METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR OCTOBER 1942

[Climate and Crop Weather Division, J. B. KINCER, in charge]

AEROLOGICAL OBSERVATIONS

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees Centigrade, and relative humidities in percent, obtained by radiosondes during October 1942*

Stations and elevations in meters above sea level

Altitude (meters) m. s. l.	Albuquerque, N. Mex. (1,620 m.)				Atlanta, Ga. (300 m.)				Bismarck, N. Dak. (505 m.)				Boise, Idaho (868 m.)				Brownsville, Tex. (6 m.)				Buffalo, N. Y. (221 m.)				Caribou, Maine (191 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	838	14.2	44	31	983	15.4	78	31	955	7.0	71	31	918	10.6	58	31	1,014	22.7	90	31	990	10.2	77	27	993	5.7	85
500					31	960	17.3	65									31	958	21.4	84	31	958	10.9	71	27	957	6.9	75
1,000					31	906	15.5	63	31	900	9.3	62	31	903	13.7	53	31	904	18.5	75	31	902	8.7	67	27	901	5.1	70
1,500					31	854	13.1	63	31	847	6.9	59	31	851	12.8	49	31	853	16.6	67	31	849	6.1	68	27	847	3.5	65
2,000	31	802	13.5	44	31	804	10.6	54	31	796	4.0	59	31	801	9.4	49	31	804	14.5	64	31	798	3.5	67	27	796	1.6	58
2,500	31	755	9.9	45	31	757	8.2	49	31	748	0.9	60	31	754	5.6	50	31	758	11.8	59	31	750	1.1	66	27	748	0.5	56
3,000	31	710	5.9	47	31	712	5.6	45	31	703	−2.3	58	31	709	2.4	52	31	714	9.4	54	31	705	−1.4	64	27	702	−1.2	49
4,000	31	628	−1.5	53	31	630	−0.1	42	31	619	−7.9	52	31	626	−3.1	50	31	632	3.4	46	30	621	−6.6	59	27	618	−6.9	41
5,000	31	553	−8.1	55	31	555	−6.0	38	30	544	−14.4	47	31	551	−9.3	48	31	558	−2.5	40	30	546	−12.5	54	27	543	−13.1	41
6,000	30	486	−14.4	54	31	488	−12.4	35	30	476	−21.1	45	29	483	−16.0	46	31	491	−8.8	35	28	478	−19.5	51	24	475	−19.9	40
7,000	30	425	−21.7	50	30	427	−19.4	34	30	415	−28.1	43	29	422	−23.1	45	30	431	−16.0	33	25	417	−26.3	47	24	414	−27.0	39
8,000	28	370	−29.1	49	30	373	−27.0	33	30	360	−35.2	43	28	367	−30.4	44	30	377	−23.0	31	25	362	−33.5	47	22	360	−34.0	39
9,000	26	321	−36.6	48	30	324	−34.5	32	27	311	−41.6		26	318	−38.1	44	29	327	−30.2	31	24	313	−40.3		22	311	−40.1	
10,000	25	277	−43.8		29	280	−41.6		23	269	−47.2		24	275	−45.1		29	284	−37.7	32	23	270	−46.6		21	268	−45.8	
11,000	25	239	−49.5		28	241	−48.3		23	231	−52.1		24	236	−51.5		29	245	−45.5		21	232	−51.1		21	231	−50.3	
12,000	23	204	−53.6		26	207	−53.8		16	197	−55.9		24	202	−56.0		27	211	−53.4		18	199	−54.5		17	197	−53.5	
13,000	23	175	−57.3		26	176	−58.2		14	168	−57.5		24	172	−58.1		26	180	−60.5		16	169	−56.0		16	169	−55.8	
14,000	22	149	−60.9		26	150	−61.7		12	143	−58.1		23	147	−59.9		26	153	−66.4		14	144	−57.7		14	144	−57.1	
15,000	21	127	−64.3		23	128	−64.8		6	122	−59.5		23	125	−61.8		25	129	−71.4		13	123	−59.5		11	122	−58.9	
16,000	21	108	−66.9		22	108	−66.7		5	103	−60.7		21	106	−63.0		25	109	−74.8		9	104	−61.1		10	104	−59.0	
17,000	21	92	−67.4		19	92	−67.1						16	90	−63.4		23	92	−75.7		7	88	−61.1					
18,000	19	78	−66.4		14	78	−65.6						12	77	−61.4		22	77	−73.1									
19,000	15	66	−65.2		5	66	−63.6						6	65	−59.8		19	65	−69.0									
20,000	11	56	−62.8														12	55	−64.6									
21,000																	8	46	−60.6									

