

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

Month: February

Year: 2023

Photo credit: Noah Newman



The Fort Collins weather station has now notched 4 straight months below 1991-2020 normal temperatures. This has happened as recently as February-May 2021. However, forecast models currently show an increased probability of a cooler than normal March. If this materializes, it will be the first time since July-November 2009 with a five-month streak of cooler than normal temperatures. Our first month in the current streak (November) snapped a streak of seven straight months with above normal temperatures (April-October 2022).

The Fort Collins weather station has also notched six straight Februaries cooler than the 1991-2020 normal. As cold as this month was, it was warmer

than the last two Februaries. The last February warmer than the 1991-2020 normal was 2017, which was our 2nd warmest February on record at 6.7° above normal. See below for more number crunching!

Temperature:

Mean T_{\max} was 47.2°, which is 0.4° above the February 1991-2020 normal. This ranks as the 45th warmest in the 135-year record (1889-2023). The last February this warm was 2017 (54.4°).

Mean T_{\min} was 17.0°, which is 3.7° below the February 1991-2020 normal. This ranks as the 56th coolest in the 135-year record (1889-2023). The last February this cool was 2022 (13.8°).

Mean T_{mean} was 32.1°, which is 1.7° below the February 1991-2020 normal. This ranks as the 60th warmest in the 135-year record (1889-2023). The last February this warm was 2017 (40.5°).

The maximum temperature this month was 59°, and occurred on 11 February 2023.

The minimum temperature this month was -14°, and occurred on 23 February 2023.

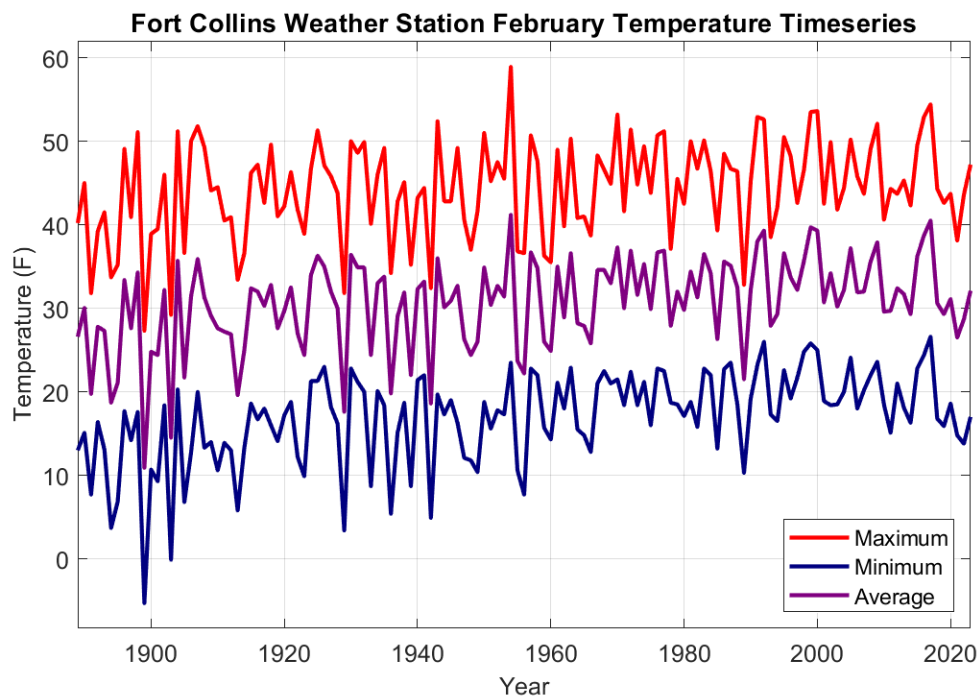


Figure 1: February temperature time series

Precipitation and Snowfall:

Total monthly precipitation was 0.41". This mark is 0.06" below the February 1991-2020 normal (87% of normal). This ranks as the 59th driest February in the 135-year record (1889-2023). The last February this dry or drier was 2019 (0.16").

Water year (beginning Oct. 1) 2023 precipitation through February is 2.64". This mark is 0.69" below normal (79% of normal). This ranks as the 56th driest water year in the 134-year data record (1890-2023). The last water year to start this dry was 2019 (2.38").

Total monthly snowfall was 4.8". This mark is 2.8" below the normal (63% of normal). This ranks as the 52nd least snowy February in the 135-year record (1889-2023). The last February with lower snowfall was 2019 (3.9").

Seasonal snowfall through February is 27", 6.6" below normal for the season-to-date (80% of normal). This ranks as the 65th least snowy season-to-date in the 134-year data record (1890-2023). The last October-February with less snow was 2019 (19.5").

