

Colorado Climate Center – *WATF Climate Update*

Becky Bolinger, Assistant State Climatologist

Water Availability Task Force

March 17, 2020



ATMOSPHERIC SCIENCE
COLORADO STATE UNIVERSITY

2020 Water Year To Date

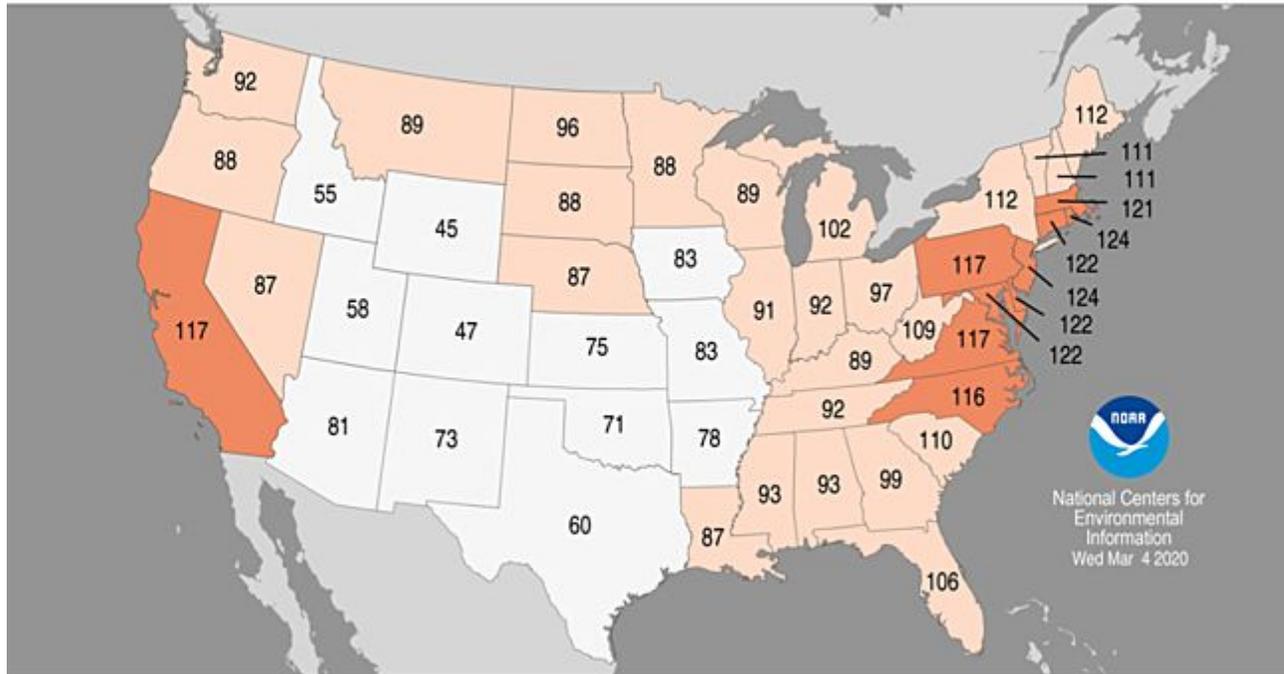
temperature, precipitation,
evaporative demand



Statewide Average Temperature Ranks

February 2020

Period: 1895–2020

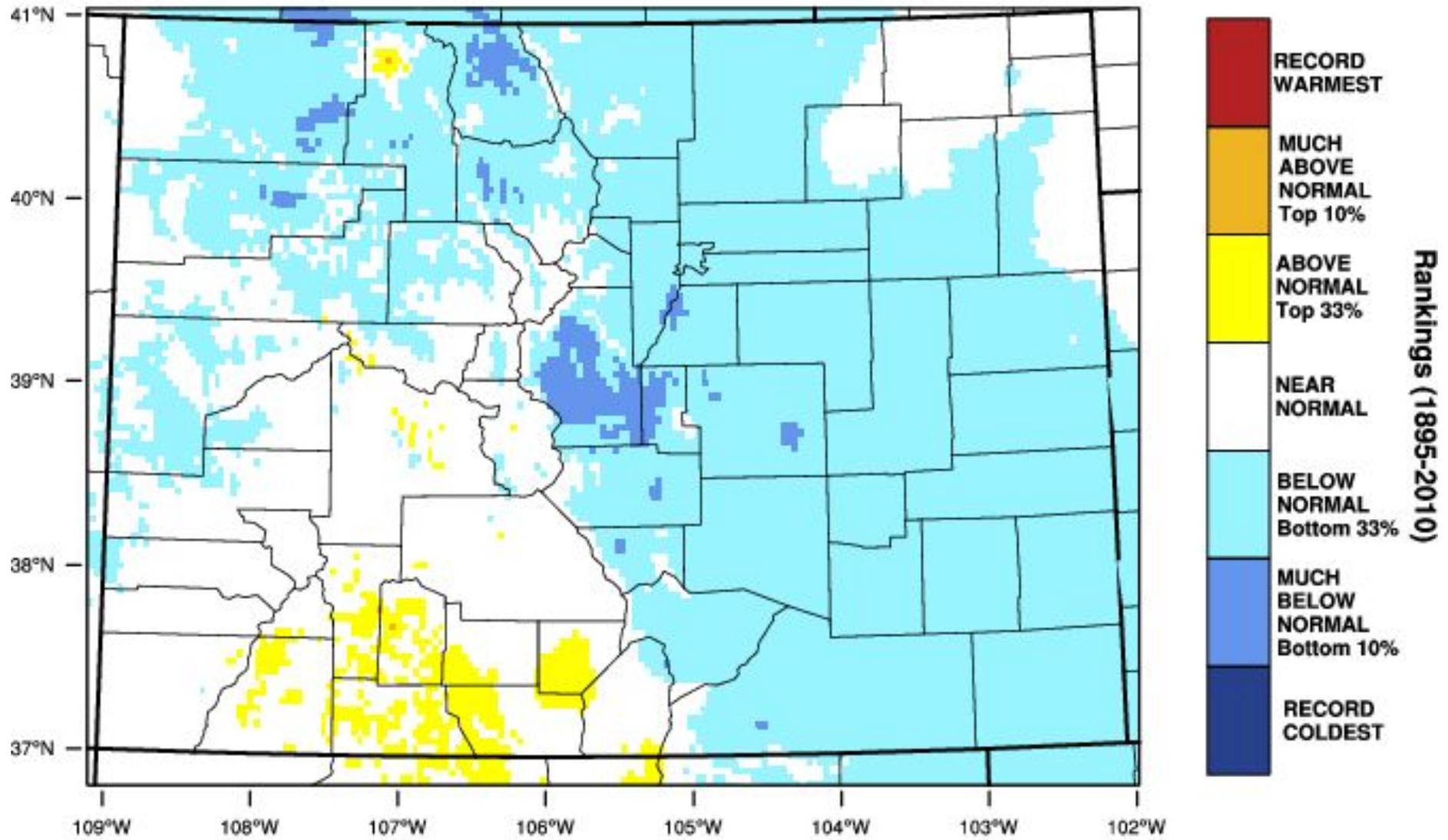


Month	T Rank (of 126 years)	Above, below, or near avg?
Oct	3 rd coolest	much below
Nov	39 th warmest	above
Dec	25 th warmest	above
Jan	26 th warmest	above
Feb	47 th coolest	average
Mar		
Apr		
May		
June		
July		
August		



Colorado - Mean Temperature

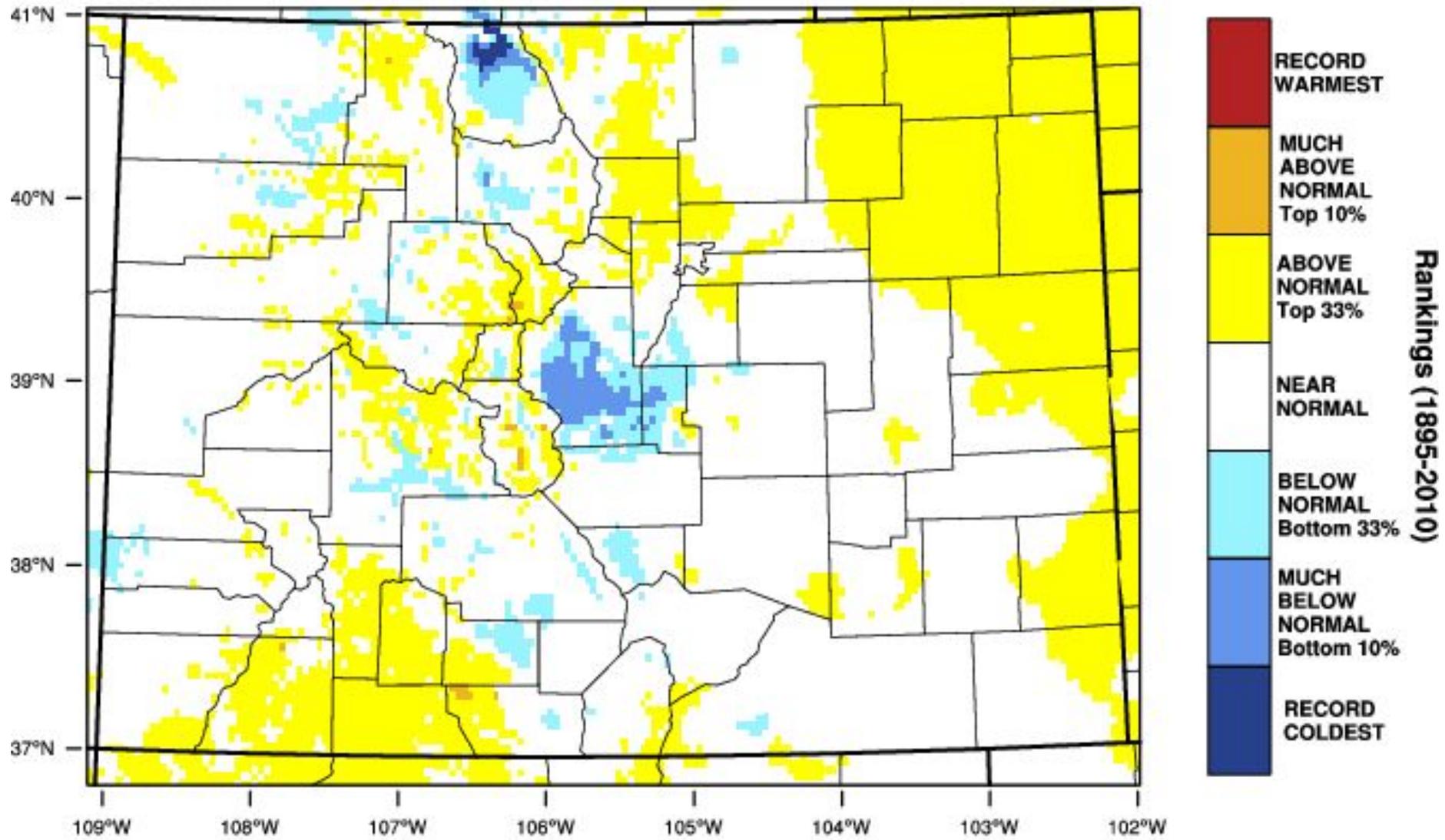
February 2020 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 5 MAR 2020