Stations and elevations in meters above sea level

Altitude (meters) m. s. l.	Charleston, S. C. (14 m.)				Denver, Colo. (1,616 m.)				Detroit, Mich. (217 m.)				El Paso, Tex. (1,193 m.)				Ely, Nev. (1,908 m.)				Great Falls, Mont. (1,128 m.)				Huntington, W. Va. (172 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observation	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	1,015	16.8	90	31	838	9.1	64	31	990	8.6	88	31	882	16.9	52	29	811	7.2	50	31	888	9.0	55	31	997	12.0	86
500	31	959	18.3	65					31	957	10.3	74													31	959	13.5	71
1,000	31	905	15.8	66					31	901	8.1	68													31	904	10.8	68
1,500	31	853	13.2	61					31	848	5.3	65	31	851	17.5	45					31	848	8.6	54	31	851	7.5	72
2,000	31	803	11.0	55	31	800	9.9	60	31	797	2.9	61	31	802	14.0	44	29	802	8.6	48	31	798	5.4	53	31	800	5.0	74
2,500	31	756	8.8	42	31	753	6.7	57	31	749	0.7	55	31	756	10.1	46	29	755	8.0	46	31	750	1.9	56	31	752	2.9	68
3,000	31	712	6.4	39	31	708	3.3	57	31	704	−2.0	54	31	712	6.3	51	29	710	4.5	46	31	705	−1.4	56	31	707	0.8	62
4,000	31	629	0.8	35	31	626	−3.2	56	31	620	−7.7	53	31	629	0.2	53	29	627	−2.1	48	31	621	−7.3	56	31	624	−4.0	55
5,000	31	555	−5.1	32	31	551	−10.4	58	30	544	−13.6	53	31	554	−6.3	52	28	552	−8.4	42	29	546	−13.7	56	30	549	−10.0	50
6,000	30	488	−11.4	28	31	482	−17.2	56	30	476	−20.1	49	31	487	−12.8	48	27	485	−15.3	37	27	478	−20.4	55	30	481	−16.5	46
7,000	29	428	−18.7	28	29	422	−24.4	53	30	416	−27.2	48	31	427	−19.9	44	27	424	−22.6	36	27	416	−27.1	53	30	421	−23.5	43
8,000	27	373	−26.0	26	28	367	−31.9	52	29	360	−34.4	47	30	372	−27.3	43	27	369	−29.7	34	27	362	−34.1	52	30	366	−30.7	41
9,000	25	324	−33.3	26	27	317	−39.8	51	28	312	−41.1		28	322	−35.0	43	25	320	−37.7	35	27	313	−41.0		30	317	−38.1	39
10,000	23	281	−40.6		26	274	−46.6		28	269	−47.0		28	279	−42.0		25	276	−45.0		24	270	−47.4		30	274	−45.0	
11,000	21	242	−47.1		24	235	−52.7		27	231	−51.9		28	240	−48.6		24	237	−50.4		24	232	−53.0		30	235	−51.1	
12,000	19	208	−52.4		23	201	−57.3		23	198	−55.6		25	206	−54.7		24	203	−54.6		23	198	−56.6		29	201	−55.8	
13,000	17	178	−56.4		23	171	−60.2		21	169	−57.8		24	176	−59.7		21	174	−57.0		23	169	−58.7		24	172	−59.2	
14,000	15	152	−60.6		20	146	−62.3		16	144	−59.4		22	149	−64.4		20	148	−59.7		23	144	−59.4		18	146	−61.9	
15,000	15	129	−64.0		18	123	−63.9		14	122	−61.4		20	126	−68.3		20	126	−61.5		22	123	−60.3		16	124	−65.0	
16,000	14	110	−66.6		16	105	−65.1		8	104	−61.6		15	106	−70.8		19	107	−63.0		21	105	−61.4		15	105	−65.6	
17,000	8	94	−66.2		15	89	−65.4						12	89	−71.3		15	90	−63.5		18	89	−61.5		11	89	−65.5	
18,000	6	79	−64.0		10	75	−65.1						7	75	−70.1		10	76	−62.8		14	75	−60.9		6	76	−65.5	
19,000					6	64	−64.0						6	62	−67.6		6	64	−61.3		8	64	−60.2					
20,000													5	52	−63.7													

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees Centigrade, and relative humidities in percent, obtained by radiosondes during October 1942*—Continued

