

**Annual Weather Summary 2021**  
**West Central Research and Outreach Center**  
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Now that 2021 is officially in the books, let's take a look back at the weather conditions. The year 2021 ended warmer than normal with near-average precipitation. The average annual temperature for 2021 was 45.4°F. This is 3.3°F above our 136-year average of 42.1°F. The high temperature recorded for 2021 was 99°F on June 6 and 11. The low temperature for the year was -26°F recorded on February 15.

The most abnormally warm months were January, March, June, September, October, and November. On the contrary, February was the only month that saw significantly colder temperatures compared to normal.

Precipitation was recorded at 26.32 inches for the year 2021. This is 1.93 inches less than the average of 24.32 inches. There were 80 days of >.01 inches of precipitation in 2021 compared to 75 days in 2020. The annual evaporation pan measurements for May through September totaled 23.75 inches.

The months that had significantly above-average precipitation were April, August, and October. However, the months of May, June, and July saw significantly less precipitation compared to normal. Nevertheless, the timing of the precipitation led to very dry conditions throughout the summer months.

January had above-average temperatures and average precipitation. The mean temperature for January was 19.4°F, which is 10.7°F above the average of 8.7°F (1886-2020). The high temperature for the month was 43°F on January 14. The low temperature for the month was -2°F on January 20. January 2021 was the seventh warmest on record.

Cold temperatures and below-average precipitation occurred in February. The mean temperature for February was 7.1°F, which is 6.1°F below the average of 13.2°F (1886-2020). We observed

12 days in a row of below 0°F temperatures starting on February 6. However, the last week of February we observed warmer than normal temperatures which increased the average temperature. By the end of February, frost depth was at 28 inches.

March weather was warmer and somewhat drier than normal. The mean temperature for March was 36.3°F, which is 9.3°F above the average of 27.0°F (1886-2020). The high temperature for the month was also a new record for the day set at 78°F on March 30. The previous record was 75°F set in 1943. Little snow cover led to excessive wind erosion was noted several times this winter.

April temperatures were average, but conditions were wetter than normal. The mean temperature for April was 42.4°F, which is 0.9°F below the average of 43.3°F (1886-2020). Precipitation for the month totaled 4.24 inches, which is 1.98 inches above the average of 2.26 inches. This is the first month with significantly above-average precipitation (> 1 inch) since October 2019. The frost was out of the ground by April 19.

Dry conditions and near-average temperatures prevail for May. The mean temperature for May was 57.2°F, which is 1.0°F above the average of 56.2°F (1886-2020). Precipitation for the month totaled .94 inches, which is 2.04 inches below the average of 2.98 inches.

Hot and dry conditions persisted in June. The mean temperature for June was 72.2°F, which is 6.0°F above the average of 66.2°F (1886-2020). This is the third-highest average temperature for the month of June going back to 1886. We observed 8 consecutive days of 90°F+ days starting June 4. Three high-temperature records were exceeded in June. On June 5 we recorded 98°F which broke the record of 93°F set in 1939. On June 6 we recorded 99°F which broke the record of 94°F set back in 1922. On June 11 we recorded 99°F which broke the record of 97°F set in 1956. Precipitation for the month totaled .82 inches, which is 3.2 inches below the average of 4.02 inches.

Dry conditions and near-average temperatures continued through July. The mean temperature for July was 72.3°F, which is 1.4°F above the average of 70.9°F. Precipitation for July totaled 2.13 inches, which is 1.53 inches below the average of 3.66 inches. By the end of July, we received 9.78 inches of precipitation in 2021 which is 5.63 inches below normal for this time. In terms of growing degree days, by the end of July, we were about 10 days ahead of average.

Near-average temperatures and above-average precipitation were recorded in August. However, most of the precipitation occurred in the last 11 days of the month. This precipitation ended drought conditions in the area. The mean temperature for August was 69.8°F, which is 1.7°F above the average of 68.1°F (1886-2020). Precipitation for the month totaled 5.06 inches, which is 1.94 inches above the average of 3.12 inches. Two precipitation records were broken this month. On August 24, the previous record of 1.42 inches, set in 1960, was exceeded by 1.65 inches. On August 29, 1.48 inches of precipitation was recorded which exceeded the previous record of 1.44 inches set in 1983.

September proved to be warm with slightly above-average precipitation. The mean temperature for September was 63.2°F, which is 4°F above the average of 59.2°F (1886-2020). The high temperature for the month was 89°F on September 17. The low temperature for the month was 41°F on September 22. Since we consider a killing frost to be 28°F, we did not have a killing frost in September of 2021. We accumulated 2655 growing degree days for May, June, July, August, and September. The average number of growing degree days for this time is 2358.

October saw warm temperatures and wet conditions. The mean temperature for October was 52.4°F, which is 5.8°F above the average of 46.6°F (1886-2020). Precipitation for the month totaled 5.57 inches, which is 3.71 inches above the average of 1.86 inches. Two precipitation records were broken in October. On October 10, 2.6 inches of rain fell exceeding the old record of 1.46 set in 1973. On October 28, .84 inches of rain fell exceeding the old record of .77 set in 1940. The low temperature for the month was 30°F which occurred on October 23. We have not recorded a killing frost (below 28°F) yet this fall. The above-average precipitation has been welcome to recharge subsoil moisture.

November weather was warmer and drier than average. The mean temperature for November was 33.6°F, which is 3.8°F above the average of 29.8°F (1886-2020). One high-temperature record was broken on November 24 with a temperature of 57°F. The previous record was 56°F set in 1942. We saw our first killing frost on November 2 with a low of 27°F.

December temperatures were slightly warmer than normal with above-average precipitation and snow. Two weather records were broken this month. On December 27, .39 inches of precipitation was recorded which exceeded the previous record set in 1950 of .35 inches. Also, on that same day, 6 inches of snow fell which exceeded the record set in 2018 of 4.3 inches.

For the 2021 calendar year, 27.9 inches of snow fell. For the winter of 2020-2021, 25.8 inches of snow fell. There were 7822 heating degree days recorded for 2021. The average number of heating degree days is 8799.

The total growing degree days for May through September 2021 was 2664. The average is 2336 (1976-2020) which left us ahead of average by 328 growing degree days. This is the third-highest number of growing degree days since 1976. This was exceeded in 1988 with 2791 growing degree days and in 1998 with 2669 growing degree days.