POSITIONS AND AREAS OF SUN SPOTS—Continued

Date	Eastern standard time	Mt. Wilson group No.	Heliographic: Diff. in longitude	Heliographic: Longitude	Heliographic: Latitude	Area: Spot or group	Area: Total for each day	Spot count	Observatory
1938	h m		°	°	°				
Mar. 27	12 32	5826	−76.0	329.4	−20.5	242	-------	2	U. S. Naval.
		5818	+3.0	48.4	−17.0	727	-------	12	
		5818	+19.0	64.4	−13.0	630	-------	5	
		5816	+75.0	120.4	−6.0	12	1,611	1	
Mar. 28	11 13	5827	−63.0	329.9	−15.0	24	-------	1	Do.
		5826	−61.0	331.9	−20.0	206	-------	1	
		5818	+17.0	49.9	−17.0	727	-------	11	
		5818	+32.0	64.9	−13.0	630	1,587	3	
Mar. 29	11 19	5827	−51.0	328.7	−15.0	48	-------	5	Do.
		5826	−50.0	329.7	−21.0	291	-------	7	
		5818	+30.0	49.7	−17.0	727	-------	12	
		5818	+45.0	64.7	−12.0	630	1,696	4	
Mar. 30	10 59	5827	−37.0	329.7	−15.0	73	-------	7	Mt. Wilson.
		5826	−36.0	330.7	−21.0	388	-------	10	
		5828	+11.5	18.2	−21.0	73	-------	5	
		5818	+44.0	50.7	−17.0	727	-------	18	
		5818	+59.0	65.7	−13.0	630	1,891	-------	
Mar. 31	11 37	5831	−80.0	273.1	−13.0	291	-------	3	Do.
		5830	−78.0	275.1	−26.0	145	-------	1	
		5829	−70.0	283.1	+22.0	24	-------	1	
		5827	−23.0	330.1	−16.0	73	-------	6	
		5826	−22.0	331.1	−21.0	436	-------	8	
		5828	+27.0	20.1	−20.0	48	-------	6	
		5818	+57.0	50.1	−17.0	727	-------	15	
		5818	+73.0	66.1	−12.0	630	2,374	-------	

Mean daily area for 28 days=1553.

PROVISIONAL SUNSPOT RELATIVE NUMBERS FOR MARCH 1938

[Dependent alone on observations at Zurich and its station at Arosa]

[Data furnished through the courtesy of Prof. W. Brunner, Eidgen, Sternwarte, Zurich, Switzerland]

March 1938	Relative numbers	March 1938	Relative numbers	March 1938	Relative numbers
1	74	11	*Ec* 134	21	86
2	*d* 67	12	*a* 124	22	*a* 64
3	62	13	161	23	71
4	*d* 45	14	149	24	66
5	43	15	*Mc* 145	25	59
6	*Wc* 52	16	*d* 159	26	*b* 34
7	*d* 78	17	*a* 138	27	*d*
8	*Ec* 71	18	105	28	55
9	*a* 97	19	80	29	*Mc* 65
10	*Mac* 106	20	*d* 77	30	73
				31	*d* 86

Mean: 30 days=87.5.

a=Passage of an average sized group through the central meridian.
b=Passage of a large group or spot through the central meridian.
c=New formation of a group developing into a middle sized or large center of activity; E: on the eastern part of the sun's disc; W: on the western part; M: in the central circle zone.
d=Entrance of a large or average sized center of activity on the east limb.

AEROLOGICAL OBSERVATIONS

[Aerological Division, D. M. LITTLE in Charge]

By L. P. HARRISON

Mean free-air data based on airplane weather and radiometeorograph observations during the month of March 1938 are given in table 1, which includes the basic elements, barometric pressure, temperature, and relative humidity at various standard geometric heights. (Information regarding the methods by which the "means" have been computed is given in the February 1938 MONTHLY WEATHER REVIEW, Aerological Observations.)

Chart I shows that the mean *surface* temperatures during March were generally above normal over the country except in the extreme West including most of California, Nevada, Oregon, southern Idaho, Utah, and Arizona, where they were below normal.

