SEVERE LOCAL STORMS, AUGUST 1944—Continued

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Sanford to Springfield, Kans.	22	8-10 p. m.	[1] 10		5,000	Heavy hail and wind.	Considerable crop damage from hail; several farm buildings demolished; path 25 miles long.
Morrill and Mitchell, Nebr., vicinities of.	22	Near midnight	[1] 3		200,000	Hail and rain	Loss in potatoes, sugar beets, and beans; small crop damage; some washing from heavy rain; path 10 miles long.
Hattiesburg, Miss.	24	6:15 p. m.	100		4,000	Wind	No details.
Denver, Colo.	26	2-2:30 p. m.			1,000,000	Rain and hail	Scattered light to heavy hail over sections of the city, broke greenhouses to the extent of 20 carloads of glass, shredded trees and vegetable crops. Underpasses were flooded. Several persons rescued from stranded and flooded automobiles. This considered one of the worst hailstorms in this vicinity in a decade. The American Red Cross Authorized War Agency offered almost blanket authority for critical materials needed for repairs and replacements.
Colorado Springs, Colo.	26	3 p. m.	[1] 3		500	Hail	Moderate hail caused loss in vegetable crops and gardens; path 80 miles long.
Morton and Stevens Counties, Kans.	29	5-6:30 p. m., C. W. T.	[1] 3-4		200,000	Heavy hail	Much damage to broom corn and other crops; path 50 miles long.
Kansas, southwest portion of State, east of Hutchinson.	29					High wind	Number of trees blown down; many shade trees and some power lines damaged.
Detroit Lakes, Minn.	30				5,000	Electrical	2 homes destroyed by fire.

[1] Miles instead of yards.

SOLAR RADIATION AND SUNSPOT DATA FOR AUGUST 1944

[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, and also a list of pyrheliometric stations are given in the REVIEW for January 1944, page 43.

TABLE 1.—*Solar radiation intensities during August 1944*

[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
August:	*mb.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*
2	20.3			0.34	0.61	0.98					25.0
5	21.8	0.54	0.60	.68	.95						22.6
7	14.2	.41	.50	.69	.90	1.22					15.8
8	14.8	.55	.62	.73	.92	1.20	1.07				15.8
9	16.5	.47	.58	.64	.92	1.26					13.7
10	17.0	.41	.52	.68	.88	1.08					19.6
11	25.9					1.15					25.9
12	14.8	.79	.88	1.01	1.15	1.41					14.8
18	11.3			.95	1.03	1.41					9.8
19	13.7		.58	.71	.94	1.18					12.7
24	11.8		.79	.94	1.11	1.34					12.3
31	14.8	.62	.86	1.01	1.14	1.35					12.7
Means		.54	.66	.76	.96	1.23	(1.07)				
Departures		−.13	−.11	−.14	−.11	−.08	+.02				

LINCOLN, NEBR.

August:											
1	24.2					1.28	1.12				25.9
2	24.2					1.29	0.94	0.73	0.58	0.45	27.7
3	20.4					1.29	.94	.73	.58	.47	28.6
8	23.4					1.26	.97	.75	.58	.45	19.6
9	25.9				1.01	1.26	1.01	.79	.64	.54	21.8
10	20.4				1.01	1.29					20.4
11	20.4				1.01	1.25	1.10	.94	.84	.75	20.4
12	14.2				1.12	1.39	1.10	.92	.79		13.7
14	18.3					1.25	.94	.73	.58	.50	21.8
16	21.8				1.23						23.4
18	13.2				1.12	1.33	1.08	.88	.75	.64	15.3
28	11.8					1.35	1.08	.86	.60	.54	18.3
31	11.4			1.07	1.23	1.45	1.25	1.08	.94	.84	12.7
Means				(1.07)	1.10	1.31	1.05	.84	.70	.58	
Departures				+.16	+.01	0	−.01	−.03	−.04	−.05	

*Extrapolated.

TABLE 1.—*Solar Radiation intensities during August 1944*—Con.

ALBUQUERQUE, N. MEX.

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

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
August:	*mb.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*
1	7.9					1.45					7.9
2	11.0		0.70	0.83	1.04	1.40		1.04			11.0
3	9.8				1.06	1.34					9.1
4	7.3		.86	.96	1.11	1.27	1.18				9.1
6	12.2				1.07	1.43					13.6
7	11.0				1.05	1.37	1.21	1.08	1.02	0.95	13.1
8	12.2	0.95	.99	1.07	1.22						12.2
12	12.2				1.04	1.46	1.26		1.11		11.8
13	11.8	.74	.87	.99	1.16						9.5
14	5.4	.86	.96	1.08	1.20	1.43		.95	.87	.74	7.9
16	10.6				1.17	1.43		1.16			9.8
19	13.6					1.46					13.6
20	11.4					1.39	1.24	1.12	1.04	.96	12.2
21	10.2		.88	1.00	1.16	1.45					12.6
25	12.2		.88	1.01	1.15	1.44					12.2
26	9.1					1.36	1.27	1.20	1.14	1.09	9.5
27	8.5			1.03	1.18	1.37	1.32				10.2
28	9.5		.86	.98	1.12	1.46	1.33	1.25	1.18	1.14	11.4
29	8.2			1.02	1.18	1.42	1.31	1.21	1.16	1.12	9.8
30	6.5				.98	1.56					6.8
31	5.4	.85	.96	1.07	1.22	1.48	1.34	1.22	1.18	1.15	7.9
Means		.85	.88	1.00	1.13	1.42	1.27	1.14	1.09	1.02	
Departures		+.05	+.01	−.01	−.02	+.01	+.06	+.09	+.13	+.12	

