

Colorado State University, Fort Collins, CO Weather Station Monthly Summary Report

Month: December
Year: 2021



Temperature:

Mean T_{\max} was 50.5°F which is 6.5° above the 1991-2020 normal for the month. This is the 5th warmest in the 133-year record (1889-2021). The last December this warm or warmer was 1980 with 53.0°F .

Mean T_{\min} was 22.7°F which is 4.4° above the 1991-2020 normal for the month. This is the 5th warmest in the 133-year record (1889-2021). The last December this warm or warmer was 1999 with 23.4°F .

Mean T_{mean} was 36.6°F which is 5.5° above the 1991-2020 normal for the month. This is the 5th warmest in the 133-year record (1889-2021). The last December this warm or warmer was 1980 with 38.5°F .

The maximum daily temperature for the month was 74°F and occurred on December 2, 2021.

The minimum daily temperature for the month was 8°F and occurred on December 18, 2021.

Calendar Year 2021 mean temperature was 51.6°F which is 0.9° above the 1991-2020 normal. This is the 5th warmest year in the 133-year record (1889-2021), tied with 2006. The last year this warm or warmer was 2017 with 52.4°F .

The maximum temperature for 2021 was 100°F on June 16.

The minimum temperature for 2021 was -11°F on February 15.

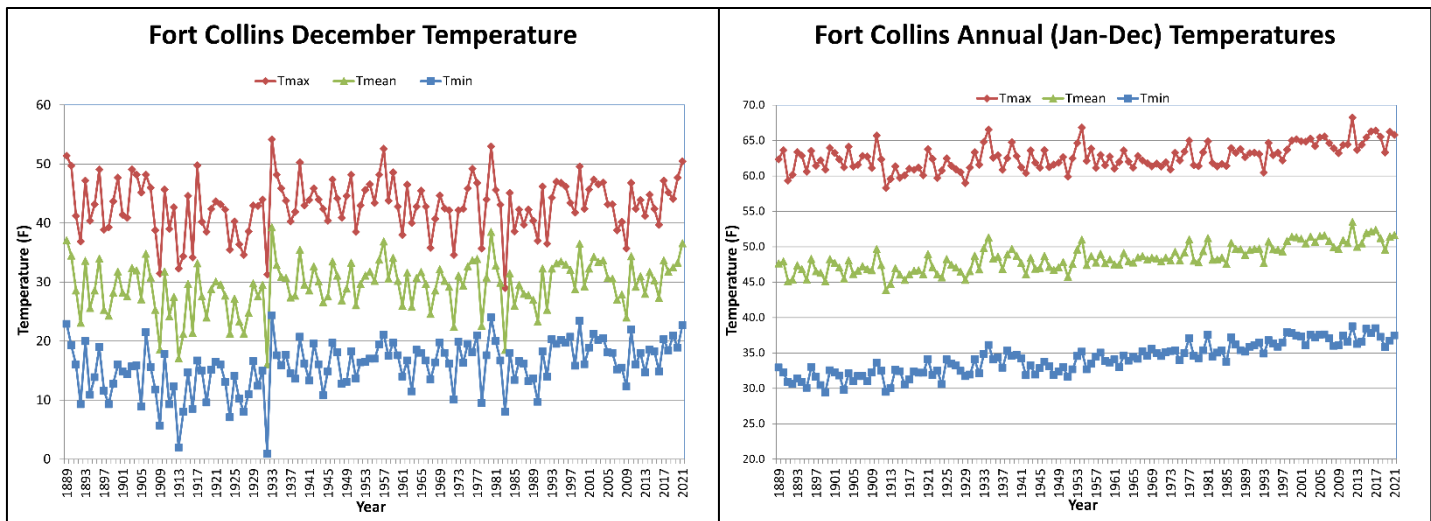


Figure 1: December (left) and calendar year (right) temperature time series.

Misc. Temperature (record status, thresholds, etc.):

Maximum Daily Temperature Records:

December 1, 2021: The maximum temperature for the day of 72°F broke the previous record for the day of 67°F set in 1917.