February precipitation and snowfall time series are shown in figure 2. February temperature and precipitation rankings with respect to previous years are shown in the figure 3 quadrant chart. October-February temperature and precipitation rankings with respect to previous years are shown in the figure 4 quadrant chart.

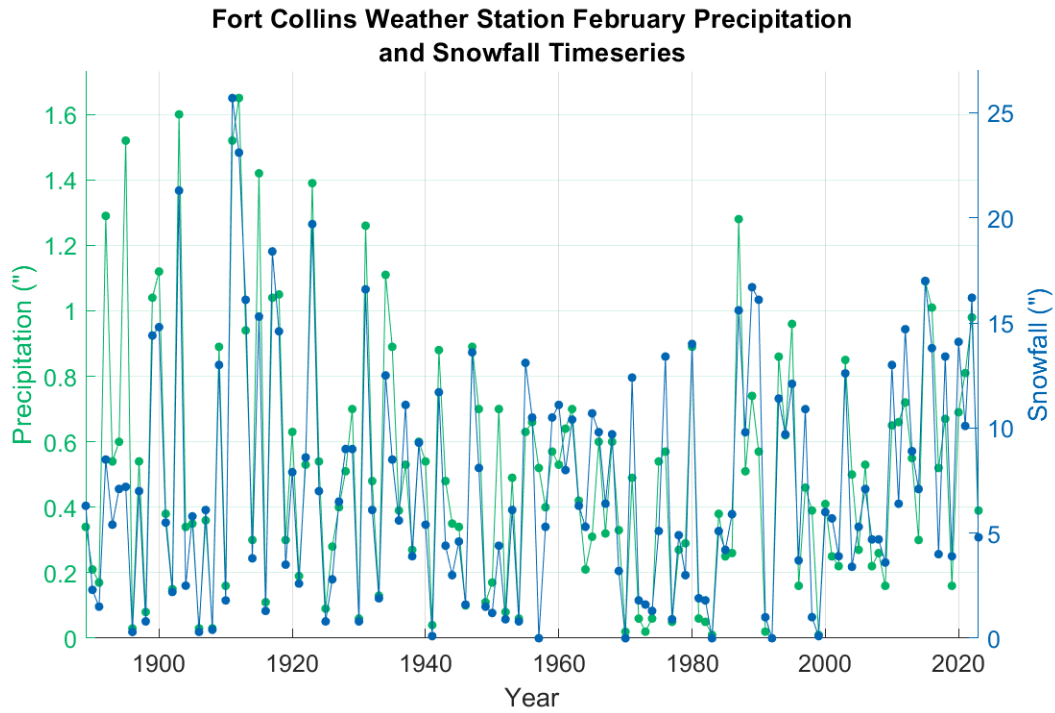


Figure 2: February precipitation (left) and snowfall (right) time series.

