

# an overview of the climate tools and products we offer

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Assistant State Climatologist

Extension Connect Monthly Conversation

March 23, 2023



COLORADO  
**CLIMATE**  
CENTER



**ATMOSPHERIC SCIENCE**  
COLORADO STATE UNIVERSITY



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presentation!



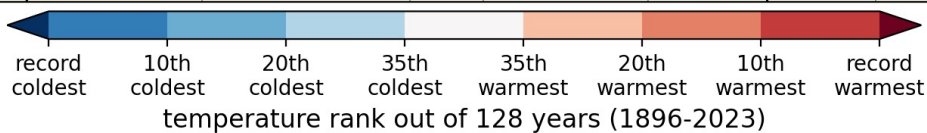
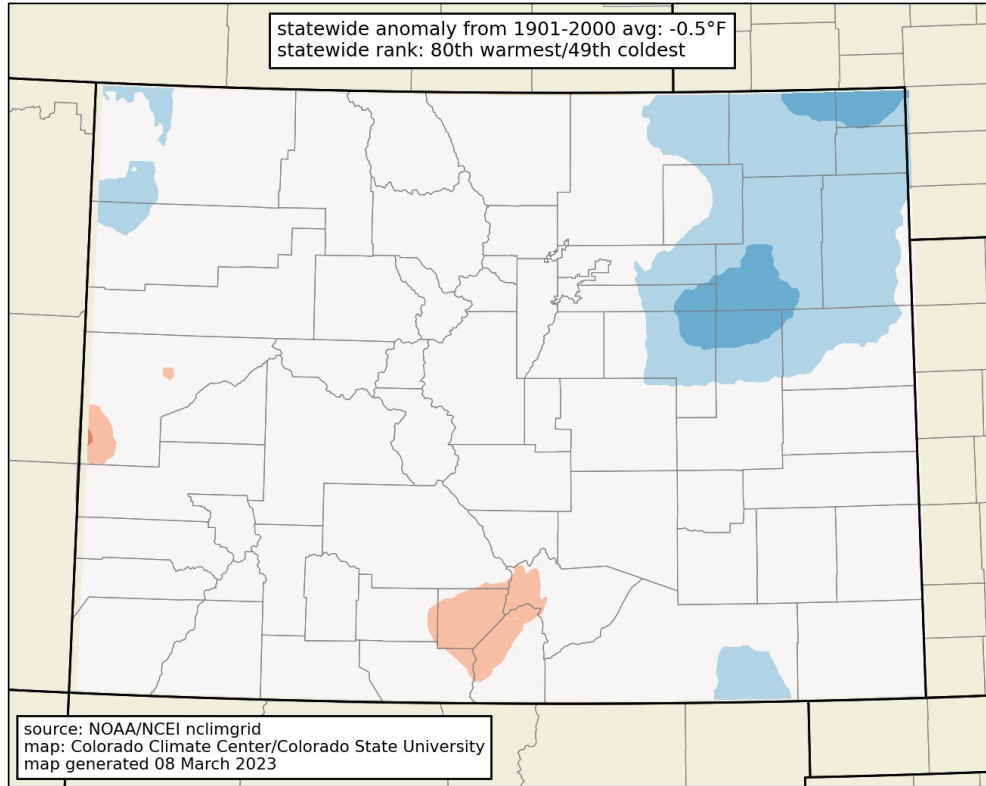


# Colorado climate pages

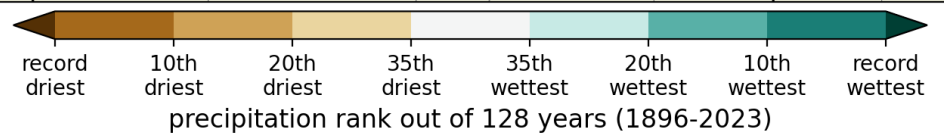
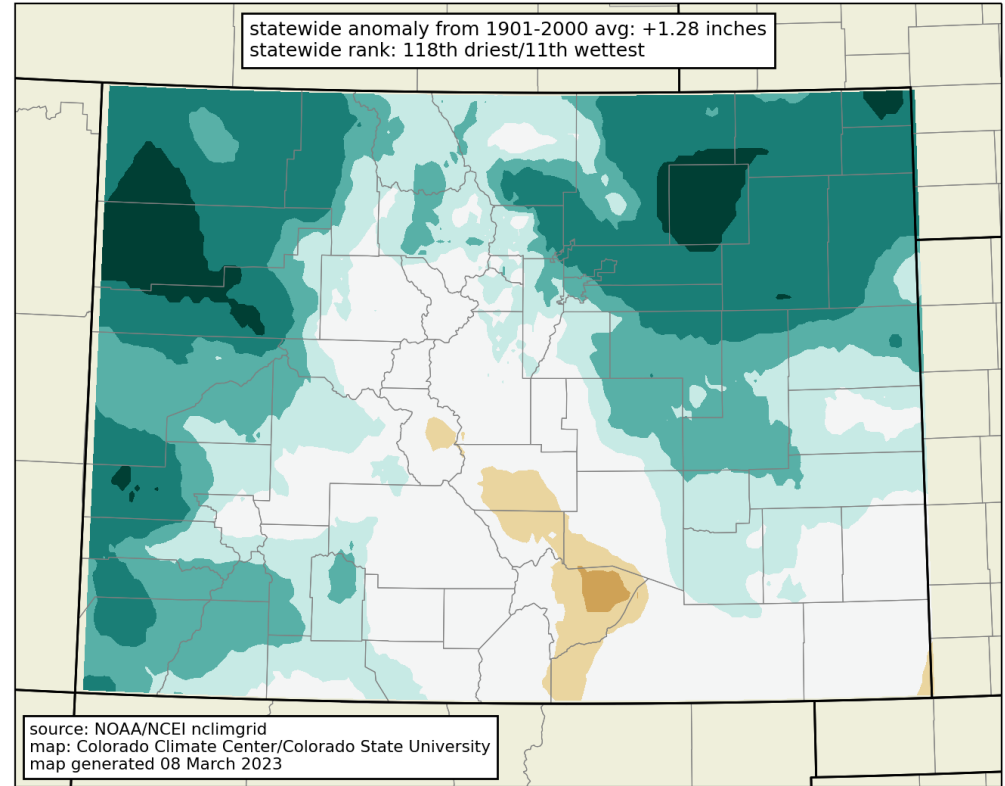
To assess past climate and monitor current conditions

