

SEVERE LOCAL STORMS, AUGUST 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
Dickinson, Emmet, Palo Alto Counties, Iowa.	1	2:30-3 a. m.	17		\$300,000	Hail, wind, and rain.	Heavy hail damaged corn, shocked grain and flax, injured some cattle, killed poultry, broke windows, and damaged roofs. The most severe loss occurred in an area 10 miles long and 5 miles wide between the towns of Raleigh, Superior, and Terril. Near Raleigh some cornfields were a total loss. Wind accounted for \$25,000 of the entire loss. Heavy downpours of rain were estimated at 5 to 6 inches near the center of the storm. Water stood in fields and hailstones were 6 inches deep in ditches 12 hours after the storm had ended.
Poyette, Wis., vicinity of	2	4 p. m.	1 1/2		1,200	Wind	Outbuildings damaged and moved; windows broken; corn lodged; property damaged; 3 persons injured; path 4 miles long.
Sweet Grass and Stillwater Counties, Mont.	2	4:30-5:30 p. m.	880		15,000	Hail	Principal loss in oats, wheat, barley, and alfalfa. Some poultry killed; path 25 miles long.
Gallatin County, Mont.	2	P. m.	1 2/4		8,000-10,000	do	Loss mostly to peas; path 2 1/2 miles long.
Stillwater and Yellowstone Counties, Mont.	2	do	1		200,000	Heavy hail	Loss in beets, truck, and grains; path 11 miles long.
Henry County, Iowa	2-3	Dusk of 2d-7:30 a. m. of 3d.			25,000	Electrical, rain, and flood.	7 inches of rain reported to have fallen; railroads, strawstack damaged; chickens and pigs drowned; soil eroded, cellars flooded, and pastures muddy.
Montgomery County, Iowa	2-3	9 p. m.-4 a. m.			500	Heavy rain electrical	Worst electric storm in years. Livestock valued at \$500 killed by lightning. Rain amounting to 3.50 inches fell in 7 hours.
Louisa County, Iowa	2-3	11 p. m.-4 a. m.			6,000	Rain and flood	Loss in crops.
Keokuk County, Iowa	2-3	11:45 p. m.-7:30 a. m.		1	1,540,000	Rain, flood, hail, and wind.	Rainfall of 4.25 inches reported; man killed.
Washington County, Iowa	2-3	P. m.			217,000		7.35 inches of rain in 1 1/2 hours ending 9:30 a. m., of the 3d, recorded. Much loss in crops, property damaged, hogs and sheep drowned. Several thousand acres of crops severely damaged by water 4 feet deep. Chief loss in crops to soybeans; many young hogs lost; livestock moved from muddy pastures.
Louisa County, Iowa	2-3				102,312	Rain, flood, and hail.	Floods swept small fields of grain away and covered many with mud. Property damaged; loss in livestock and crops.
Iowa County, Iowa	3	A. m.			49,000	Rain, flood, and wind.	Utility poles blown down.
Ablene, Tex.	3	4:25 p. m.		0	350	Tornado	Loss in wheat, beans, sugar beets, and alfalfa.
Big Horn County, Mont.	3		13		10,000	Heavy hail	Loss in wheat, barley, oats, and flax; path 30 miles long.
Daniels County, Mont.	4	7:30 p. m.	14		500,000	do	Utilities damaged; 3 houses struck by lightning; barn burned.
Carlisle, Pa., and vicinity	4	8-9 p. m.				Electrical and heavy rain.	
Chouteau County, Mont.	7	3:30-4:30 p. m.	400-800		30,000	Hail	Principal loss in wheat, some to barley and oats; path 30 miles long.
Leoti, Kans., vicinity of	8	6:30 p. m.	12		1,000	Heavy hail	Loss in crops; path 10 miles long.
Duluth, Minn.	8	11:45 p. m., central war time.			3,000	High wind	The roof of the Coolerater Plant No. 2 was partly torn off with estimated damage of \$3,000. Number of trees uprooted and several garages demolished. In 1 instance a garage was lifted off the car, leaving the car intact and undamaged, except for a scratched fender. Boards from the garage were scattered over half a block and the frame work was piled against the owner's back porch. A tree falling across a power line disrupted electric and telephone service at the Western Paint & Varnish Co. plant.
Lycoming County, Pa.	8	P. m.				Wind, hail, electrical	Several barns uprooted, 1 blown over; trees uprooted; orchards and gardens damaged; utilities interrupted.
Luzerne County, Pa.	8					Electrical	Electric service disrupted; 2 houses damaged.
Fort Belvoir, Va.	10	P. m.		6		do	Soldiers in training at Fort Belvoir killed when a tree under which they sought shelter from a brief shower was struck.
O'Brien and Cherokee Counties, Iowa.	11	7 p. m.		0	200,000	Tornado and hail	Hail fell along a line extending diagonally from northwest to southeast across O'Brien County, causing much damage along its path. The tornado caused only slight damage and did not develop into a destructive storm at any point along its path which was probably 20 miles long.
Orangeburg, S. C.	12	A. m.			1,000	Electrical	Power lines and installations damaged.
Willow Lake, S. Dak., 15 miles northwest.	12	11 p. m.	15		44,000	Moderate to heavy hail.	Loss in corn; gardens damaged; some stock killed. \$4,000, property damage; \$40,000, crop loss.
Toledo, Ohio, and vicinity	12			1	2,000	Electrical and heavy rain.	School damaged to the extent of \$2,000, other property damage not estimated. Church, streetcar, and 5 homes also struck. Flood resulting from the heavy downpour stalled all traffic for 1/4 hour in downtown streets; 1 person injured.
Clayton County, Iowa	12-13	P. m.			30,000	Heavy rain, flood, electrical.	Storm sewer collapsed at McGregor after 4.50 inches of rain had fallen. Barn burned; railroad tracks washed out near McGregor and Monona. Much damage from erosion and local flooding.
Worth and Mitchell Counties, Iowa.	12-13				65,000	Heavy rain, flood, electrical, and wind.	Heavy rains washed fields, bridges, and damaged highways, and caused small streams to overflow. Hay and shocked grain washed away; several fires from lightning; some damage by wind.
Badger, S. Dak., 8 miles west.	13	3-5 a. m.	10		10,000	Light to heavy hail.	Loss in crops.
York County, Pa.	13	4 p. m.				Electrical and wind.	House struck by lightning; power lines down; utilities disrupted.
Vego, Tex.	13	4:30 p. m.	67	0		Tornado	Small damage; no loss in crops.
Harrisburg, Pa.	13	6:15 p. m.			15,000	Wind and rain	Fronts of 7 adjoining brick residences destroyed.
Amelia Court House, Va., vicinity of.	13	6:45-8 p. m., eastern war time.	880		1,000	do	2 small barns destroyed; horse and cow killed; path 1 mile long.
Chester County, Pa.	13	P. m.				Electrical	Garage burned; warehouse struck.
Venango County, Pa.	13	do			5,000	Electrical and wind.	Barn burned; house struck by lightning; utilities disrupted; trees blown down; loss to crops.
Washington County, Iowa	13				10,000	Electrical	Barn and contents destroyed by fire.
Shallow Water, Kans., vicinity of.	15	4:30 p. m.	14		40,000	Heavy hail	Much damage to windows and roofs; feed crops destroyed over a large area; chickens killed; path 12 miles long.
Victory to Spring Green, Wis.	15	5-6 p. m.	11-6		70,000	do	Severe loss in tobacco and lesser damage to corn, tomatoes, cabbage, and vine crops. Number of turkeys killed or injured; crop loss, \$65,000; other damage, \$5,000.
Guffey, Colo.	16					Rain and hail	Considerable damage to grain and potato crops. Principal damage from hail and flooding.
Cripple Creek, Colo.	17	3 p. m.	12			Hail	Roofs damaged; victory gardens ruined; path 5 miles long.
New Prospect, S. C.	17	3 p. m.			4,000	Thunderstorm and hail.	Loss in crops, \$3,000; property damage, \$1,000.
Cheraw, S. C.	17	5:15 p. m.			500	Thunderstorm	Minor property damage.
Defiance County, Ohio	19	P. m.	100	0	100,000	Tornado	Barn, garage, silo, and other buildings leveled. 2,000 trees in a 65-acre tract of woodland felled. No injuries reported; hundreds of chickens and some livestock killed.
Dawson County, Mont.	20		12		50,000	Heavy hail	Loss in crops 50 to 100 percent; hail piled to depth of 6 inches in places; path 15 miles long.
Cherokee County, Iowa	21	9 p. m.			1,000	Hail	Loss in crops.
Chickasaw County, Iowa	23				10,000	Electrical	Barn destroyed by fire
Mitchell County, Iowa	24	9:30 p. m.			3,500	do	Barn burned.

