loan of equipment and to Merck and Company and to J. T. Baker Co. for the donation of essential chemicals.

Publication of this report has been approved by the U. S. Antarctic Service.

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METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR MAY 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 airplanes and radiosondes during May 1942*

Altitude (meters) m. s. l.	Stations and elevations in meters above sea level																							
	Albuquerque, N. Mex. (1,620 m.)				Atlanta, Ga. (300 m.)				Bismarck, N. Dak (505 m.)				Boise, Idaho (864 m.)				Brownsville, Tex. (6 m.)				Buffalo, N. Y. (221 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
Surface	31	834	19.3	18	31	982	19.1	75	31	955	10.1	74	31	914	11.8	64	30	1012	24.4	85	31	990	13.1	82
500					31	960	20.1	64									30	957	21.8	89	31	958	13.8	72
1,000					31	906	17.1	64	31	900	8.6	70	31	899	12.7	60	30	904	20.9	65	31	902	11.8	71
1,500					31	854	13.3	68	31	847	5.7	71	31	847	10.3	55	30	853	19.8	53	31	850	9.0	75
2,000	31	798	18.8	17	31	804	9.9	70	31	796	3.3	72	31	797	6.4	56	30	804	17.1	47	31	800	6.5	72
2,500	31	752	15.0	17	31	757	7.0	65	31	748	0.6	70	31	749	2.4	60	30	758	14.4	41	31	752	4.0	68
3,000	31	709	10.6	18	31	712	3.9	60	31	703	−1.9	67	31	704	−1.2	63	30	714	11.4	41	31	707	1.5	65
4,000	31	628	2.1	19	30	630	−0.7	47	30	619	−7.5	58	31	620	−8.5	67	30	633	5.3	37	31	624	−4.1	61
5,000	31	554	−6.6	21	30	555	−7.2	42	30	544	−14.1	53	31	544	−15.3	63	29	560	−1.7	38	31	549	−10.4	57
6,000	31	486	−14.5	23	29	487	−14.3	40	30	476	−21.3	52	30	476	−22.5	62	29	493	−8.5	37	31	482	−16.8	53
7,000	31	425	−21.6	23	29	426	−21.2	39	30	414	−28.8	50	29	414	−29.8	62	28	433	−15.3	35	31	421	−23.9	51
8,000	31	370	−28.8	22	29	372	−28.2	38	30	359	−36.9	49	29	359	−37.1	59	28	378	−22.1	35	31	366	−31.2	50
9,000	30	322	−36.3		29	322	−35.5	38	29	310	−44.7		29	310	−43.8		27	329	−29.3	35	31	317	−38.8	49
10,000	30	278	−43.7		28	279	−42.9		29	266	−51.3		29	267	−49.0		27	286	−36.8	35	29	274	−46.2	
11,000	29	239	−50.6		28	240	−49.8		29	228	−54.4		29	229	−52.5		27	247	−44.5		29	235	−52.2	
12,000	29	204	−56.2		28	206	−55.8		27	195	−55.3		29	196	−53.9		25	212	−52.1		27	201	−57.7	
13,000	29	174	−59.4		28	175	−60.6		27	166	−55.0		28	167	−54.0		24	182	−58.8		27	171	−60.3	
14,000	28	148	−61.0		28	149	−61.7		25	142	−54.4		26	143	−54.0		24	154	−64.9		27	145	−60.7	
15,000	27	126	−61.7		28	127	−61.9		22	122	−55.1		24	122	−54.6		20	131	−70.0		23	124	−59.2	
16,000	25	108	−63.0		28	108	−62.5		18	104	−56.0		22	105	−55.2		20	111	−73.3		23	106	−59.2	
17,000	20	91	−62.6		28	92	−63.0		13	89	−55.7		16	89	−55.9		15	93	−75.8		18	90	−58.5	
18,000	11	77	−61.8		22	78	−62.2		9	76	−54.9		9	76	−56.1		12	78	−74.6		11	76	−58.1	
19,000	7	66	−60.3		14	66	−60.7										9	66	−71.4					
20,000					5	56	−59.1										5	56	−67.9					