Table 1 indicates that the mean free-air relative humidities, as in February, were relatively high near Nashville, Tenn., and Spokane, Wash., in comparison to those which prevailed over adjacent regions. They were also relatively low near Pensacola, Fla., at elevations from 2 to 5 kilometers, and generally low in this layer over the extreme southern part of the country except near the California coast, as well as moderately low along the middle Atlantic coast.

Isobaric charts prepared on the basis of mean monthly free-air barometric pressures over the country during March show the locus of the statistical center of low pressure in the lower strata to have been near Fargo, N. Dak., and Sault Ste. Marie, Mich., with the center of high pressure to the southeast near the Florida Peninsula. In the upper levels (3–5 km), the centers were near Sault Ste. Marie, and the Gulf of Mexico respectively. In these levels also, the pressures over central and southern California averaged slightly lower than those over the areas immediately to the east.

Table 2 shows the free-air resultant winds based on pilot-balloon observations made near 5 a. m. (75th meridian time) during March. The resultant wind directions were generally normal over most of the country, with certain exceptions. At Pensacola, Fla., in the stratum 0.5 to 3 kilometers, the monthly resultants were oriented counterclockwise with respect to the normal by amounts diminishing with height from 200° to 30°. Near Key West, at 2.5, 3, and 4 kilometers, the similar orientations were about 55°, 20°, and 35° respectively. At Oakland, Calif., within the stratum 0.5 to 2 kilometers, the resultants were about 80° to 40° counterclockwise from normal. Similarly at San Diego, Calif., the amounts were about 35° to 20°, diminishing to about 10° at 5 kilometers. In the same way at elevations from 2 to 3 kilometers over Seattle, Wash., the counterclockwise departures were 30° to 65°; from 3 to 4 kilometers, mean sea level, at Salt Lake City, Utah, 30° to 45°; at Omaha, Nebr., from 0.5 to 2.5 kilometers, 65° to 15°; and at Sault Ste. Marie, Mich., same elevations, 105° to 25°.

The monthly resultant velocities of the free-air winds were generally within ±2 meters per second of the normals. The stations having departures in excess of 3 meters per second and the values thereof were as follows: 0.5 kilometer, Pensacola +3.5 m. p. s.; Cincinnati +3.1; Oklahoma City +3.3; 1 kilometer, Pensacola +3.0; Cincinnati +4.5, Chicago +3.2, Oklahoma City +5.3; 1.5 kilometers, Cincinnati +3.6, St. Louis +3.0, Oklahoma City +4.1; 2 kilometers, Oklahoma City +4.5; 2.5 kilometers, Oklahoma City +3.7, Sault Ste. Marie +3.5, San Diego +3.4; 3 kilometers, Pensacola −3.8, Sault Ste. Marie +4.0, Boston −4.6, Seattle +5.2; 4 kilometers, Key West −4.3, Atlanta −3.3, Sault Ste. Marie +5.8, Albuquerque +3.5, San Diego +3.6; 5 kilometers, San Diego +6.2.

Table 3 shows the maximum free-air wind velocities and their directions for various sections of the United States during March as determined by pilot-balloon observations. The extreme maximum was 70.0 meters per second from the west-southwest at 4,700 meters, mean sea level, over Albuquerque, N. Mex., on March 4.

TABLE 1.—*Mean free-air barometric pressure (P) in mb., temperature (T) in ° C., and relative humidities (R. H.), in percent, obtained by airplanes or radiometeorographs during March 1938*

