

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

Month: September
Year: 2021



Asperitas Cloud from the Weather Station on September 17. Photo by Noah Newman

Temperature:

Mean T_{\max} was 83.4°F which is 6.0° above the 1991-2020 normal for the month. This is the warmest in the 133-year record (1889-2021). The second warmest is 2015 with 83.3°F and third warmest is 1892 with 82.8°F.

Mean T_{\min} was 49.9°F which is 1.9° above the 1991-2020 normal for the month. This is the 8th warmest in the 133-year record (1889-2021). The last September this warm or warmer was 2015 with 51.0°F.

Mean T_{mean} was 66.7°F which is 3.9° above the 1991-2020 normal for the month. This is the 2nd warmest in the 133-year record (1889-2021). The warmest September was 2015 with 67.1°F and third warmest was 2019 with 66.6°F.

Water Year 2021 (Oct-Sep) mean temperature was 50.7°F which is right on the 1991-2020 normal for the year. This ranks as the 16th warmest in the 133-year record (1889-2021), tied with 1998, 2007, 2003 and 2020.

The maximum daily temperature for the month was 98°F and occurred on September 10, 2021.

The minimum daily temperature for the month was 37°F and occurred on September 22, 2021.

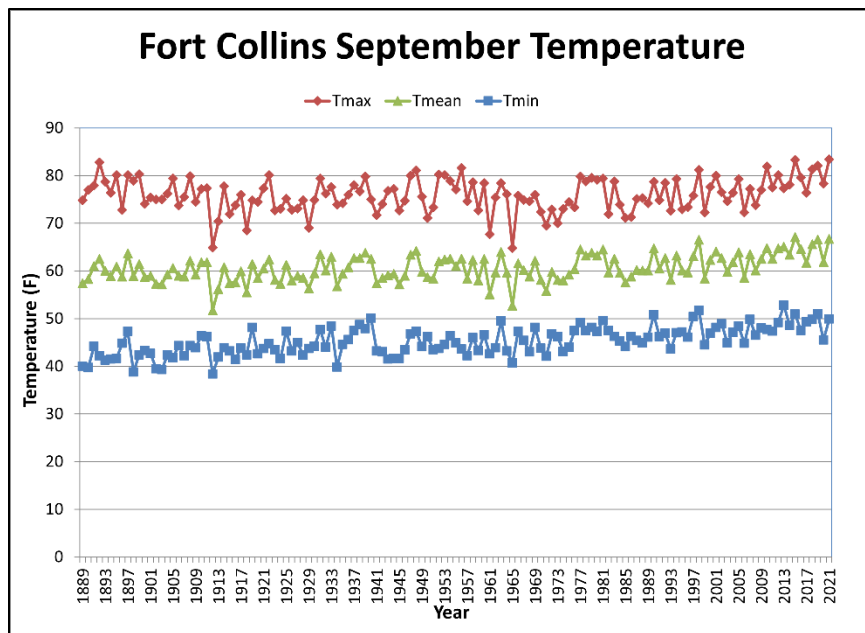


Figure 1: September temperature time series.

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

Maximum Daily Temperature Records:

September 9, 2021: The maximum temperature of 96°F smashed the previous record of 92°F set in 1895!

September 10, 2021: The maximum temperature of 98°F crushed the previous record of 92°F set in 1910!

September 11, 2021: The maximum temperature of 96°F upset the previous record of 92°F set in 1895 and tied in 2018.

Warmest Minimum Daily Temperature:

September 2, 2021: The minimum temperature of 65°F tied the record warmest minimum for the day set in 1995 and tied in 2012.

This is tied for the warmest minimum temperature of the month.

September 12, 2021: The minimum temperature of 60°F tied the record warmest minimum for the day set in 1998.

90 Degree Days:

September 2021 had 6 days with temperatures at or above 90°F. The average for September is 1.

There were 48 days at or above 90F this summer. The average number of days in the 90s in summer is 20. This is the 3rd highest number of days at or above 90F for a summer. The highest is 57 days in 2012 and second is 49 days in 2020.

Year	Mean Temp (F)
2015	67.1
2021	66.7
2019	66.6
1998	66.5
2018	65.6
2013	65.1
2010	64.8
1990	64.7
2012	64.7
2016	64.6

Table 1: Top 10 warmest Septembers on record

Precipitation and Snowfall:

Total monthly precipitation was 0.56” which is 0.87” below the 1991-2020 normal for the month (39% of normal). This ranks as the 46th driest in the 133-year record (1889-2021). The last September this dry or drier was 2018 with 0.46” of precipitation.

Water Year 2021 precipitation totaled 16.05” which is 0.17” above the 1991-2020 normal (101% of normal). This ranks as the 48th wettest water year in the 132-year record (1890-2021). The last water year this wet or wetter was 2015 with 17.52” of precipitation.

