

CO-OPERATIVE OBSERVERS' DEPARTMENT.

Mr. Ledyard, who might be called a super-co-operative observer, presents a message in the first few pages of this BULLETIN which should be of interest to all. The publication of this address, which is longer than any heretofore placed in the BULLETIN, delays till next month the appearance of the material from Section Directors and several Co-ops, which we would like to have squeezed into this number.

U. S. WEATHER IN JUNE, 1922.

The figures in the last two columns in the table on page 63 give the rainfall at the regular stations of the Weather Bureau during the month of June, and the variations from the normal for this month. The greatest amount recorded was 15.9 ins. at Syracuse, N. Y., but the rainfall amounted to 10 ins. at Portland, Maine, 9.9 ins. at Burlington, Vt., 9.8 ins. at Norfolk Va., and 9 ins. at Galveston, Tex. The amounts were generally over 6 ins. in New England, central and eastern New York, the middle Atlantic coast, and on the Gulf coast from Galveston to New Orleans. The rainfall was less than 1 in. over small areas in central districts and in most sections from the Rocky Mountains westward. The total fall at Chicago, Ill., was only 0.1 in. The normal for June at that station is 3.7 ins.

The month was warmer than the normal in all districts except in Texas and part of Florida. The temperature averaged 4°, or more, a day above the normal in Nebraska, western Iowa, eastern Wyoming, and from northwestern Montana and eastern Washington southward to Nevada. The average was close to the normal in the cotton belt and slightly above in the corn and wheat States.—*Weather, Crops, and Markets*, July 15, 1922, p. 63.

A Winter Cyclone and Cold Wave in Summer

On the 10-11th of June, 1922, in connection with the passage of a rather well-developed low pressure area eastward over Ontario, the greater portion of the State of New York was swept by a series of unusually severe local storms, attended by damaging winds, torrential downpours of rain, and in some localities heavy hail. Damage to crops and orchards as well as to buildings and other property was enormous throughout the storm-swept areas. There were two tornadoes reported within the State during this period

Other storms, not tornadoes, but attended by winds estimated at between 90 and 100 miles an hour were very general on the 11th over the central counties from the Genesee River eastward to the Hudson River and also throughout the Hudson Valley, including as far south as New York City and the western half of Long Island. The damage from wind alone was particularly general and severe in sections of Onondaga, Madison, Cortland, and northern Chenango counties, and locally in the Hudson Valley. The damage in Cortland and vicinity was estimated at not less than \$650,000, several persons were injured and one man killed. During a storm which struck New York City at about 6 p. m. of the 11th, the wind attained a maximum velocity of 75 miles an hour, and an extreme of 100 miles. This storm caught several hundred pleasure seekers in canoes, rowboats, and other small craft at the resorts in the vicinity of the city and from 60 to 80 were drowned; 7 more were killed and 27 injured when the gale blew over a ferris wheel in operation at Classon Point Park. Six persons were also reported killed in the metropolitan district by falling trees.

The precipitation attending this series of storms, especially over the western, central, Mohawk, and upper Hudson River Valley counties, was unusually heavy, amounting in many localities to veritable cloudbursts. Twenty-four hour falls of two to three and one-half inches were quite general throughout this region, while at Syracuse and Cortland, in the center of the region of maximum precipitation, the falls amounted, respectively, to 4.79 and 4.87 inches. This enormous amount of water falling, in the most part, within a few hours, resulted in serious flood con-