Stations	Altitude (meters) mean sea level																													
	Surface				500			1,000			1,500			2,000			2,500			3,000			4,000			5,000		
	Number of obs.	P	T	R. H.	P	T	R. H.	P	T	R. H.	P	T	R. H.	P	T	R. H.	P	T	R. H.	P	T	R. H.	P	T	R. H.	P	T	R. H.
Barksdale Field, La.[1] (52 m)	29	1,008	14.9	83	956	15.3	68	902	14.1	59	849	12.2	51	800	10.2	44	752	7.4	43	708	4.3	42	625	−1.5	34	----	----	----
Billings, Mont.[3] (1,090 m)	31	886	−0.1	73	----	----	----	----	----	----	842	1.1	61	790	−1.6	61	742	−4.6	62	696	−8.3	66	610	−15.3	68	534	−22.6	62
*Boston, Mass. (5 m)	27	1,014	2.6	78	953	0.6	77	896	−0.8	76	840	−2.0	75	790	−3.0	74	739	−5.3	72	695	−7.4	70	610	−12.6	64	534	−18.7	59
Cheyenne, Wyo.[2] (1,873 m)	29	805	0.6	68	----	----	----	----	----	----	----	----	----	793	1.0	63	744	−2.0	61	699	−5.0	61	614	−11.5	63	538	−18.6	61
Coco Solo, C. Z.[3] (15 m)	29	1,010	24.9	83	956	22.6	88	903	19.9	84	851	16.9	80	803	14.7	67	756	12.9	55	712	10.6	46	631	5.4	31	559	0.8	23
El Paso, Tex.[2] (1,194 m)	31	880	9.8	42	----	----	----	----	----	----	848	12.2	34	799	9.0	34	751	5.3	36	706	2.1	35	623	−4.3	34	548	−11.2	33
Fargo, N. Dak.[2] (274 m)	31	978	−1.8	86	950	0.5	74	892	−0.2	62	838	−2.2	58	786	−3.9	57	738	−6.3	57	692	−8.4	56	607	−14.0	54	532	−19.9	52
Kelly Field, Tex.[1] (206 m)	25	991	16.2	73	958	17.6	62	903	16.5	57	851	14.8	47	802	12.4	42	755	9.6	37	710	6.8	36	628	0.2	32	554	−7.8	33
Lakehurst, N. J.[3] (39 m)	20	1,013	2.8	73	956	4.0	57	898	1.4	52	844	−0.9	51	793	−2.7	47	744	−5.5	46	698	−8.4	43	612	−14.5	41	536	−21.1	40
Maxwell Field, Ala.[1] (52 m)	31	1,012	15.8	74	950	14.6	70	904	12.3	69	852	9.9	64	802	7.6	53	754	5.6	41	709	3.0	34	625	−3.2	29	551	−9.6	31
Mitchel Field, N. Y.[1] (29 m)	24	1,014	2.6	78	957	3.5	68	900	2.0	63	845	0.0	59	794	−2.1	55	745	−3.7	49	699	−6.1	46	615	−12.1	44	----	----	----
Nashville, Tenn.[3] (180 m)	31	994	11.3	75	957	11.9	72	902	9.8	71	848	7.9	63	798	5.8	58	750	3.1	56	705	0.0	52	621	−5.8	47	546	−12.9	51
Norfolk, Va.[3] (10 m)	20	1,021	9.4	75	962	10.1	53	905	7.5	48	851	5.9	45	801	3.9	43	752	1.4	42	707	−1.6	42	622	−7.5	37	546	−13.3	36
Oakland, Calif.[2] (2 m)	31	1,018	9.7	80	958	7.3	77	902	4.0	77	847	1.1	73	796	−1.5	67	746	−3.8	61	701	−6.4	57	615	−12.5	52	540	−18.3	49
Oklahoma City, Okla.[2] (391 m)	31	966	10.5	76	953	12.2	66	898	12.0	58	846	10.8	48	796	8.3	43	749	5.4	40	704	2.1	40	621	−4.6	41	546	−11.5	41
Omaha, Nebr.[2] (300 m)	30	976	4.6	77	952	5.5	70	896	5.4	62	843	4.1	58	792	1.9	54	744	−0.9	54	699	−3.9	49	614	−10.6	51	539	−17.1	48
Pearl Harbor, T. H.[3] (6 m)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Pensacola, Fla.[3] (13 m)	27	1,018	16.5	87	961	16.8	64	906	14.6	58	853	12.5	50	804	9.9	38	756	7.4	35	711	5.1	30	628	−0.6	24	554	−7.2	26
St. Thomas, V. I.[3] (8 m)	30	1,018	24.3	70	961	19.5	77	907	15.7	77	855	12.4	75	805	10.0	71	757	9.0	57	713	7.8	42	631	3.3	28	557	−2.8	22
Salt Lake City, Utah[2] (1,288 m)	31	868	2.6	72	----	----	----	----	----	----	846	3.5	62	794	0.6	60	746	−2.9	63	700	−6.5	67	614	−13.5	69	538	−20.2	63
San Diego, Calif.[3] (10 m)	30	1,016	9.8	89	958	9.4	83	902	6.8	76	848	4.0	70	798	2.1	64	749	0.5	57	704	−2.2	53	619	−8.0	48	546	−15.1	49
Sault Ste. Marie, Mich.[2] (221 m)	27	986	−5.2	81	952	−4.1	74	893	−5.2	70	838	−6.4	64	786	−7.2	56	736	−8.8	53	690	−11.0	52	605	−16.1	56	528	−22.5	54
Scott Field, Ill.[1] (135 m)	19	1,002	6.3	81	959	8.7	59	902	7.2	53	848	5.8	47	798	3.4	46	749	1.1	43	704	−1.7	41	620	−8.2	40	----	----	----
Seattle, Wash.[3] (10 m)	15	1,013	6.9	77	954	5.2	68	898	2.3	68	842	−1.2	68	791	−4.7	66	742	−8.0	61	697	−10.4	54	614	−17.3	44	----	----	----
Selfridge Field, Mich.[1] (177 m)	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Spokane, Wash.[2] (597 m)	31	941	2.3	86	----	----	----	896	2.7	76	842	−0.5	76	790	−4.8	80	741	−9.0	82	694	−12.7	80	607	−20.1	71	530	−27.9	71
Washington, D. C.[3] (13 m)	27	1,017	7.0	75	958	7.4	67	902	5.2	67	848	3.9	62	797	2.1	57	748	−0.5	53	703	−3.1	51	618	−8.2	46	543	−14.7	45
Wright Field, Ohio[1] (244 m)	24	987	5.2	81	956	6.4	74	900	6.0	69	846	5.1	60	796	3.0	51	748	0.6	50	703	−2.0	44	618	−8.4	40	543	−14.5	41
*Burbank, Calif. (220 m)	30	990	7.2	81	956	8.9	74	901	6.6	71	846	4.1	66	797	1.6	62	746	−0.6	58	703	−2.5	55	618	−8.0	53	542	−14.3	49
Chicago, Ill.[2] (187 m)	30	991	4.0	79	953	4.4	72	897	3.7	68	843	2.4	64	792	0.3	64	743	−2.0	57	698	−4.7	52	613	−10.6	51	539	−16.8	49