September 2021 saw no snowfall. The normal snowfall for the month of September is 0.7”. There have only been 19 years with measurable snowfall in September.

September had 7 days with measurable precipitation (≥ 0.01 ”) and 4 days with a trace of precipitation (≤ 0.01 ”).

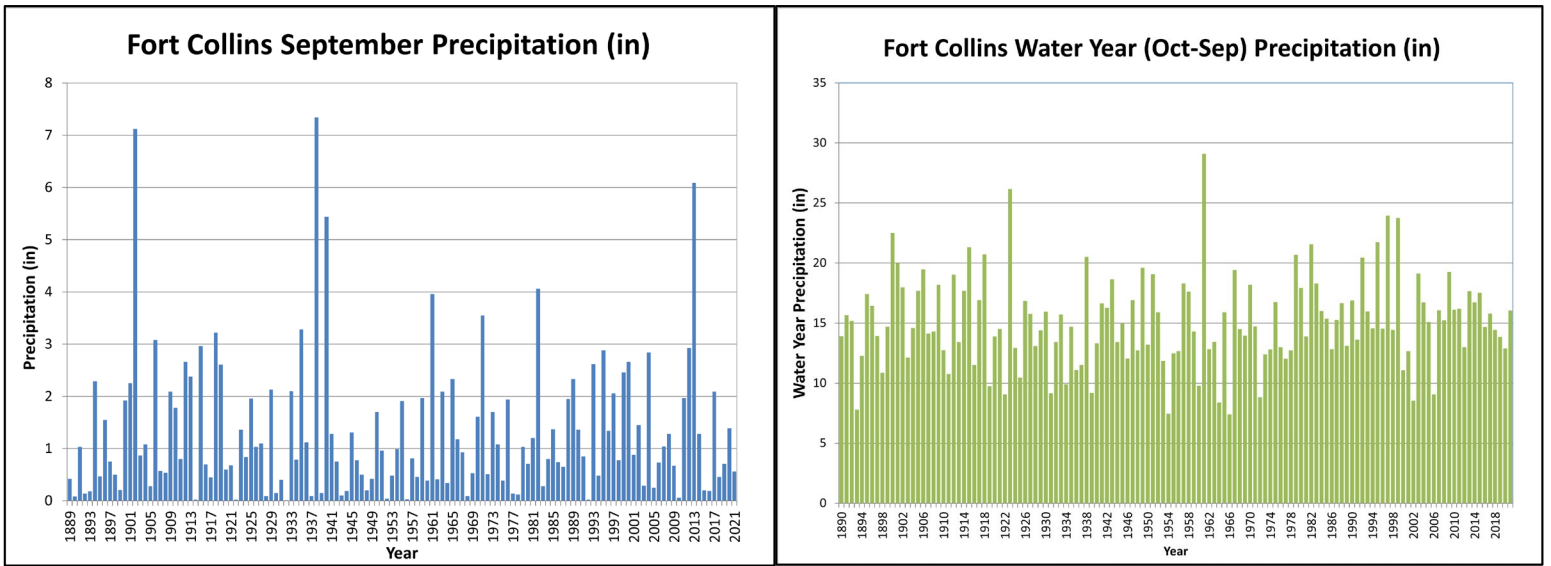


Figure 2: September (left) and Water Year (right) precipitation time series.

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

No precipitation records for September 2021.

The highest one-day precipitation total for September 2021 was 0.29” falling on September 13th.