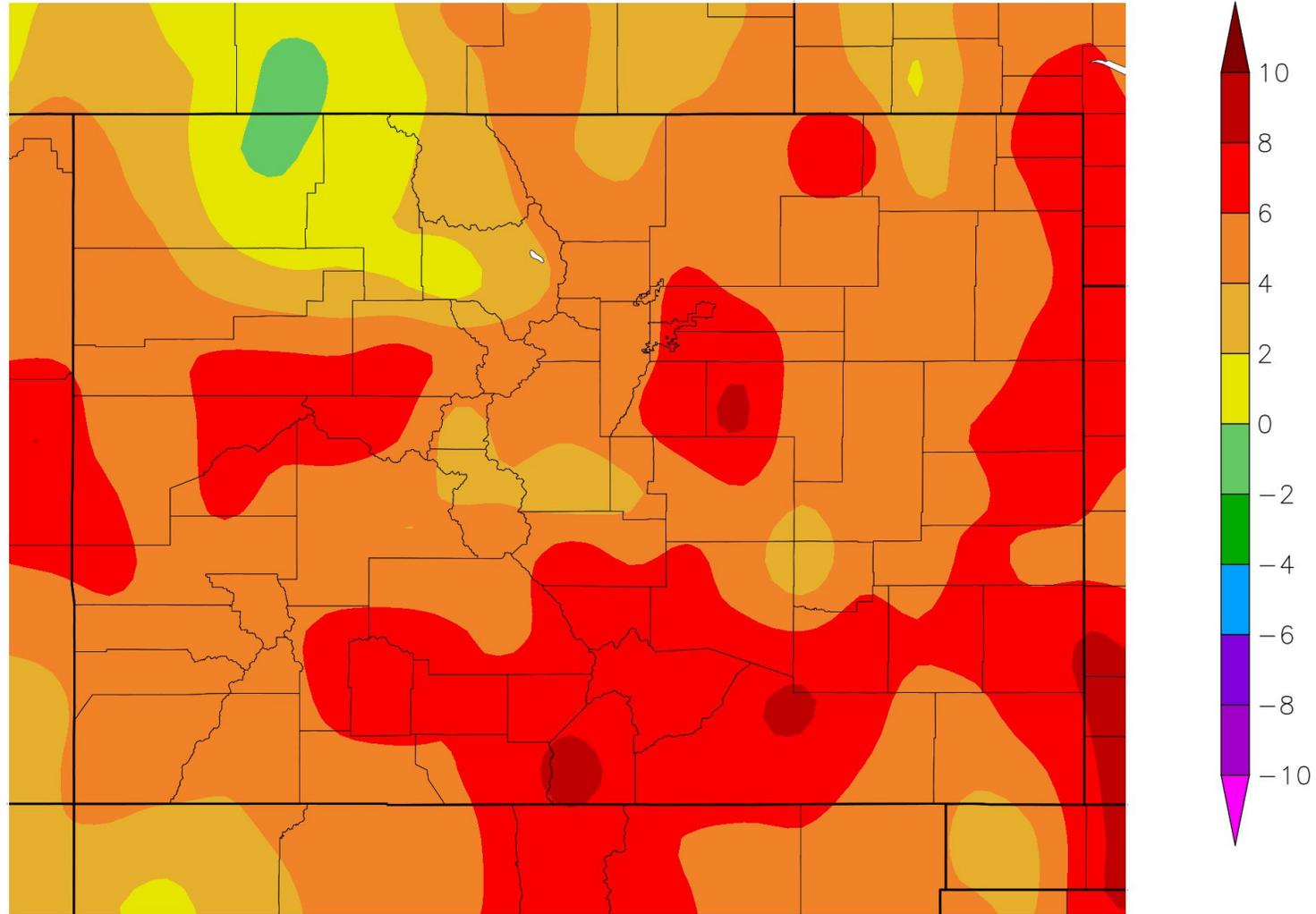
Colorado - Mean Temperature December-February 2020 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 5 MAR 2020



Departure from Normal Temperature (F) 3/1/2020 - 3/15/2020



Generated 3/16/2020 at HPRCC using provisional data.

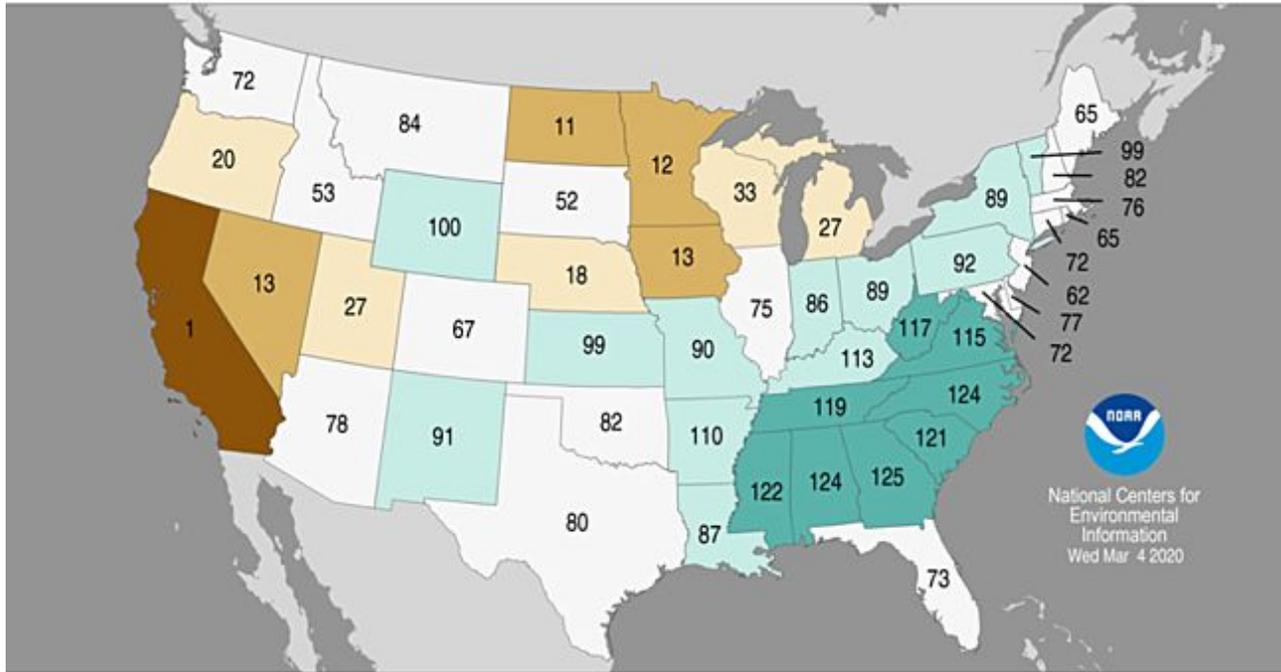
NOAA Regional Climate Centers



Statewide Precipitation Ranks

February 2020

Period: 1895-2020



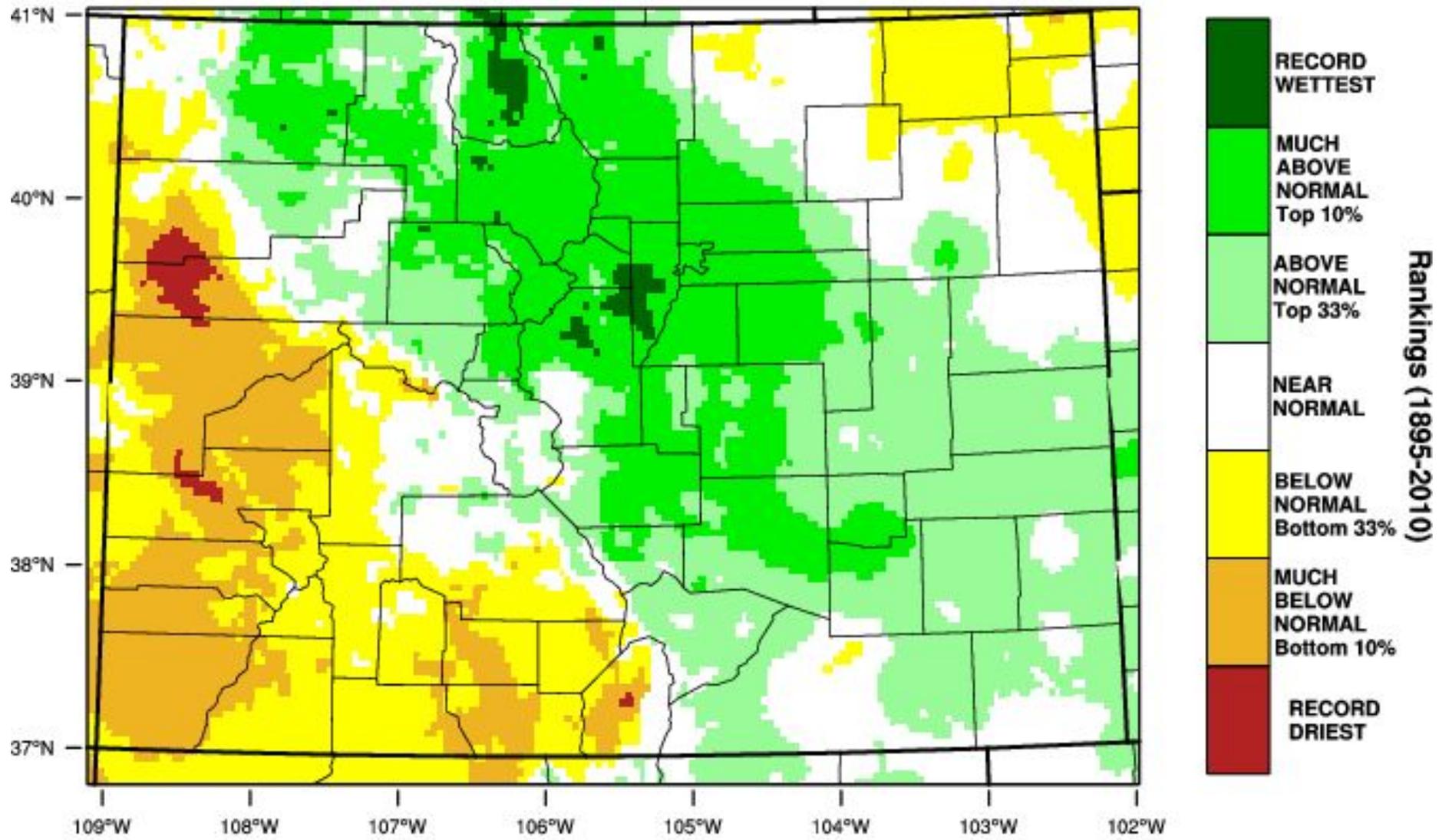
National Centers for Environmental Information
Wed Mar 4 2020

Month	P Rank (of 126 years)	Above, below, or near avg?
Oct	40 th driest	below
Nov	52 nd wettest	average
Dec	41 st wettest	above
Jan	33 rd driest	below
Feb	60 th wettest	average
Mar		
Apr		
May		
June		
July		
August		