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

Stations and elevations in meters above sea level

Altitude (meters) m. s. l.	Caribou, Maine (191 m.)				Charleston, S. C. (14 m.)				Denver, Colo. (1,616 m.)				Detroit, Mich. (194 m.)				El Paso, Tex. (1,193 m.)				Ely, Nev. (1,908 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
Surface	31	994	10.3	79	31	1016	19.4	91	31	835	11.9	58	31	992	13.0	81	31	878	23.6	16	31	806	8.5	49
500	31	958	10.9	75	31	961	19.3	73					31	956	13.9	73								
1,000	31	902	8.9	68	31	906	16.5	67					31	901	12.0	68								
1,500	31	849	6.3	68	31	854	13.2	67					31	849	9.3	69	31	848	24.4	15				
2,000	31	798	3.2	68	31	805	10.0	67	31	798	11.8	52	31	799	6.8	63	31	800	20.6	15	31	798	9.4	48
2,500	31	750	.5	65	31	757	7.2	63	31	751	8.7	52	31	751	4.0	58	31	755	16.4	15	31	751	6.7	47
3,000	31	704	−1.9	64	31	713	4.8	57	31	706	5.2	54	31	706	1.7	52	31	711	12.1	15	31	706	2.4	49
4,000	31	621	−7.6	60	30	630	−.6	47	31	624	−2.1	58	31	623	−4.5	44	31	630	3.9	16	30	623	−5.8	53
5,000	31	545	−13.4	52	30	555	−6.8	43	31	549	−9.9	57	31	548	−10.9	40	31	556	−4.3	17	30	548	−13.5	56
6,000	31	477	−19.9	49	29	487	−13.2	40	31	482	−17.7	55	31	481	−17.2	40	31	489	−11.8	17	29	479	−20.7	56
7,000	31	416	−27.0	48	29	427	−20.1	40	31	421	−25.4	53	31	420	−24.2	38	31	428	−19.1	17	26	418	−27.0	55
8,000	31	361	−34.0	46	29	372	−27.2	38	31	366	−33.0	52	30	365	−31.4	38	31	374	−26.2	17	25	363	−34.0	52
9,000	31	312	−41.1		29	323	−34.5	35	31	316	−40.5		30	316	−39.1	38	31	324	−33.6	17	25	314	−41.3	
10,000	29	269	−47.6		29	280	−41.9		31	272	−47.3		30	273	−46.6		31	281	−40.8		25	271	−47.7	
11,000	29	231	−52.9		28	241	−49.2		31	234	−53.3		29	234	−52.7		31	242	−48.3		22	232	−53.4	
12,000	28	198	−56.1		28	206	−56.3		30	200	−57.6		28	200	−57.7		31	207	−55.0		20	199	−57.2	
13,000	26	169	−58.3		26	176	−60.5		28	170	−59.1		27	171	−59.7		30	177	−60.0		19	170	−59.0	
14,000	21	144	−57.7		24	150	−62.1		25	145	−58.9		24	145	−59.8		30	150	−62.9		17	144	−57.9	
15,000	18	123	−57.0		21	127	−62.9		25	123	−58.7		24	124	−59.4		28	128	−64.3		14	123	−58.1	
16,000	13	105	−56.9		18	108	−63.5		22	105	−59.2		22	106	−58.8		23	109	−65.6		13	105	−59.2	
17,000	8	89	−57.2		16	91	−63.8		20	90	−58.6		21	90	−59.2		15	92	−66.1		8	90	−59.2	
18,000					13	77	−63.3		15	77	−58.8		15	77	−59.2		7	78	−67.3					
19,000					9	66	−62.3						7	65	−59.3									

Stations with elevations in meters above sea level

Altitude (meters) m. s. l.	Great Falls, Mont. (1,128 m.)				Huntington, W. Va. (172 m.)				Joliet, Ill. (178 m.)				Lake Charles, La. (6 m.)				Lakehurst, N. J. (1) (39 m.)				Medford, Oreg. (401 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
Surface	31	885	10.1	64	31	996	15.8	84	30	994	12.9	81	31	1,014	21.7	89	31	1,013	15.3	78	30	968	13.7	69
500					31	959	17.2	71	30	957	14.2	74	31	958	20.9	77	31	960	15.9	63	30	956	13.4	68
1,000					31	904	14.5	68	30	901	11.6	73	31	904	18.7	69	31	905	13.8	60	30	901	10.4	70
1,500	31	846	8.7	62	31	852	11.7	69	30	849	9.0	73	31	853	16.0	61	31	853	11.0	56	30	848	6.6	78
2,000	31	796	5.3	61	31	802	8.5	72	30	799	6.5	69	31	804	13.6	55	31	803	8.5	52	30	798	2.9	86
2,500	31	748	1.6	63	31	754	5.4	75	30	751	4.4	62	31	758	11.4	50	31	755	5.4	51	30	750	−0.4	87
3,000	31	703	−2.1	69	31	710	2.6	71	30	706	1.9	59	31	714	8.7	47	31	710	2.4	50	30	704	−3.5	82
4,000	29	619	−9.5	77	30	626	−3.0	61	30	624	−3.7	50	31	631	2.7	41	31	627	−3.2	45	30	620	−9.5	72
5,000	29	543	−16.1	76	29	551	−9.1	56	30	549	−10.4	47	31	557	−3.5	37	31	551	−9.3	41	30	544	−15.5	64
6,000	29	475	−23.1	73	29	484	−15.9	51	29	481	−17.3	46	31	490	−10.7	35	31	484	−15.9	45	30	476	−21.9	60
7,000	29	413	−30.8	70	29	423	−23.3	50	27	420	−24.6	46	30	430	−17.7	34	31	423	−23.1	47	30	414	−28.8	60
8,000	28	358	−38.4	69	29	368	−30.5	48	26	364	−32.1	45	30	376	−25.1	34	31	368	−30.4	51	30	359	−35.7	59
9,000	28	309	−45.8		29	319	−37.9	47	25	315	−39.5		30	326	−32.4	34	31	319	−37.7	53	30	310	−42.2	
10,000	28	265	−51.8		28	275	−45.2		24	272	−46.2		30	283	−40.1		30	276	−45.1		30	267	−48.0	
11,000	28	227	−54.5		28	236	−51.9		24	234	−51.6		30	244	−47.7		30	237	−52.3		29	230	−52.4	
12,000	28	194	−54.2		27	202	−57.6		24	200	−55.5		30	209	−55.1		30	202	−58.3		29	196	−54.6	
13,000	26	166	−53.4		25	172	−61.1		24	170	−56.9		30	178	−60.9		30	172	−61.7		28	168	−55.0	
14,000	25	142	−51.5		24	146	−61.1		24	146	−57.6		28	151	−64.5		30	147	−62.5		28	143	−54.7	
15,000	21	121	−51.8		23	124	−60.6		23	124	−58.0		24	128	−66.7		29	126	−61.6		28	122	−54.8	
16,000	19	104	−52.3		20	106	−60.5		23	106	−58.2		23	109	−68.9		29	107	−61.4		25	105	−54.7	
17,000	16	88	−52.5		17	90	−59.7		20	90	−58.6		22	92	−70.1		23	91	−60.8		21	89	−54.5	
18,000	6	76	−52.7		11	76	−58.6		16	77	−57.8		17	78	−70.1		13	77	−60.0		13	76	−54.5	
19,000									10	65	−56.6		10	67	−67.6		5	65	−58.9		10	65	−54.4	
20,000									5	56	−54.8													