# Colorado's Climate at a Glance – rank maps

average temperature rank: 3 months ending February 2023 (Dec-Feb)



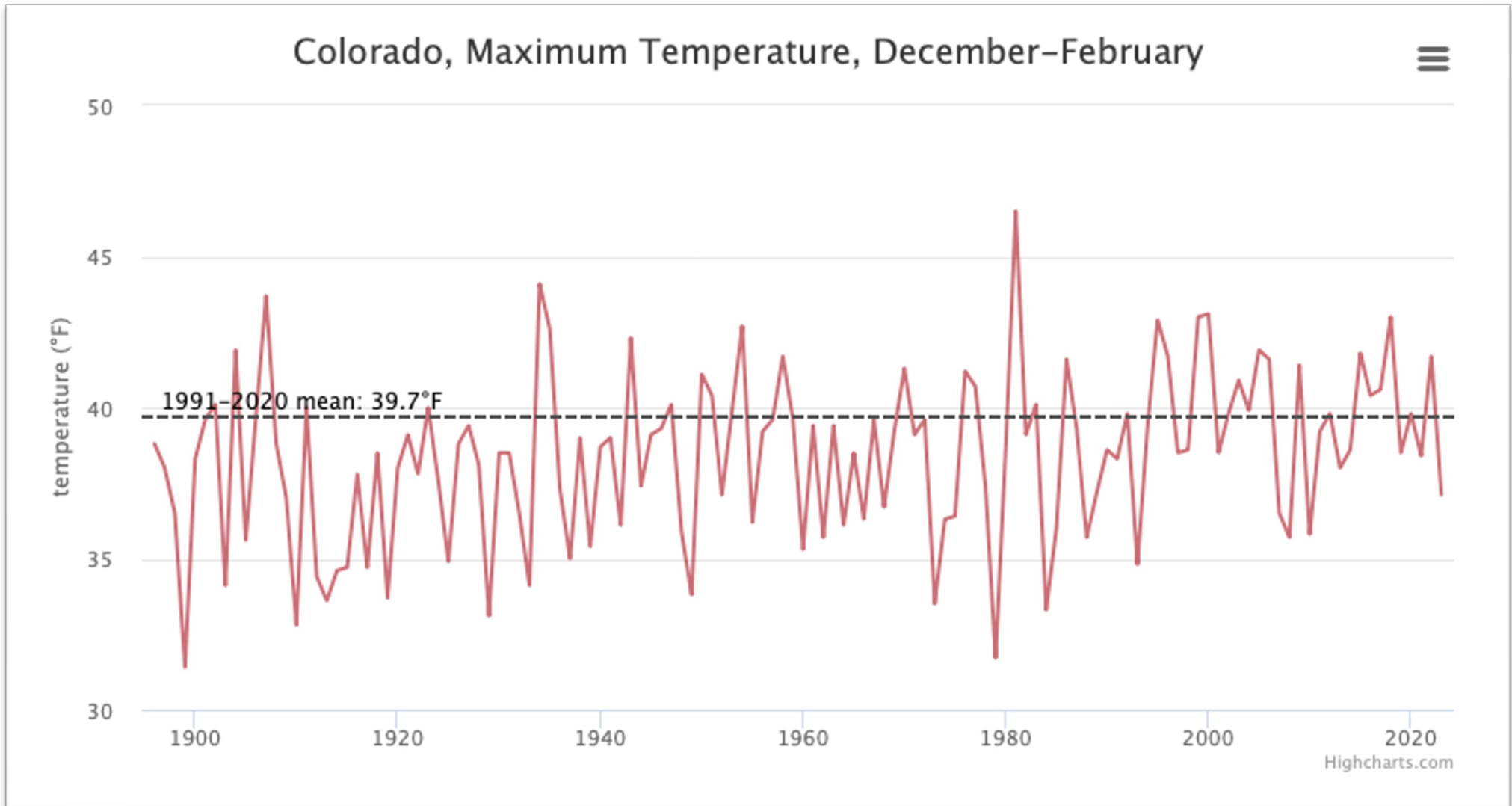
precipitation rank: 3 months ending February 2023 (Dec-Feb)



[climate.colostate.edu/co\\_cag/](https://climate.colostate.edu/co_cag/)



# Colorado's Climate at a Glance – time series



[climate.colostate.edu/co\\_cag/](https://climate.colostate.edu/co_cag/)



