

A REMARKABLY HEAVY RAINSTORM IN THE CHICAGO AREA

By O. T. LAY

[Weather Bureau Office, Chicago, Ill., September 10, 1931]

On the night of August 10-11, 1931, a remarkably heavy rainstorm occurred in the Chicago area. The total amount of rainfall at the main observatory of the Weather Bureau, on the campus of the University of Chicago, during a period of slightly more than 10 hours, beginning at 8:47 p. m. on the 10th, was the heaviest of record since 1885, and among the heaviest for the entire 61 years of record. The totals of 1.22 inches within 15 minutes and 1.39 inches within 20 minutes broke all previous records for similar periods. Basements and subways in much of the city were flooded, and other damage resulted from the rain and accompanying wind.

temperature at Chicago fell from about 70° at the beginning of the storm to 56° at midnight on the 10th, when one of the heavy downpours occurred, rose slightly for some time thereafter, then fell again to 57° in the early morning of the 11th, when another very heavy downpour occurred. Apparently an inflow of comparatively cold air aloft from over the lake was responsible to a considerable extent for the rapid condensation from moist air over the land area adjacent to those portions of the lake from which the cold air approached.

The accompanying chart shows the distribution of rainfall as measured at stations of the Weather Bureau, the Sanitary District, and the Bureau of Water Safety Control of the City of Chicago.

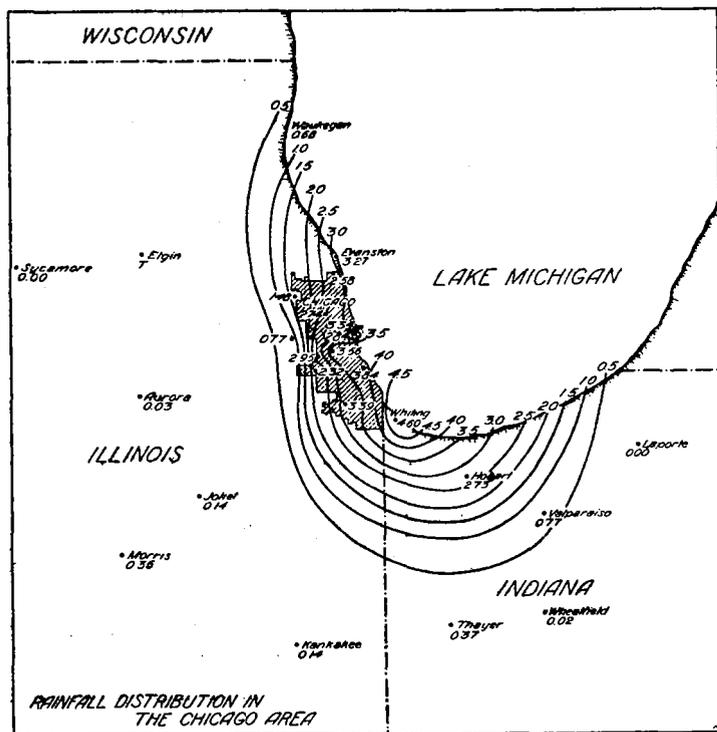
MORE RAIN IN DROUGHT YEAR<sup>1</sup>

Missouri has advanced thus far through the crop season with a total rainfall comparable in many ways with the rainfall of 1930, the great drought year. And as with Missouri, so with many of the States of the central crop area.

Last year the shortage caused famine conditions in many sections; this year crops, generally, are fair to good to excellent. Up to July 1 in Missouri the 1931 rainfall just about balanced that of last year, with the advantage, slight as it was, with the drought year. In 1930 Missouri rainfall up to and including June was 82 per cent of normal and this year it was only 81 per cent of normal.

The difference was that the 1930 rains came in unusual quantities in January and February and the four months to follow were unusually dry. This year, the first two months of the year were very dry and general, though light, rains fell during the four months that followed. The distribution, according to season, was better this year than last and the advantage was shown in the crop variations of the two years. But in 1930 the July rain was only 24 per cent of normal, while this year the percentage was 81, with considerable damage to corn at a critical period.

Besides supplying crops with needed moisture, the 1931 rains had the great duty of renewing the lakes and ponds and streams and providing subsurface storage for later needs, a duty that has been performed with fair devotion, though many streams remain at low stage, which adds importance to the rather general rains that have been falling up to this time in August. It looks as if Missouri and other States will start the fall and winter with the effects of the great drought of 1930 fully subdued. Surface water that has not flowed into the streams and thus to the seas has been taken up by famished earth many feet below the surface. We have been storing for future crops.



The rainfall was heaviest along the lake front in and immediately to the southeast of the city, the greatest totals being 4.60 inches at Whiting, Ind., and 3.84 inches at the Weather Bureau observatory at the University of Chicago. Amounts decreased rapidly at stations in all directions from an area including these two points. At Laporte, Ind., 40 miles to the east of Whiting, and Sycamore, Ill., 50 miles to the west of the city limits of Chicago, no rain whatever occurred.

The wind varied from northeast to northwest, and the rainfall was heaviest along those parts of the lake front that received the most direct "lake" wind. There was no general storm area in the region, and the barometer was either stationary or rising slowly during the storm. The

<sup>1</sup> Reprinted from Globe Democrat, St. Louis, Mo., Aug. 21, 1931.