Stations	Altitude (meters) mean sea level																													
	6,000			7,000			8,000			9,000			10,000			11,000			12,000			13,000			14,000		
Boston, Mass.	----	466	−25.0	56	406	−32.1	54	351	−38.7	53	303	−43.4	----	261	−46.4	----	225	−47.8	----	193	−49.2	----	166	−48.3	----	142	−48.1	----
Burbank, Calif.	----	475	−20.8	48	414	−26.9	48	360	−32.9	47	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Stations	Altitude (meters) mean sea level																													
	15,000			16,000			17,000			18,000			19,000			20,000			21,000			22,000								
Boston, Mass.	----	123	−48.4	----	106	−48.8	----	91	−47.4	----	78	−46.9	----	68	−48.3	----	58	−48.1	----	50	−48.0	----	44	−47.4	----	----	----	----	----	----	----

*Observations by radiometeorograph. Stations not so marked have observations by airplane. [1] Army. [2] Weather Bureau. [3] Navy.
Observations taken about 4 a. m. 75th meridian time, except by Navy stations along the Pacific coast and Hawaii where they are taken at dawn.

NOTE.—None of the means included in this table are based on less than 15 surface or 5 standard-level observations.

TABLE 2.—*Free-air resultant winds (meters per second) based on pilot-balloon observations made near 5 a. m. (E. S. T.) during March 1938*

[Wind from N=360°, E=90°, etc.]