Colorado - Precipitation

February 2020 Percentile

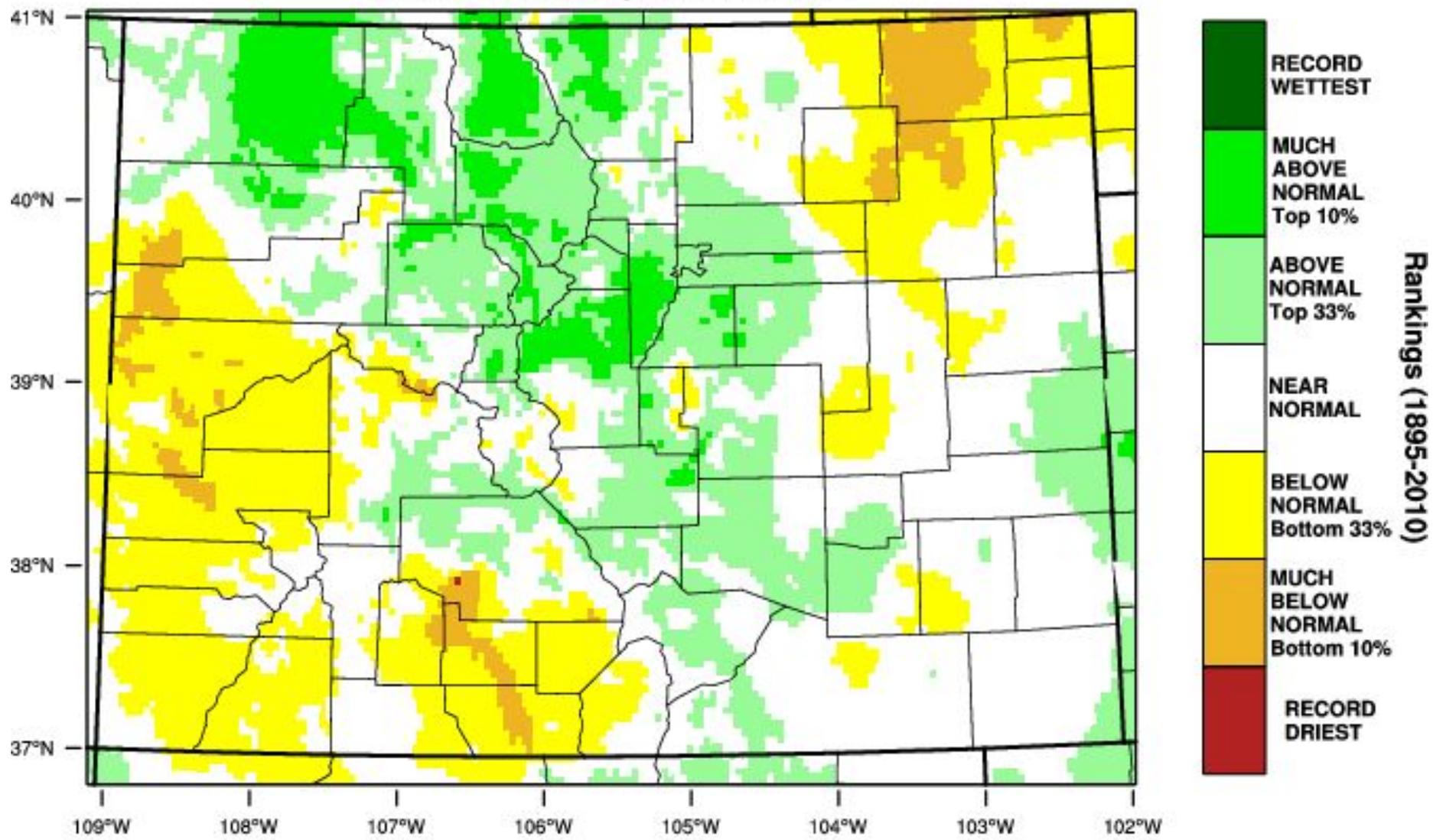


WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 5 MAR 2020



Colorado - Precipitation

December-February 2020 Percentile



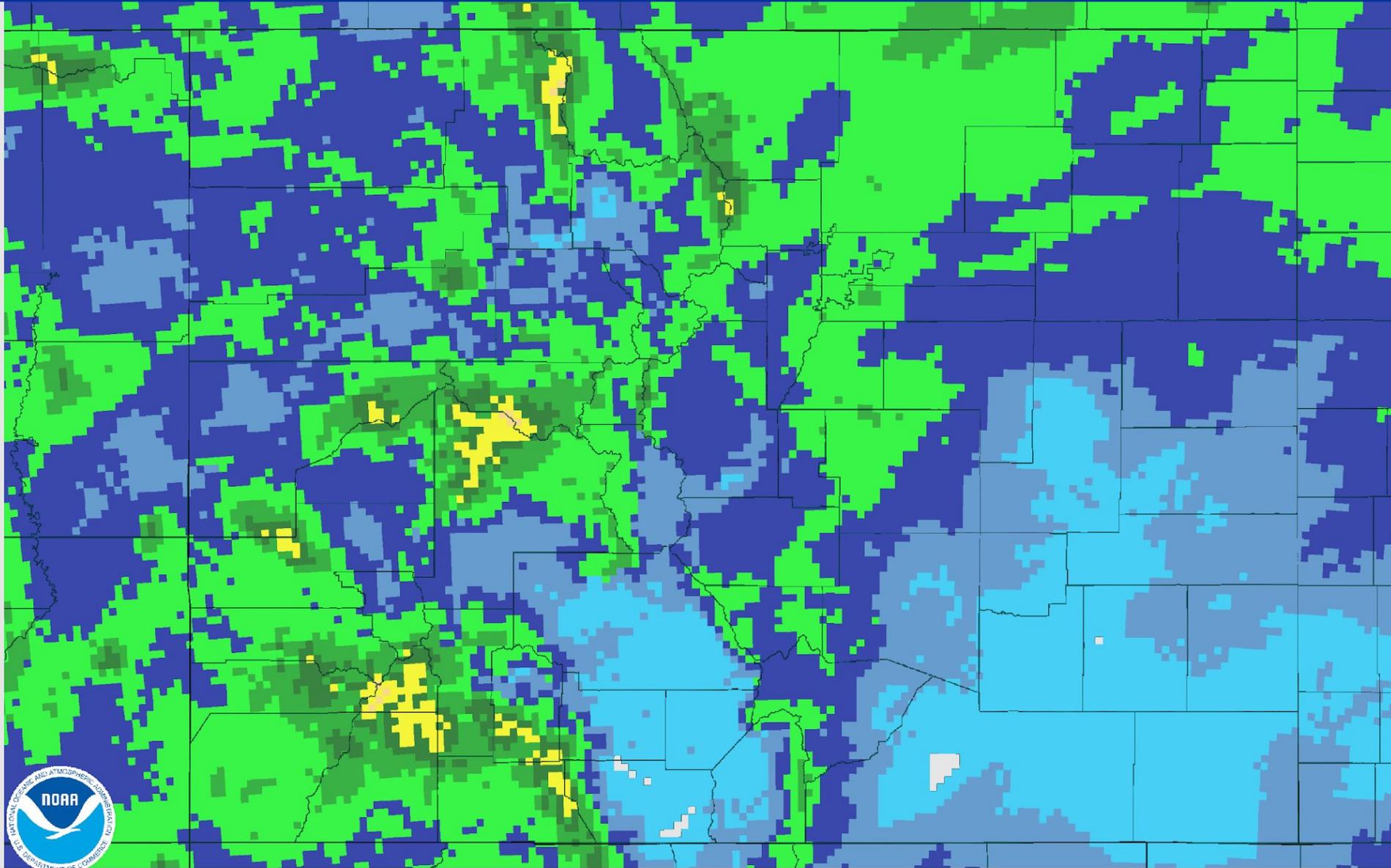
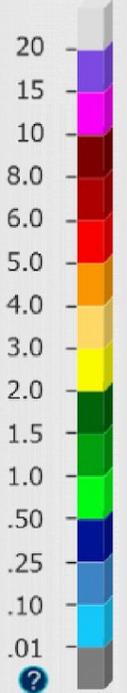
WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 5 MAR 2020



March 16, 2020 Month to Date Observed Precipitation

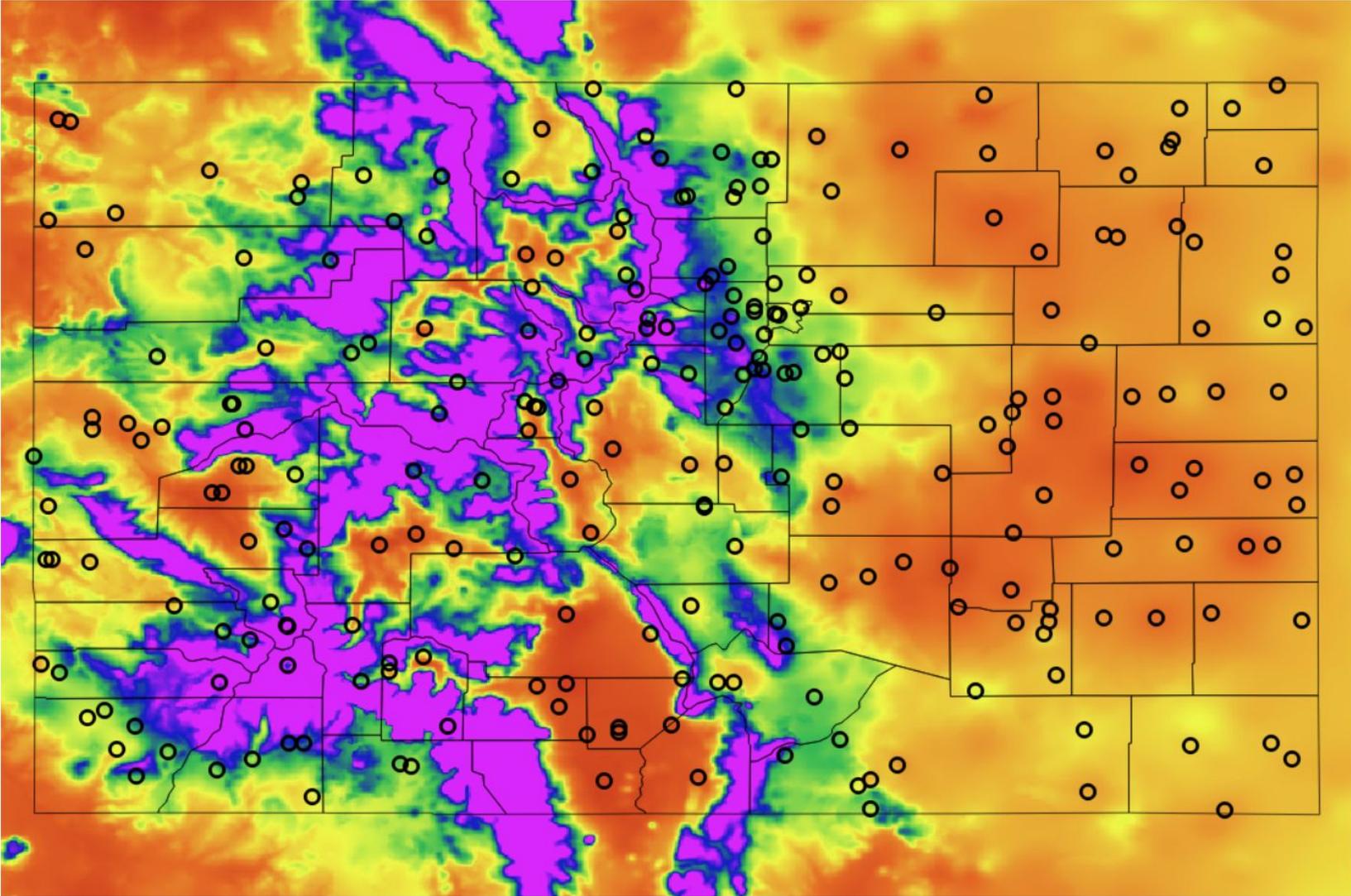
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Valid on: March 16, 2020 12:00 UTC

