SEVERE LOCAL STORMS, FEBRUARY 1943

[Compiled by Mary O. Souder]

[The table herewith contains such data as has been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Minnesota, extreme southwestern counties.	9-10				$5,000	Glaze, sleet, snow, and wind.	Many wires down. Ice remained on wires in some localities for 48 hours, the heaviest ice formation being in the vicinities of Lakes Benton and Hendricks, near the South Dakota border. Highways and roads blocked by snow drifts and trains into Minneapolis 7 hours late. In Minneapolis and St. Paul hundreds of accidents occurred because of icy walks and streets, with many motor accidents reported.
South Dakota, northeastern portion.	10	All day			20,000	High wind and snow	Light to moderate snow, accompanied by lower temperatures and high winds slowed transportation, causing interruption of business, with damage to telephone company alone, $20,000.
Perkins County, S. Dak.	19-22				100,000	Flood	Both forks of Grand River, especially near Shadehill area, flooded after week end of unseasonable warmth, in which ice broke and jammed causing damage to farms, farm machinery, buildings and highway bridges, and killed considerable stock.
Washington, D. C., and vicinity.	26	8:44-10:07 p. m.				Snow with thunder and lightning.	This storm considered unusual, the kind one might see once or twice in a lifetime.

LATE STORM REPORT FOR JANUARY 1943

Utah, western portion	20-23				$42,310	Wind	Damage mostly structural and centered in portions of western Salt Lake and eastern Tooele Counties.

SOLAR RADIATION AND SUNSPOT DATA FOR FEBRUARY 1943

[Solar Radiation Investigations Section, I. F. HAND in charge]

SOLAR RADIATION OBSERVATIONS

Explanations of the tables and references to descriptions of instruments, stations and methods of observation, and to summaries of data, are given in the January 1942 REVIEW, page 20; a list of pyrheliometric stations is also given in the REVIEW for January 1943, page 12.

TABLE 1.—*Solar radiation intensities during February 1943*

[Gram-calories per minute per square centimeter of normal surface]

MADISON, WIS.

Date	Sun's zenith distance										
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p. m.
	75th mer. time	Air mass									Local mean solar time
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
Feb. 1	0.86	0.72	0.88	0.99		1.58		1.14			1.24
2	1.37	.61	.84	1.02	1.25	1.52					2.26
3	3.81				1.34						5.18
8	1.37		.76	1.01	1.30	1.59	1.26				2.74
9	2.74		.33	.42	.61						3.63
11	.69	.68	.87	1.07	1.18	1.48	1.34				.96
17	1.60	.76	.90	1.07	1.30						2.06
18	1.85	.50	.71	.83	1.04	1.30	1.04				3.30
19	4.37	.49	.59	.73	.92	1.19	.84				5.82
20	4.98			.92	1.11						4.78
22	4.37			1.01	1.21	1.50					4.98
24	3.15				1.37						2.49
Means		.63	.74	.91	1.15	1.45	1.12	(1.14)			
Departures		−.27	−.30	−.26	−.20	−.10	−.20	−.03			

LINCOLN, NEBR.

Feb. 1	1.60						1.24	1.11	0.99	0.88	3.15
2	2.36	0.83	0.98	1.11	1.20						3.63
4	3.63	.92	1.05	1.16	1.34		1.36	1.18			3.81

*Extrapolated.

TABLE 1.—*Solar radiation intensities during February 1943*—Con.

LINCOLN, NEBR.—Continued

Date	Sun's zenith distance										
	7:30 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p. m.
	75th mer. time	Air mass									Local mean solar time
		A. M.					P. M.				
	e.	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e.
	mm.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mm.*
6	3.15	.99	1.11	1.24	1.39		1.41	1.22			3.48
7	3.63						1.36	1.20	1.07		5.38
8	3.81	.73	.83	.99	1.22			.94	.75	.66	5.38
16	1.60	.94	1.07	1.20	1.34						2.74
17	3.30	.83	.94	1.05	1.27		1.20	1.01	.90	.73	3.30
18	2.87	.60	.70	.94	1.18		1.18	1.01	.88	.73	4.78
19	4.78	.35	.49	.68	.94						6.55
20	4.19				1.27		1.34				4.78
21	3.30						1.31	1.16	.98		4.57
24	3.30	.87	1.00	1.11	1.29						3.99
26	1.52	1.02	1.13	1.24	1.40		1.34	1.16	1.03	.92	2.06
27	3.15	.94	1.05	1.16	1.31		1.24	1.09	.96	.88	3.63
Means		.82	.94	1.08	1.26		1.30	1.11	.94	.80	
Departures		−.09	−.08	−.08	−.10		−.05	−.11	−.07	−.12	

BLUE HILL, MASS.