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

Stations and elevations in meters above sea level

Altitude (meters) m. s. l.	Miami, Fla. (4 m.)				Nashville, Tenn. (180 m.)				Norfolk, Va. (1) (10 m.)				Oakland, Calif. (2 m.)				Oklahoma City, Okla. (391 m.)				Omaha, Nebr. (301 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
Surface	31	1,016	22.9	82	31	995	18.7	71	27	1,018	20.0	78	31	1,016	14.5	73	29	968	18.6	70	31	978	15.1	77
500	31	960	21.3	82	31	958	18.8	66	27	960	18.4	66	31	958	12.0	73	29	955	19.0	68	31	955	15.6	69
1,000	31	906	18.1	79	31	904	16.0	65	27	906	15.4	64	31	902	10.8	61	29	902	17.1	67	31	900	13.1	67
1,500	31	855	15.3	77	31	852	12.7	67	27	854	12.6	59	31	850	8.8	54	29	850	14.7	63	31	848	10.3	69
2,000	31	805	12.4	73	31	803	9.7	68	27	804	9.7	58	31	799	6.2	51	29	801	12.9	54	31	798	7.8	65
2,500	31	759	9.7	64	31	756	7.2	64	27	757	6.6	51	31	752	3.9	46	29	754	10.7	46	31	751	5.4	58
3,000	31	714	7.1	54	31	711	4.8	58	27	712	3.5	48	31	707	1.5	43	29	710	7.4	43	31	706	3.0	54
4,000	31	632	2.3	43	31	628	−0.5	50	27	629	−2.9	45	31	624	−3.9	42	29	628	0.6	43	31	623	−3.5	51
5,000	31	558	−3.5	38	31	554	−6.9	45	26	553	−9.3	41	31	549	−9.9	42	29	554	−6.2	42	31	549	−10.1	45
6,000	31	491	−9.2	34	31	487	−13.7	44	26	485	−15.6	41	31	481	−16.6	41	28	487	−13.0	41	31	481	−17.1	41
7,000	29	431	−15.9	30	31	426	−21.2	43	25	424	−22.9	42	30	421	−23.3	41	28	426	−20.4	40	31	420	−24.6	38
8,000	29	377	−23.1	28	31	371	−28.5	42					28	365	−30.3	40	28	371	−28.0	39	31	365	−32.3	37
9,000	29	327	−30.1	27	31	322	−35.9	42					26	316	−38.0	39	28	322	−35.7	38	31	316	−39.5	38
10,000	29	284	−37.6	27	30	278	−43.2						24	273	−45.6		28	279	−43.4		31	273	−46.3	
11,000	29	245	−45.1		29	239	−49.9						22	234	−52.7		27	240	−50.7		30	234	−51.7	
12,000	29	210	−51.6		29	205	−55.8						22	200	−58.1		24	205	−57.3		29	200	−56.0	
13,000	29	180	−57.4		29	175	−59.8						19	171	−60.7		23	175	−61.5		29	171	−58.0	
14,000	29	153	−61.6		28	149	−61.6						17	145	−60.5		20	149	−61.7		28	146	−59.1	
15,000	27	130	−64.6		27	127	−61.8						15	123	−60.0		20	126	−61.9		23	124	−59.2	
16,000	27	111	−66.4		26	108	−62.3						13	105	−59.8		18	108	−62.8		19	106	−59.2	
17,000	25	94	−67.4		23	92	−62.8						12	89	−59.8		18	92	−63.2		9	90	−58.8	
18,000	25	79	−67.1		18	78	−62.6						9	75	−58.7		12	78	−61.9					
19,000	20	67	−65.8		15	66	−61.7										6	66	−59.1					
20,000	13	56	−63.7		7	56	−59.4																	