# Colorado Drought Page – precipitation

Home

Precipitation

Snowpack

Temperature

Soil & Vegetation

Evaporative Demand

Streamflow

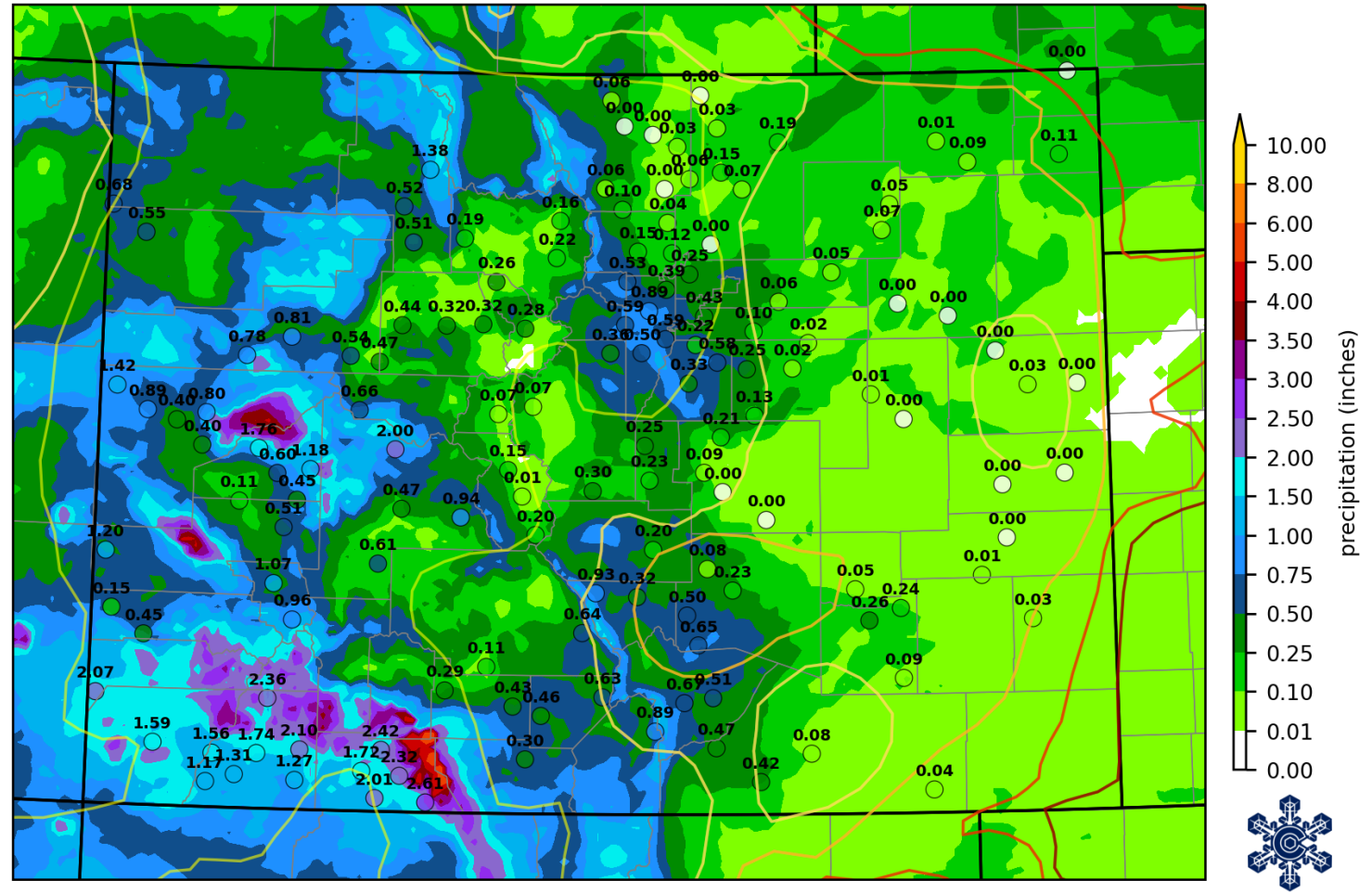
Reservoirs

Outlook

US Drought Monitor

NCEP Stage IV precipitation analysis, CoCoRaHS, US Drought Monitor

168 hrs ending 1200 UTC Tue 21 Mar 2023



[climate.colostate.edu/drought](https://climate.colostate.edu/drought)



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# Colorado Drought Page – snowpack

Home

Precipitation

**Snowpack**

Temperature

Soil & Vegetation

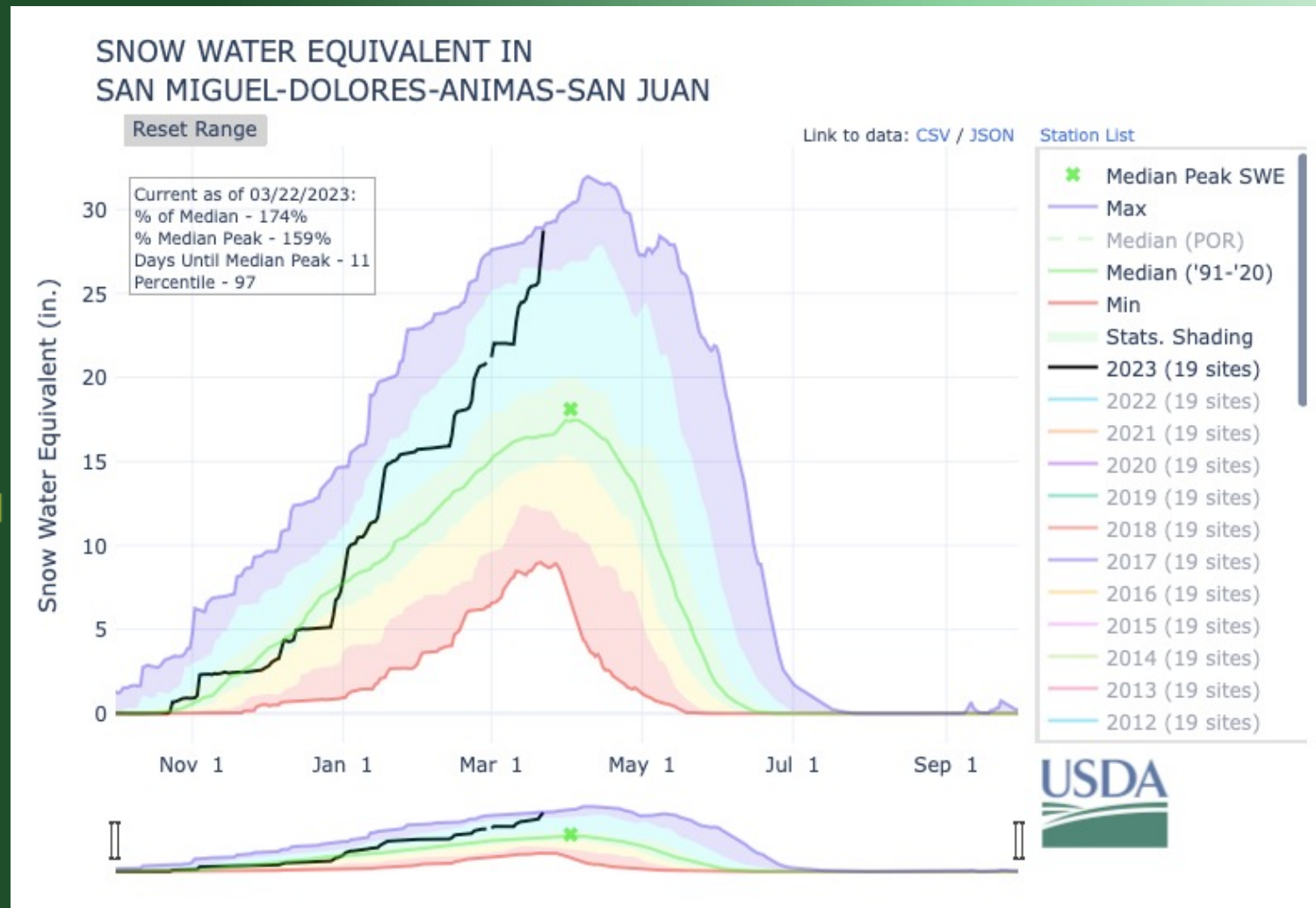
Evaporative Demand

Streamflow

Reservoirs

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US Drought Monitor



[climate.colostate.edu/drought](https://climate.colostate.edu/drought)