Stations and elevations in meters above sea level

Altitude (meters) m. s. l.	International Falls, Minn. (343 m.)				Joilet, Ill. (178 m.)				Lake Charles, La. (5 m.)				(1) Lakehurst, N. J. (39 m.)				Medford, Oreg. (40 m.)				Miami, Fla. (4 m.)				Nashville, Tenn. (180 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	972	6.3	76	29	994	8.7	82	31	1,016	18.9	86	31	1,013	12.4	80	31	970	13.7	67	31	1,014	22.3	87	31	996	14.4	75
500	31	953	8.0	71	29	957	10.9	70	31	959	19.5	68	31	958	11.9	59	31	959	15.1	62	31	958	21.9	79	31	959	16.3	62
1,000	31	897	5.9	66	29	900	8.0	68	31	905	16.6	66	31	904	9.9	53	31	904	14.2	57	31	905	18.8	81	31	904	13.2	60
1,500	31	844	3.3	65	28	847	5.3	68	31	854	13.9	63	31	851	7.5	56	31	852	11.6	56	31	854	15.8	79	31	852	10.2	63
2,000	31	793	0.6	62	28	797	2.8	68	31	804	11.6	56	31	801	5.8	52	31	802	8.6	55	31	804	13.5	68	31	802	7.8	64
2,500	31	744	−1.9	59	28	749	−0.7	65	31	757	9.6	49	31	753	3.5	50	31	754	5.9	52	31	758	11.0	60	31	754	5.4	62
3,000	31	699	−4.5	58	28	704	−1.9	63	31	713	7.2	45	31	708	1.4	48	31	710	3.2	53	31	714	8.9	54	31	710	3.2	59
4,000	31	615	−10.1	55	28	620	−7.3	59	29	631	1.5	43	29	625	−3.7	49	30	627	−2.1	47	31	632	4.2	42	30	627	−2.1	52
5,000	31	540	−16.4	53	28	545	−13.2	58	29	557	−4.2	40	29	550	−8.6	46	30	552	−7.9	43	31	558	−1.0	27	29	552	−8.4	47
6,000	31	472	−23.3	51	28	477	−19.7	55	29	490	−10.9	38	28	482	−15.2	46	29	485	−14.2	42	28	492	−7.3	23	28	484	−14.7	43
7,000	31	410	−30.3	49	27	416	−26.7	53	28	430	−18.2	28	26	422	−22.2	51	29	424	−21.7	42	27	432	−14.3	22	28	424	−21.7	42
8,000	30	356	−37.1	48	25	362	−33.5	51	28	375	−25.5	36	22	366	−29.2	45	29	369	−28.9	40	25	378	−21.6	21	25	369	−28.8	41
9,000	30	307	−43.0	----	25	313	−40.5	----	28	326	−33.0	35	21	318	−36.5	----	29	320	−36.0	38	24	329	−29.0	20	22	320	−36.1	40
10,000	29	264	−48.2	----	25	270	−46.2	----	28	282	−40.8	----	19	276	−44.1	----	29	277	−42.8	----	22	286	−36.5	20	21	277	−43.5	----
11,000	27	227	−52.3	----	25	232	−50.9	----	28	243	−48.3	----	17	237	−51.5	----	29	238	−49.5	----	18	246	−44.0	----	19	238	−50.4	----
12,000	24	194	−55.4	----	24	199	−54.2	----	27	208	−55.0	----	16	203	−56.2	----	28	204	−54.9	----	12	212	−51.3	----	16	203	−56.2	----
13,000	22	166	−56.2	----	21	170	−56.8	----	27	178	−60.6	----	14	173	−59.3	----	28	174	−58.4	----	11	182	−58.2	----	16	174	−60.5	----
14,000	17	141	−56.9	----	18	145	−59.2	----	25	151	−65.0	----	13	146	−62.0	----	28	148	−60.6	----	9	155	−64.1	----	16	147	−64.2	----
15,000	14	120	−58.3	----	14	123	−61.8	----	23	128	−68.9	----	12	123	−63.8	----	28	126	−63.0	----	6	131	−68.6	----	15	124	−67.6	----
16,000	8	102	−58.8	----	9	104	−63.6	----	23	108	−71.4	----	9	104	−64.8	----	28	108	−64.6	----	6	111	−70.3	----	14	105	−70.4	----
17,000	5	86	−58.9	----	8	88	−63.9	----	23	92	−71.5	----	5	88	−65.8	----	27	91	−64.8	----	----	----	----	----	14	89	−70.2	----
18,000	----	----	----	----	5	74	−62.5	----	21	77	−69.6	----	----	----	----	----	26	78	−63.7	----	----	----	----	----	14	75	−68.1	----
19,000	----	----	----	----	----	----	----	----	14	66	−66.9	----	----	----	----	----	20	66	−61.6	----	----	----	----	----	12	63	−65.5	----
20,000	----	----	----	----	----	----	----	----	5	55	−64.2	----	----	----	----	----	8	56	−59.3	----	----	----	----	----	8	53	−63.3	----

Stations and elevations in meters above sea level

Altitude (meters) m. s. l.	(1) Norfolk, Va. (4 m.)				Oakland, Calif. (6 m.)				Oklahoma City, Okla. (391 m.)				Omaha, Nebr. (301 m.)				(1) Pensacola, Fla. (24 m.)				Phoenix, Ariz. (339 m.)				Portland, Maine (20 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	25	1,018	16.5	83	31	1,016	15.2	80	31	970	14.3	79	30	980	10.8	70	23	1,015	21.9	71	31	973	19.7	48	29	1,016	6.7	89
500	25	961	17.3	66	31	959	17.6	60	31	958	15.6	73	30	957	12.8	59	23	960	20.1	57	31	955	23.8	38	29	958	8.8	69
1,000	25	906	15.1	62	31	904	16.5	50	31	904	15.0	63	30	902	11.4	56	23	906	16.9	54	31	902	21.8	33	29	902	7.0	68
1,500	25	854	12.1	62	31	853	14.7	42	31	852	12.3	62	30	849	8.9	58	23	855	14.2	49	31	851	17.9	33	29	849	4.4	67
2,000	24	804	9.4	60	31	803	12.4	38	31	802	10.0	61	30	799	6.2	59	23	805	12.3	35	31	802	13.5	36	29	798	2.5	64
2,500	24	756	7.0	54	31	756	9.5	36	31	755	7.6	57	30	752	3.8	54	23	758	9.6	33	31	755	9.5	41	29	750	1.1	54
3,000	24	712	4.8	51	31	712	6.4	36	31	710	5.1	52	30	706	1.3	50	23	713	6.9	32	31	711	5.7	46	29	704	−1.1	47
4,000	21	629	−0.4	46	31	630	1.0	33	31	628	0.0	47	30	623	−4.4	45	23	631	1.4	34	31	628	−1.3	51	29	621	−6.5	45
5,000	17	554	−6.8	37	30	555	−5.4	32	31	553	−6.1	44	30	548	−10.9	43	22	557	−4.3	38	31	554	−7.6	48	29	546	−12.4	44
6,000	13	486	−12.8	31	29	488	−12.7	31	31	486	−12.9	41	29	481	−18.0	42	21	489	−11.0	39	31	486	−14.2	44	28	478	−18.9	41
7,000	10	425	−20.2	29	28	427	−20.2	31	31	426	−20.1	39	29	420	−25.5	43	19	430	−17.7	39	31	425	−21.1	40	24	417	−26.0	40
8,000	----	----	----	----	27	372	−28.1	31	31	371	−27.5	37	29	364	−32.6	43	9	375	−25.6	----	30	371	−28.6	39	18	362	−33.4	40
9,000	----	----	----	----	26	323	−35.9	31	31	322	−35.0	35	29	316	−39.2	43	9	325	−32.8	----	30	321	−36.1	39	12	313	−40.9	----
10,000	----	----	----	----	23	279	−43.9	----	31	279	−42.4	----	29	272	−44.7	----	8	282	−40.3	----	30	278	−43.1	----	9	271	−46.6	----
11,000	----	----	----	----	20	240	−50.8	----	31	240	−49.5	----	28	234	−49.6	----	6	243	−46.8	----	30	239	−48.5	----	8	232	−53.5	----
12,000	----	----	----	----	19	206	−56.0	----	31	206	−55.3	----	28	201	−53.9	----	5	209	−53.3	----	30	205	−52.5	----	6	197	−59.0	----
13,000	----	----	----	----	17	175	−59.8	----	30	175	−59.0	----	27	172	−56.3	----	----	----	----	----	30	175	−56.5	----	----	----	----	----
14,000	----	----	----	----	17	149	−62.5	----	28	149	−61.5	----	27	147	−58.0	----	----	----	----	----	30	150	−60.0	----	----	----	----	----
15,000	----	----	----	----	16	127	−65.5	----	28	127	−64.4	----	27	125	−59.3	----	----	----	----	----	30	127	−63.6	----	----	----	----	----
16,000	----	----	----	----	14	107	−67.3	----	26	108	−66.5	----	25	106	−60.8	----	----	----	----	----	29	108	−66.4	----	----	----	----	----
17,000	----	----	----	----	13	91	−66.8	----	26	91	−66.8	----	22	90	−60.9	----	----	----	----	----	28	92	−67.5	----	----	----	----	----
18,000	----	----	----	----	11	77	−65.2	----	24	77	−65.6	----	19	77	−60.1	----	----	----	----	----	27	78	−66.6	----	----	----	----	----
19,000	----	----	----	----	6	65	−63.0	----	13	66	−62.9	----	14	65	−58.4	----	----	----	----	----	19	66	−64.3	----	----	----	----	----
20,000	----	----	----	----	5	56	−59.8	----	----	----	----	----	----	----	----	----	----	----	----	----	12	56	−61.4	----	----	----	----	----