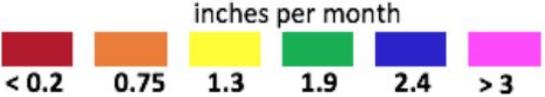


March Average Precipitation

Visit our website to select a station and view specific monthly averages

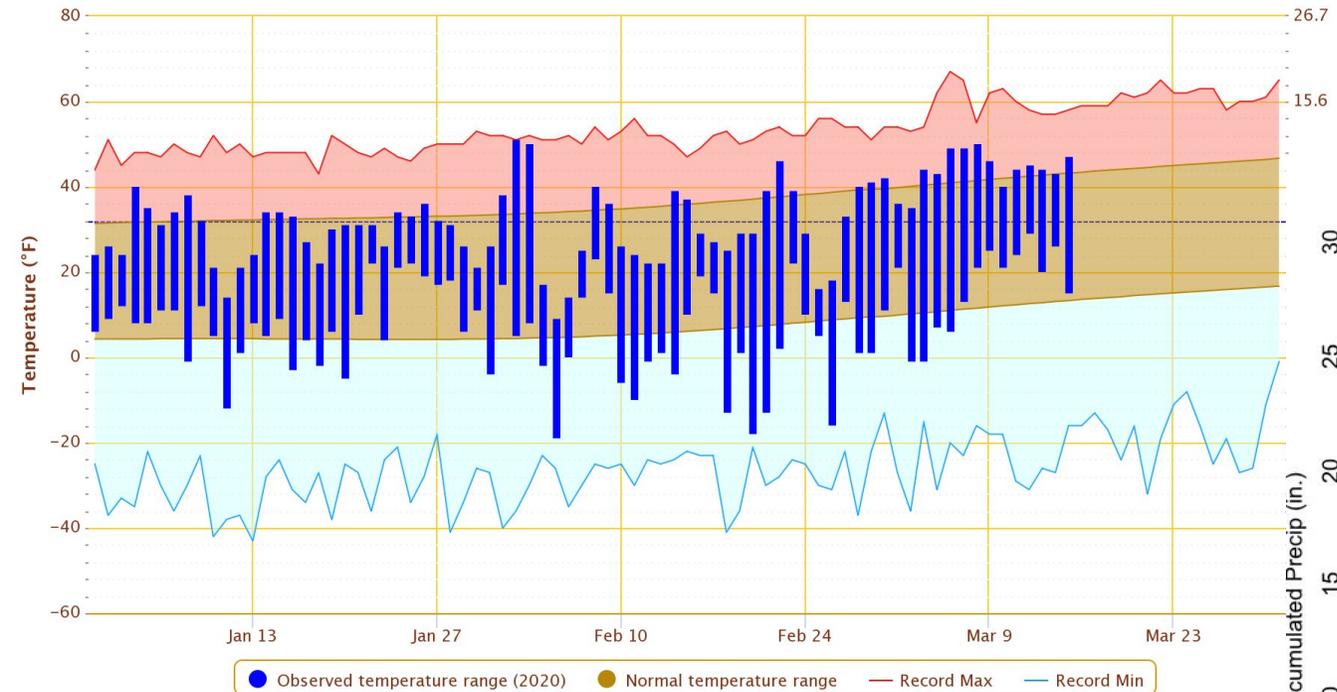


http://climate.colostate.edu/normals/p_mar_norm.html

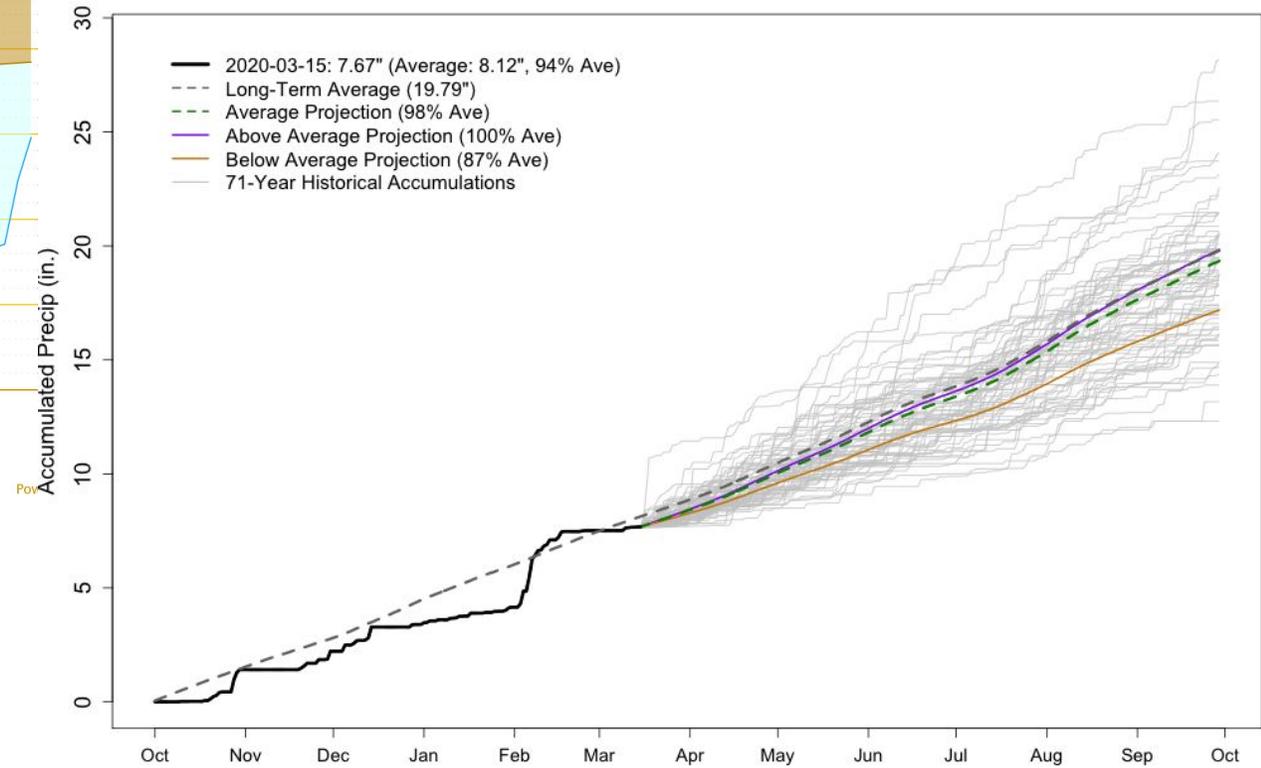


Daily Temperature Data - GRAND LAKE 1 NW, CO

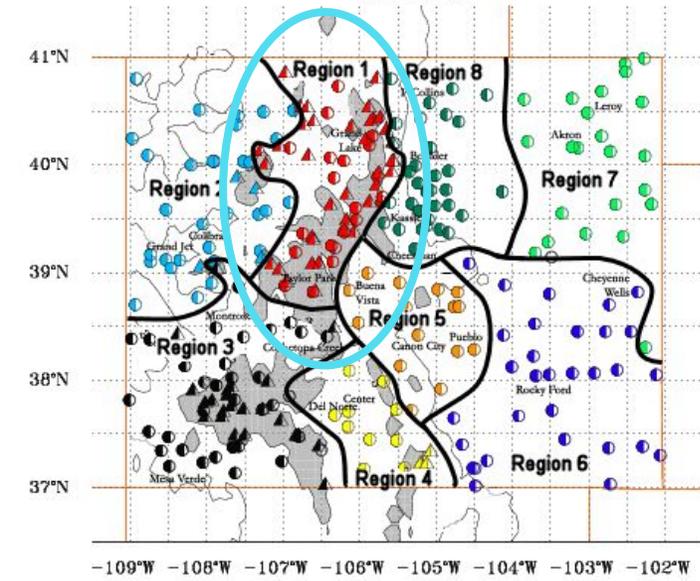
Period of Record - 1939-10-01 to 2020-03-15. Normals period: 1981-2010. Click and drag to zoom chart.



