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 September 1946*—Continued

Standard pressure surface (mb.)	Tampa, Fla. (1,015.3 mb.)				Tatoosh Island, Wash. (1,012.4 mb.)				Toledo, Ohio (996.1 mb.)				Washington, D. C. (1,017.4 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	27	9	24.3	89	30	31	12.2	90	30	191	16.6	74	30	25	20.1	80
1,000	27	142	24.1	86	30	134	12.1	86	30	157	(*)	----	30	174	20.3	74
950	27	593	22.1	81	30	571	11.4	76	30	599	18.0	62	30	619	18.2	69
900	27	1,060	19.3	80	30	1,014	9.7	71	30	1,059	15.1	62	30	1,077	15.4	66
850	27	1,551	16.3	79	30	1,488	7.5	66	30	1,541	12.1	62	30	1,560	12.4	66
800	27	2,065	13.2	78	30	1,985	5.0	58	30	2,046	9.0	63	30	2,066	9.6	61
750	27	2,604	10.0	74	30	2,516	2.3	55	30	2,583	5.8	56	30	2,607	6.7	54
700	27	3,177	6.9	69	30	3,063	−0.8	52	30	3,140	2.7	50	30	3,163	3.6	51
650	27	3,781	3.6	66	30	3,657	−4.1	53	29	3,740	−0.3	42	29	3,768	0.5	47
600	27	4,430	0.0	62	30	4,279	−7.7	51	29	4,374	−3.4	35	29	4,403	−2.7	41
550	27	5,119	−3.6	55	29	4,954	−11.7	49	29	5,055	−7.3	34	29	5,091	−6.5	----
500	27	5,869	−7.9	51	29	5,674	−16.3	51	29	5,794	−11.9	----	29	5,828	−10.9	----
450	27	6,683	−13.0	51	27	6,469	−21.7	----	28	6,600	−17.4	----	29	6,637	−16.2	----
400	27	7,567	−19.0	49	27	7,319	−27.7	----	28	7,465	−23.5	----	29	7,508	−22.4	----
350	27	8,547	−26.0	----	27	8,265	−34.4	----	28	8,427	−30.5	----	29	8,473	−30.1	----
300	27	9,644	−34.4	----	26	9,339	−41.7	----	28	9,504	−38.5	----	29	9,551	−38.5	----
250	27	10,890	−44.7	----	25	10,557	−49.8	----	26	10,735	−47.3	----	29	10,779	−47.8	----
200	27	12,341	−56.9	----	22	12,000	−54.6	----	25	12,185	−55.3	----	28	12,220	−56.9	----
175	27	13,172	−63.6	----	17	12,846	−54.9	----	24	13,030	−58.4	----	25	13,046	−60.1	----
150	21	14,112	−68.9	----	14	13,822	−55.1	----	21	14,010	−61.4	----	25	14,000	−63.1	----
125	7	15,197	−74.3	----	8	14,990	−55.0	----	15	15,121	−62.8	----	18	15,105	−65.5	----
100	----	----	----	----	----	----	----	----	10	16,492	−62.4	----	7	16,461	−64.8	----

[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 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.

LATE REPORTS FOR HONOLULU, T. H., AND SWAN ISLAND, W. I.

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 August 1946*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Honolulu, T. H. (1,014.7mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	27	3	28.7	57
1,000	27	129	26.0	62
950	27	584	22.3	68
900	27	1,047	18.6	72
850	27	1,536	16.6	64
800	27	2,052	15.2	42
750	27	2,599	12.6	34
700	27	3,171	9.7	30
650	27	3,783	7.1	----
600	26	4,437	4.1	----
550	24	5,144	0.3	----
500	24	5,899	−4.9	----
450	22	6,730	−10.1	----
400	21	7,618	−16.0	----
350	18	8,606	−22.9	----
300	14	9,712	−33.5	----
250	13	10,974	−41.1	----
200	10	12,455	−52.0	----
175	7	13,300	−57.6	----
150	----	----	----	----
125	----	----	----	----

Standard pressure surface (mb.)	Swan Island, W. I. (1,013.2 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	31	10	26.9	81
1,000	31	126	26.0	81
950	31	581	22.7	82
900	31	1,047	19.8	79
850	31	1,538	17.0	70
800	31	2,054	14.3	63
750	30	2,600	11.3	56
700	30	3,171	8.2	52
650	30	3,784	4.6	48
600	29	4,429	0.7	52
550	28	5,117	−3.6	52
500	28	5,867	−8.2	51
450	28	6,686	−13.1	48
400	28	7,567	−18.7	48
350	28	8,548	−25.8	----
300	27	9,645	−34.2	----
250	27	10,894	−44.3	----
200	26	12,351	−56.3	----
175	25	13,187	−62.9	----
150	19	14,131	−68.8	----
125	8	15,189	−74.1	----