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees Centigrade, and relative humidities in percent, obtained by radiosondes during October 1942*—Continued

Stations and elevations in meters above sea level

Altitude (meters) M. S. L.	St. Louis, Mo. (171 m.)				St. Paul, Minn. (225 m.)				San Antonio, Tex. (242 m.)				(1) San Diego, Calif. (19 m.)				S. S. Marie, Mich. (221 m.)				(1) Seattle, Wash. (27 m.)				Spokane, Wash. (598 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	31	996	12.9	69	31	987	8.4	74	31	988	18.9	83	31	1011	17.8	77	31	987	6.4	87	27	1,016	12.7	80	30	948	9.4	70
500	31	958	14.7	61	31	955	9.6	67	31	959	20.3	73	31	956	16.9	62	31	954	6.9	78	27	961	11.7	69	----	----	----	----
1,000	31	903	11.7	60	31	899	7.1	62	31	905	17.8	69	31	902	17.4	41	31	898	6.0	69	27	905	9.6	65	30	903	11.6	57
1,500	31	850	8.7	62	31	846	4.3	63	31	854	15.5	71	31	851	15.1	28	31	845	3.8	67	27	852	6.9	58	30	850	8.5	56
2,000	31	800	6.4	62	31	795	2.2	59	31	804	13.4	62	31	802	12.3	25	31	794	1.8	63	27	801	4.0	55	30	800	5.2	54
2,500	31	753	3.9	61	31	747	0.4	55	31	758	11.2	55	31	755	8.9	26	31	746	−0.8	61	27	753	1.5	48	30	752	1.9	57
3,000	31	708	1.3	60	31	702	−2.1	54	31	714	8.7	50	31	711	5.7	24	31	700	−3.6	56	27	707	−0.9	42	30	706	−0.8	57
4,000	30	624	−3.7	57	31	618	−7.8	52	31	632	3.1	46	29	628	−0.9	29	31	616	−9.2	47	27	623	−6.5	46	30	623	−6.0	54
5,000	29	549	−9.8	52	31	543	−14.4	51	31	558	−2.7	40	29	553	−7.1	29	29	541	−15.6	44	27	548	−12.3	44	30	547	−11.9	49
6,000	28	482	−15.9	51	30	475	−21.4	49	31	491	−9.5	36	26	485	−14.1	----	29	472	−22.5	43	24	480	−18.8	50	30	480	−17.8	46
7,000	28	422	−22.9	48	29	414	−28.5	49	31	431	−16.5	36	24	425	−21.6	----	26	411	−29.1	42	22	419	−25.9	49	30	419	−24.7	44
8,000	28	367	−30.3	46	29	359	−35.4	49	31	376	−23.9	36	9	369	−29.5	----	22	357	−35.8	42	17	364	−32.7	49	30	364	−31.8	43
9,000	28	318	−37.4	44	28	310	−41.4	----	30	327	−31.4	35	9	320	−36.9	----	20	308	−41.4	----	15	315	−40.0	----	30	315	−39.1	42
10,000	28	274	−44.0	----	27	268	−45.2	----	29	284	−39.0	35	8	277	−43.6	----	17	266	−46.0	----	12	271	−47.0	----	29	272	−46.0	----
11,000	28	236	−49.7	----	26	231	−49.6	----	27	244	−46.6	----	7	238	−49.4	----	14	229	−49.8	----	9	233	−53.1	----	29	234	−51.8	----
12,000	27	203	−54.0	----	24	197	−53.4	----	25	210	−53.6	----	6	204	−55.3	----	9	196	−52.8	----	5	199	−58.1	----	28	200	−55.2	----
13,000	25	173	−56.8	----	21	168	−55.1	----	22	179	−59.9	----	----	----	----	----	8	169	−54.8	----	----	----	----	----	28	171	−57.1	----
14,000	24	148	−59.3	----	16	144	−56.5	----	22	152	−65.1	----	----	----	----	----	7	146	−56.3	----	----	----	----	----	24	146	−57.8	----
15,000	23	126	−61.9	----	14	122	−57.6	----	21	129	−69.4	----	----	----	----	----	6	125	−57.6	----	----	----	----	----	23	124	−59.1	----
16,000	22	107	−63.8	----	11	104	−58.3	----	18	109	−72.6	----	----	----	----	----	----	----	----	----	----	----	----	----	23	106	−59.4	----
17,000	21	91	−63.9	----	7	88	−57.7	----	15	91	−73.6	----	----	----	----	----	----	----	----	----	----	----	----	----	21	90	−58.7	----
18,000	19	78	−63.6	----	5	74	−55.6	----	11	77	−71.7	----	----	----	----	----	----	----	----	----	----	----	----	----	15	77	−57.9	----
19,000	10	66	−62.5	----	----	----	----	----	10	65	−68.8	----	----	----	----	----	----	----	----	----	----	----	----	----	8	65	−57.1	----
20,000	----	----	----	----	----	----	----	----	5	54	−64.8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Stations and elevations in meters above sea level

