

MONTHLY WEATHER REVIEW

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PAPERS ON TORNADOES.

THE THIRTEEN TORNADOES OF MARCH 28, 1920.

INTRODUCTORY NOTE.

On the afternoon of March 28, 1920, at least 13 tornadoes occurred, 11 in Illinois, Wisconsin, Indiana, and Michigan, and two or more in Alabama and Georgia. All but one of the northern group occurred along a line of wind convergence between warm southeasterly and southwesterly winds, which progressed from eastern Iowa to eastern Michigan between 6 a. m. and 9 p. m. A similar condition, though less strongly marked, on the southern end of the line produced those in Alabama and Georgia. This line of wind convergence appears to have been associated with a cold wind from the west aloft. The running of such a current over the warm southerly wind readily contributed to the formation of tornadoes. The following papers present the information concerning the destruction, the paths of the storms, the conditions at the surface and aloft. These storms killed 163 people, injured several hundred, and destroyed property valued at probably \$10,000,000.—EDITOR.

TORNADOES OF MARCH 28, IN NORTHEASTERN ILLINOIS.

By CHARLES L. MITCHELL, Meteorologist.

[Weather Bureau, Chicago, Ill., Apr. 28, 1920.]

Three distinct tornadoes occurred in northeastern Illinois between noon and 1 p. m. (Central Standard Time) on Sunday, March 28, and there is some evidence of still another of very limited extent. There were 28 known deaths, 300 persons were injured, and the property losses amounted to over \$3,000,000.

The three in the order of their distance from the main storm center are called (1) the Elgin tornado, (2) the Melrose Park-Wilmette tornado, and (3) the Clearing tornado. The first crossed the extreme northwestern portion of Cook County, the second went all the way across, and the third occurred entirely within that county; moreover, the paths of both the Melrose Park-Wilmette and the Clearing tornadoes lie partly within the limits of the city of Chicago. (See fig. 1.) Previously, so far as known, but two tornadoes ever occurred in Cook County and only one of these, that of May 25, 1896, entered Chicago.

The weather map on the morning of the 28th showed extremely favorable conditions for the development of destructive local storms in Illinois and adjacent States. The center of a severe and widespread disturbance had moved northeastward, with gradually increasing intensity, from Colorado to northwestern Iowa with a central sea-level pressure of 28.96 inches at Sioux City. Thunderstorms were general from the middle and lower Missouri valley eastward to Lake Michigan and Indiana, and the temperature was from 20° to 25° F. above normal, accompanied by rather high humidity, over a large area. By noon the storm was central in southeastern Minnesota and the temperature at Chicago was 60°, with a relative humidity of 84 per cent. The tornadoes occurred in the southeastern quadrant of the storm, about 400 to 450 miles from its center. The minimum sea-level pressure at the Chicago station, about 12 miles from the path of the Melrose Park-Wilmette tornado, was 29.10 inches at about 12:55 p. m., while at the home of the writer,

situated about 5 miles from the path, it fell suddenly 0.15 inch to 29.03 inches, then rose abruptly 0.10 inch.

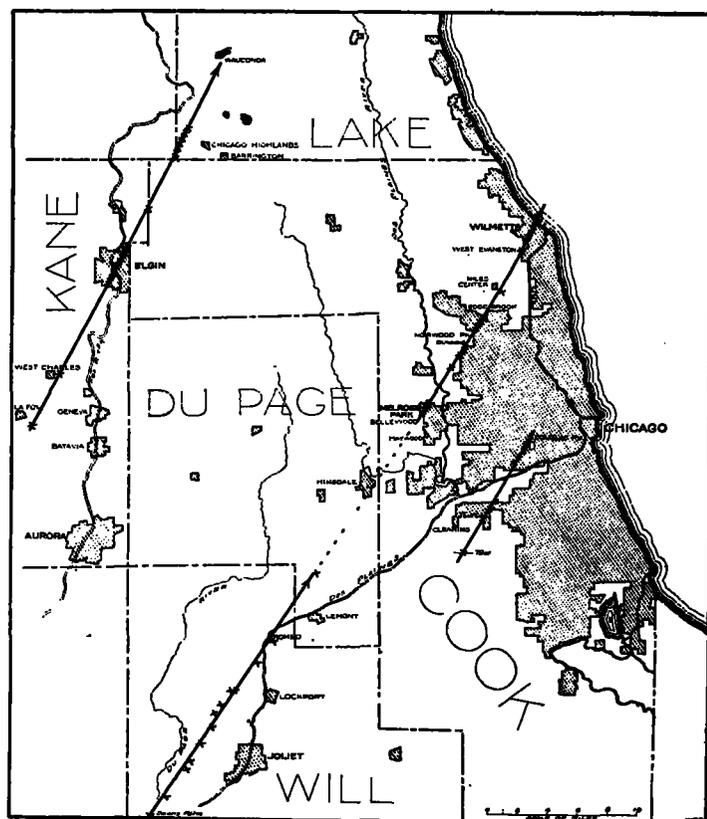


FIG. 1.—Paths of the tornadoes near or in Chicago, Ill., March 28, 1920. Cross-marks indicate points where damage was observed or reported.

The following maximum wind velocities which were registered during the day show how widespread and