Stations with elevations in meters above sea level

Altitude (meters) m. s. l.	Pensacola, Fla. (1) (24 m.)				Phoenix, Ariz. (339 m.)				Portland, Maine (20 m.)				St. Louis, Mo. (171 m.)				St. Paul, Minn. (225 m.)				San Antonio, Tex. (175 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
Surface	24	1,014	22.0	73	31	969	23.4	30	31	1,015	10.2	87	31	995	17.1	74	31	986	13.1	73	31	994	22.9	79
500	24	960	20.1	62	31	951	27.4	24	31	959	13.1	72	31	957	17.4	64	31	955	12.8	69	31	958	21.2	82
1,000	24	905	17.5	53	31	898	24.7	22	31	904	11.3	69	31	902	14.6	62	31	900	10.1	69	31	904	19.2	79
1,500	24	854	14.2	51	31	848	20.7	22	31	851	8.3	70	31	850	11.5	62	31	847	7.2	70	31	853	17.4	76
2,000	24	804	11.6	45	31	800	16.3	22	31	800	5.4	67	31	800	9.2	58	31	797	4.9	69	31	804	15.3	69
2,500	24	757	9.0	42	31	754	12.1	22	31	752	2.6	64	31	754	6.3	62	31	749	2.7	65	31	758	12.9	61
3,000	24	712	6.5	35	31	710	8.5	22	31	708	−0.2	63	31	709	3.4	61	31	704	0.3	60	31	714	10.7	44
4,000	21	630	0.7	27	31	628	1.8	22	29	624	−5.1	56	31	626	−2.3	53	30	621	−5.7	54	31	632	4.0	40
5,000	21	555	−5.7	27	31	554	−4.7	22	26	549	−11.1	54	31	551	−8.5	49	29	546	−12.3	53	29	558	−2.8	37
6,000	20	488	−12.0	29	31	487	−11.9	22	25	480	−17.7	50	31	484	−15.3	49	29	478	−19.4	52	28	492	−9.8	37
7,000	19	427	−18.8	36	31	427	−19.7	22	24	419	−24.4	49	31	423	−22.5	49	26	417	−26.6	50	26	431	−17.0	37
8,000	17	373	−26.2	36	31	372	−27.5	22	23	364	−31.4	48	31	368	−29.8	48	26	362	−34.4	48	26	377	−24.2	37
9,000	15	324	−33.8		31	323	−35.2	22	20	315	−39.1		31	319	−37.5	48	26	313	−41.8		26	327	−31.6	36
10,000	12	281	−41.2		31	279	−42.8		20	272	−46.0		31	276	−44.9		26	270	−48.4		25	284	−39.2	36
11,000	8	242	−48.8		30	240	−49.8		18	234	−52.1		31	237	−51.7		25	232	−53.0		24	245	−46.8	
12,000	7	208	−56.4		30	206	−55.8		16	200	−56.9		30	203	−57.2		24	198	−54.1		22	210	−54.3	
13,000	5	176	−62.0		29	176	−60.0		16	170	−58.2		29	173	−57.5		22	169	−55.7		22	180	−60.0	
14,000					28	150	−61.5		13	145	−57.7		27	147	−57.7		21	145	−55.7		21	153	−63.8	
15,000					22	127	−62.7		12	123	−56.9		27	125	−58.0		16	124	−55.8		19	130	−66.4	
16,000					21	108	−63.7		10	105	−56.2		25	107	−58.5		12	106	−57.0		18	110	−68.0	
17,000					17	92	−64.4		7	90	−54.7		20	91	−58.7		10	90	−56.6		16	93	−68.5	
18,000					14	78	−63.4		5	77	−54.1		18	77	−58.5		7	77	−56.2		11	78	−67.2	
19,000					6	66	−62.7						13	66	−57.4						8	66	−65.5	
20,000													5	56	−55.7									

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

Stations with elevations in meters above sea level

Altitude (meters) M. S. L.	San Diego, Calif., (1) (19 m.)				S. S. Marie, Mich. (221 m.)				Seattle, Wash. (1) (27 m.)				Spokane, Wash. (598 m.)				Washington, D. C. (25 m.)				Anchorage, Alaska (42 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
Surface	29	1,011	16.0	79	31	989	7.7	82	29	1013	13.8	72	31	943	12.4	69	31	1014	18.8	71	30	1009	13.6	57
500	29	956	14.1	70	31	957	9.4	74	29	958	10.8	69					31	960	17.7	65	30	955	10.6	58
1,000	29	901	14.1	54	31	901	8.5	70	29	902	7.2	71	31	899	10.8	64	31	905	15.3	66	30	900	6.7	61
1,500	29	849	13.7	37	31	848	6.4	67	29	848	3.6	74	31	846	7.4	66	31	853	12.0	69	30	846	2.8	65
2,000	29	800	12.2	29	31	797	3.7	67	29	797	0.3	77	31	796	3.6	71	31	804	9.0	66	30	795	−0.7	68
2,500	29	753	10.0	26	31	749	1.3	65	29	748	−2.6	76	31	748	0.1	74	31	756	5.8	68	30	746	−3.7	68
3,000	29	709	7.7	22	31	704	−1.0	61	29	703	−6.0	72	30	703	−3.3	74	31	711	3.2	65	29	700	−6.6	68
4,000	29	627	2.1	23	31	620	−6.3	53	29	618	−11.8	67	30	618	−10.0	71	31	628	−1.7	53	29	615	−12.3	66
5,000	28	552	−5.1	24	30	546	−12.6	49	28	542	−18.1	62	30	542	−16.6	65	30	553	−8.1	48	27	539	−18.7	63
6,000	27	486	−12.3	25	27	478	−19.2	45	27	473	−25.1	66	27	474	−23.7	63	30	486	−14.6	45	27	471	−25.3	62
7,000	27	425	−20.1	22	26	417	−26.1	43	27	411	−32.2	69	26	412	−31.1	62	29	425	−21.8	44	27	409	−32.5	61
8,000	12	372	−27.9		25	362	−33.1	42	27	356	−39.4	75	25	357	−38.6	60	28	370	−29.1	44	27	354	−40.1	
9,000	12	322	−35.7		24	314	−40.4		26	307	−46.4		25	308	−45.6		27	320	−36.5	45	25	306	−47.2	
10,000	11	279	−42.7		22	271	−47.4		25	264	−52.2		24	264	−50.5		24	277	−44.3		24	262	−53.3	
11,000	11	240	−49.9		19	232	−52.5		22	226	−55.1		22	227	−52.5		20	238	−51.5		23	225	−55.2	
12,000	11	205	−56.6		18	199	−54.7		22	193	−55.4		21	194	−52.4		19	204	−58.0		19	192	−53.2	
13,000	9	176	−61.2		18	170	−55.1		19	165	−54.8		21	166	−52.2		19	173	−62.1		19	165	−51.6	
14,000	9	150	−63.0		16	146	−54.2		17	141	−54.0		17	142	−52.5		19	147	−61.6		19	142	−50.7	
15,000	8	128	−63.3		14	125	−54.6		16	121	−54.2		17	122	−53.3		15	125	−60.4		18	122	−51.1	
16,000	8	109	−64.0		13	107	−54.9		11	103	−54.1		16	105	−53.7		13	107	−61.0		17	105	−51.1	
17,000	5	92	−63.5		11	91	−54.9		7	89	−54.3		12	90	−53.9		9	91	−61.3		11	90	−50.9	
18,000					6	78	−54.5						7	77	−53.9		7	78	−60.8		8	77	−50.5	
19,000																					6	66	−49.8	