Altitude (meters) M. S. L.	Washington, D. C. (25 m.)				Anchorage, Alaska (42 m.)				Bethel, Alaska (7 m.)				Fairbanks, Alaska (156 m.)				Juneau, Alaska (49 m.)				Ketchikan, Alaska (26 m.)				McGrath, Alaska (100 m.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	30	1,015	15.0	81	31	995	4.1	78	24	1,003	0.7	77	31	984	−0.2	81	31	1,001	7.2	85	30	1,008	8.6	84	28	990	−1.5	83
500	30	960	14.6	69	31	940	2.0	77	24	943	−2.3	76	31	943	−1.7	82	31	948	4.9	83	30	952	5.9	86	28	942	−3.4	85
1,000	30	905	12.1	69	31	884	−0.6	76	24	886	−4.4	73	31	885	−3.1	82	31	892	1.5	87	29	896	2.8	86	28	884	−5.4	85
1,500	30	852	9.5	71	31	830	−3.8	79	24	831	−6.6	72	31	830	−4.7	79	30	837	−1.5	91	28	842	−0.1	84	28	829	−6.8	82
2,000	30	802	7.3	69	31	778	−7.2	83	24	779	−9.6	69	31	779	−7.1	77	26	786	−4.5	93	27	790	−2.5	80	28	777	−8.8	80
2,500	30	754	4.8	66	31	730	−10.4	84	24	730	−12.4	67	31	730	−9.8	76	23	737	−7.2	96	24	742	−4.9	74	28	728	−11.4	79
3,000	30	709	2.9	58	31	684	−13.5	83	24	683	−15.5	65	31	684	−12.9	75	22	691	−10.4	91	24	696	−7.6	72	28	682	−14.5	77
4,000	29	626	−2.2	54	31	599	−19.7	79	24	597	−21.8	62	31	600	−19.3	77	18	605	−16.7	82	24	610	−13.5	67	28	597	−20.6	71
5,000	29	552	−8.2	49	31	522	−26.1	75	23	521	−28.3	60	31	524	−26.0	74	14	529	−23.6	84	22	535	−19.4	69	28	521	−27.1	66
6,000	28	484	−14.3	45	27	454	−33.1	73	23	453	−34.8	58	31	455	−33.3	71	14	460	−30.1	79	20	466	−26.0	67	26	452	−33.7	65
7,000	27	424	−21.2	42	25	393	−40.5	----	21	391	−41.5	----	31	394	−40.6	----	12	399	−37.2	----	19	405	−32.2	67	25	391	−40.9	----
8,000	25	369	−28.5	39	24	338	−46.6	----	20	337	−47.9	----	30	339	−47.1	----	9	344	−43.5	----	18	350	−38.2	67	24	337	−47.6	----
9,000	25	320	−35.8	36	22	291	−50.4	----	20	288	−52.7	----	30	291	−51.8	----	8	296	−46.5	----	17	302	−43.4	----	24	289	−52.0	----
10,000	23	277	−43.1	----	20	249	−50.6	----	20	247	−53.8	----	30	249	−52.7	----	6	255	−44.4	----	14	260	−45.8	----	24	248	−52.4	----
11,000	22	238	−50.4	----	20	214	−49.4	----	20	212	−51.7	----	30	214	−50.7	----	5	220	−44.2	----	13	224	−47.2	----	23	213	−50.4	----
12,000	20	203	−56.1	----	19	184	−49.5	----	20	182	−50.7	----	30	183	−49.6	----	----	----	----	----	10	192	−48.3	----	21	182	−49.3	----
13,000	20	174	−59.4	----	19	157	−49.8	----	19	155	−50.7	----	29	157	−49.8	----	----	----	----	----	7	165	−48.1	----	19	157	−49.4	----
14,000	18	148	−62.7	----	18	135	−50.1	----	15	133	−51.1	----	28	135	−50.1	----	----	----	----	----	6	141	−48.9	----	17	135	−49.5	----
15,000	17	125	−64.9	----	17	116	−50.5	----	13	114	−51.4	----	24	116	−50.5	----	----	----	----	----	5	120	−49.4	----	9	116	−49.7	----
16,000	16	106	−65.5	----	17	99	−51.1	----	12	98	−51.8	----	13	99	−50.8	----	----	----	----	----	----	----	----	----	----	----	----	----
17,000	13	90	−65.3	----	15	85	−51.8	----	9	84	−51.8	----	9	85	−50.8	----	----	----	----	----	----	----	----	----	----	----	----	----
18,000	10	76	−63.6	----	12	73	−51.7	----	6	71	−52.0	----	5	73	−51.2	----	----	----	----	----	----	----	----	----	----	----	----	----
19,000	6	64	−61.2	----	6	63	−51.7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees Centigrade, and relative humidities in percent, obtained by radiosondes during October 1942*—Continued