BLUE HILL, MASS.

August:											
4	21.1	0.51		0.73	0.95						22.6
5	24.2	.23	0.31	.40							26.8
8	14.7				1.26	1.50					15.3
9	11.8	.84	.99	1.13	1.28	1.47	1.26	1.05		0.83	9.1
11	19.6	.40	.51	.62	.82		.86		0.47	.36	17.6
12	20.3	.13	.70	.28	.45						19.6
13	25.0	.15	.22	.32	.57						23.4
14	27.7				.50						24.2
15	25.0				.80		.76		.38	.28	23.4
16	25.9				.71						23.4
17	24.2				.71						23.4
18	25.9						1.20	1.00	.89	.80	18.3
19	11.0	.87	.96	1.10	1.25	1.45			.89		11.4
20	10.2			1.15	1.28	1.47	1.18	.94	.80	.69	10.2
21	15.3	.60	.69	.81	.94		1.01	.78			19.0
22	19.0						.86	.58	.40	.27	21.8
25	11.8	.89	.98	1.08	1.20						9.8
26	11.0	.79	.89	1.02	1.19						11.0
27	12.3	.84	.93	1.05	1.18	1.46	1.22	1.05	.93	.85	11.4
28	11.8	.81	.91	1.03	1.18						13.2
30	14.2	.59	.69	.83	.96						14.2
31	15.3	.75	.84	.97	1.14						13.7
Means		.60	.74	.84	.97	1.47	1.04	.90	.68	.58	
Departures		−.05	−.04	−.04	−.07	+.17	0	+.05	−.01	−.02	

*Extrapolated.

TABLE 2.—*Daily Totals and Weekly Means of Solar Radiation (Direct+Diffuse) Received on a Horizontal Surface*

[Gram-calories per square centimeter]