Feb. 1	6.0								0.89	0.71	4.8
2	2.6	0.86	0.95	1.07	1.26		1.22	1.02	.83	.65	2.6
3	1.8	.99	1.11	1.24							2.4
5	6.3	.79	.92								4.2
9	2.6				1.33		1.31	1.06			2.2
14	2.9						1.19	1.01			2.0
15	.2						1.41	1.29	1.19	1.09	.3
16	.4	1.01	1.12	1.24	1.40		1.31	1.10	.96	.84	.6
18	1.6	.86	.99	1.11	1.33			1.14	1.01	.88	2.0
20	4.8	.56	.69	.83	.97						7.1
25	2.6	.95	1.04	1.18	1.36						2.6
Means		.86	.97	1.11	1.26		1.29	1.10	.98	.83	
Departures		−.07	−.08	.00	−.04		+.01	−.05	−.04	−.09	

TABLE 2.—*Daily totals and weekly means of solar radiation (direct+diffuse) received on a horizontal surface*

[Gram-calories per square centimeter]

Date	Washington	Madison	Lincoln	East Lansing	New York	Columbus	Fairbanks	Nashville	Twin Falls	New Orleans	Riverside	Blue Hill	Ithaca	Newport	State College	Put-in-Bay	East Wareham	Davis, Calif
1943	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*		
Jan. 29	101	34	80	159	217	101	14	77	111	212	176	143	183	135	198	130	77	41
30	73	139	203	106	31	--------	22	74	127	501	191	98	94	190	91	45	158	138
31	146	72	310	103	287	44	6	261	295	481	220	192	145	240	181	50	140	352
Feb. 1	335	271	268	194	251	--------	4	310	283	498	359	106	245	143	205	194	90	128
2	300	271	235	250	241	283	7	316	121	275	211	293	188	307	163	195	291	95
3	150	42	241	40	182	50	11	50	271	--------	235	306	242	299	127	32	304	211
4	32	227	295	126	20	224	43	172	79	508	343	34	90	26	123	204	29	72
Mean	**162**	**151**	**233**	**140**	**176**	**140**	**15**	**180**	**184**	**412**	**248**	**168**	**170**	**191**	**155**	**122**	**156**	**148**
Departure	**−40**	**−32**	**+19**	--------	**+6**	--------	**−25**	**+8**	**−7**	**+157**	**+9**	**−44**	**+6**	**−17**	**+49**	--------	--------	--------
5	142	169	176	272	250	262	55	56	292	493	346	285	296	266	259	315	288	217
6	69	223	318	44	27	51	74	323	217	485	365	35	21	33	16	39	44	344
7	151	304	310	109	128	294	74	333	220	449	365	154	31	265	129	34	246	200
8	352	294	272	306	217	344	60	346	207	372	199	261	139	244	264	346	280	241
9	253	116	22	178	260	121	63	65	324	477	402	320	277	336	314	125	303	381
10	142	141	290	51	71	28	62	82	238	437	399	206	127	206	114	59	244	363
11	89	324	201	218	19	119	6	362	295	350	394	30	41	38	82	139	74	381
Mean	**171**	**225**	**227**	**168**	**139**	**174**	**56**	**224**	**256**	**438**	**353**	**184**	**133**	**198**	**168**	**151**	**211**	**304**
Departure	**−41**	**+24**	**−24**	--------	**−34**	--------	**−5**	**+48**	**+56**	**+192**	**+69**	**−36**	**−42**	**−12**	**+55**	--------	--------	--------
12	330	260	188	258	320	223	7	144	283	229	370	328	199	342	247	268	316	371
13	84	343	138	202	4	200	10	119	262	376	397	123	137	86	107	200	109	386
14	327	358	348	383	274	348	0	373	354	154	398	332	218	333	214	381	328	393
15	393	309	286	251	404	251	0	135	328	--------	409	377	286	406	342	255	372	387
16	325	308	375	274	310	340	6	319	367	--------	408	391	310	378	212	286	371	277
17	257	322	350	390	151	165	15	320	334	469	401	164	176	166	166	312	115	388
18	406	318	344	342	344	299	11	284	336	325	370	377	278	370	376	365	375	269
Mean	**303**	**317**	**290**	**300**	**258**	**261**	**7**	**242**	**325**	**311**	**393**	**299**	**229**	**297**	**238**	**296**	**284**	**353**
Departure	**+74**	**+91**	**+30**	--------	**+61**	--------	**−65**	**+26**	**+62**	**+54**	**+85**	**+56**	**+42**	**+31**	**+24**	--------	--------	--------
19	376	292	325	312	242	287	13	192	336	481	326	267	260	241	296	314	253	354
20	296	290	347	214	256	100	7	228	346	526	210	296	151	312	262	123	312	260
21	310	355	368	368	254	--------	0	206	148	96	159	326	328	267	286	400	298	72
22	283	323	287	309	205	--------	7	370	72	--------	138	323	366	314	218	372	323	164
23	330	87	56	270	238	214	2	275	118	--------	182	255	174	271	318	210	282	259
24	116	265	218	154	128	37	0	90	144	--------	226	130	15	104	97	55	111	249
25	286	326	191	388	301	207	0	368	380	--------	302	327	371	378	278	354	371	137
Mean	**285**	**277**	**256**	**288**	**232**	**169**	**4**	**247**	**221**	--------	**220**	**275**	**238**	**270**	**251**	**261**	**279**	**214**
Departure	**+20**	**+22**	**−29**	--------	**+4**	--------	**−89**	**+4**	**−35**	--------	**−91**	**+4**	**+14**	**+6**	**+75**	--------	--------	--------
ACCUMULATED DEPARTURES ON FEB. 25, 1943																		
	−238	**+1218**	**−175**	--------	**+49**	--------	**−1624**	**+357**	**−308**	--------	**+77**	**−525**	**+448**	**−371**	**+1015**	--------	--------	--------