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# Colorado Drought Page – evaporative demand

Home

Precipitation

Snowpack

Temperature

Soil & Vegetation

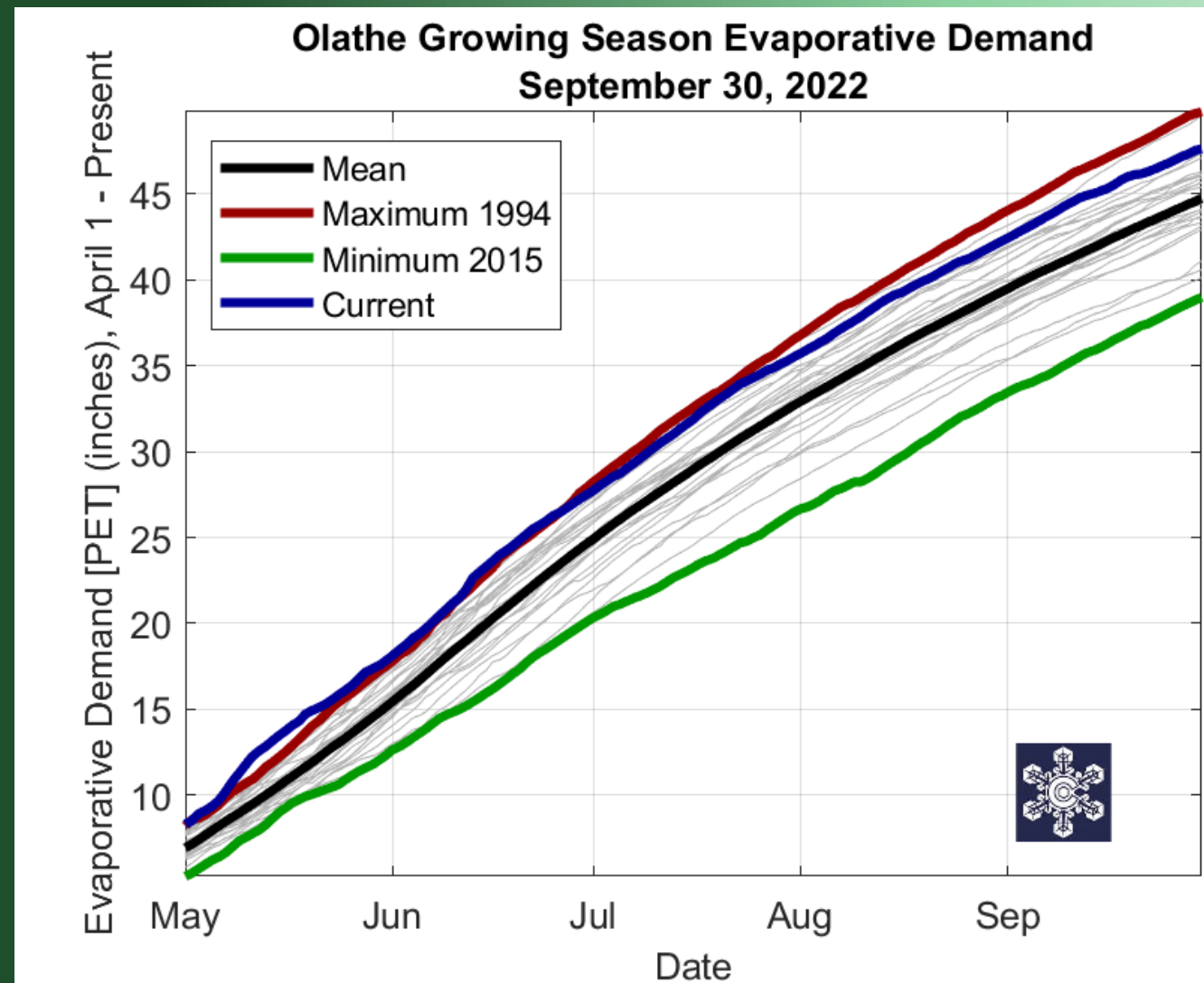
Evaporative Demand

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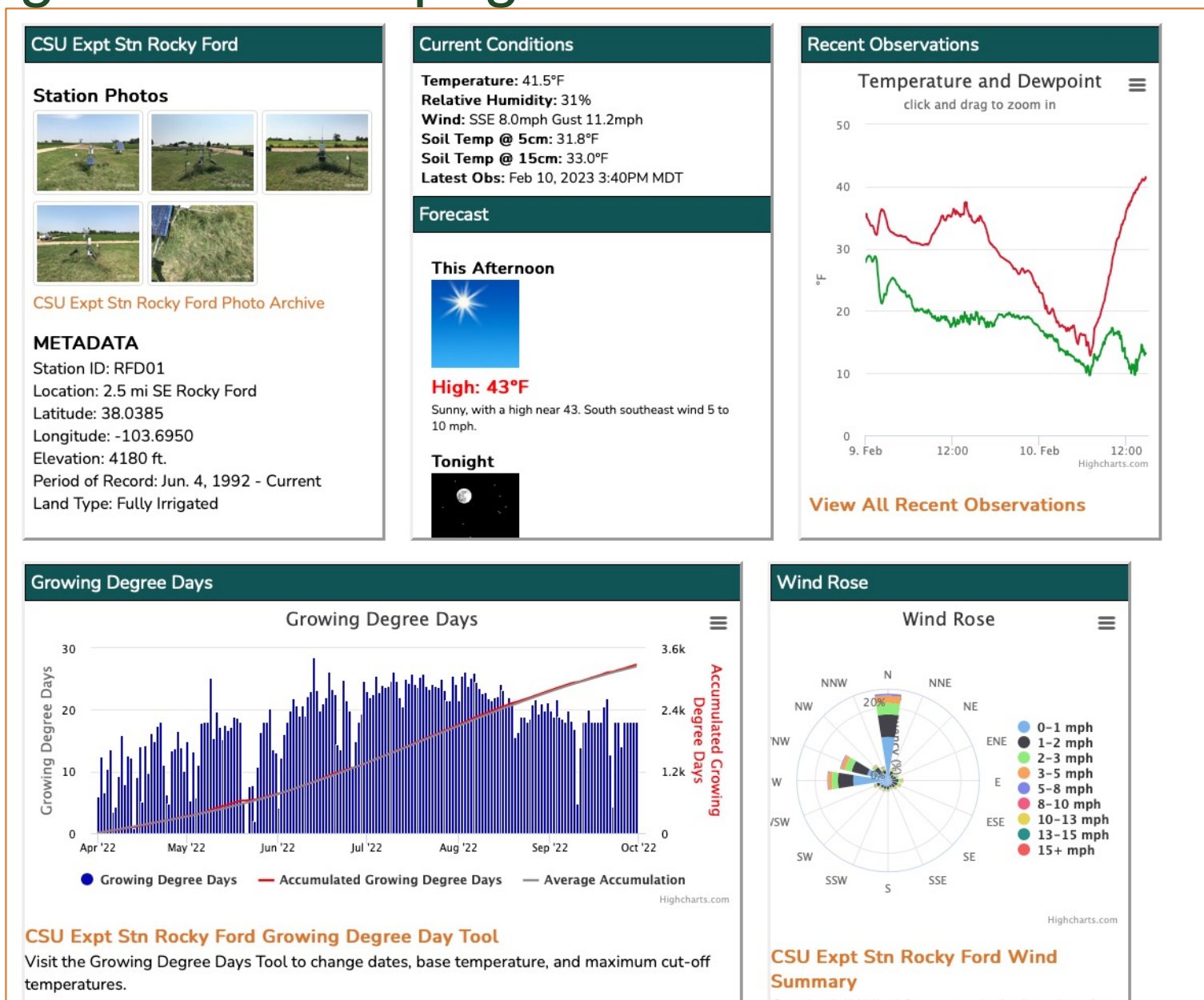


[climate.colostate.edu/drought](https://climate.colostate.edu/drought)