GRAND LAKE 1 NW WY2020 Precipitation Projections

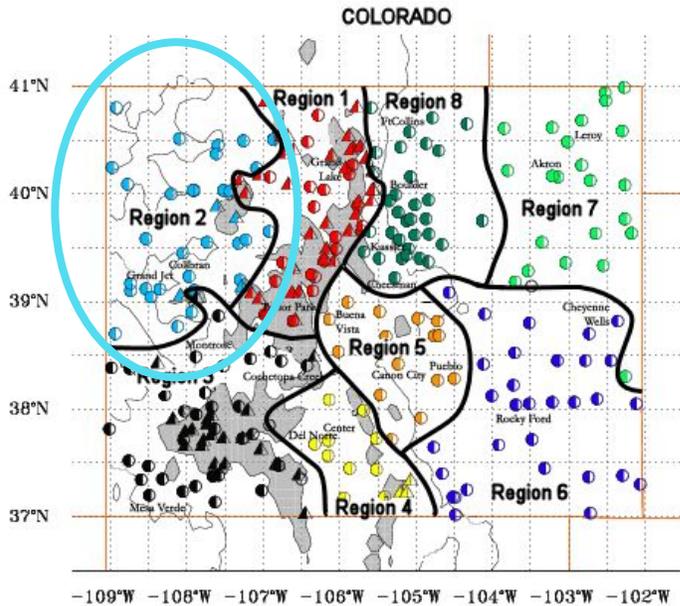
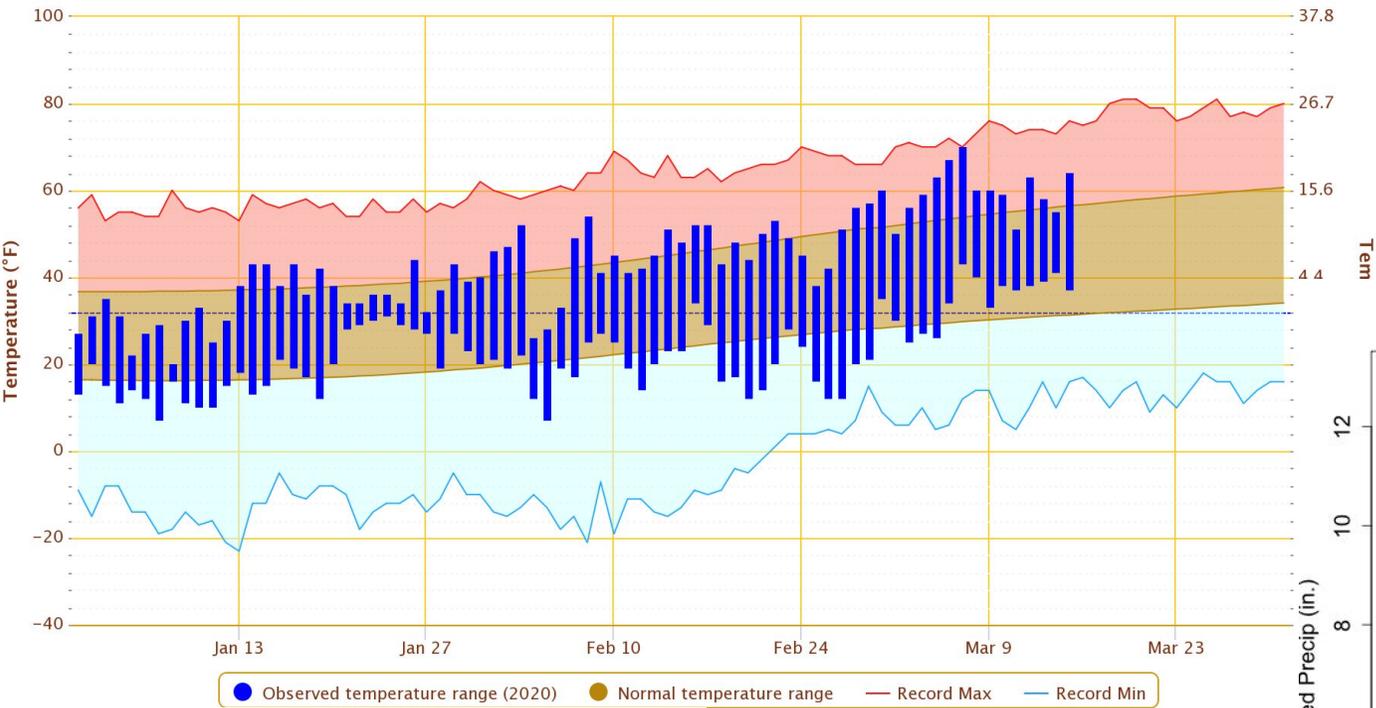


COLORADO

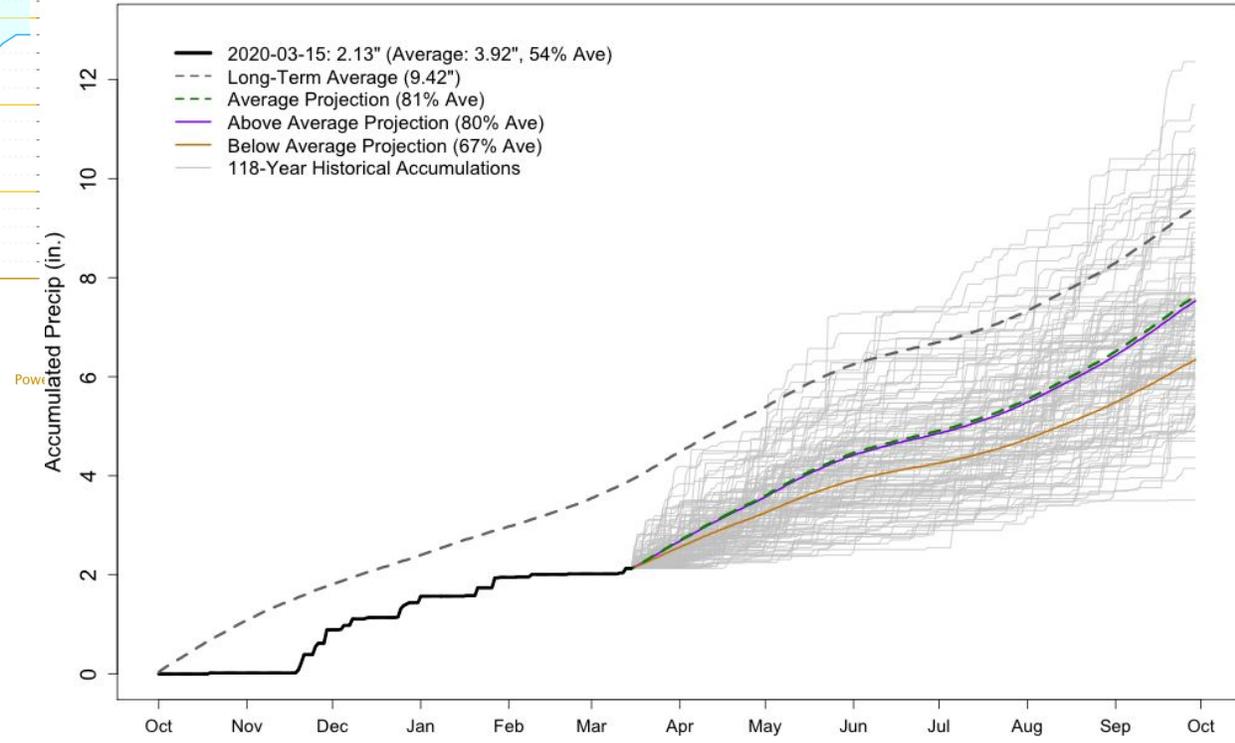


Daily Temperature Data – GRAND JUNCTION WALKER FIELD, CO

Period of Record – 1900-01-01 to 2020-03-15. Normals period: 1981-2010. Click and drag to zoom chart.