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1943

[Communicated by Capt. J. F. Hellweg, U. S. N. (Ret.), Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive toward the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day, under longitude, latitude, area of spot or group, and spot count, are included assumed longitude of center of the disk, assumed latitude of center of the disk, total area of spots and groups, and total spot count.

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1943	*h m*		°	°	°	°				
Feb. 1	11 51	7544	−33	23	−5	32	73	8	G	U. S. Naval.
				(56)	(−6)	------	73	8		
2	10 52	7544	−21	23	−5	21	73	10	F	Do.
		7545	+1	45	+9	15	48	5		
				(44)	(−6)	------	121	15		
3	11 1	7544	−6	24	−4	6	48	5	F	Do.
		7545	+16	46	+8	22	24	2		
				(30)	(−6)	------	72	7		
4	11 2	7546	−45	28	−3	46	36	1	P	Mt. Wilson.
		7545	+28	45	+9	32	24	2		
				(17)	(−6)	------	60	3		
5	11 1	7544	+18	22	−4	19	36	2	P	Do.
				(4)	(−6)	------	36	2		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR FEBRUARY 1943—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1943	*h m*		°	°	°	°				
6	10 48	7548	−80	271	+11	80	12	2	F	Mt. Wilson.
		7547	−18	333	+6	23	24	6		
		7544	+30	21	−4	30	24	4		
				(351)	(−6)	------	60	12		
7	11 12	7548	−66	272	+11	69	12	2	F	Do.
				(338)	(−6)	------	12	2		
8	10 37	7551	−45	280	−3	46	97	6	F	U. S. Naval.
		7544	+61	26	−4	61	24	3		
				(325)	(−6)	------	121	9		
9	10 40	7551	−31	281	−2	32	73	10	VG	Do.
		7550	−28	284	+8	32	436	38		
		7549	+39	351	−4	40	12	1		
				(312)	(−7)	------	521	49		
10	11 45	7551	−17	281	−2	18	48	2	G	Do.
		7550	−17	281	+7	23	485	20		
		7550	−11	287	+5	17	388	1		
				(298)	(−7)	------	921	23		
11	14 49	7550	−2	281	+7	16	436	15	F	Do.
		7551	−1	282	−2	5	48	1		
		7550	+4	287	+5	13	388	1		
				(283)	(−7)	------	872	17		