

Exceptional Weather of Recent Years

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Weather rules humanity to an extraordinary extent. A rhythm of climate is essential for man to achieve a high degree of civilization. Alternate periods of high and low temperatures or dry and wet weather produce a rhythm of climate. In recent years, however, the people of the United States have been treated to such exceptional weather conditions that the rhythmic succession has been disturbed with a magnitude far beyond the wildest forecasts ever conceived.

The year 1933 was much warmer and drier than a normal year. Only three preceding years of record in northern Illinois were warmer but during the summer of 1934 more local temperature records were broken than in any previous year and the absolute maximum for Chicago, 104.8° F., was established on July 24, 1934. The most outstanding feature of 1934, however, was the widespread severe drought. The precipitation in Chicago, 22.78 inches, was .56 of an inch lower than that of the previous driest year, 1930. The year 1935 brought weather that spelled disaster in many parts of the country and for the United States as a whole averaged 1.8° cooler than 1934. The winter of 1935-36 is so recently past that its severity is fresh in the minds of all observers except those of the southwest states where the temperature was normal or slightly above.

Tornadoes, hurricanes, and violent storms of all types are exceptional weather phenomena; they occur with unexpected force, and, unless they are tropical storms, cannot be accurately forecast. In 1933 the tornadoes—197 of them—a number rarely exceeded, were characterized by the U. S. Weather Bureau as plentiful, short-lived, and frightfully fatal. During that year 21 tropical storms, the largest number in 46 years of record, struck the area charted by the Weather Bureau. During 1934 there were few tornadoes and no very intense hurricane reached the coast of the United States, but in 1935, 179 tornadoes were reported and five tropical disturbances, each of full hurricane intensity, were reported in waters adjacent to the United States. Three of these hurricanes struck southern Florida with devastating violence, one was accompanied by the lowest sea-level barometric pressure ever recorded in the western hemisphere (26.35 inches) and two followed erratic unprecedented tracks. The hurricane during the first week of November, 1935, was not only one of erratic movement but also the first of record

to develop hurricane intensity at so late a date in Florida. Early in April, 1936, a series of extratropical tornadoes of exceptional severity devastated many sections of the southern states.

Other exceptional features of recent years have been the dust storms. At least five great dust storms spread over a considerable area of the United States and culminated in the most widespread of all, the storm of May 9 to 12, 1934. These resulted in part from the most extensive drought in the climatological history of the United States.

Exceptional low temperatures of the past winter have not only caused many people to believe that the winters are becoming more severe but that a recurrence of the glacial period is imminent. The nation was in the grip of the most bitter cold that had been experienced in a quarter of a century or more. The heating load for the three winter months in the Chicago area for the past 50 years has averaged 3,470 degree days. For the winter of 1935-36 it was 4,104 degree days.

Extraordinary changes in weather followed the severe winter. High winds and terrific blizzards followed by rapid melting produced floods in northeastern United States that surpassed all previous inundations. For the first time in history, the Ohio River on March 27, 1936, was above flood stage along its entire 981 miles from Pittsburgh to the Mississippi. So much water had fallen from the clouds and had flowed over the lands that no thought of another drought entered the minds of observers. But less than a month later, we learned that the deficiency in rainfall in several localities was sufficient to break the 1934 records and that an area of more than 30 million acres was in the grip of a severe spring drought.

Records continue to be broken; the warmest April 20 was experienced this year in Chicago when the mercury reached 82° at 3:08 P. M. and, because of a shift in the wind, tumbled to 55° in seven minutes.

Time does not permit a recital of the hundreds of minor eccentricities of the weather during recent years. Interest attaches to several problems presented by unprecedented conditions but perhaps the most common question is "can we conclude that the climate today is radically different than that of a century ago?" Meteorologists are not agreed as to the remote causes of the extraordinary weather of recent years but the immediate causes are known and they do not differ except for those that are the results of the changing environment from the causes of extraordinary weather conditions in past decades. A search of the records reveals that in all years unusual weather may occur locally and that certain years have been outstandingly warm or cold, wet or dry. Much more research is needed to solve all the problems but in the light of present knowledge one is forced to conclude that our weather extremes and great departures are the normal type of weather for the interior of this country and that abnormalities have occurred in the past and may be expected in the future.