December 2, 2021: The maximum temperature for the day of 74°F broke the previous record for the day of 68°F set in 1919.

This is the second warmest maximum temperature on record in December. The warmest December temperature on record is 76°F set on December 11, 1939

Warmest Minimum Daily Temperature Records:

December 24, 2021: The minimum temperature of 39°F broke the previous warmest minimum temperature for the day of 37°F set in 1964.

December 25, 2021: The minimum temperature of 29°F broke the previous warmest minimum temperature for the day of 28°F set in 1972.

Precipitation and Snowfall:

Total monthly precipitation was 0.55” which is 0.08” above the 1991-2020 normal for the month (117% of normal). This ranks as the 42nd wettest in the 133-year record (1889-2021), tied with 1963. The last December this wet or wetter was 2019 with 0.57” of precipitation.

Calendar Year 2021 precipitation totaled 14.78” which is 1.10” below the 1991-2020 normal for the year (93% of normal). This ranks as the 70th driest in the 133-year record (1889-2021), tied with 1987. The last year this dry or drier was 2020 with 11.87” of precipitation.

Total monthly snowfall for December was 6.5” which is 1.0” below the 1991-2020 normal for the month (87% of normal). This ranks as the 79th least snowy in the 133-year record (1889-2021). The last December with this little snowfall or less was 2019 with 5.1”.

Seasonal snowfall for the start of the 2022 snow season totaled 7.2” through December. This is 12.7” below the normal for the season (36% of normal). This ranks as the 24th least snowy start to a snow season in the 132-year record (1890-2022), tied with 1961. The last season to start with this little snowfall or less was the 2006 season (September 2005-November 2005) with 3.5” of snowfall.

December had just 2 days with measurable precipitation (≥ 0.01 ”) and only 1 day with a measurable snowfall (≥ 0.1 ”).

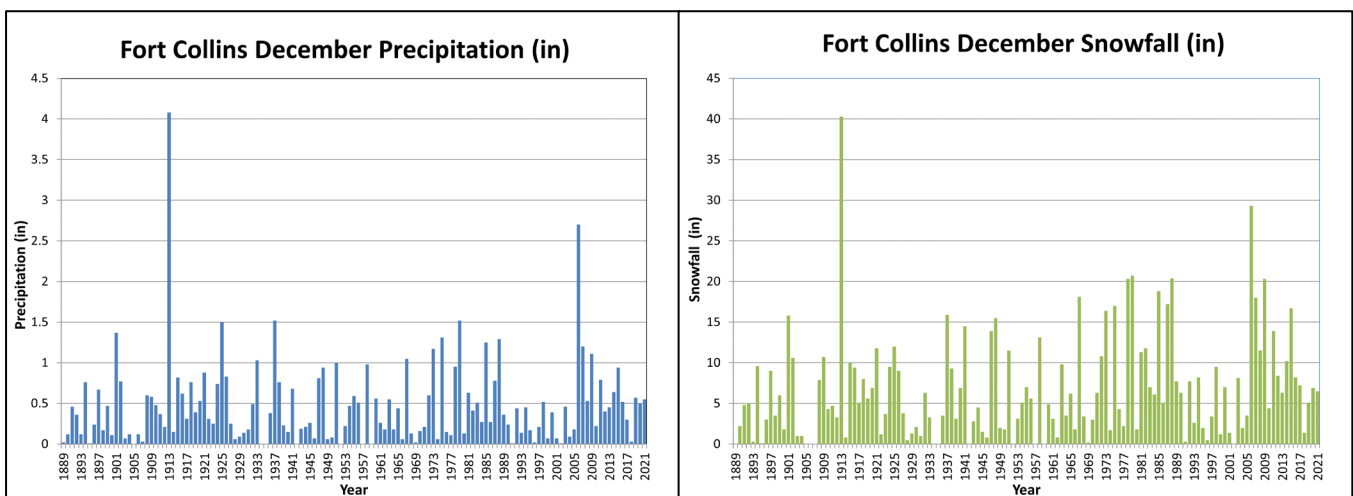


Figure 2: December precipitation (left) and snowfall (right) time series.