Stations with elevations in meters above sea level

Altitude (meters) m. s. l.	Barrow, Alaska (6 m.)				Fairbanks, Alaska (156 m.)				Juneau, Alaska (49 m.)				Ketchikan, Alaska (26 m.)				McGrath, Alaska (103 m.)				Nome, Alaska (14 m.)				San Juan, P. R. (15 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	1019	−5.8	92	31	993	16.2	40	31	1008	13.9	55	31	1012	11.9	73	30	999	12.6	52	31	1013	3.1	73	30	1014	25.2	86
500	31	957	−7.2	90	31	954	12.9	41	31	956	10.6	58	31	956	9.2	77	30	952	9.2	53	31	954	1.0	76	30	960	22.8	88
1,000	31	898	−6.0	78	31	898	8.5	44	31	900	6.7	63	31	900	6.4	78	30	896	5.3	56	31	896	−0.6	71	30	906	19.8	89
1,500	31	842	−6.4	69	31	845	4.7	49	31	846	3.3	68	31	847	3.4	79	30	843	1.9	60	31	842	−2.7	68	30	855	16.9	86
2,000	31	790	−8.2	63	31	794	0.7	55	30	795	0.7	68	30	796	0.2	79	30	792	−1.1	64	31	790	−4.9	67	30	806	14.2	78
2,500	31	740	−10.5	60	31	746	−2.8	61	30	747	−2.2	69	30	747	−2.6	78	30	743	−4.3	67	31	741	−7.8	65	30	760	12.0	68
3,000	31	693	−13.2	58	31	700	−6.2	66	30	701	−5.0	68	30	702	−5.5	75	30	698	−7.4	69	31	694	−10.5	65	30	716	9.6	59
4,000	31	607	−18.7	59	30	615	−12.5	69	30	616	−11.0	67	30	617	−11.6	69	30	612	−13.1	63	31	609	−16.1	63	30	634	3.9	59
5,000	30	530	−24.5	55	29	539	−18.9	67	27	540	−17.6	67	30	541	−17.9	65	30	537	−19.1	61	29	533	−21.9	60	29	560	−1.3	61
6,000	30	462	−31.0	54	29	471	−25.8	64	24	472	−24.5	64	28	472	−24.8	61	30	468	−25.6	59	29	464	−28.3	58	29	494	−6.9	55
7,000	28	400	−37.8	52	29	409	−32.7	62	22	411	−31.5	61	21	411	−31.8	61	30	407	−32.6	57	29	403	−35.0	58	29	434	−13.1	47
8,000	28	345	−44.8		29	354	−39.9	61	20	356	−39.0	59	20	356	−39.3	60	30	352	−40.0	57	29	348	−41.3		29	380	−20.0	48
9,000	27	296	−49.6		27	305	−46.9		18	307	−46.1		20	307	−46.4		30	304	−46.6		26	300	−46.6		29	331	−27.0	48
10,000	27	254	−50.4		27	262	−52.2		18	264	−52.6		18	264	−52.4		29	261	−51.2		25	258	−49.2		27	287	−34.3	47
11,000	27	219	−48.8		27	225	−54.4		18	226	−57.2		15	226	−55.9		28	224	−52.9		25	222	−48.6		26	249	−42.1	
12,000	26	188	−46.7		23	192	−53.7		17	192	−59.7		12	194	−56.2		28	192	−52.1		24	191	−47.1		25	214	−50.0	
13,000	25	161	−46.3		22	164	−51.5		17	164	−57.5		11	165	−53.9		27	164	−50.9		23	164	−45.9		25	183	−57.9	
14,000	22	139	−46.4		19	141	−50.5		17	139	−56.4		9	141	−53.7		26	141	−49.8		23	141	−45.5		22	156	−65.0	
15,000	17	119	−46.6		15	121	−49.8		17	119	−56.1		8	121	−53.8		26	121	−49.4		21	122	−45.4		22	132	−71.6	
16,000	16	102	−46.6		14	104	−49.7		17	101	−55.9		5	103	−53.7		24	104	−49.5		19	105	−45.6		19	111	−75.6	
17,000	14	88	−46.2		12	89	−49.3		14	86	−55.4						22	89	−49.3		19	90	−45.6		18	94	−76.8	
18,000	11	76	−45.7		9	77	−48.9		12	74	−54.8						16	76	−48.6		16	78	−45.4		15	78	−76.4	
19,000	6	65	−45.5		7	66	−48.5		10	62	−54.2						9	65	−47.6		9	67	−44.9		14	66	−73.4	
20,000									7	53	−53.7						5	56	−46.7		6	58	−44.4		6	55	−70.0	
21,000																									5	46	−65.9	

