

SEVERE LOCAL STORMS, NOVEMBER 1941

[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
Iowa.....	Oct. 31- Nov. 1 and Nov. 4-5				\$250,000	Sleet and snow....	Both of these storms covered about the same area. The heavy, wet snow mixed with rain, clung to electric and telephone lines until the accumulated weight caused the wires to break carrying the poles. The area of damage began in Mills and Montgomery Counties and extended northward to the Minnesota border. The eastern boundary of the damage extended northward through Audubon, Greene, Webster, and Kossuth Counties. The western boundary extended northward along the Missouri River into Woodbury County, and thence northeastward across Cherokee, Clay, and Dickinson Counties. At the southern end the storm extended westward into Nebraska. Centers of greatest damage were located at Council Bluffs, Carroll, and Storm Lake. In addition to the damage to wires, there was some interruption of highway and rail traffic and many trees and limbs broken. Many communities were isolated for short periods. The interruption of electric service handicapped farmers using electric power, operators of cold storage lockers, and local newspapers. Total cost to permanent repairs to power and telephone equipment will amount to in excess of \$250,000, but, outside of delay, discomfort, and inconvenience, loss to other interests was rather small.
Buffalo, N. Y.....	7-8				14,000	Wind.....	Navigation at standstill. A cargo of wheat was swept into the water when a barge with a broken steering cable was grounded in the harbor. Property damage, \$11,000; loss in crops, \$4,500; path 10 miles long.
Highland City to Lakeland, Fla., and vicinities.	14		100		15,500	do.....	
Stevensville, Mont.....	24	8:30-9:30 p. m.			5,000	do.....	Several barns and small buildings damaged; buildings demolished; many trees uprooted and windows broken.
Washington, western portion of State.	24			1		do.....	Several boats and a sea-plane hangar blown from their moorings. Man drowned; minor damage to power and communication lines.
Stanford, Mont., and vicinity.	24-25				3,000	do.....	Several buildings blown over and hay lost from stacks.

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Mansfield, La., vicinity of....	26	10 p. m.....	100	1		Tornado.....	12 houses damaged with loss of household goods. An automobile demolished and 10 persons injured.
Lake Charles, La., vicinity of.	30	9:30 a. m....	20	0	20,000	do.....	2 persons injured; property damaged.

SOLAR RADIATION AND SUNSPOT DATA FOR NOVEMBER 1941

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

SOLAR RADIATION OBSERVATIONS

By HELEN CULLINANE and IOLA PAINE

Measurements of solar radiant energy received at the surface of the earth are made at 9 stations maintained by the Weather Bureau and at 12 cooperating stations maintained by other institutions. The intensity of the total radiation from sun and sky on a horizontal surface is continuously recorded (from sunrise to sunset) at all these stations by self-registering instruments; pyrheliometric measurements of the intensity of direct solar radiation at normal incidence are made at frequent intervals on clear days at three Weather Bureau stations (Madison, Wis.; Lincoln, Nebr.; and Albuquerque, N. Mex.), and at the Blue Hill Observatory at Harvard University. Occasional observations of sky polarization are taken at the Weather Bureau station at Madison and at Blue Hill Observatory.

The geographic coordinates of the stations, descriptions of the instrumental equipment, station exposures, and methods of observation, together with summaries of the data obtained, up to the end of 1939, are given in the MONTHLY WEATHER REVIEW for December 1937, April 1941, and September 1941.

Table 1 contains the measurements of the intensity of direct solar radiation at normal incidence, with means and their departures from normal (means based on less than 3 values are in parentheses). At Lincoln, Madison, Albuquerque, and Blue Hill the observations are obtained with a recording thermopile, checked by observations with a Smithsonian silver-disk pyrheliometer at Blue Hill. The table also gives vapor pressures at 7:30 a. m. and at 1:30 p. m. (75th meridian time).

Table 2 contains the daily total amounts of radiation received on a horizontal surface from both sun and sky

for all stations except Fairbanks, Alaska; and also the weekly means, their departures from normal, and the accumulated departures since the beginning of the year. The values at most of the stations are obtained from the Eppley pyrheliometer recording either on a microammeter or a potentiometer. If the daily figures for total solar and sky radiation at Fairbanks should be desired, they may be obtained approximately 2 months after the date of the observation by writing to the Solar Radiation Investigations Supervisory Station, Blue Hill Observatory, Milton, Mass. Table 2 also includes values of ultraviolet radiation below 3132 Angstroms at San Juan (see Mo. WEA. REV., Sept. 1941, p. 286).

Radiation at normal incidence was below normal at Madison and Lincoln and close to normal at Blue Hill during November.

Total solar and sky radiation received on a horizontal surface during November was below normal for all stations for which normals have been computed with the exception of Washington, New York, New Orleans, and Riverside.

The single polarization observation made on the 26th is lower than both the November mean and mean maximum.

The single polarization observation made on the 26th at Madison serves as both the mean and the maximum for the month.

The pyrheliometric equipment at Cornell University was recalibrated by Helen Cullinane during the latter part of November and found to be about 9 percent low. Corrected data for this station are given in table 2-A.

In table 2, "Pyrheliometric Instrumental Data," page 264 of the September 1941 MONTHLY WEATHER REVIEW, it was erroneously stated that the station at Twin Falls is under the direction of the Bureau of Plant Industry. This station is under the direct supervision of J. R. Douglass, of the Bureau of Entomology and Plant Quarantine.