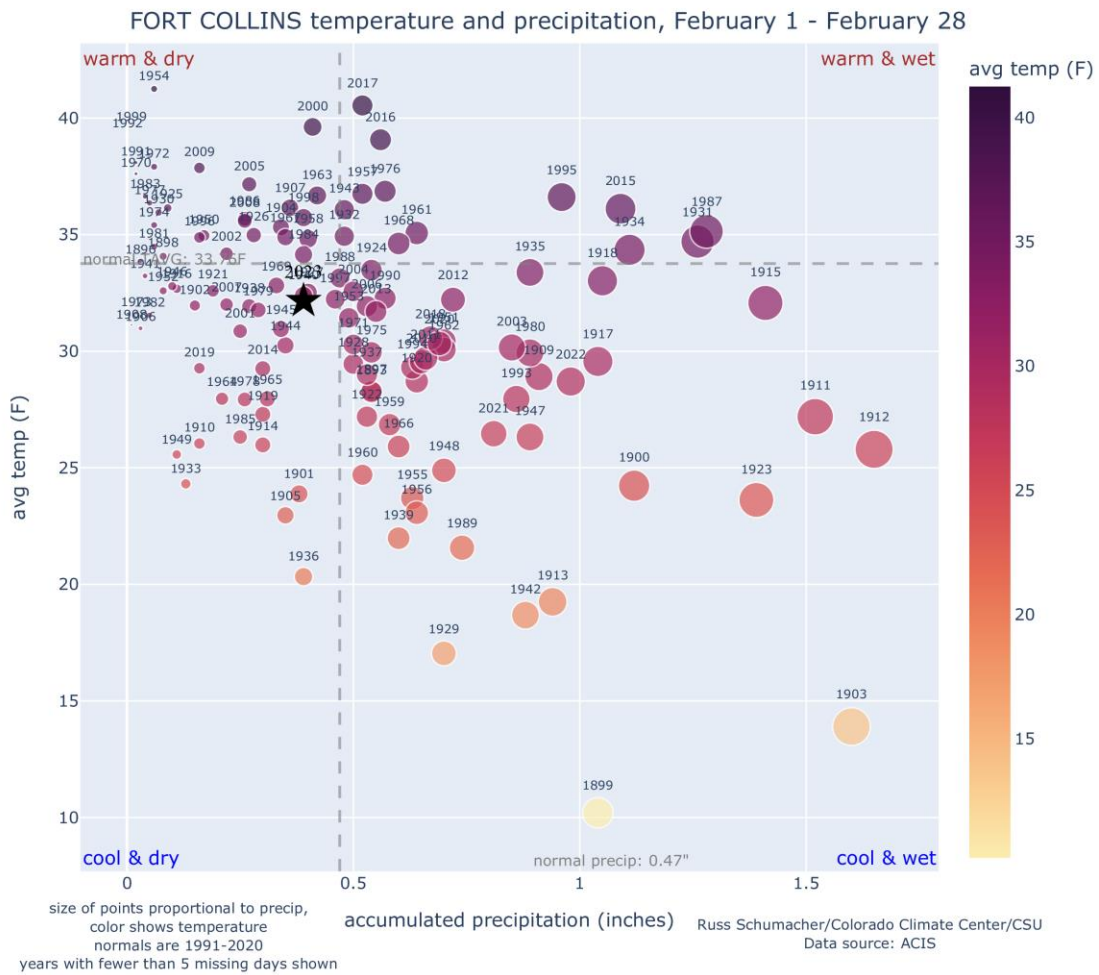


Figure 3: February 2023 precipitation and temperature data plot. Each dot plots monthly average temperature and precipitation at Fort Collins for the period of record. From left to right, monthly precipitation is shown on the x-axis, where the wettest years are plotted furthest to the right. Dot sizes 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 was drier and cooler than normal and the calendar year ended right on the normal temperature but drier than normal.