All observations taken at 11:00 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 data 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 FEBRUARY, MARCH, AND APRIL

Altitude (meters) m. s. l.	Stations with elevations in meters above sea level															
	FEBRUARY 1942				MARCH 1942				APRIL 1942							
	Pearl Harbor, T. H. (1) (12 m.)				Pearl Harbor, T. H. (1) (12 m.)				Pearl Harbor, T. H. (1) (12 m.)				Swan Island, W. I. (10 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
Surface	26	1,015	22.3	73	28	1,016	20.9	72	26	1,017	22.1	69	23	1,013	25.8	77
500	26	959	18.2	71	28	960	16.6	73	26	960	18.2	73	23	957	22.6	83
1,000	26	905	14.9	71	28	905	13.1	76	26	906	14.6	74	23	904	19.3	81
1,500	26	853	12.6	63	28	853	10.5	71	26	854	12.8	61	23	853	16.6	76
2,000	26	803	11.4	50	28	804	9.1	52	26	804	12.2	43	23	804	14.7	63
2,500	26	756	8.6	43	28	756	7.6	37	26	757	10.5	30	23	757	12.7	52
3,000	26	712	5.7	33	28	712	5.1	38	26	713	7.9	20	23	713	10.5	46
4,000	26	628	−0.1	30	28	628	−0.9	24	26	631	1.9	11	21	632	5.3	42
5,000	26	554	−6.6	35	28	553	−7.1	21	26	556	−4.7	8	21	559	0.4	41
6,000	26	487	−13.1	38	26	486	−13.7	21	26	489	−11.3	9	19	493	−5.1	41
7,000	24	426	−19.8	33	26	425	−20.8	33	26	429	−18.1		18	433	−12.0	36
8,000													18	379	−19.0	33
9,000													18	331	−26.4	32
10,000													18	288	−34.0	32
11,000													16	249	−41.8	
12,000													16	214	−50.1	
13,000													15	184	−58.2	
14,000													12	156	−66.9	
15,000													11	132	−75.2	
16,000													10	110	−83.1	
17,000													9	92	−87.3	
18,000													6	76	−91.8	

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m. (75th meridian time) during May 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 (860 m.)			Brownsville, Tex. (7 m)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (132 m)			Charleston, S. C. (17 m.)			Cincinnati, Ohio (152 m.)			Denver Colo. (1,627 m.)			El Paso Tex. (1,196 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	165	3.6	31	222	3.3	30	245	1.1	28	17	1.3	30	75	1.2				31	129	6.5	29	235	3.5	31	185	1.8	30	158	2.0	31	210	1.7	30	80	3.0	31	242	3.4
500							30	231	1.0										31	138	7.2	29	242	4.1	31	197	3.1	30	160	3.4	31	235	3.1						
1,000	31	173	4.9				30	232	1.3				30	58	.9				23	142	5.0	28	239	7.5	31	215	4.2	30	189	1.9	31	241	3.9						
1,500	29	193	5.7				29	250	2.0	28	41	2.0	26	150	1.5				17	129	2.9	25	239	7.4	29	233	5.1	28	225	2.6	28	239	5.6				31	246	5.1
2,000	27	219	6.0	31	224	4.3	28	249	1.9	27	355	.5	21	208	2.7				15	107	1.7	21	256	7.8	27	241	6.8	28	236	2.9	24	241	5.9	30	82	2.4	31	251	5.8
2,500	23	232	7.4	31	228	4.7	26	262	3.6	25	240	2.3	17	245	3.1				14	242	1.0	16	270	8.6	17	261	7.1	28	242	2.9	19	245	6.9	30	110	1.9	31	245	6.0
3,000	22	243	9.4	31	238	6.1	24	263	4.1	22	241	4.7	15	274	4.9				11	267	3.0	11	260	10.3	12	295	8.4	25	229	3.5	14	257	7.7	29	205	2.3	31	246	7.0
4,000	20	255	10.9	31	258	9.3	19	286	4.6	21	251	6.5	13	277	5.5										10	305	9.7	21	258	5.0				24	241	7.0	31	254	11.1
5,000	18	258	11.5	29	264	13.0	16	284	7.6	18	239	8.2																16	263	5.4				20	255	9.4	30	262	13.7
6,000	17	262	14.1	29	260	15.7	14	277	8.7	17	239	10.4																14	263	7.6				13	267	12.8	29	264	15.5
8,000	15	268	17.5	24	269	16.7	11	290	11.4																			11	285	7.4							25	264	19.3
10,000	10	262	21.3	23	268	20.3																															16	275	19.0
12,000				20	270	26.6																															13	278	22.9
14,000				13	269	24.1																															10	282	25.6