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during September 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	30	128	4.3	30	259	2.1	29	78	2.0	28	298	1.5	28	241	1.9	30	322	2.5	29	107	4.2	30	311	0.3	26	254	1.0	29	86	1.7	29	49	0.4	29	84	1.4	30	191	1.5
500							29	82	3.0										29	113	5.9	30	266	1.4	26	221	2.2	29	80	2.5	29	194	0.6						
1,000	30	133	4.7				29	93	2.9				28	241	3.0	30	319	2.5	28	123	4.7	29	246	3.3	26	239	3.2	28	70	2.3	28	210	1.6						
1,500	29	240	3.6				29	94	2.5	28	282	3.1	26	245	4.3	30	287	1.7	27	130	2.6	25	248	5.2	25	247	4.0	26	59	1.8	26	203	2.0				30	200	1.7
2,000	26	257	2.8	30	249	2.5	28	89	1.3	28	265	3.8	24	239	5.6	30	260	2.0	25	170	1.3	21	240	4.8	24	254	5.8	23	10	0.9	23	197	2.6	29	95	1.8	30	196	1.4
2,500	22	193	2.4	30	260	2.3	21	46	0.8	26	262	5.9	21	253	7.0	30	243	3.3	23	165	0.7	18	248	5.5	20	260	6.5	22	302	1.9	22	213	2.3	28	133	1.3	30	209	1.2
3,000	20	245	2.4	30	261	3.1	18	299	2.2	23	264	8.3	21	260	10.1	30	243	5.5	22	167	1.1	15	257	3.9	20	268	5.9	21	280	2.1	21	246	3.2	26	188	1.8	29	222	2.2
4,000	18	291	3.6	30	275	4.2	13	301	3.7	21	276	10.6	20	273	12.1	29	243	8.2	17	197	0.9	14	258	5.0	16	288	6.0	20	264	3.2	18	286	1.7	25	262	6.3	27	223	2.2
5,000	16	298	3.9	27	275	6.3	10	281	5.9	20	273	13.3	18	282	15.3	27	249	8.6	14	261	1.4	12	248	3.3	16	287	8.2	17	255	3.5	12	221	2.0	24	270	11.0	26	244	3.1
6,000	13	285	4.3	26	262	6.2				19	275	15.4	17	287	16.9	24	253	10.3	12	260	0.9				15	288	8.3	14	244	4.4				22	274	13.1	24	254	4.4
8,000	11	282	7.4	24	261	9.5				12	282	19.9	14	291	15.8	21	267	14.2										10	260	5.1				17	288	17.3	14	264	5.7
10,000				17	257	16.7										16	277	16.5																					
12,000																13	276	20.9																					
14,000																																							

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.)			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	238	2.9	30	258	2.2	29	71	1.5	27	280	2.3	29	68	4.7	30	218	1.3	30	154	1.6	29	82	2.1	30	290	1.2	28	103	2.9	29	72	2.1	30	75	0.5	28	120	1.2
500							29	68	2.0				29	71	5.4	30	205	1.3				29	92	2.6	30	295	1.6	28	105	4.3	29	88	2.5	30	43	0.7	28	197	1.2
1,000							29	78	2.3	27	276	3.9	25	66	3.3	30	226	2.8	30	184	2.4	26	112	2.5	30	314	1.8	28	100	3.7	26	84	2.4	29	58	0.4	27	298	1.0
1,500				30	258	2.2	27	73	2.6	27	277	5.6	22	69	1.6	28	234	4.4	30	201	2.6	26	129	1.4	30	259	0.9	26	99	2.5	25	82	2.4	28	6	0.3	24	320	2.4
2,000	30	237	3.0	30	280	2.8	25	62	2.0	27	271	6.1	19	229	0.5	27	250	6.2	29	219	3.4	23	102	0.4	30	269	1.9	25	98	2.1	25	90	1.4	27	345	0.9	23	300	3.0
2,500	30	232	3.5	30	257	3.4	23	354	1.5	21	275	9.2	17	260	1.2	23	248	5.8	29	221	5.4	18	32	0.6	30	213	4.4	24	100	2.1	20	79	1.7	25	313	1.1	23	285	3.7
3,000	30	230	4.2	30	244	5.0	22	323	2.2	20	279	10.0	17	228	1.4	20	256	6.4	29	230	6.7	16	318	1.2	29	226	4.2	22	108	2.4	18	57	1.6	23	306	2.1	20	281	3.8
4,000	30	233	5.7	30	247	7.1	19	287	3.1	14	276	11.1	10	228	2.8	13	295	8.3	29	241	9.0	12	297	2.9	28	252	6.0	22	124	1.9	16	42	1.9	19	294	5.6	12	302	2.6
5,000	28	246	8.8	28	256	9.0	16	271	4.5	11	275	12.8				11	290	11.1	29	246	10.2	11	311	3.5	23	256	8.7	20	171	1.0	11	352	2.5	15	304	6.6			
6,000	27	258	12.0	25	258	10.1	15	279	7.8										27	256	10.0				17	270	10.2	18	184	0.7	10	326	4.6	15	297	7.5			
8,000	22	266	17.1	21	261	15.3	11	280	10.3										25	260	13.7				12	282	11.2	12	302	1.8				10	306	9.4			
10,000	15	263	19.7	13	270	19.4	10	277	19.2										19	261	19.0							11	339	5.8									
12,000	12	269	25.5																																				
14,000																																							