Altitude (meters) m. s. l.	Albuquerque, N. Mex. (1,554 m)		Atlanta, Ga. (309 m)		Billings, Mont. (1,088 m)		Boston, Mass. (15 m)		Cheyenne, Wyo. (1,873 m)		Chicago, Ill. (192 m)		Cincinnati, Ohio (153 m)		Detroit, Mich. (204 m)		Fargo, N. Dak. (283 m)		Houston, Tex. (21 m)		Key West, Fla. (11 m)		Medford, Oreg. (410 m)		Nashville, Tenn. (194 m)	
	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity
	°		°		°		°		°		°		°		°		°		°		°		°		°	
Surface	251	1.0	297	1.1	268	2.8	292	1.1	263	4.6	242	1.2	210	1.2	244	1.9	220	0.8	139	1.4	116	2.7	103	0.5	195	3.6
500	----	----	262	2.0	----	----	297	6.7	----	----	219	6.3	236	6.2	259	6.4	254	3.7	187	5.5	118	5.5	143	0.9	214	6.7
1,000	----	----	261	4.6	----	----	305	9.6	----	----	267	8.6	250	10.9	272	8.8	278	4.8	221	4.0	131	3.8	192	2.2	246	9.5
1,500	----	----	257	7.3	261	6.9	308	10.7	----	----	270	9.5	257	11.4	281	8.2	274	6.5	258	3.8	121	1.4	205	3.7	263	8.6
2,000	263	4.5	267	6.8	264	7.2	300	11.2	270	5.9	280	9.8	278	8.7	283	7.8	274	8.3	276	4.2	233	0.2	212	4.4	279	7.6
2,500	262	6.9	266	9.2	271	7.7	287	9.8	265	9.8	302	8.8	296	9.6	287	8.5	279	10.7	275	7.1	305	0.9	236	4.0	273	8.0
3,000	261	9.8	280	10.4	280	7.7	282	8.9	270	10.7	----	----	294	10.3	300	8.6	291	11.5	277	8.5	290	0.8	213	3.5	269	6.0
4,000	261	14.5	276	9.8	271	9.0	----	----	271	12.4	----	----	----	----	----	----	291	9.2	----	----	321	2.3	----	----	----	----
5,000	277	12.6	----	----	262	5.9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

TABLE 2.—*Free-air resultant winds (meters per second) based on pilot-balloon observations made near 5 a. m. (E. S. T.) during March 1938*—Con.

	Newark, N. J. (14 meters)		Oakland, Calif. (8 meters)		Oklahoma City, Okla. (402 meters)		Omaha, Nebr. (306 meters)		Pearl Harbor, Territory of Hawaii [1] (68 meters)		Pensacola, Fla.[1] (24 meters)		St. Louis, Mo. (170 meters)		Salt Lake City, Utah (1,294 meters)		San Diego, Calif. (15 meters)		Sault Ste. Marie, Mich. (198 meters)		Seattle, Wash. (14 meters)		Spokane, Wash. (603 meters)		Washington, D. C. (10 meters)	
	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity
	°		°		°		°		°		°		°		°		°		°		°		°		°	
Surface	266	2.1	149	0.7	183	2.4	76	0.5	47	3.3	118	1.7	222	1.8	163	3.4	96	0.3	110	0.2	158	1.9	168	1.7	269	1.0
500	273	7.3	243	2.1	195	5.3	235	0.9	65	6.2	170	4.1	233	5.7			260	1.7	252	1.7	193	4.2			268	7.1
1,000	281	9.1	257	2.3	239	10.5	248	5.3	74	5.4	162	5.1	256	9.2			283	2.2	274	5.7	197	4.3	212	5.1	285	9.8
1,500	292	10.6	265	1.9	260	10.2	251	6.7	86	2.9	225	6.2	255	10.2	173	5.1	269	4.1	280	7.5	200	3.9	235	6.0	290	11.4
2,000	279	9.1	285	1.6	262	11.8	2o7	7.3	153	0.7	230	5.5	252	9.9	195	4.5	287	5.1	290	9.1	204	4.8	240	6.4	288	13.2
2,500	284	10.7	330	4.2	262	12.3	285	8.8	295	2.8	246	4.7	262	7.0	243	3.3	280	7.5	287	11.1	191	5.2	244	6.4	291	12.8
3,000	282	9.9	313	3.5	282	10.3	286	9.5	295	3.6	256	4.8	276	9.5	258	5.0	287	7.7	290	12.2	198	8.5	252	6.5	299	12.0
4,000					272	11.9	253	10.1	282	8.3					250	8.1	285	10.2	299	15.6			263	7.9		
5,000															249	10.6	289	12.3								

[1] Navy stations.

