

sufficient to cause overflows in the main trunks of these streams, although the rises in their middle and lower portions amounted to from 15 to 20 feet between the 6th and 20th. Slight rises occurred in the upper Trinity between the 25th and 30th, and in the Brazos and Colorado during the first decade. The Guadalupe was at low water mark throughout the month.

#### EXCESSIVE RAINS IN HUNT COUNTY, TEX.

Between 7 a. m. July 1 and 7 a. m. July 4, a series of heavy local showers occurred over a limited area in northeast Texas which caused much damage in that section. The morning weather map of the 2d showed a shallow barometric depression of small diameter over northern Texas, with lowest barometer reading 29.88 inches at Fort Worth, which was attended by showers in that section. The total rainfall from these showers at Greenville, Hunt County, amounted to 10.55 inches, but at surrounding stations it was much lighter. The amount at Bonham, Fannin County, during the same period, was 3.90 inches; at McKinney, Collin County, 2.30 inches; and at Kaufman, Kaufman County, 3.65 inches. From the havoc wrought it seems that the rainfall west or southwest of Greenville must have been in the nature of a cloudburst on the morning of the 2d. Creeks and streams and all lowlands in that section were flooded. Levees were broken and many acres of the richest agricultural lands in the State were under water. Bridges were destroyed, roadbeds badly washed, and traffic and communication

interrupted for several days, and much other damage resulted from the water. The loss in Hunt and Rockwall Counties is estimated at over \$1,000,000.

#### MOCK SUNS.

By HOWARD H. MARTIN, Assistant Observer, Fort Worth, Tex.

The phenomenon of "mock suns" or "sun dogs," although rare in Texas, was observed on the morning of July 24, under favorable conditions.

At sunrise, 5.37 a. m., the sun was hidden by a bank of dense alto-stratus clouds which gradually merged into thinner cirro-stratus. At 6.10 a. m., there appeared a well-defined halo of 22° radius, with a brilliant mock sun at each end of its horizontal diameter and at an altitude of perhaps 10°, each surrounded by a faint corona.

Above these mock suns, and to the outside, appeared fainter splotches of light, indicating the presence of another halo. The density of the attendant alto-stratus cloud was, however, too great to permit the observation of this halo.

The presence of halos and mock suns is generally considered a forerunner of precipitation, and in this case particularly, was the theory borne out. A sharp electrical storm with excessive rainfall occurred within 6 hours after the disappearance of the phenomenon. Accompanying the storm was a marked drop in temperature, the fall, though temporary, amounting to 38° in less than 3 hours.