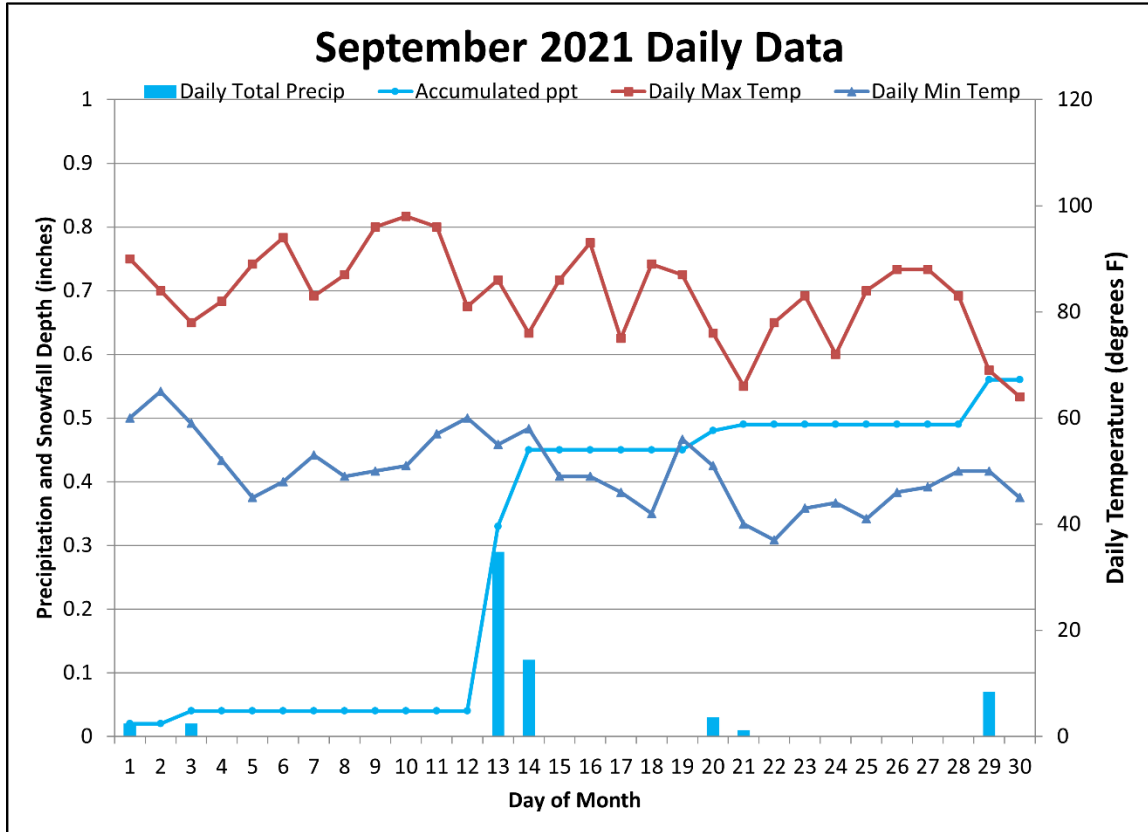


Figure 3: Daily Data for September 2021. Precipitation and temperature both show up on this graph. The y-axis on the left is for precipitation and snowfall. The y-axis on the right is for temperature.

Wind:

In September 2021 there were 7 days with maximum wind gusts ≥ 20 mph and 1 day ≥ 30 mph.

The maximum daily wind gust for the month was 37 mph and occurred on September 20, 2021, at 9:40 PM MST from 300° (NW).

Evaporation:

Pan evaporation for September 2021 totaled 5.92” which is 1.01” above the normal (121% of normal).

Additional graphs on the next page!

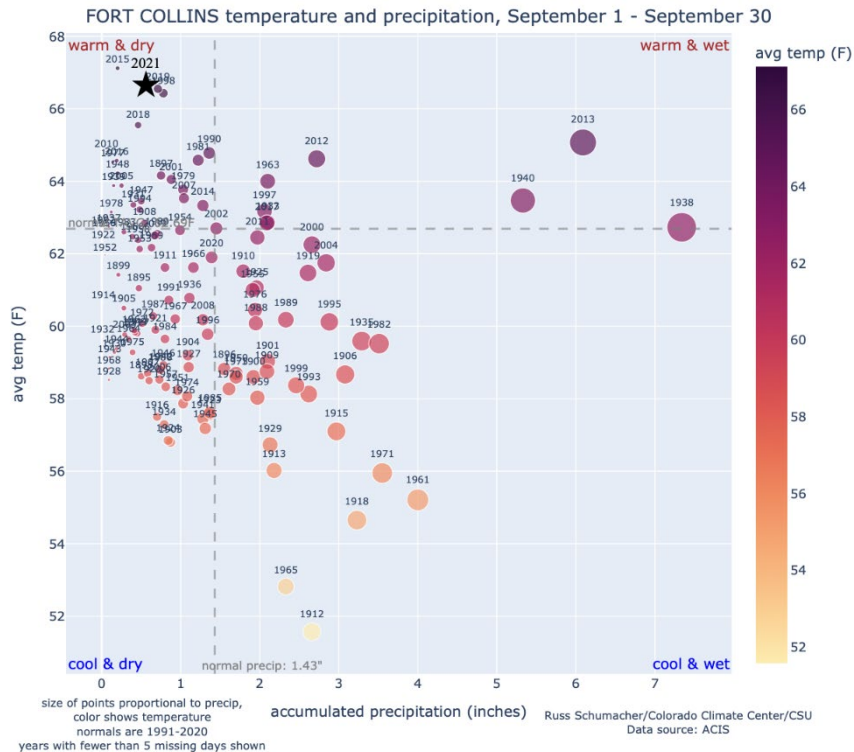


Figure 4: September (top) and water year (bottom) precipitation and temperature data plot. Each dot plots monthly average temperature and precipitation at Fort Collins for the period of record. From left to right, monthly precipitation is shown on the x-axis, where the wettest years are plotted furthest 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. September 2021 shows up much warmer and drier than normal. Water Year 2021 shows up near normal for both temperature and precipitation.

