42.1	----	26	8,398	−32.0	----	30	7,727	−46.2	----	26	8,320	−33.1	----	23	8,455	−29.6	----	31	8,162	−38.7	----
300	28	9,505	−39.0	----	24	8,958	−48.8	----	26	9,470	−39.8	----	29	8,734	−51.2	----	26	9,387	−40.5	----	23	9,536	−37.6	----	31	9,205	−45.4	----
250	27	10,715	−48.1	----	22	10,147	−53.3	----	26	10,691	−48.9	----	27	9,911	−53.8	----	26	10,606	−48.7	----	22	10,770	−46.8	----	31	10,402	−51.3	----
200	25	12,157	−56.7	----	13	11,620	−53.2	----	24	12,129	−57.5	----	19	11,371	−52.8	----	22	12,064	−56.8	----	22	12,213	−56.2	----	31	11,839	−54.0	----
175	25	12,997	−59.3	----	9	12,436	−52.9	----	23	12,964	−60.3	----	11	12,232	−49.9	----	22	12,905	−58.8	----	21	13,056	−60.4	----	30	12,687	−54.8	----
150	22	13,962	−62.7	----	----	------	------	----	13	13,916	−63.5	----	10	13,244	−51.2	----	17	13,875	−60.0	----	20	14,207	−63.9	----	26	13,659	−56.5	----
125	15	15,076	−68.1	----	----	------	------	----	10	15,024	−67.4	----	7	14,486	−53.4	----	11	15,002	−62.7	----	15	15,109	−67.7	----	17	14,809	−59.2	----
100	5	16,399	−73.7	----	----	------	------	----	5	16,367	−71.8	----	----	------	------	----	----	------	------	----	6	16,437	−70.5	----	10	16,208	−63.4	----

See footnote at end of table.