Misc. Precipitation (predominant type, record status, etc.):

No precipitation records for December 2021.

The highest one-day precipitation total for December 2021 was 0.49” falling on December 31st. The highest one-day snowfall was 6.5” also falling on December 31st.

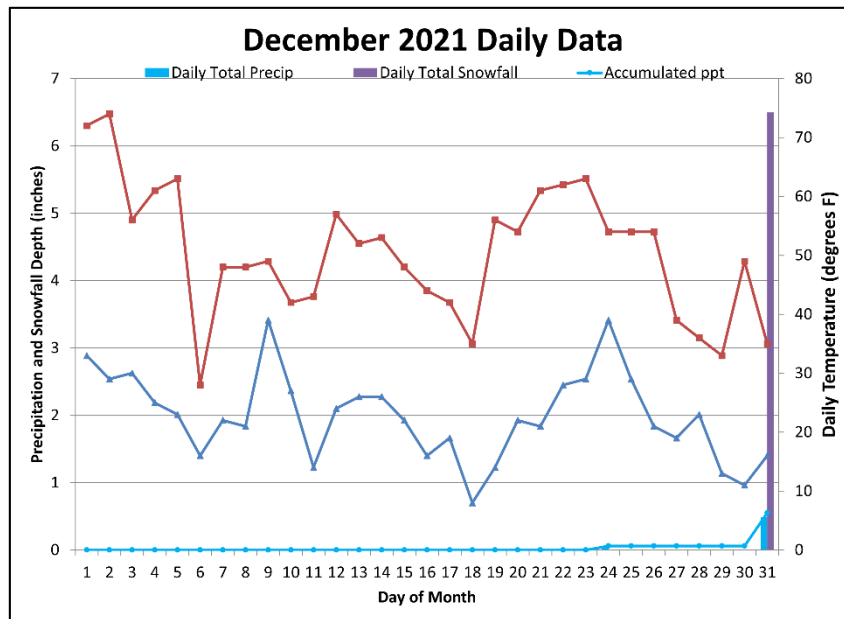


Figure 3: Daily Data for December 2021. Precipitation and temperature both show up on this graph. The y-axis on the left is for precipitation and snowfall. The y-axis on the right is for temperature.

Wind:

In December 2021 there were 14 days with maximum wind gusts ≥ 20 mph and 4 days ≥ 30 mph and 2 days ≥ 40 mph.

The maximum daily wind gust for the month was 46 mph and occurred on December 21, 2021, at 1:40 PM MST from 280° (NW).