Altitude (meters) M. S. L.	Stations and elevations in meters above sea level: Nome, Alaska (..... M.)				San Juan, P. R. (15 M.)			
	Number of observations	Pressure	Temperature	Relative humidity	Number of observations	Pressure	Temperature	Relative humidity
Surface	Insufficient obs.				31	1011	25.4	88
500					31	957	23.4	90
1,000					31	904	20.5	87
1,500					31	853	17.7	82
2,000					31	804	15.2	76
2,500					31	758	12.8	69
3,000					31	714	10.2	63
4,000					31	633	4.3	62
5,000					31	559	−1.2	60
6,000					31	493	−7.2	57
7,000					31	433	−13.3	52
8,000					30	379	−19.9	50
9,000					29	330	−26.9	47
10,000					29	287	−34.3	44
11,000					28	248	−41.9	
12,000					28	214	−49.8	
13,000					28	183	−57.6	
14,000					28	156	−65.2	
15,000					26	132	−72.2	
16,000					22	111	−77.1	
17,000					20	93	−79.3	
18,000					20	78	−77.1	
19,000					18	66	−72.9	
20,000					17	55	−68.1	
21,000					12	47	−64.5	
22,000					8	40	−61.7	

All observations taken at 11 p. m., 75th meridian time.
None of the means included in this table are based on less than 15 surface or 5 standard level observations.

Number of observations refers to pressure only, as temperature and humidity are missing for some observations at certain levels, also, the humidity data are not used in daily observations when the temperature is below −40° C.
Stations marked with the figure one (1) are Navy stations.

LATE REPORT FOR SEPTEMBER 1942

TABLE 1.—*Mean free-air barometric pressure in millibars, temperature in degrees Centigrade, and relative humidities in percent, obtained by radiosondes during September, 1942*—Continued

Altitude (meters) m. s. l.	Stations and elevations in meters above sea level: McGrath, Alaska (100 m.)			
	Number of observations	Pressure	Temperature	Relative humidity
Surface	20	995	12.6	74
500	20	948	10.5	73
1,000	20	893	7.4	76
1,500	20	840	4.5	77
2,000	20	789	1.4	79
2,500	20	742	−1.6	81
3,000	20	697	−4.6	84
4,000	20	613	−10.2	80
5,000	20	538	−16.1	76
6,000	19	470	−22.1	71
7,000	19	409	−28.8	69
8,000	19	355	−36.1	68
9,000	19	307	−43.0	
10,000	19	264	−47.7	
11,000	19	228	−49.1	
12,000	19	195	−49.4	
13,000	19	168	−50.1	
14,000	16	144	−50.9	
15,000	16	123	−51.4	
16,000	15	106	−51.3	
17,000	11	90	−50.8	
18,000	7	77	−50.4	

TABLE 2.—*Free-air resultant winds based on pilot-balloon observations made near 5 p. m. (75th meridian time) during October 1942. 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. (538 m.)			Albuquerque, N. Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (870 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	177	1.2	31	228	1.4	30	311	1.1	30	275	3.4	30	273	2.7	30	320	3.5
500							30	317	1.1									
1,000	31	172	2.6				30	291	1.5				30	279	3.5	30	315	3.6
1,500	31	200	2.2				29	275	2.9	30	281	6.7	28	276	4.9	30	295	3.0
2,000	30	233	4.8	31	243	1.6	29	284	5.2	29	285	8.0	27	287	6.9	30	291	3.2
2,500	28	259	6.5	31	268	2.6	28	291	6.1	29	282	7.9	24	291	7.4	29	291	3.9
3,000	28	268	7.2	31	281	3.6	25	289	6.9	28	286	8.1	23	282	7.7	28	296	4.8
4,000	27	263	9.4	26	292	5.5	21	292	6.3	23	288	8.0	19	276	10.1	26	302	6.1
5,000	25	263	11.0	21	298	4.9	20	280	9.4	19	286	10.3	17	271	9.9	25	310	8.3
6,000	25	265	13.6	18	280	5.5	18	279	11.8	16	293	9.3	16	271	10.5	22	304	10.7
8,000	20	271	17.0	13	285	5.2	12	280	11.6	14	281	9.8	13	294	10.1	18	318	10.3
10,000	18	267	22.9	13	270	8.3	12	286	14.7				13	297	13.7	15	307	11.0
12,000	13	272	24.3										10	319	13.8			