# CoAgMET station pages

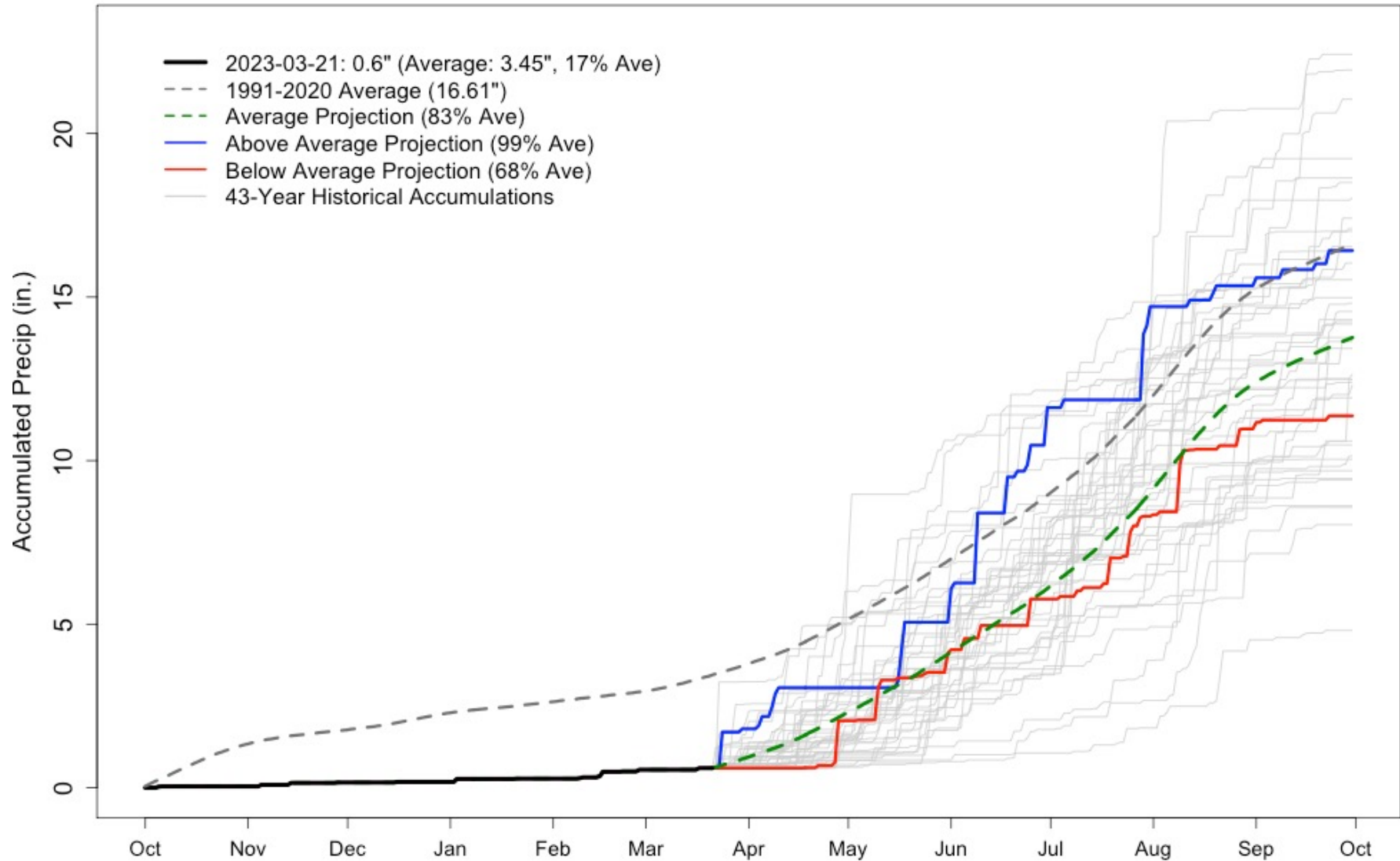


[coagmet.colostate.edu/station/stn\\_select.html](https://coagmet.colostate.edu/station/stn_select.html)



# Precipitation Projections

## CAMPO 7 S WY2023 Precipitation Projections



[climate.colostate.edu/precip\\_proj.html](https://climate.colostate.edu/precip_proj.html)