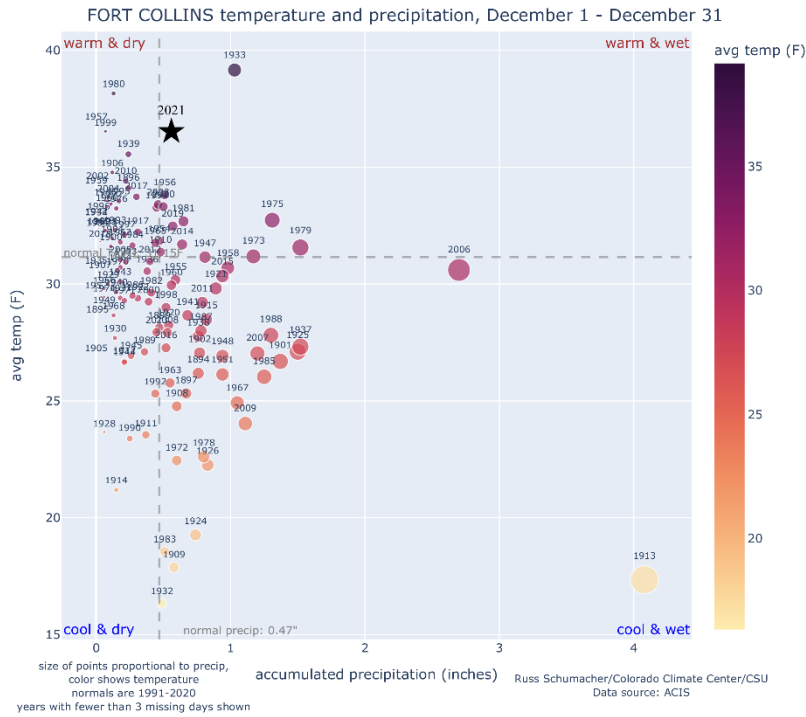
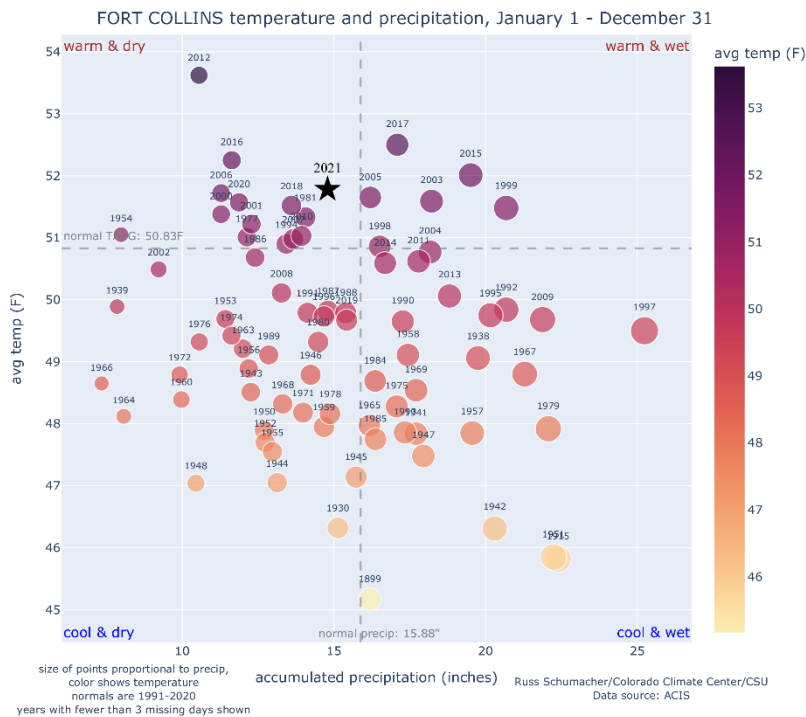
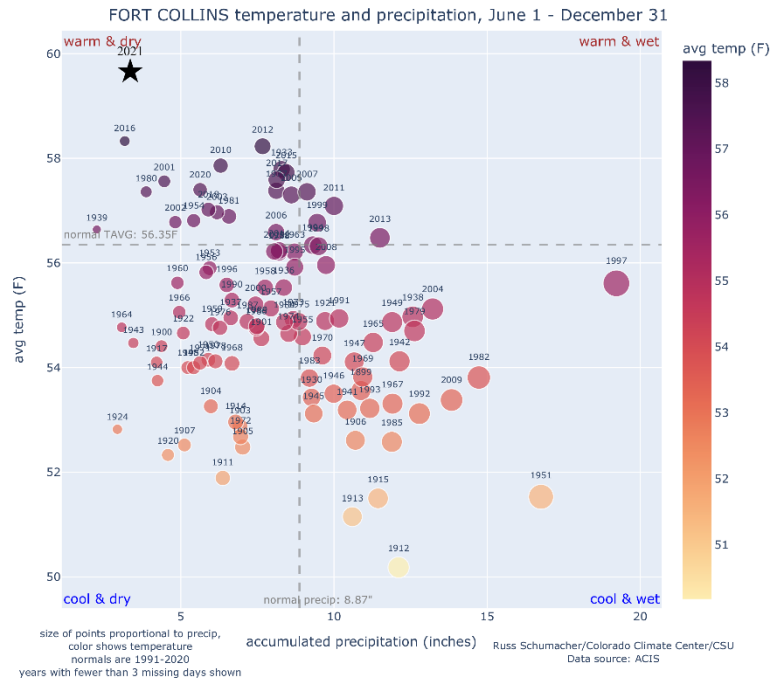