GRAND JUNCTION WALKER FIELD WY2020 Precipitation Projections

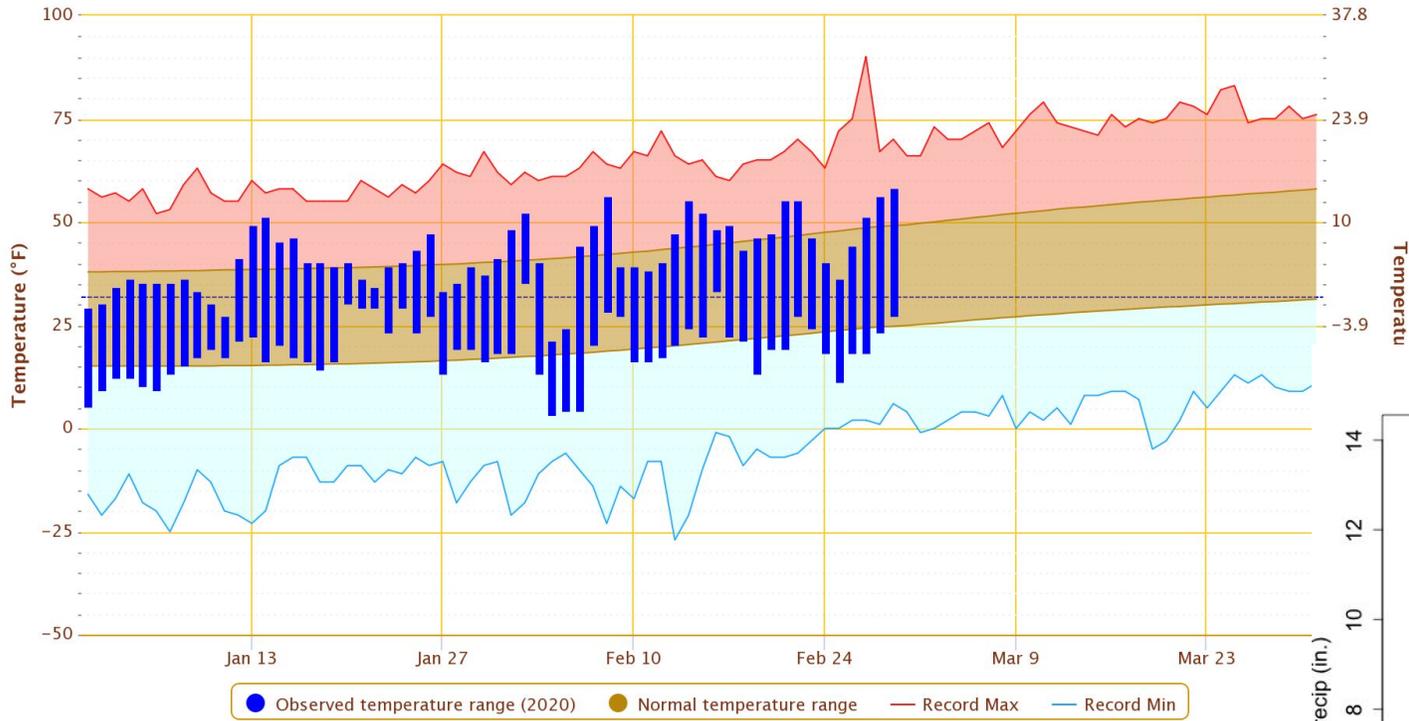


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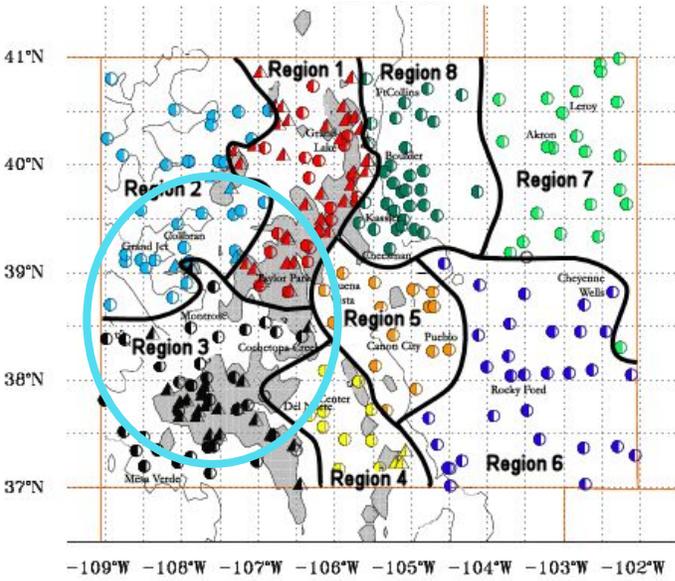
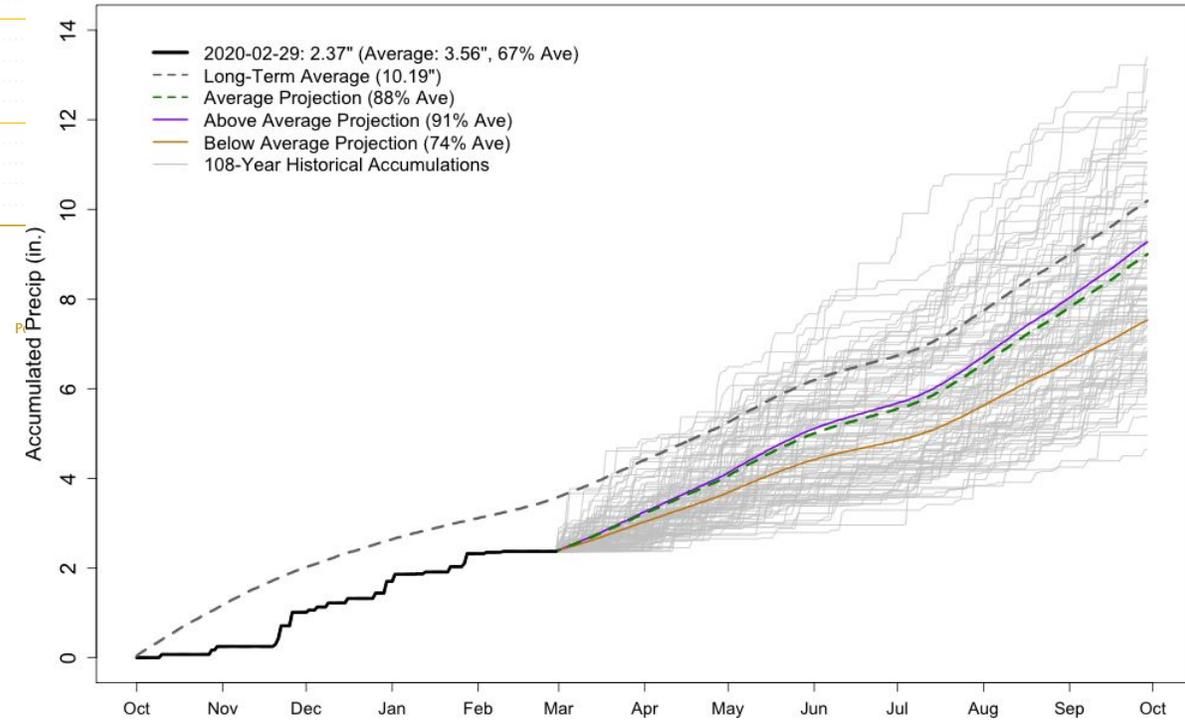


Daily Temperature Data - MONTROSE NO 2, CO

Period of Record - 1895-10-01 to 2020-02-29. Normals period: 1981-2010. Click and drag to zoom chart.



MONTROSE NO 2 WY2020 Precipitation Projections

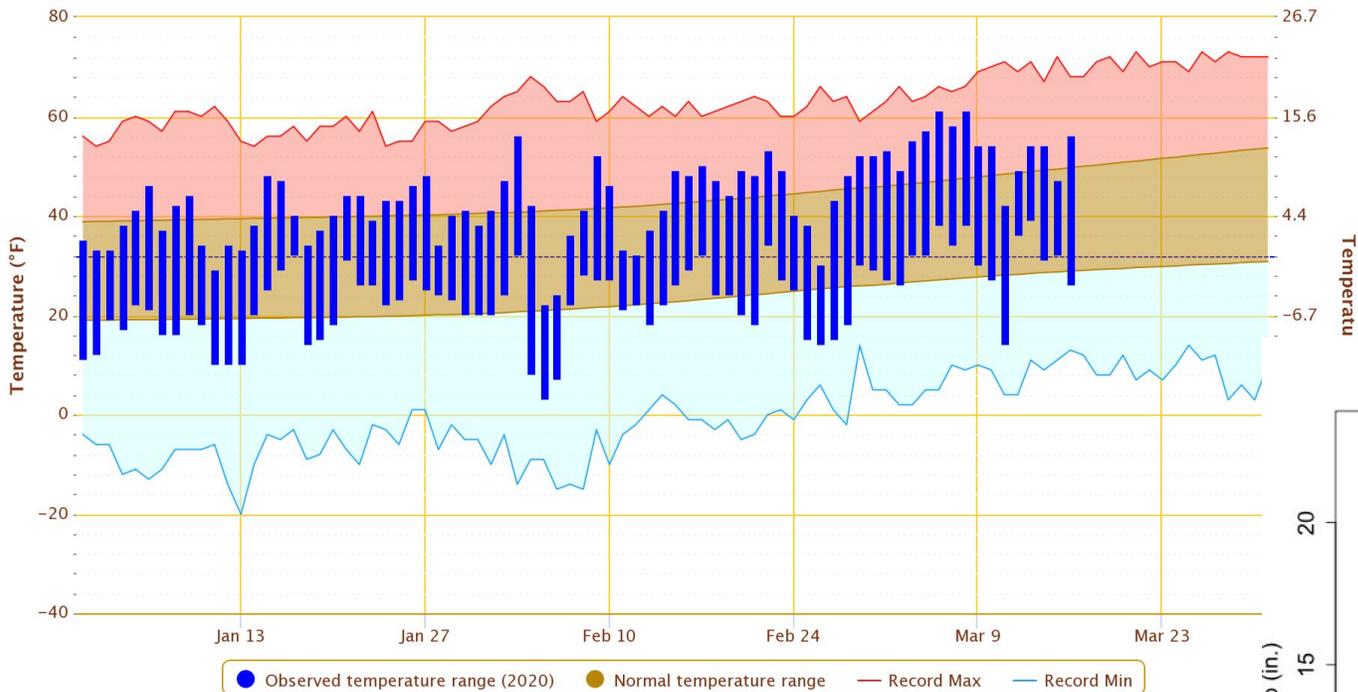


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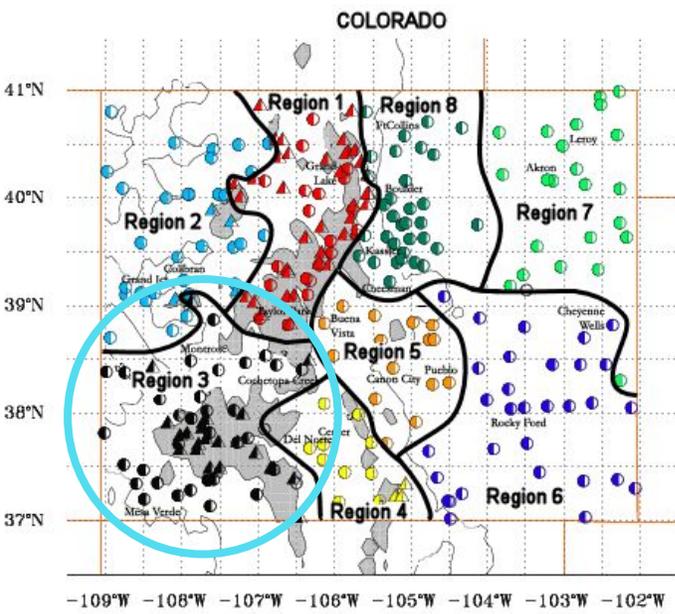
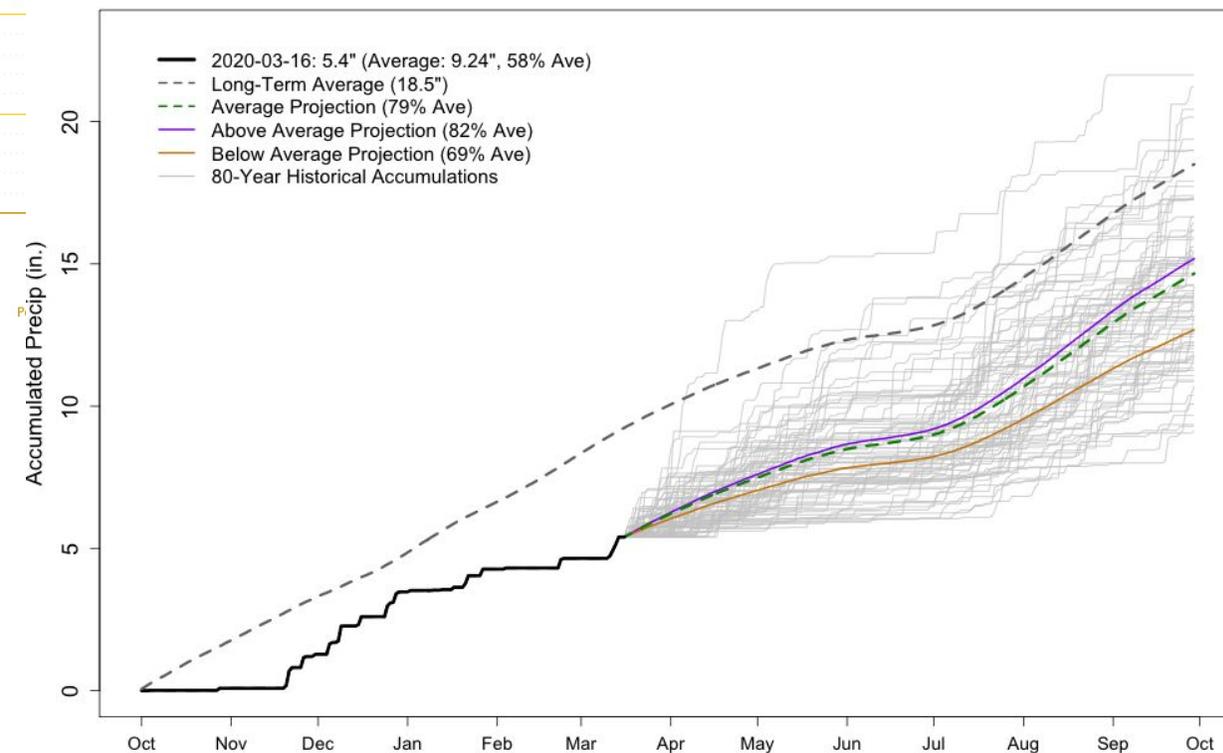


Daily Temperature Data – MESA VERDE NP, CO

Period of Record – 1922-02-16 to 2020-03-16. Normals period: 1981-2010. Click and drag to zoom chart.