TABLE 3.—*Maximum free-air wind velocities (meters per second), for different sections of the United States based on pilot-balloon observations during March 1938*

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]	46.4	NW	2,260	21	Boston	40.4	WSW	3,050	31	Columbus	50.2	NW	9,520	28	Cleveland.
East Central [2]	36.0	WNW	1,360	1	Washington	46.4	WNW	4,680	8	Greensboro	34.6	NW	6,910	28	Cincinnati.
Southeast [3]	34.6	W	2,280	10	Charleston	35.8	W	4,260	10	Charleston	37.8	WNW	8,020	1	Jacksonville.
North Central [4]	32.7	SW	2,230	29	Bismark	36.4	WNW	4,790	13	Sault Ste. Marie	42.0	WNW	5,330	2	Sault Ste. Marie.
Central [5]	37.0	SSW	1,890	30	Moline	35.0	WSW	2,790	30	Moline	42.0	WNW	6,930	23	Moline.
South Central [6]	49.2	WSW	1,730	14	Amarillo	50.2	W	4,090	12	Amarillo	46.3	WSW	6,750	6	Abilene.
Northwest [7]	31.1	WNW	1,310	29	Billings	36.8	NW	4,820	28	Medford	49.0	NW	5,900	28	Medford.
West Central [8]	44.3	SW	1,740	23	Winnemucca	43.5	W	3,580	23	Cheyenne	55.2	NNW	7,880	14	Modena.
Southwest [9]	47.8	W	1,940	19	Havre	70.0	WSW	4,700	4	Albuquerque	59.0	SW	5,000	4	Albuquerque.

[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.

RIVERS AND FLOODS

[River and Flood Division, MERRILL BERNARD in charge]

By BENNETT SWENSON

March 1938 was marked by abundant precipitation, considerably above normal, in practically all regions from the Appalachian Mountains westward, except in portions of the North-Central States, and by temperatures above normal in all sections of the country except the extreme western portion. The heaviest precipitation occurred in portions of California, the lower Ohio Basin, the middle and lower Mississippi Basin, except Louisiana, in Alabama, Mississippi, and portions of Texas, with the most severe floods occurring in these regions.

Atlantic slope drainage.—Floods in this region were light, with no damages of consequence and occurred only at a few scattered points as indicated below.

Mild temperature over the Connecticut River Basin from March 20–25, accompanied by moderate rains, reduced the snow cover existing at high elevations. The high rate of run-off and breaking up of the ice in the northern tributaries resulted in a rise in the Connecticut River, reaching flood stage, however, only at White River Junction, Vt., on March 24.

Other slight overflows occurred as follows: Susquehanna River at Oneonta, N. Y., on the 6th; Tioughnioga River at Whitney Point, N. Y., on the 18th; Saluda River at Pelzer, S. C., on the 17th; and the Savannah River at Clyo, Ga., on the 26th and 27th.

East Gulf of Mexico drainage.—Heavy to excessive rains which fell during the night of March 15–16 over the Conecuh and Pea River basins, caused a rapid rise to above flood stages in both the upper portions of the Conecuh and Pea Rivers on the 16th, and a slower rise in the lower portion of the Conecuh on the 19th. The Choctawhatchee River rose slowly throughout its reach but exceeded flood stage only in the lower portion, on the 21st.

Property losses in this flood are estimated at approximately $75,000.

Heavy rains over the middle and lower Tombigbee River basin on the night of March 15–16 saturated the ground and a series of rises began in that river from Cochrane, Ala., southward. Additional heavy rains on March 19–20 occurred over the Tombigbee and Black Warrior watersheds. As a result of these rains the Black Warrior overflowed its banks at Tuscaloosa, Ala., on March 20, and the Tombigbee exceeded flood stage from Demopolis, Ala., southward. The recurrence of heavy rains on March 23–24 and March 31–April 2 maintained high stages in the Tombigbee so that unusually heavy rains on April 6–9, averaging from 5 inches over the Black Warrior watershed to 13 inches or more in the lower Tombigbee, resulted in floods of considerable proportions.