SEVERE LOCAL STORMS, AUGUST 1943—Continued

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
Chouteau County, Mont.	24	11 p. m.	1 6-15	-----	40,000-50,000	Hail	Much loss in wheat, flax, and oats; some property damage; path 20 miles long.
Powder River County, Mont.	25	4:30 p. m.	1 3-4	-----	2,500	do	Loss in wheat and alfalfa seed crops; path 25 miles long.
Mitchell County, Iowa	25	-----	-----	-----	500	Electrical	55 pigs killed by lightning.
Butte Village, Nebr.	26	-----	440	-----	1,000	Straight-line-wind	Several large trees uprooted and plate-glass windows broken; chimney and small buildings damaged.
Montvale, Va.	27	4 p. m. eastern war time.	-----	-----	5,000	Wind, electrical	Farm truck burned; 2 barns and considerable feed destroyed; 10 cattle killed; man injured when barn collapsed.
Utleyville, Colo.	27	-----	-----	-----	-----	Rain and hail	Much loss to crops, some totally destroyed by hail and flooding.
Butte, Nebr.	28	5:30 a. m.	134	-----	2,000	Squall	Trees uprooted; building blown over.
Colby, Kans.	28	5:25-6:40 p. m.	1 3	-----	10,000	Heavy hail	Leaves of corn and sorghum crops shredded. Truck crops almost completely destroyed. Loss entirely to crops; path 3 miles long.
Little Mountain, S. C.	28	-----	-----	-----	1,000	Electrical	Barn with feed and farming implements burned.
Marlin, Tex.	29	4:30 p. m.	1 2	-----	11,000	Wind	\$10,000 crop loss, principally cotton; \$1,000 property damage.
Rockdale, Tenn.	29	5:01 p. m.	500	-----	10,000	do	Property damaged.