MESA VERDE NP WY2020 Precipitation Projections

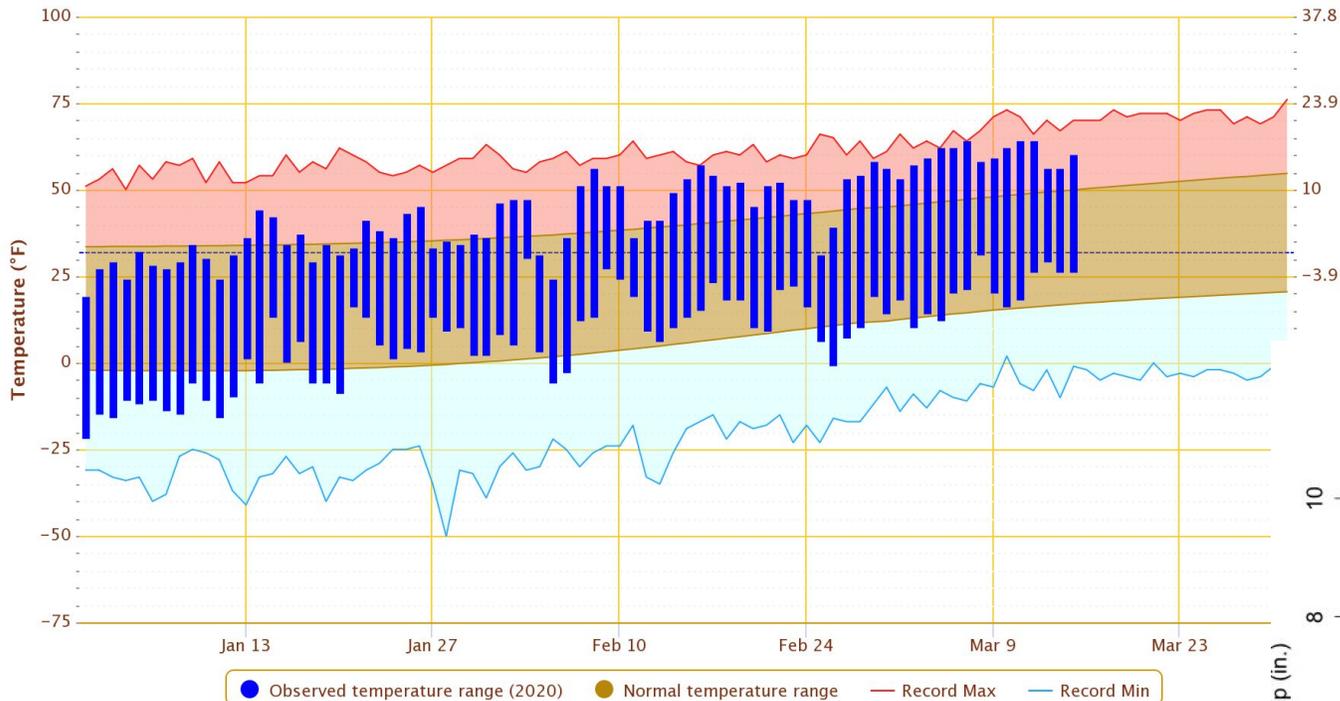


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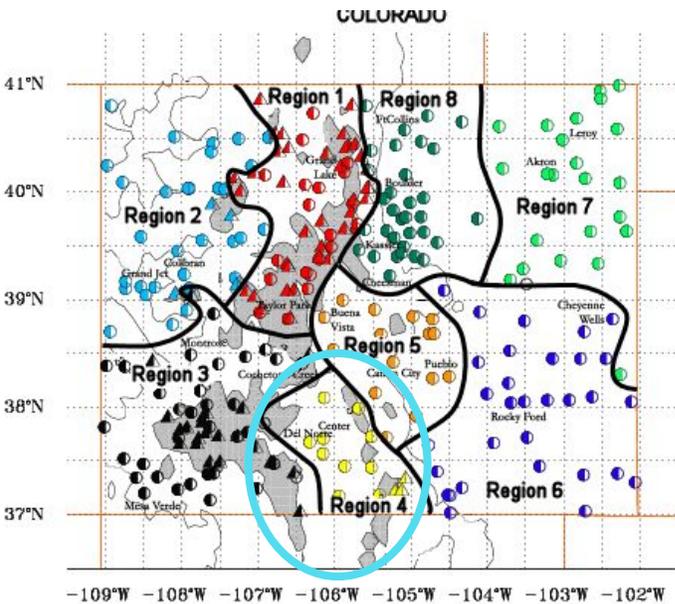
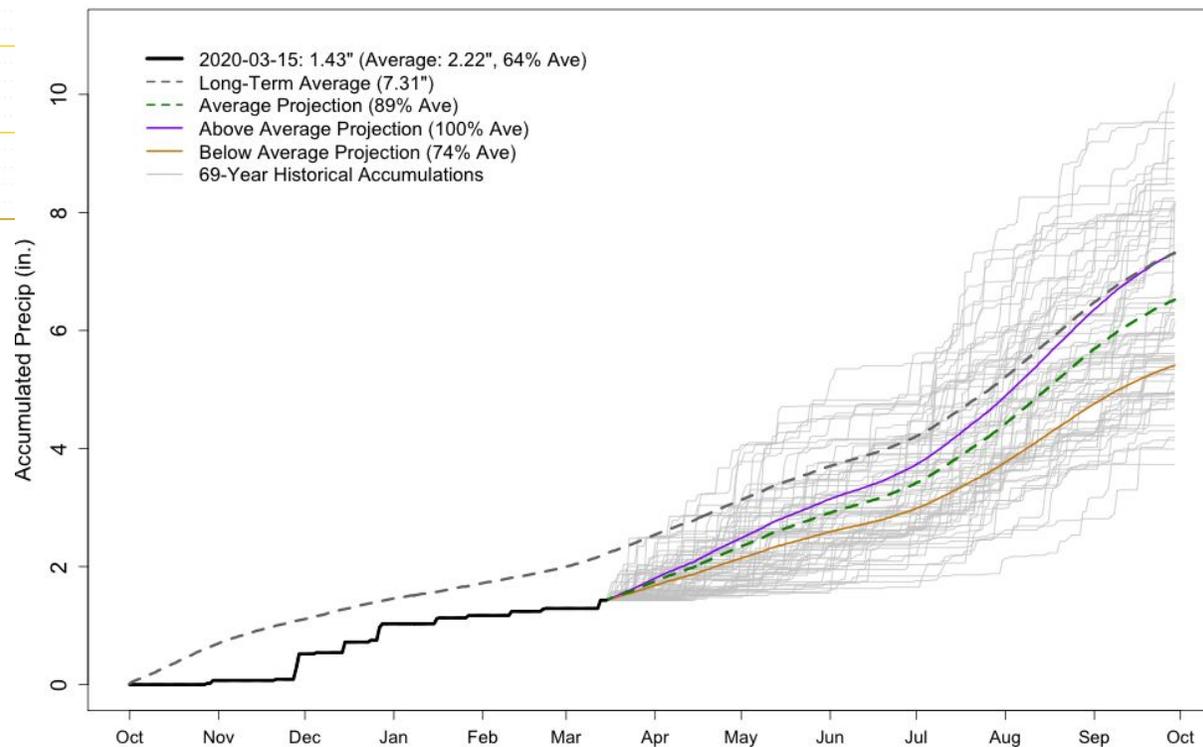


Daily Temperature Data - ALAMOSA SAN LUIS VALLEY REGIONAL AP, CO

Period of Record - 1948-01-01 to 2020-03-15. Normals period: 1981-2010. Click and drag to zoom chart.