# Climate Change in Colorado

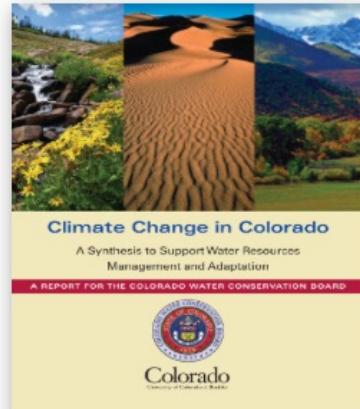
An update to the 2014 report for the State of Colorado

# Current state assessments

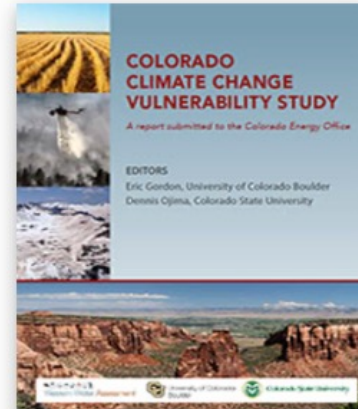
## CO climate change assessments



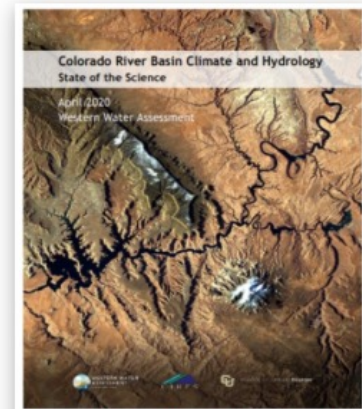
Climate Change in Colorado (2014)



Climate Change in Colorado (2008)

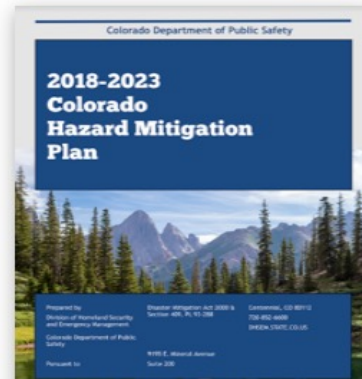
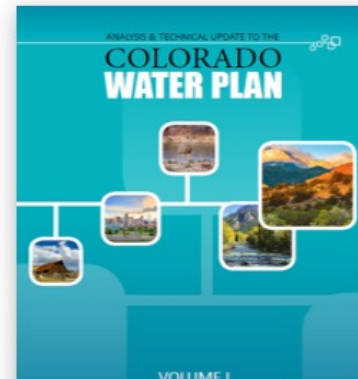
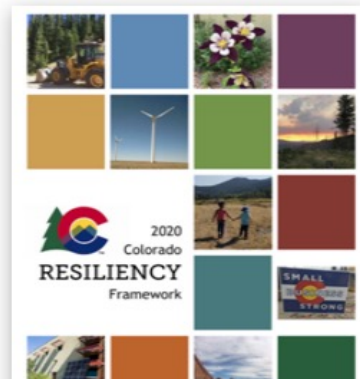


Colorado Climate Change Vulnerability Study (2015)



Colorado River Basin Climate and Hydrology: State of the Science (2020)

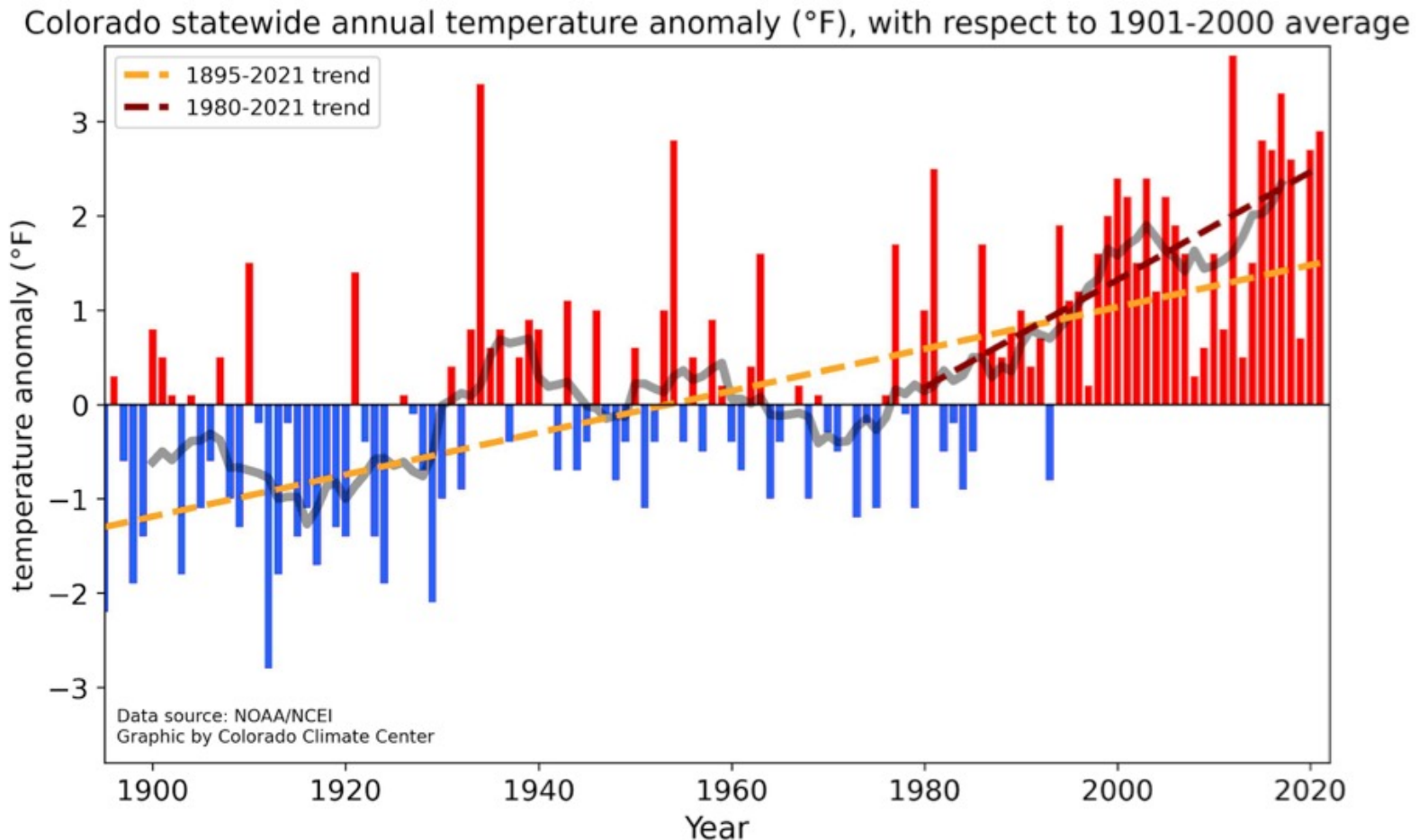
## state plans, impacts & hazards assessments