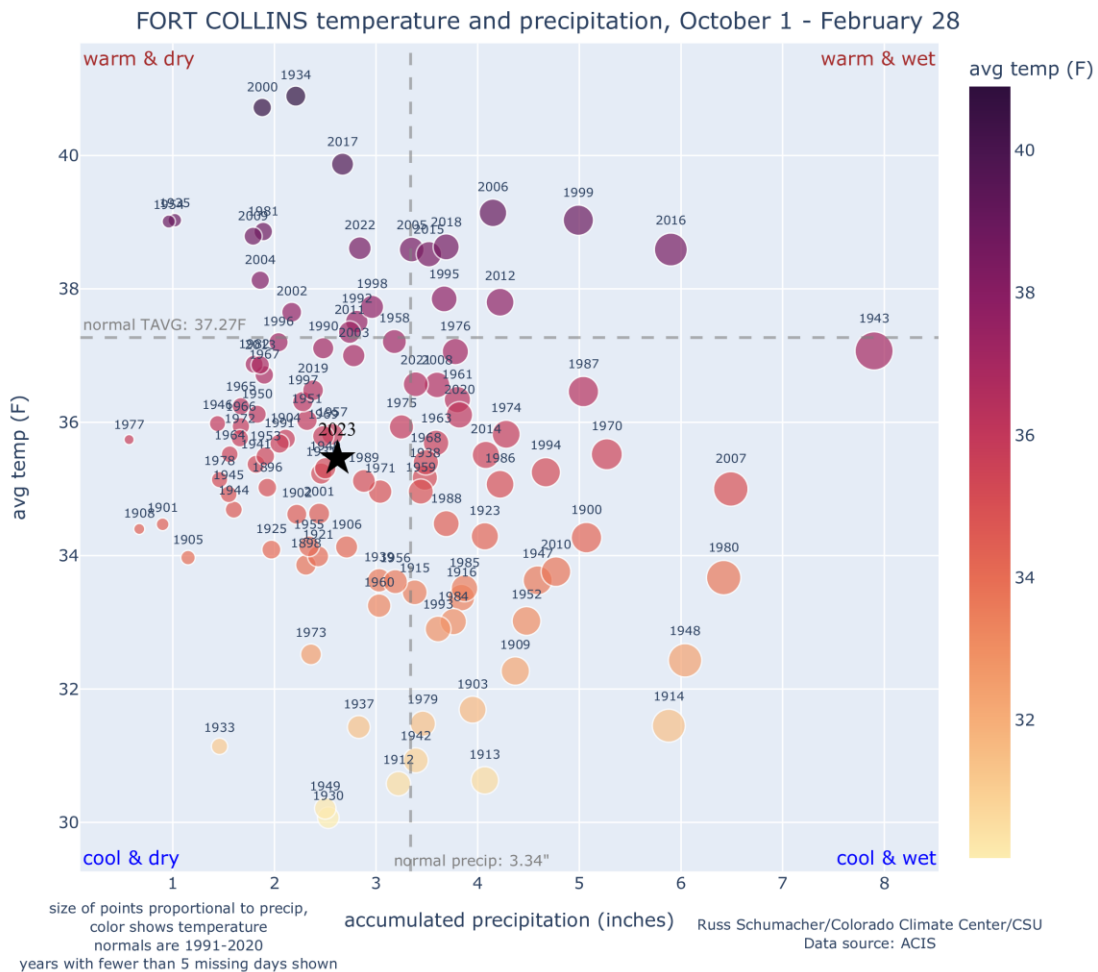


Figure 4: October-February 2023 precipitation and temperature data plot. Each dot plots monthly average temperature and precipitation at Fort Collins for the period of record. From left to right, monthly precipitation is shown on the x-axis, where the wettest years are plotted furthest to the right. 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 was drier and cooler than normal and the calendar year ended right on the normal temperature but drier than normal.

Records:

February 23rd set records for both lowest maximum daily temperature and lowest minimum daily temperature. The daily high of 8° broke the old record of 10° set just one year ago (2022). The daily low of -14° broke the old record of -12° set in 1896.

Winter 2023:

Wintertime (December-February) mean T_{mean} was 29.9° , which is 2.1° below the winter 1991-2020 normal. This ranks as the 60th warmest in the 134-year record (1890-2023). Even though this winter ranks above the median for the full period of record, it is cold by recent standards. The last winter this cold was 2010 (27.8°).

Wintertime (December-February) precipitation was 1.50", which is 0.16" above the winter 1991-2020 normal. This ranks as the 54th wettest in the 134-year record (1890-2023). The last winter this wet was 2022 (2.38").

Wintertime (December-February) snowfall was 17.6", which is 4.0" below the winter 1991-2020 normal. This ranks as the 56th least snowy in the 134-year record (1890-2023). The last winter with less snowfall was 2019 (7.8").