Altitude (meters) m. s. l.	Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (132 m.)			Charleston, S. C. (17 m.)			Joliet, Ill. (178 m.)			Cincinnati, Ohio (152 m.)			Denver, Colo. (1,627 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	31	125	4.0	30	238	1.9	30	210	1.6	30	106	1.0	27	267	2.7	31	240	1.3	31	54	2.3
500	31	129	4.8	30	228	4.0	30	213	3.9	30	86	0.4	27	273	3.5	31	243	2.6			
1,000	27	159	3.4	27	232	6.5	30	235	4.3	29	322	2.2	25	260	4.5	29	253	3.7			
1,500	23	224	1.3	24	242	7.0	30	242	5.9	28	310	3.2	24	280	4.9	27	265	5.5			
2,000	21	278	1.6	19	253	7.2	26	243	7.6	24	300	3.9	21	273	5.8	23	260	7.0	31	44	2.1
2,500	20	300	1.9	16	284	8.4	19	272	8.1	24	286	4.0	15	281	7.2	20	263	8.1	29	20	1.3
3,000	18	273	2.7	15	293	8.8	13	288	5.9	24	272	4.9	13	293	7.5	20	263	9.6	27	312	2.2
4,000	16	276	4.7	13	291	11.8	10	288	7.8	23	265	6.6	10	301	10.0	16	272	11.1	24	283	5.8
5,000	15	276	4.6	10	290	8.0				19	264	7.3				11	289	9.2	21	289	8.9
6,000	14	273	5.3							16	276	8.9							19	293	8.9
8,000										11	281	9.6							14	290	5.7
10,000										10	288	12.0							12	275	5.7
12,000																					

TABLE 2.—*Free-air resultant winds based on pilot-balloon observations made near 5 p. m. (75th meridian time) during October 1942. Directions given in degrees from North (N=360°, E=90°, S=180°, W=270°)—Velocities in meters per second*—Continued