Date	Washington, D. C.	Madison, Wis.	Lincoln, Nebr.	East Lansing, Mich.	New York, N. Y.	Fresno, Calif.	Fairbanks, Alaska	Columbia, Mo.	Boston, Mass.	Nashville, Tenn.	La Jolla, Calif.	Riverside, Calif.	Blue Hill, Mass.	Ithaca, N. Y.	Newport, R. I.	State College, Pa.	Put-in-Bay, Ohio	East Wareham, Mass.	Davis, Calif.	Boulder, Colo.
1944	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
July 30	334	669	520	496	497	698	420	571	305	532	478	590	485	480	518	527	681	541	720	548
July 31	541	662	644	574	385	711	220	658	552	555	400	631	613	664	511	562	646	560	727	681
Aug. 1	409	566	645	483	321	706	238	53	459	455	434	640	546	528	416	323	517	545	732	488
Aug. 2	22	546	614	460	134	727	(461)	530	265	621	583	680	320	491	284	574	629	356	713	568
Aug. 3	487	588	623	406	193	704	501	617	242	481	670	672	326	638	217	668	579	193	712	691
Aug. 4	601	367	460	390	540	671	201	514	509	487	601	645	633	418	579	481	456	585	705	622
Aug. 5	563	623	660	476	524	665	(311)	546	449	236	324	641	468	388	482	492	312	497	754	540
Mean	**423**	**574**	**595**	**469**	**371**	**697**	**316**	**498**	**397**	**481**	**498**	**643**	**485**	**516**	**430**	**518**	**546**	**468**	**723**	**591**
Departure	**−60**	**+93**	**+78**	**+11**	**−98**	**+33**	**−39**	-------	-------	**+43**	**−50**	**+81**	**−21**	**+10**	**−93**	**+20**	**+26**	**−14**	**+13**	-------
Aug. 6	227	351	597	386	402	685	235	633	344	525	317	668	327	551	196	519	401	143	688	449
Aug. 7	230	647	560	545	350	714	148	531	205	598	541	664	305	382	445	233	689	445	706	510
Aug. 8	558	623	636	607	590	687	260	637	571	617	458	662	651	617	550	620	629	584	715	667
Aug. 9	517	627	636	573	618	681	517	637	589	527	546	559	685	608	653	624	585	689	707	343
Aug. 10	599	609	567	511	520	649	418	628	472	586	592	596	600	544	586	556	594	602	701	670
Aug. 11	566	586	643	416	512	638	469	455	470	615	602	592	548	448	522	484	578	552	670	663
Aug. 12	505	669	654	573	429	636	518	625	416	505	594	603	520	385	451	521	458	494	658	689
Mean	**458**	**587**	**613**	**516**	**489**	**670**	**367**	**592**	**438**	**568**	**521**	**621**	**520**	**505**	**486**	**508**	**562**	**501**	**692**	**570**
Departure	**+5**	**+118**	**+119**	**+48**	**+61**	**+40**	**+40**	-------	-------	**+134**	**−5**	**+94**	**+25**	**+33**	**−10**	**+18**	**+52**	**+51**	**−1**	-------
Aug. 13	512	580	549	545	463	636	168	474	441	493	560	593	513	472	482	476	570	544	666	672
Aug. 14	586	628	613	390	483	647	161	395	311	414	650	600	432	242	542	413	583	536	666	442
Aug. 15	552	501	284	547	486	682	247	566	461	259	478	625	552	531	534	508	571	544	677	440
Aug. 16	484	287	518	208	370	669	159	427	378	440	570	612	482	372	504	492	476	490	656	478
Aug. 17	508	428	611	254	386	664	127	369	357	279	543	614	482	276	481	348	303	501	620	626
Aug. 18	467	647	642	608	455	659	(94)	570	207	575	408	605	267	585	245	553	653	202	647	338
Aug. 19	611	596	459	576	689	656	504	631	524	567	576	603	565	612	566	630	663	526	640	417
Mean	**531**	**524**	**525**	**447**	**476**	**659**	**228**	**490**	**383**	**432**	**541**	**608**	**471**	**442**	**479**	**488**	**545**	**479**	**653**	**488**
Departure	**+88**	**+73**	**+37**	**+17**	**+84**	**+41**	**−81**	-------	-------	**−1**	**+49**	**+79**	**−4**	**−19**	**+20**	**+24**	**+66**	**+24**	**−15**	-------
Aug. 20	576	209	169	505	600	638	368	398	553	511	448	602	631	599	612	599	586	634	663	472
Aug. 21	538	559	564	352	387	658	206	115	409	454	503	611	519	324	468	384	139	496	695	538
Aug. 22	182	349	298	495	73	648	416	252	249	303	469	633	300	412	280	354	589	303	662	482
Aug. 23	513	532	296	160	190	589	328	437	520	410	546	628	676	412	527	250	215	582	653	266
Aug. 24	565	613	488	476	153	670	(183)	557	62	432	572	611	176	423	317	491	540	194	659	272
Aug. 25	526	530	56	455	459	642	384	69	428	536	464	619	591	545	493	482	486	509	652	540
Aug. 26	491	215	142	482	509	608	210	84	432	68	382	612	584	547	486	582	525	595	649	264
Mean	**484**	**430**	**288**	**418**	**339**	**636**	**319**	**273**	**379**	**388**	**483**	**617**	**497**	**467**	**455**	**449**	**440**	**473**	**662**	**405**
Departure	**+59**	**−10**	**−184**	**+32**	**−38**	**+40**	**+29**	-------	-------	**−22**	**−44**	**+103**	**+3**	**−3**	**−18**	**0**	**−4**	**−20**	**+16**	-------
Aug. 27	524	39	418	249	622	608	321	89	528	342	302	603	632	587	522	610	397	622	633	614
Aug. 28	151	250	597	122	367	588	107	528	447	344	396	566	479	212	505	55	123	561	607	570
Aug. 29	380	361	361	484	203	564	295	492	348	219	512	610	422	138	356	202	551	347	524	183
Aug. 30	560	333	347	445	537	537	263	-------	346	446	420	560	320	406	493	455	532	484	610	606
Aug. 31	391	531	616	249	346	624	127	-------	468	115	478	434	585	336	470	327	192	537	610	583
Sept. 1	290	550	560	482	174	610	41	-------	195	355	471	424	274	184	197	194	548	220	612	375
Sept. 2	520	484	557	462	492	594	206	-------	397	418	477	472	426	517	388	524	545	428	615	548
Mean	**402**	**364**	**494**	**356**	**392**	**590**	**194**	-------	**390**	**320**	**437**	**524**	**448**	**340**	**419**	**338**	**413**	**457**	**601**	**497**
Departure	**−17**	**−44**	**+56**	**−6**	**+44**	**+19**	**−56**	-------	-------	**−56**	**−49**	**+38**	**0**	**−126**	**−12**	**−78**	**−1**	**+11**	**−19**	-------
ACCUMULATED DEPARTURES ON SEPT. 2, 1944																				
	−1999	**−1526**	**−8082**	-------	**−3674**	**+4433**	-------	-------	-------	**+2646**	**−3950**	-------	**+2125**	-------	**−3102**	**+435**	**+1103**	**+1972**	**−921**	-------