[https://climate.colostate.edu/cc\\_in\\_CO/co\\_climate\\_resources.html](https://climate.colostate.edu/cc_in_CO/co_climate_resources.html)



# Phase 1 report – historical observations



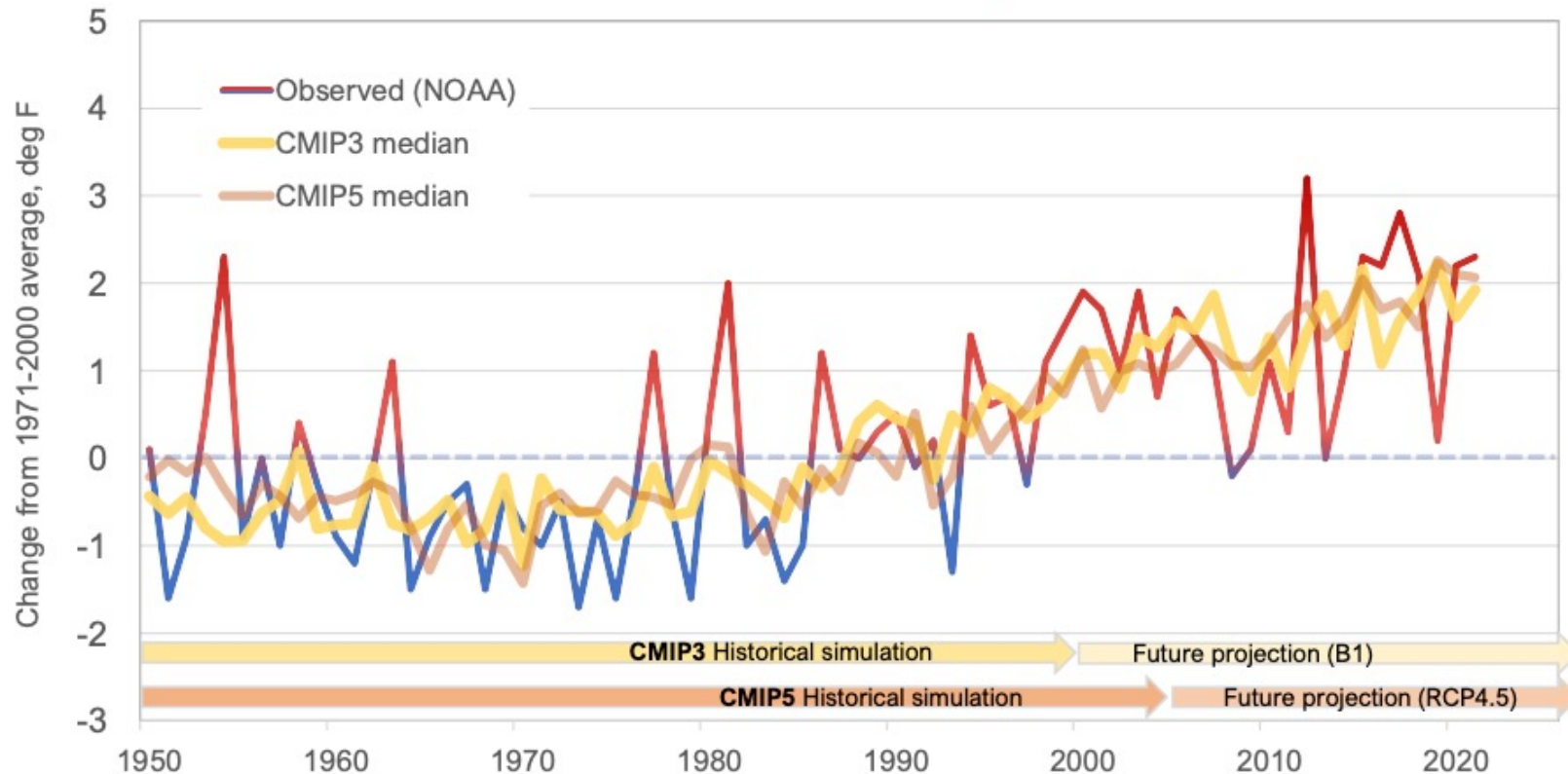
*Take home:* Since the late 19<sup>th</sup> century, Colorado statewide temperatures have warmed. Significant increases in annual temperatures have been observed since 1980.

[https://climate.colostate.edu/cc\\_in\\_CO/phase1\\_report\\_historical.pdf](https://climate.colostate.edu/cc_in_CO/phase1_report_historical.pdf)



# Phase 1 report – future projections

Observed Colorado statewide annual temperatures vs. CMIP3 & CMIP5 modeled historical and future temperatures, 1950-2021



