A Short History of the Weather Bureau and Its Operations in Oklahoma

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The first weather observations taken in the present state of Oklahoma were made at Fort Gibson in July 1824. These were made under the direction of the Surgeon General for the purpose of correlating weather and disease. At the time of its establishment, the Fort Gibson weather station was further west than any other station in the United States and remained so until 1842. The Army later opened other observation stations within the territory at Fort Towson (1824), Fort Washita (1842), Fort Arbuckle (1850), Fort Sill and Fort Supply (1870), Cantonment of the Cheyenne and Arapaho District (1879), and Fort Reno (1883).

Weather information recorded by the early stations included temperature, wind direction and velocity, precipitation, barometric readings, and weather in general in terms of the conditions of the sky. Many of the early Army records were for intermittent periods only. This was especially true during the Civil War when records were not kept.

In addition to the early observations taken by the Army, other interested persons established weather-recording stations. These were often associated with Indian Agencies or Missions in the Indian Territory. The Goodwater Mission station (also known as the Choctaw Nation and Armstrong Academy) began recording in January, 1851. Eh-you-Hee of the Cherokee Nation near Tahlequah opened in 1860. Both were operated by Smithsonian Institution voluntary observers. Although instrumentation of the stations is not known, the Smithsonian Institution tabulated monthly and annual temperature data and made charts of distribution of precipitation for each month.

It was not until an Act of Congress was passed in February, 1870, that the Weather Bureau was established. It was operated by the Signal Corps of the United States Army. Observations were taken at military bases by trained Army observers and then telegraphed to Washington. Each station was required to report three times a day the barometric pressure and its change from the previous report, relative humidity, wind direction and velocity, pressure of wind in pounds per square foot, the amount of clouds, and the general state of the weather.

In 1891, the Weather Bureau became a civilian agency under the Department of Agriculture. The sergeant observers were then honorably discharged from the Signal Corps and remained at the same posts as civilian employees of the Federal Government.

Many weather stations, other than military, were developed in Indian Territory; these included Caddo Creek (1888), Tulsa (1887), Jimtown (1888), Coalgate (1889), Guthrie (1889), Keokuk Falls (1893), and Tahlequah (1894). In January, 1890, there were eleven reporting stations in the area.

The number of reporting stations grew rapidly in the 10 years between 1890 and 1900. New towns were appearing and the railroads were opening stations along the routes they were building. A total of 45 reporting stations were added with many being operated by cooperative observers. The new stations were issued maximum and minimum thermometers, standard rain gauges, and instrument shelters. These observers served without pay. Some observers often failed to report readings, moved, or passed away; thus some stations operated intermittently for a few months or years while others have reported continously from the time of their establishment to the present. In January, 1900, there were 44 reporting stations.

Between 1900 and 1910, 52 new stations were opened. In January, 1910, however, there were only 82 reporting stations. Thirty-four new stations appeared in the decade of 1910-1920. Several of the stations, using newer equipment, recorded precipitation by using standard rain gauges. The first evaporation station in the state was located at Lake Lawtonka. It began reporting in 1912 and was operated by the Bureau of Reclamation. By 1920, a total of 94 stations were in operation.

Only 15 new stations were opened during the period of 1920-1930. Seven were issued maximum and minimum thermometers, standard rain gauges, and instrument shelters and the other eight were issued rain gauges. Many of the cooperative observers were also using regular river gauges as well as nonrecording river gauges for a part of their observation reports.

The 1930's were a period of growth for the number of stations in Oklahoma. The first five years showed an increase of 15 stations but the second five years added a great number of precipitation recording stations. Special interest was given to precipitation by the Soil Conservation Service. Many of the stations operated by the SCS reported for a period of only two to four years. A total of 128 new reporting stations were established during the decade.

During the 1940's fewer stations were established, but before the end of the decade a total of 123 new reporting stations were added, making a total of 269 stations in January, 1950. The state now (1966) has 276 reporting stations; 123 report temperature and precipitation, 105 precipitation only. Forty-eight were reported as being equipped with recording rain guages.

The television industry has added to the number of reporting stations during the past 15 years. For some years the Weather Bureau gave reports by phone to radio stations direct from Weather Bureau First Order stations. Many of the television stations however, desired hourly readings. They then established stations that were inspected and approved by the Weather Bureau. Many of the television and radio stations are now a part of the Weather Bureau's cooperative network.

The study of weather and its observations is being carried on widely over the state today. Many agencies are now cooperating in collection of weather data and in the shareing of its use. Oklahoma has two First Order stations in operation, the Will Rogers Field Weather Bureau Office in Oklahoma City and the Tulsa Airport Weather Bureau Office. Both stations make forecast of local weather conditions each hour and report hourly transmissions of the weather conditions in general. Among their many functions they aid aircraft and serve as collection centers of rainfall data for flood warning.

The Weather Bureau's Cooperative Observer program is widespread throughout the state and is maintained by the State Climatologist's office in Oklahoma City. Records of these observations are sent to Asheville, North Carolina, each month and are tabulated in the Monthly Weather Summary.

Many cooperating agencies of the Federal Government work together to give more accurate information of weather in the state. The Corps of Engineers has established a weather-recording station at each of the new dams. Such stations are installed by the Weather Bureau and records of observations are sent to the Weather Bureau. The Department of Agriculture has many stations in operation over parts of Oklahoma. These records are also available to the Weather Bureau. The United States Geological Survey often has river recording gauges that are

operated by Weather Bureau personnel, or through supervision of the Bureau. These observations can be used to warn of possible flood conditions as well as to form records of floods that occur. Military installations at Tinker Field, Clinton-Sherman Air Base, Altus Air Base, and Fort Sill have stations that are equipped for recording weather conditions and personnel for forecasting the weather.

Another Federal division for the study of Oklahoma weather is the National Severe Storms Laboratory located on the North Base of the University of Oklahoma in Norman. The Severe Storm Laboratory is a part of the Atmospheric Science Research of the Environmental Sciences Services Administration. It is purely a research laboratory for the study of storms that are associated with the convectional movement of the air.

The 276 weather stations in Oklahoma today have a long and interesting history. Recording stations are located in all parts of the state, but the Ouachita Mountains and the Panhandle are less well covered than other areas. Weather reports in Oklahoma are always of prime interest because of the variety of economic activities in which the people are involved. Thus, the Weather Bureau and its cooperating agencies give an essential service to the people of Oklahoma.

Selected Sources

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