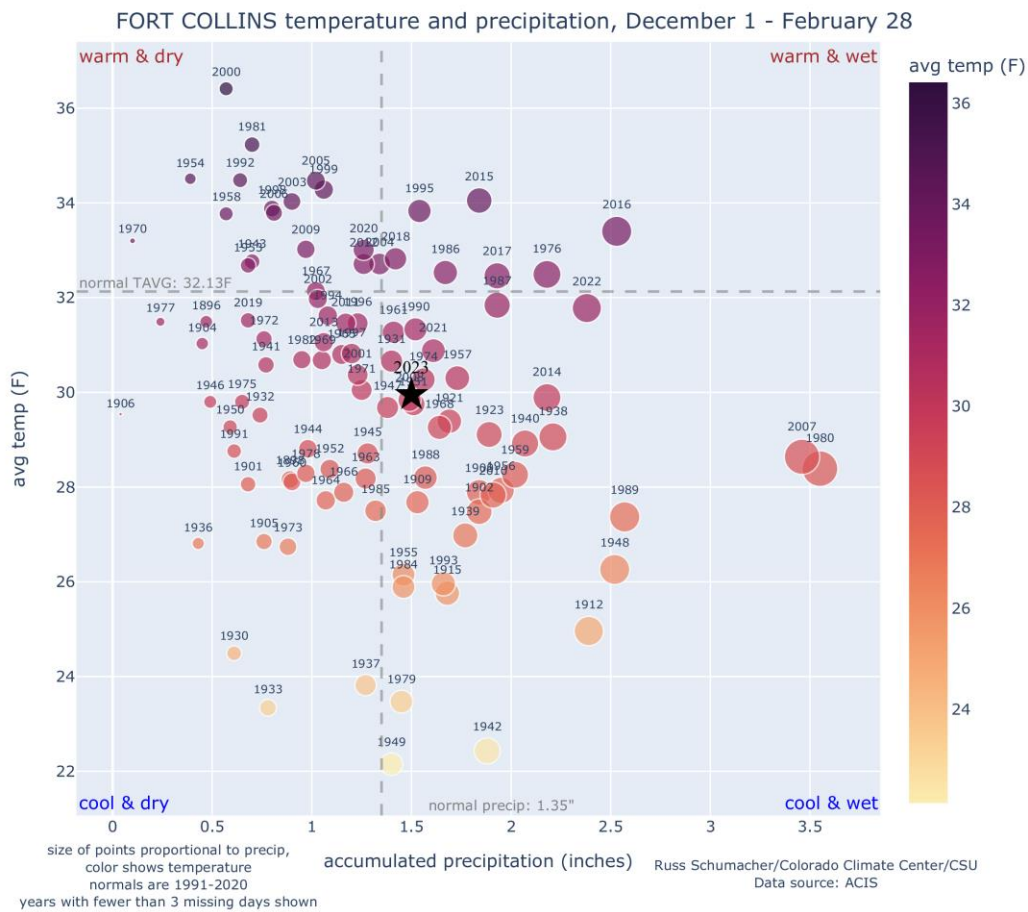


Figure 5: December-February 2023 precipitation and temperature data plot. Each dot plots monthly average temperature and precipitation at Fort Collins for the period of record. From left to right, monthly precipitation is shown on the x-axis, where the wettest years are plotted furthest to the right. 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 was drier and cooler than normal and the calendar year ended right on the normal temperature but drier than normal

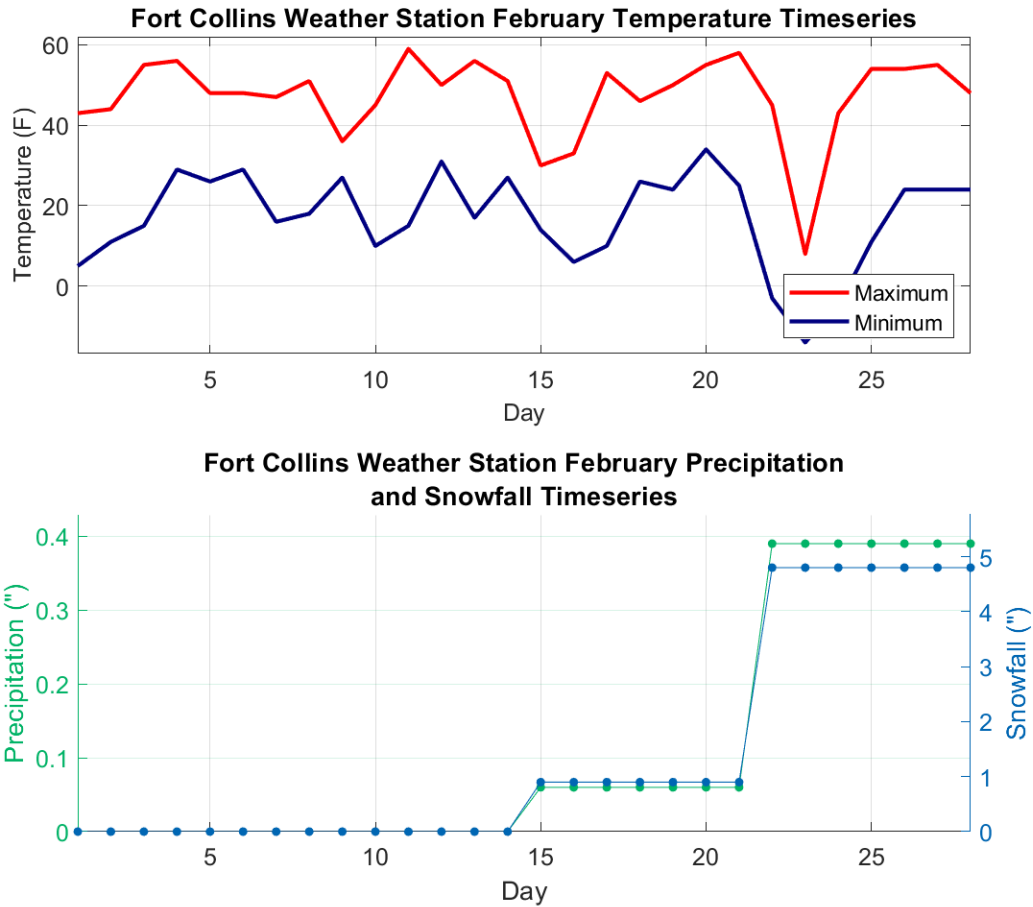


Figure 6: Daily Maximum and Minimum Temperatures (top), and precipitation/snowfall (bottom) for February 2023.

Wind:

In February 2023 there were 12 days with maximum wind gusts ≥ 20 mph and 3 days ≥ 30 mph.

The maximum daily wind gust for the month was 33 mph and occurred on 28 February 2023 at 1:32 PM from 257°.