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,413 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (570 m.)			Little Rock, Ark. (88 m.)			Medford, Oreg. (410 m.)			Miami, Fla. (10 m.)			Minneapolis, Minn. (265 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	30	230	2.6	31	272	1.6	29	201	1.8	30	355	0.8	31	91	4.2	29	234	2.2	31	194	3.4	31	181	2.2	29	342	1.9	31	101	4.9	29	182	0.7	31	176	2.2	31	239	1.5
500							29	212	2.4				31	115	3.3	29	222	3.3				31	187	3.2	29	334	1.9	31	110	5.1	29	199	1.7	31	203	1.9	31	233	2.1
1,000							28	217	3.8	30	48	0.8	31	152	1.0	29	229	5.5	31	203	4.3	31	193	3.8	29	295	1.9	31	98	2.7	29	204	1.9	28	249	0.9	30	215	2.9
1,500							27	227	3.5	30	57	0.7	31	249	1.7	24	248	5.2	31	216	4.1	31	224	4.2	27	253	2.5	29	31	1.2	25	227	3.1	26	319	1.1	29	223	3.1
2,000	30	237	2.5	31	272	2.9	24	252	3.7	28	230	0.3	28	260	2.8	20	253	7.8	31	221	5.3	29	247	5.0	24	218	3.7	28	337	1.8	19	227	2.4	24	299	1.8	25	227	5.4
2,500	30	239	3.2	31	254	4.0	21	273	3.9	26	216	2.3	28	264	3.7	18	252	6.9	31	225	5.4	27	259	6.8	23	214	4.1	24	335	1.4	15	212	3.5	22	292	2.6	24	243	6.4
3,000	29	241	4.0	31	238	5.9	20	268	4.5	22	203	1.9	26	274	4.3	15	265	8.6	30	244	6.4	27	263	7.7	22	227	4.2	24	314	1.6	12	225	2.2	19	300	3.1	22	250	7.7
4,000	23	237	6.8	29	230	9.1	19	264	5.8	15	257	3.9	19	278	4.9				30	260	9.7	23	279	9.8	15	263	5.0	24	287	2.5				16	293	4.7	15	265	7.7
5,000	13	247	12.1	22	252	11.0	17	272	8.9	11	285	5.5	13	285	4.8				29	260	13.7	16	286	13.1	15	270	7.3	22	285	3.3				14	291	6.8	13	263	7.6
6,000				17	259	16.6	16	268	9.3				12	288	7.0				27	260	16.2	11	290	14.4	13	266	9.7	18	289	5.6							10	273	7.4
8,000							12	265	12.1										22	270	23.3				10	277	16.6	14	280	8.5									
10,000							10	270	15.3										19	266	28.3							11	289	13.2									
12,000																			18	269	32.4																		
14,000																			11	267	28.2																		

TABLE 2.—*Free-air resultant winds based on pilot balloon observations made near 5 p. m. (75th meridian time) during May 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.	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 St. 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	31	176	3.6	31	268	5.9	31	179	3.9	30	179	2.8	31	247	2.1	28	17	1.0	31	216	2.4	31	128	3.2	31	259	4.1	29	273	2.2	30	239	2.1	29	244	1.5	31	185	1.8
500	31	206	5.0	31	282	4.8	31	182	4.4	30	176	2.9	31	256	2.9	---	---	---	31	214	2.3	31	125	4.2	31	275	3.5	29	244	1.3	30	229	2.3	---	---	---	31	208	2.4
1,000	28	247	4.5	30	287	3.5	31	187	5.2	28	188	3.8	31	234	2.4	28	16	0.8	30	213	3.2	30	125	4.5	25	295	2.8	28	229	1.4	27	214	3.1	29	232	1.7	29	234	3.0
1,500	27	259	5.8	28	280	2.4	31	200	6.0	26	207	4.7	31	214	3.1	28	334	1.3	25	226	5.4	25	154	3.9	24	290	2.3	24	203	1.7	21	211	3.0	28	232	1.6	29	251	4.1
2,000	23	268	7.2	27	283	2.9	30	228	7.2	21	222	5.1	31	216	4.4	23	270	2.3	21	242	5.8	23	185	4.3	23	267	2.4	22	253	1.4	18	202	3.0	26	213	1.8	25	259	5.1
2,500	20	268	7.7	27	280	3.7	25	241	8.0	17	230	7.1	31	225	6.3	20	274	4.4	18	244	6.3	19	207	3.8	23	273	4.5	18	290	1.6	16	201	4.3	23	237	2.8	20	259	6.4
3,000	15	277	8.1	27	284	5.3	23	252	10.0	12	246	8.2	31	235	7.6	18	276	6.4	16	255	6.4	15	259	4.4	21	270	7.3	15	303	3.1	14	183	4.9	14	229	3.2	16	246	6.4
4,000	---	---	---	25	290	7.1	21	260	12.3	---	---	---	31	250	10.2	16	290	9.8	10	283	7.6	14	287	6.5	19	276	10.8	13	303	5.3	13	205	4.7	---	---	---	14	266	8.1
5,000	---	---	---	23	285	10.7	20	267	14.1	---	---	---	31	252	13.8	13	297	10.8	10	289	11.1	13	284	7.5	17	271	13.5	---	---	---	---	---	---	---	---	---	11	278	7.0
6,000	---	---	---	21	286	13.5	19	272	14.7	---	---	---	30	258	15.0	11	293	10.9	---	---	---	12	286	9.2	15	269	13.8	---	---	---	---	---	---	---	---	---	11	282	6.8
8,000	---	---	---	15	294	19.5	14	269	18.0	---	---	---	27	262	17.4	---	---	---	---	---	---	10	288	9.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
10,000	---	---	---	10	283	21.4	11	280	24.4	---	---	---	20	259	23.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12,000	---	---	---	---	---	---	---	---	---	---	---	---	16	268	27.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14,000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