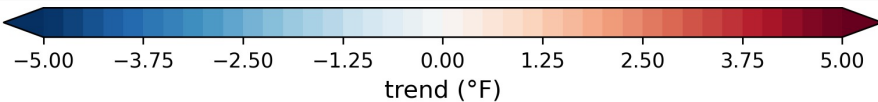
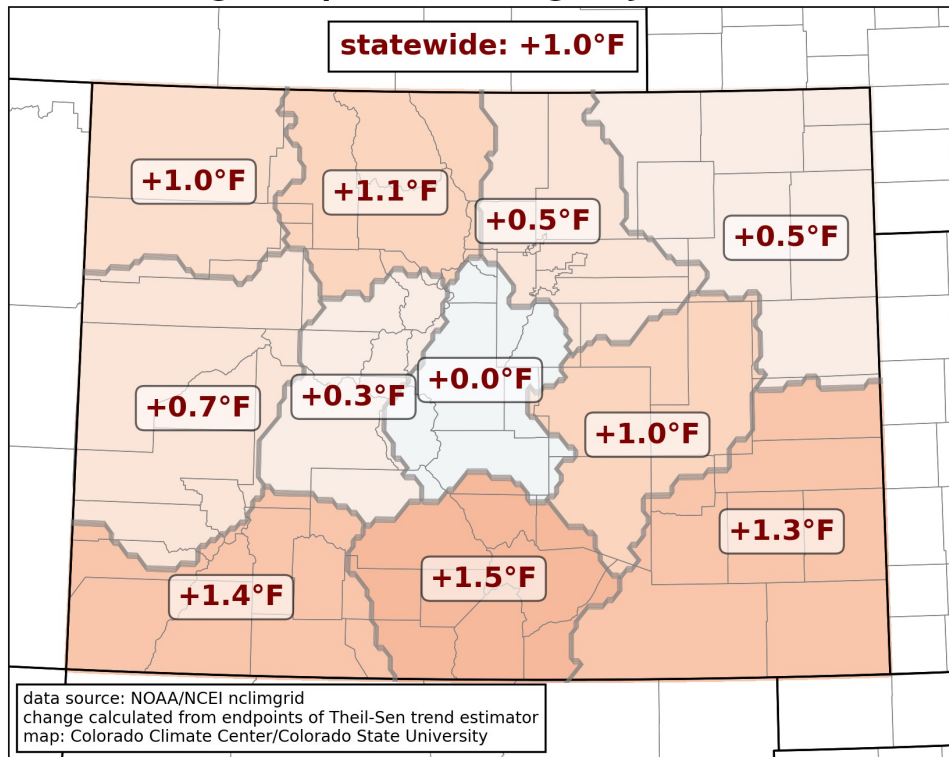
*Take home:* The observed temperatures for CO since 2000 track very closely with CMIP3 and CMIP5 median projections. This finding, along with regional attribution studies, suggests that most or all of Colorado's recent warming is human-caused (*anthropogenic*).

[https://climate.colostate.edu/cc\\_in\\_CO/phase1\\_report\\_projection.pdf](https://climate.colostate.edu/cc_in_CO/phase1_report_projection.pdf)

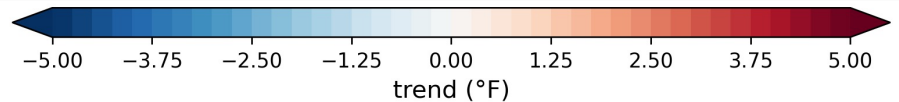
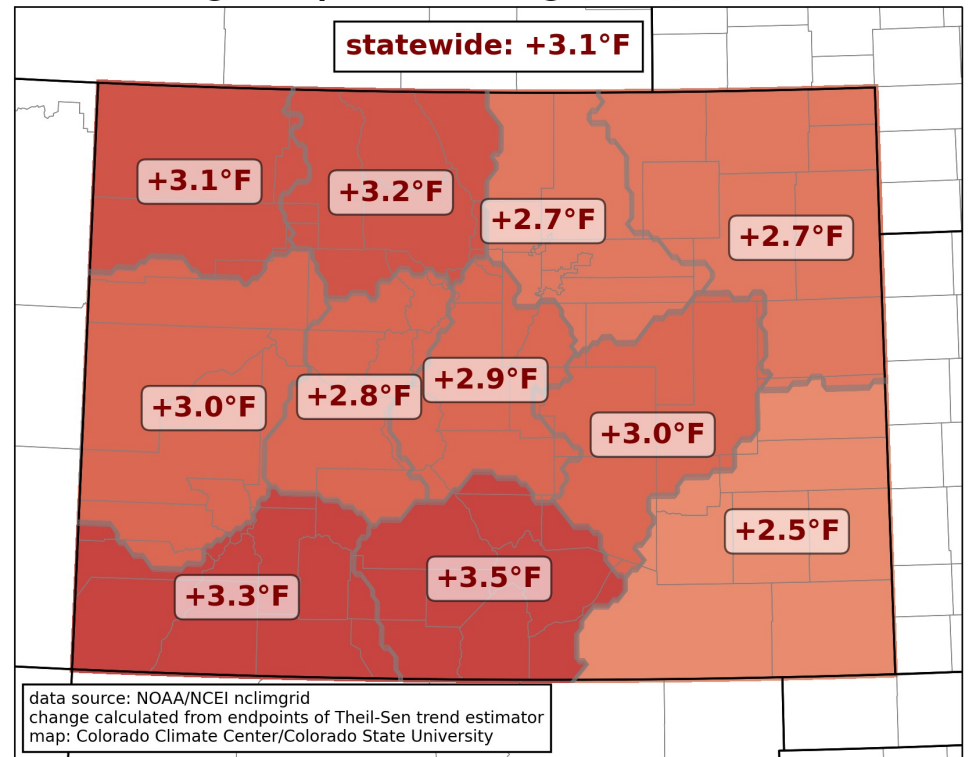


# Climate Division trends

average temperature change, DJF, 1980-2022



average temperature change, SON, 1980-2022



[https://climate.colostate.edu/cc\\_in\\_CO/div\\_trends.html](https://climate.colostate.edu/cc_in_CO/div_trends.html)



# Additional Resources

- ❑ [https://climate.colostate.edu/data\\_access\\_new.html](https://climate.colostate.edu/data_access_new.html)
  - ❑ Quick access to raw data for stations all around the state
- ❑ [https://climate.colostate.edu/temp\\_graph.html](https://climate.colostate.edu/temp_graph.html)
  - ❑ Current daily temperature graphs compared to normal
- ❑ [https://climate.colostate.edu/normals\\_stn\\_select.html](https://climate.colostate.edu/normals_stn_select.html)
  - ❑ Maps and graphs for station climate normals
- ❑ <https://coagmet.colostate.edu/maps.html>
  - ❑ CoAgMET current conditions maps
- ❑ <https://climate.colostate.edu/ski-dashboard/>
  - ❑ Current snow and forecast snow conditions, hazards outlook
- ❑ <https://climate.colostate.edu/subscribe.html>
  - ❑ Subscribe to our email list for latest updates, including webinars and monthly summaries





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Thank you

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