Altitude meters m. s. l.	El Paso, Tex. (1,196 m.)			Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,413 m.)			Greensboro N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Las Vegas, Nev. (573 m.)			Little Rock, Ark. (88 m.)			Medford, Oreg. (410 m.)			Miami, Fla. (15 m.)			St. Paul, Minn. (225 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (194 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	261	1.7	30	325	2.2	30	321	2.1	30	254	0.4	29	267	3.8	31	49	3.3	31	120	1.1	31	353	0.4	30	316	0.7	31	61	2.6	31	277	2.2	29	30	0.3	31	297	1.4
500	---	---	---	---	---	---	---	---	---	30	282	1.1	---	---	---	31	39	2.8	---	---	---	31	255	0.3	30	317	0.9	31	47	4.8	31	274	2.5	29	61	0.4	31	276	1.8
1,000	---	---	---	---	---	---	---	---	---	27	248	2.8	29	268	5.3	31	6	2.1	31	113	1.2	30	233	1.3	29	6	0.3	31	27	4.3	30	260	4.0	27	14	1.0	31	253	2.6
1,500	31	255	1.7	---	---	---	---	---	---	26	270	3.8	29	269	5.8	30	340	2.3	31	147	0.5	30	248	2.3	27	220	1.5	31	7	4.1	29	268	5.2	27	330	1.7	31	258	4.7
2,000	31	257	1.8	30	329	2.1	30	295	4.0	23	298	5.4	29	279	7.2	28	325	2.3	31	276	1.6	27	266	4.3	27	241	2.0	26	352	2.8	26	277	5.9	27	309	2.4	26	278	4.9
2,500	29	264	3.0	30	317	1.9	30	289	3.0	22	303	6.9	25	278	7.9	28	317	2.4	31	302	1.7	26	266	5.4	25	257	0.6	22	331	1.9	22	286	6.0	25	325	2.3	24	283	5.4
3,000	29	264	3.3	29	284	1.5	29	266	3.5	21	305	7.1	22	284	8.6	27	303	1.9	29	309	1.4	21	281	6.4	24	278	2.3	20	283	2.5	22	291	6.1	25	316	2.3	23	288	6.9
4,000	27	270	6.5	27	306	3.4	22	286	3.9	21	284	9.1	18	283	8.6	26	280	3.6	28	341	2.6	18	288	7.9	24	302	5.8	14	263	2.8	17	306	7.0	21	299	4.2	19	284	9.8
5,000	25	265	9.4	23	306	5.6	18	300	4.2	19	280	10.9	13	279	10.8	22	282	6.6	27	346	2.8	17	301	10.5	23	298	7.5	13	265	4.9	15	322	7.4	19	290	7.2	18	283	11.0
6,000	25	259	10.8	22	317	5.2	14	319	4.6	19	277	12.3	---	---	---	19	274	8.8	26	337	4.3	15	292	11.5	21	291	6.2	12	267	7.9	15	328	8.5	18	288	9.3	15	294	10.7
8,000	23	264	15.7	17	320	8.2	---	---	---	14	285	11.4	---	---	---	11	270	11.1	22	2	8.4	---	---	---	20	303	8.4	---	---	---	12	347	6.8	13	283	13.9	---	---	---
10,000	14	260	19.0	12	342	8.8	---	---	---	13	278	14.6	---	---	---	---	---	---	21	353	7.8	---	---	---	14	298	11.1	---	---	---	---	---	---	10	287	13.9	---	---	---
12,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	17	338	5.8	---	---	---	13	288	13.0	---	---	---	---	---	---	---	---	---	---	---	---
14,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	15	294	7.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Altitude (meters) m. s. l.	New York, N. Y. (15 m.)			Oakland, Calif. (8 m.)			Oklahoma City, Okla. (402 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			San Antonio, Tex. (180 m.)			San Diego, Calif. (15 m.)			Sault Ste. Marie, Mich. (230 m.)			Seattle, Wash. (12 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	60	0.5	31	277	3.7	29	173	2.0	31	273	0.8	31	240	1.0	30	336	4.8	31	268	1.8	30	126	1.1	30	271	3.8	25	251	1.7	30	222	1.7	31	281	0.8	26	155	1.4
500	29	158	0.6	31	307	2.5	29	167	2.2	31	230	0.6	31	249	1.7	---	---	---	31	270	2.7	30	140	1.8	30	277	3.1	25	241	2.7	30	207	2.9	---	---	---	26	182	1.8
1,000	27	257	2.0	29	332	1.6	28	173	1.9	31	254	2.1	31	252	2.1	30	333	4.7	29	257	3.3	27	148	2.0	26	307	1.0	25	244	4.7	27	213	4.1	31	238	3.6	24	232	2.9
1,500	23	268	5.9	28	343	2.7	27	228	3.1	31	254	3.5	31	228	1.6	30	316	4.8	29	271	4.9	25	170	1.8	24	26	0.8	22	276	6.3	25	221	4.9	31	237	4.0	23	271	3.8
2,000	20	287	6.9	26	345	3.5	26	272	3.5	27	260	4.5	31	228	1.6	28	302	5.3	27	281	7.0	25	238	3.2	24	70	1.3	21	287	8.1	20	218	4.5	29	245	6.0	22	271	6.3
2,500	19	292	6.9	26	347	3.6	26	272	4.9	26	278	6.2	31	227	1.7	28	298	7.3	26	278	7.4	23	252	4.9	24	43	2.2	21	291	10.2	18	232	5.1	26	252	6.7	22	279	8.1
3,000	12	313	8.3	26	333	3.7	24	272	6.0	24	293	6.0	31	205	1.9	27	298	8.3	26	281	8.8	21	255	6.6	24	37	2.5	15	308	9.2	12	273	4.6	23	264	7.2	18	290	8.4
4,000	---	---	---	25	337	3.9	22	284	8.1	22	291	5.3	29	175	1.1	20	291	9.4	23	283	11.6	16	265	8.3	19	357	3.7	---	---	---	10	298	7.1	17	274	8.8	18	279	10.5
5,000	---	---	---	21	359	8.2	21	289	8.5	20	305	6.6	27	200	2.3	19	289	10.0	20	290	13.2	15	277	7.5	15	331	6.8	---	---	---	---	---	---	16	284	9.9	16	273	11.4
6,000	---	---	---	21	350	9.9	19	287	11.8	20	304	6.8	26	221	1.8	19	291	10.7	14	298	9.1	15	284	10.0	11	344	8.2	---	---	---	---	---	---	16	283	12.1	12	274	16.1
8,000	---	---	---	15	347	7.9	14	301	11.2	15	301	10.5	22	275	4.5	15	295	10.6	11	310	13.2	14	276	15.6	---	---	---	---	---	---	---	---	---	10	312	11.4	---	---	---
10,000	---	---	---	14	17	3.6	10	296	15.2	10	308	7.5	18	267	9.1	13	290	10.6	---	---	---	11	277	19.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12,000	---	---	---	---	---	---	10	289	19.8	---	---	---	10	288	10.9	11	287	7.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 3.—*Maximum free-air wind velocities, (M.P.S.), for different sections of the United States based on pilot-balloon observations during October, 1942*

Section	Surface to 2,500 meters (m. s. l.)					Between 2,500 and 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]	48.8	W	1,320	27	Kylertown, Pa.	41.4	WNW	4,060	7	Boston, Mass.	58.4	WSW	10,740	10	Portland, Maine.
East-Central [2]	33.8	SSW	1,360	29	Nashville, Tenn.	42.8	WNW	4,170	27	Huntington, W. Va.	61.3	W	12,800	19	Washington, D. C.
Southeast [3]	39.5	NNW	1,050	26	Spartanburg, S. C.	38.0	W	4,840	26	Atlanta, Ga.	50.2	WSW	12,480	19	Tampa, Fla.
North-Central [4]	43.3	SW	2,110	30	Detroit, Mich.	40.4	SW	2,500	30	Detroit, Mich.	49.6	NW	6,970	27	Milwaukee, Wis.
Central [5]	41.5	SSW	1,290	30	Evansville, Ind.	46.0	NW	5,000	25	North Platte, Nebr.	50.8	WNW	15,290	6	Wichita, Kans.
South-Central [6]	33.4	WSW	2,500	30	Dallas, Tex.	37.6	SW	3,130	30	Dallas, Tex.	66.4	WSW	11,690	30	Abilene, Tex.
Northwest [7]	42.2	W	2,470	31	Great Falls, Mont.	44.0	WSW	3,250	27	Pocatello, Idaho.	60.0	NNW	8,100 8,520	23	Spokane, Wash.
West-Central [8]	34.3	NW	2,370	21	Sheridan, Wyo.	56.4	NW	3,400	21	Cheyenne, Wyo.	64.0	NW	16,770	5	Denver, Colo.
Southwest [9]	40.4	NNW	2,500	13	Sandberg, Calif.	45.3	NNW	2,730	13	Sandberg, Calif.	50.0	W	10,750	27	Albuquerque, 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.

498446—42——2