*Moved to St. Paul elevation 225 (May 28 to 31 incl.).

TABLE 3.—*Maximum free-air wind velocities, (m. p. s.), for different sections of the United States, based on pilot-balloon observations during May 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]	42.4	W	1,860	3	Akron, Ohio	41.2	W	4,780	5	Boston, Mass	61.6	SSW	10,020	25	Portland, Maine.
East-Central [2]	28.1	SSW	990	7	Hatteras, N. C	32.2	W	4,350	7	Knoxville, Tenn	54.0	SW	7,650	27	Hatteras, N. C.
Southeast [3]	27.6	SSW	2,500	3	Birmingham, Ala	29.5	SSW	2,630	3	Birmingham, Ala	40.0	WSW	11,600	22	Tampa, Fla.
North-Central [4]	39.5	SW	1,000	2	Detroit, Mich	35.0	WNW	4,960	5	Alpena, Mich	56.0	WSW	9,520	28	Bismarck, N. Dak.
Central [5]	43.0	SW	1,530	11	St. Louis, Mo	42.0	SW	3,090	13	Des Moines, Iowa	40.0	W	8,910	4	St. Louis, Mo.
South-Central [6]	32.9	SW	2,090	16	Amarillo, Tex	34.0	SW	3,980	13	Oklahoma City, Okla.	58.5	W	11,110	15	Oklahoma City, Okla.
Northwest [7]	27.5	ESE	1,380	10	Havre, Mont	29.2	WSW	3,010	27	Great Falls, Mont	53.0	WNW	11,000	6	Boise, Idaho.
West-Central [8]	44.9	NW	2,090	13	Cheyenne, Wyo	49.6	W	4,650	27	Reno, Nev	68.0	NW	10,070	1	Redding, Calif.
Southwest [9]	41.0	SSW	2,280	30	Roswell, N. Mex	51.2	SSW	3,360	26	Las Vegas, Nev	65.3	W	7,530	2	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 Northern 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.

RIVER STAGES AND FLOODS

By BENNETT SWENSON

Devastating floods occurred in several tributaries of the Delaware and Susquehanna Rivers on May 22–23. Among the streams most seriously affected were the Lackawaxen, Lackawanna, Lehigh, and Schuylkill Rivers. Thirty-three lives were lost in Pennsylvania, due directly or indirectly to the floods, and property damage caused by the floodwaters has been estimated at $13,000,000.

At the same time, excessive flooding occurred in headwater areas along a narrow fringe extending from the Delaware River Basin southwestward to western North Carolina.

In addition to high water and flooding in the Missouri, Arkansas, Red, and Trinity Rivers, continuing from April, numerous local floods occurred in various areas, severe in some cases, in the upper Mississippi Basin, and in the Dakotas and Montana.

The flow in the upper Rio Grande continued high and storage in New Mexico was the highest of record.

Atlantic Slope drainage.—Floods occurred during the month in most streams from the Delaware River Basin, southward to South Carolina. Especially damaging were the floods of May 22–23 in tributaries of the Delaware and Susquehanna Rivers in eastern Pennsylvania and adjacent portions of New York and New Jersey. The Lackawaxen, Lehigh, and Schuylkill Rivers of the Delaware Basin, and the Lackawanna River draining into the Susquehanna River were the streams most seriously affected.

In the Lackawaxen River at Hawley, Pa., the crest was the highest ever known; in the Lehigh River at Bethlehem, Pa., the second highest of some 150 years of record occurred; in the Schuylkill River at Reading, Pa., the third highest stage of record since 1757 was reached; and in the Lackawanna River a stage of 2.6 feet above the high stage of March 1936 occurred at Scranton, Pa.

The greatest devastation occurred in the Lackawaxen River Basin. Of the 33 deaths in Pennsylvania, attributed directly or indirectly to the floods, 24 persons are known to have drowned or are still missing in this basin. Of the estimated $13,000,000 damage caused by the floodwaters, 45 percent has been fixed for the Lackawaxen Basin. Five deaths and 45 percent of the damage occurred in the Schuylkill and Lehigh River Basins.

The weather preceding the floods was characterized by frequent rains over most of this area, during the first 3