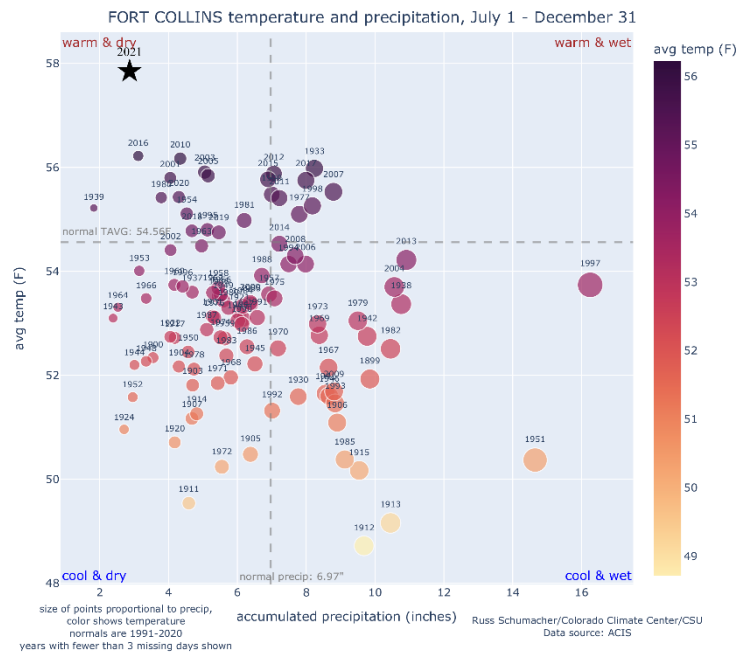
Figure 4: December (top) and calendar year (bottom) precipitation and temperature data plot. Each dot plots monthly average temperature and precipitation at Fort Collins for the period of record. From left to right, monthly precipitation is shown on the x-axis, where the wettest years are plotted furthest to the right. Dot sizes are proportional to precipitation amounts. From bottom to top on the y-axis, average monthly temperature is shown, where the warmest years are plotted towards the top. The dots are also color coded with darker colors indicating higher temperatures. The horizontal and vertical dotted lines indicate the 1991-2020 normals. December shows up warmer and slightly wetter than average. Calendar year 2021 shows up drier and much warmer than normal, with only 5 years warmer than 2021.



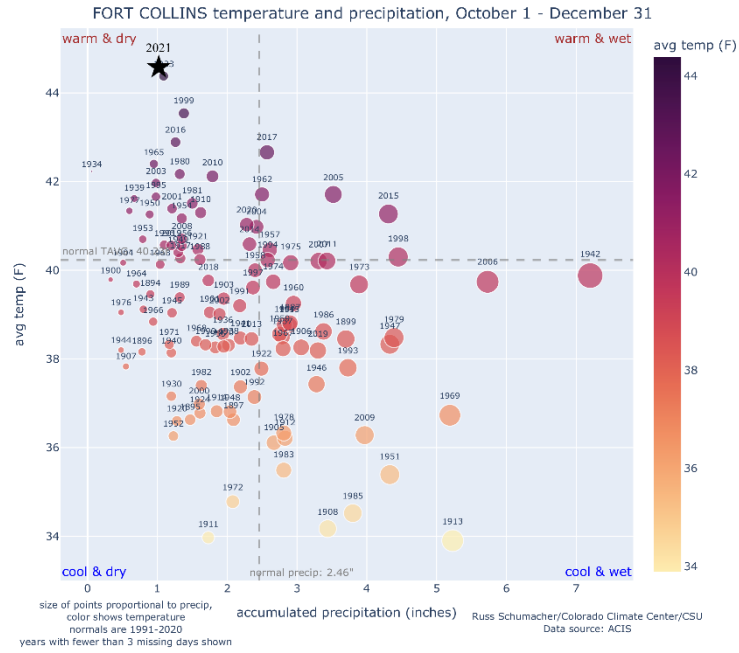
Below are some additional precipitation and temperature plots to recap the hot and dry of the second half of the year:



June through December: hottest and in the top 5 driest.



Last 6 months, July through December: hottest and 6th driest.



Last 3 months, October - December: warmest on record, drier than normal