¹ Miles instead of yards.

SOLAR RADIATION AND SUNSPOT DATA FOR AUGUST 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 pyr heliometric stations is also given in the REVIEW for January 1943, page 12.

TABLE 1.—Solar radiation intensities during August 1943
[Gram-calories per minute per square centimeter of normal surface]
Madison, Wis.

Date	Sun's zenith distance										Local mean solar time	
	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										
		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 5	18.3			0.81	1.04	1.35					14.2	
August 6	15.8	0.47	0.50	.68	.92	1.26					15.8	
August 10	15.8	.70	.79	.95	1.08	1.30					11.4	
August 14	15.8	.74	.84	.94	1.14	1.39					15.3	
August 16	14.2	.76	.87	.98	1.15	1.38					13.7	
August 17	12.3	.76	.87	.98		1.42					9.8	
August 18	10.6	.80	.92	1.04	1.21	1.44					8.1	
August 19	11.4		.69	.95	1.13	1.28					12.9	
August 24	22.6		.49	.64	.86	1.11					24.2	
August 30	17.0	.55	.64	.74	.87						22.6	
Means		.68	.73	.87	1.04	1.33						
Departures		-.01	-.05	-.04	-.04	+.01						

Lincoln, Nebr.

August 9	23.4				1.38	1.06	0.86	0.74	0.69	26.0
August 17	10.8			1.24	1.44		.94	.69		10.8
August 18	11.5					1.12	.90	.77	.69	10.8
August 20	19.0			1.19	1.33	.97	.69	.53	.45	20.6
August 23	19.0			1.12	1.33	.97				20.6
August 25	18.3				1.25	.86	.69	.68		23.4
August 27					1.52	1.06	.82	.69		17.2
Means					1.18	1.37	1.01	.82	.67	.61
Departures					+.09	+.06	-.05	-.05	-.07	-.02

*Extrapolated.

TABLE 1.—Solar radiation intensities during August 1943—Con.

Blue Hill, Mass.

Date	Sun's zenith distance										Local mean solar time	
	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										
		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 1	18.4	0.35	0.59								19.0	
August 2	21.1		.73								19.7	
August 6	15.9	.77	.84	.92	.96		1.07		0.83	0.74	14.8	
August 7	12.7	.84	.92		1.14						11.4	
August 15	14.7	.85	.95	1.05	1.19		1.09		.78	.70	17.0	
August 16	14.2	.76									17.0	
August 17	19.0						1.04	0.87	.76	.66	16.4	
August 18	13.2	.64	.76	.89	1.04				.90	1.81	15.3	
August 19	14.7	.80	.92	1.02	1.16						13.7	
August 20	13.2	.71	.83	1.00	1.13			.80	.71		12.7	
August 21	13.7		.65	.78							14.7	
August 22	17.6						.78	.56	.39	.31	12.3	
August 23	15.9	.23	.29	.43	.69		.66	.50	.36	.27	19.0	
August 24	20.3	.17	.25	.31	.55						21.1	
August 25	20.3	.34	.51				1.05		.73	.64	19.0	
August 26	19.0									.85	12.3	
August 28	16.0									.83	7.2	
August 29	16.4	.80	.90	1.02	1.15		1.16	1.05	.97	.87	14.7	
August 31	16.4	.55	.58	.84	1.05					.57	15.3	
Means		.60	.69	.83	1.01			.98	.76	.73	.65	
Departures		-.06	-.10	-.06	-.04			-.06	-.09	+.04	+.05	

Albuquerque, N. Mex.

August 1	16.6	0.75	0.84	0.98	1.16			1.13			12.2
August 2	13.6		.80	.92	1.11	1.45					13.2
August 3	15.9				1.11	1.46					15.2
August 4	16.9	.71	.82	.92	1.11		1.17				15.2
August 6	15.9				1.14		1.18	0.99	0.85		12.2
August 7	15.2				1.16	1.47					12.2
August 25	14.9	.80	.88	1.03	1.21	1.48					14.9
August 28	16.6					1.39					15.2
August 29	16.6	.83	.93	1.05	1.21	1.46					13.6
August 31	16.6	.80	.93	1.07	1.23		1.27				6.4
Means		.78	.87	1.00	1.19	1.45	1.19	.99	.85		
Departures		-.01	-.02	-.01	+.02	+.05	+.01	(.00)	(-.04)		