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (15 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (116 m.)			Spokane, Wash. (603 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	278	4.7	28	154	5.0	30	177	1.8	30	239	0.4	27	203	0.6	30	177	0.9	27	200	2.5	29	83	4.8	30	274	3.1	26	232	1.3	30	242	1.6	29	224	1.6	29	107	1.2
500	29	288	3.6	28	153	5.2	30	193	3.0	30	222	1.1				30	207	1.3	27	200	3.7	29	79	5.3	30	281	3.2	26	214	2.8	29	232	2.2				29	77	0.9
1,000	28	274	1.6	28	163	5.8	28	199	5.8	30	208	1.6	27	202	0.6	30	212	2.3	26	215	4.9	27	88	4.4	29	268	1.6	25	226	4.2	26	201	2.6	29	225	3.0	28	34	0.5
1,500	27	225	1.6	28	170	4.9	27	213	6.9	30	188	2.2	27	217	1.2	30	247	2.6	23	222	6.0	23	101	3.6	28	245	1.1	25	230	5.1	24	187	4.0	28	218	2.7	27	314	0.7
2,000	27	214	2.3	22	183	4.7	24	233	7.6	29	197	2.4	27	246	2.5	29	264	2.8	22	243	7.6	18	97	2.8	27	207	1.2	22	245	6.6	22	212	3.9	27	223	4.1	25	312	1.8
2,500	26	219	2.9	19	202	4.5	24	244	8.3	29	220	2.5	26	255	5.2	29	269	3.5	19	258	9.0	15	99	2.8	25	207	1.8	19	250	8.3	19	220	4.2	23	236	6.9	24	295	3.5
3,000	26	235	3.2	15	214	4.6	23	258	8.6	29	225	3.4	24	253	7.3	28	286	5.4	14	277	12.2	14	98	2.4	25	224	2.6	19	255	9.4	18	241	4.9	23	235	7.3	24	294	3.6
4,000	26	234	4.1	11	250	2.9	20	284	10.3	27	228	4.0	22	276	10.8	26	290	7.6	14	286	14.8	14	17	0.8	21	234	4.2	14	277	7.1	14	262	8.4	18	241	10.0	21	294	4.0
5,000	24	252	5.2				16	308	10.9	27	249	4.3	19	279	14.7	23	281	8.4	10	294	14.7				20	241	4.8	10	266	8.4	13	270	10.2	16	250	11.9	20	272	5.2
6,000	23	267	6.7				14	308	13.9	24	257	4.9	16	273	14.4	20	286	10.2							19	254	6.9				10	296	13.5	12	269	9.3	18	266	8.3
8,000	22	262	11.8							20	265	7.4	13	271	16.6	15	291	12.1							10	258	10.0										11	268	10.3
10,000	19	256	18.4							17	262	12.9				11	314	20.2																					
12,000	14	251	19.8							15	250	19.6																											
14,000										13	248	20.6																											

TABLE 3.—*Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during September 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]	41.0	sw.	1,750	10	Buffalo, N. Y.	49.7	wsw.	5,000	11	Caribou, Maine	116.1	w.	19,837	5	Caribou, Maine.
East-Central [2]	29.8	nw.	2,500	30	Lynchburg, Va.	35.4	w.	3,521	30	Norfolk, Va.	92.0	wnw.	13,346	25	Greensboro, N. C.
Southeast [3]	22.3	ese.	810	16	Birmingham, Ala.	22.0	wnw.	4,382	30	Spartanburg, S. C.	42.4	w.	12,732	21	Spartanburg, S. C.
North-Central [4]	37.3	wsw.	2,088	25	Muskegon, Mich.	38.0	nnw.	5,000	30	Green Bay, Wis.	68.0	nnw.	13,892	30	Milwaukee, Wis.
Central [5]	34.8	s.	1,412	7	Dodge City, Kans.	39.0	w.	3,484	24	Springfield, Ill.	65.0	w.	12,399	10	Columbia, Mo.
South-Central [6]	28.7	nne.	1,318	22	Amarillo, Tex.	28.9	w.	5,000	23	Tulsa, Okla.	52.0	w.	16,974	23	Big Spring, Tex.
Northwest [7]	29.9	nw.	2,477	22	Havre, Mont.	43.0	nw.	5,000	21	Ellensburg, Wash.	62.0	wnw.	9,536	26	Ellensburg, Wash.
West-Central [8]	30.3	wsw.	1,840	21	Casper, Wyo.	49.2	w.	4,307	9	Cheyenne, Wyo.	70.0	sw.	13,683	2	Oakland, Calif.
Southwest [9]	26.8	sw.	2,500	16	Las Vegas, Nev.	34.1	sw.	4,975	15	Las Vegas, Nev.	55.0	w.	15,022	8	Raton, N. Mex.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut New York, New Jersey, Pennsylvania, and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada, and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.