ALAMOSA SAN LUIS VALLEY REGIONAL AP WY2020 Precipitation Projections

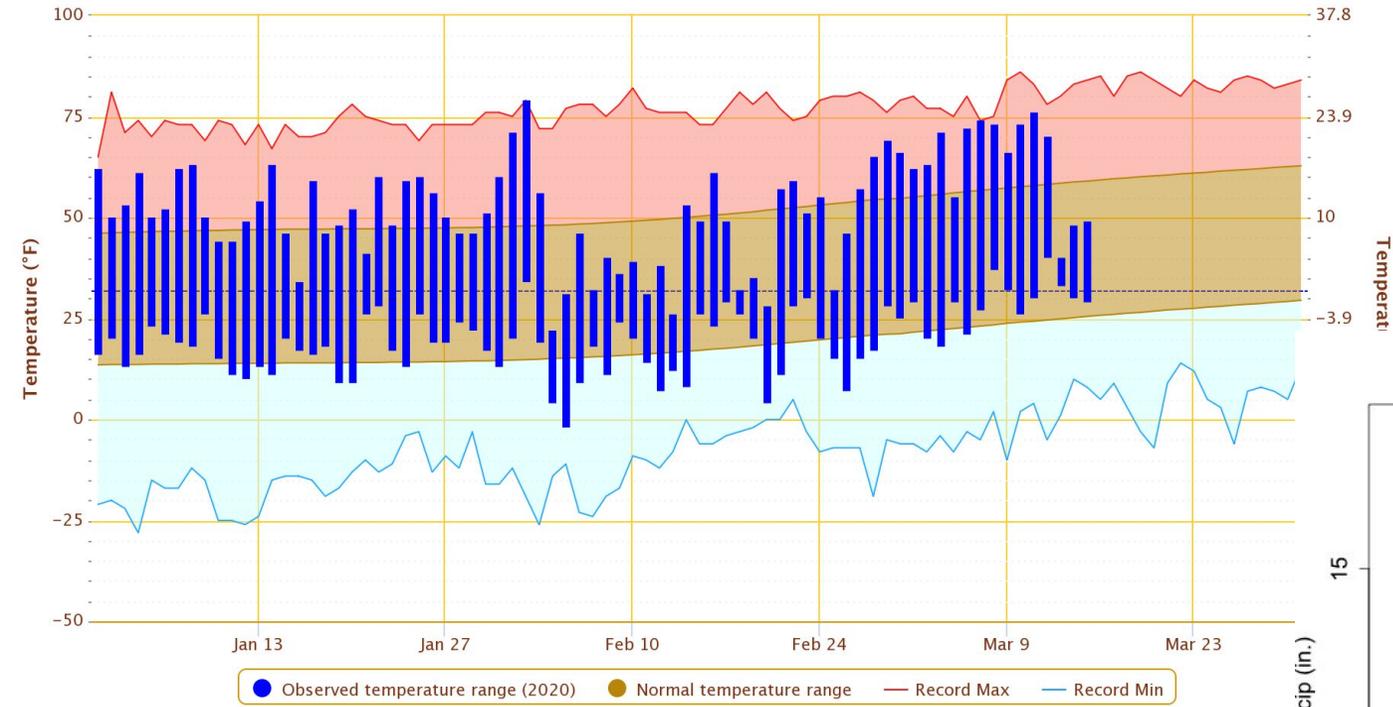


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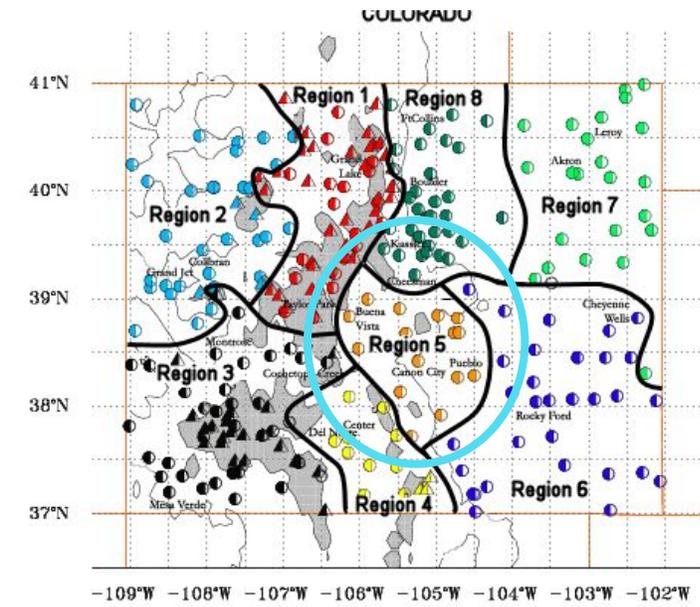
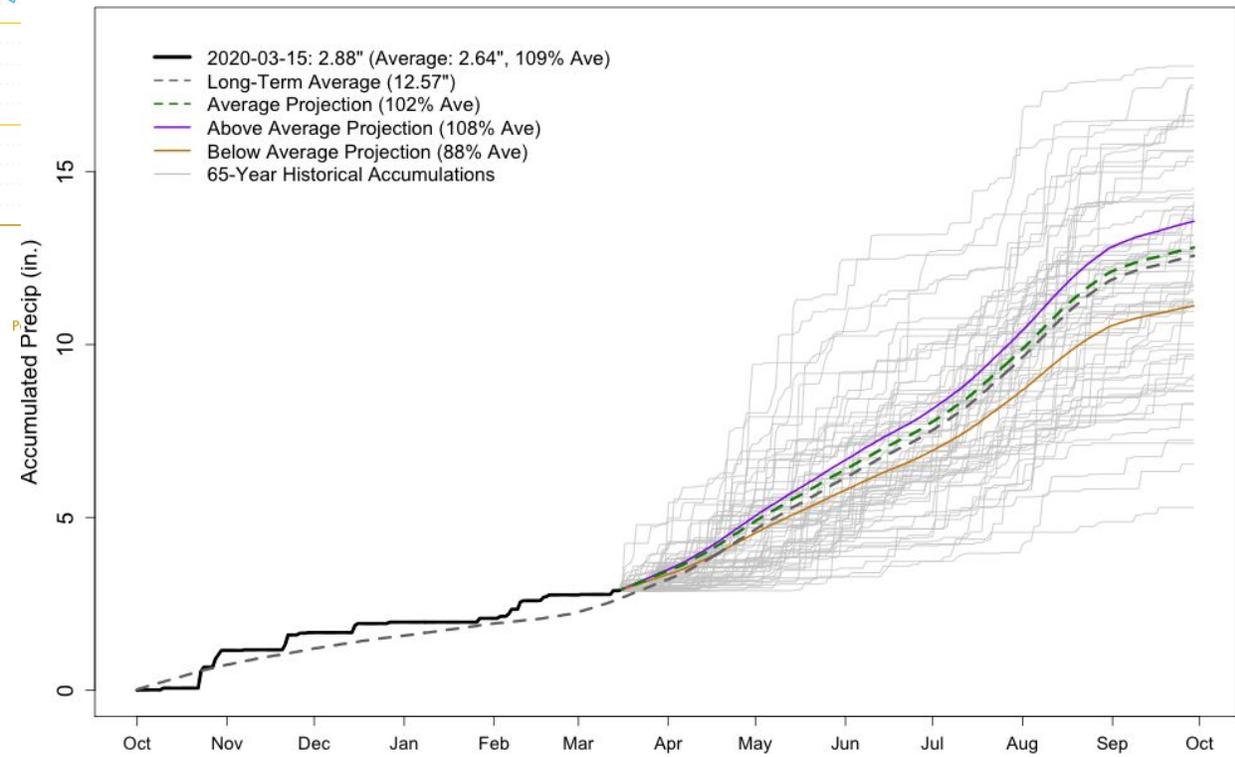


Daily Temperature Data – PUEBLO MEMORIAL AP, CO

Period of Record – 1954-06-16 to 2020-03-15. Normals period: 1981-2010. Click and drag to zoom chart.



PUEBLO MEMORIAL AP WY2020 Precipitation Projections

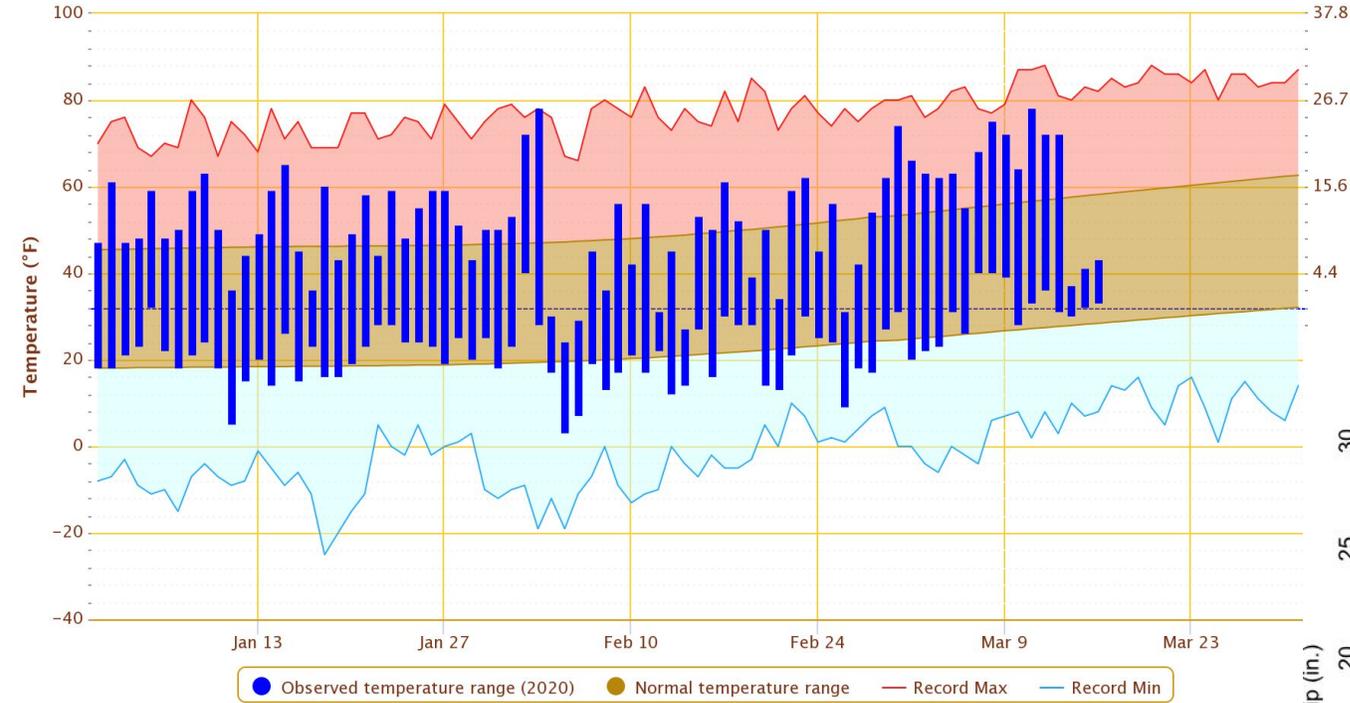


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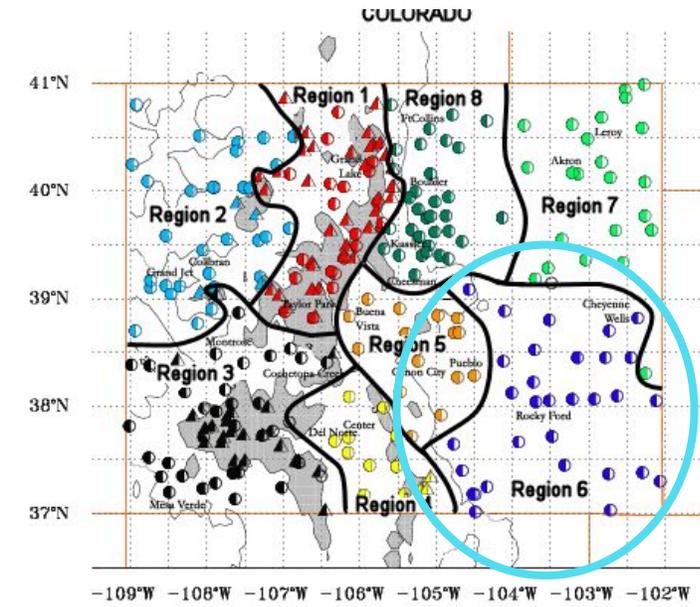
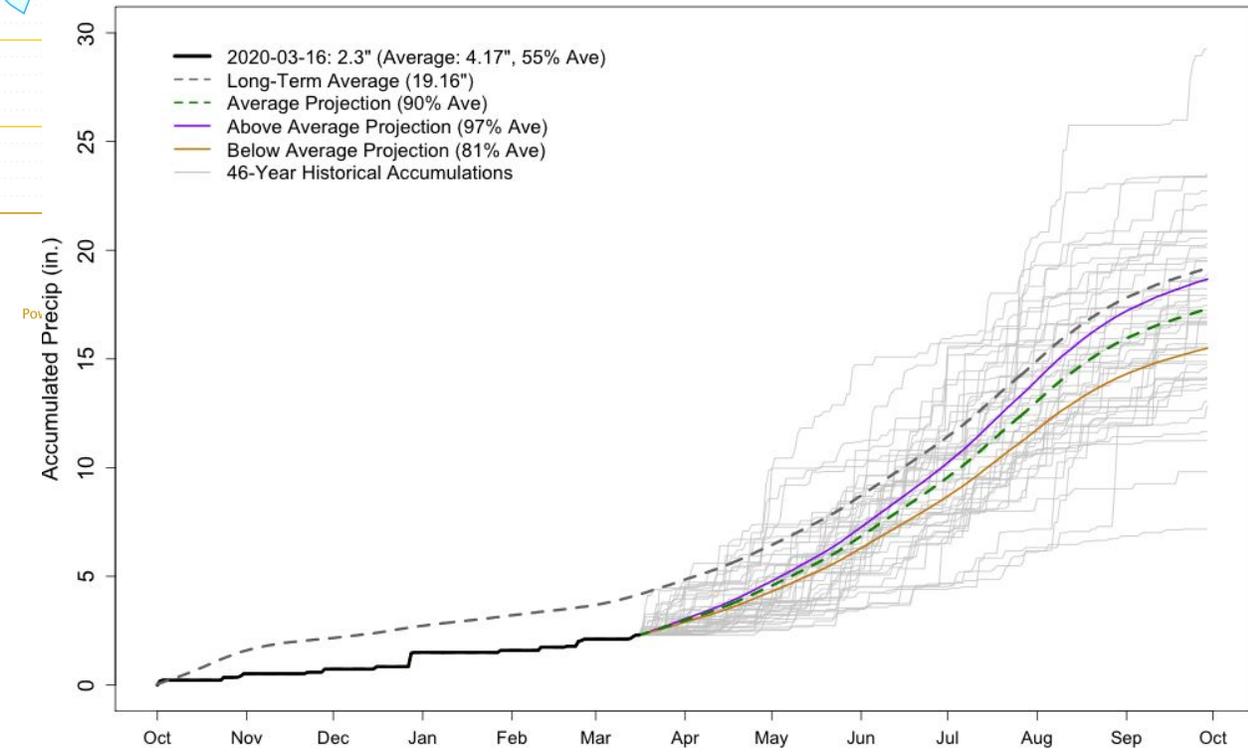


Daily Temperature Data - WALSH 1 W, CO

Period of Record - 1967-09-01 to 2020-03-16. Normals period: 1981-2010. Click and drag to zoom chart.



WALSH 1 W WY2020 Precipitation Projections

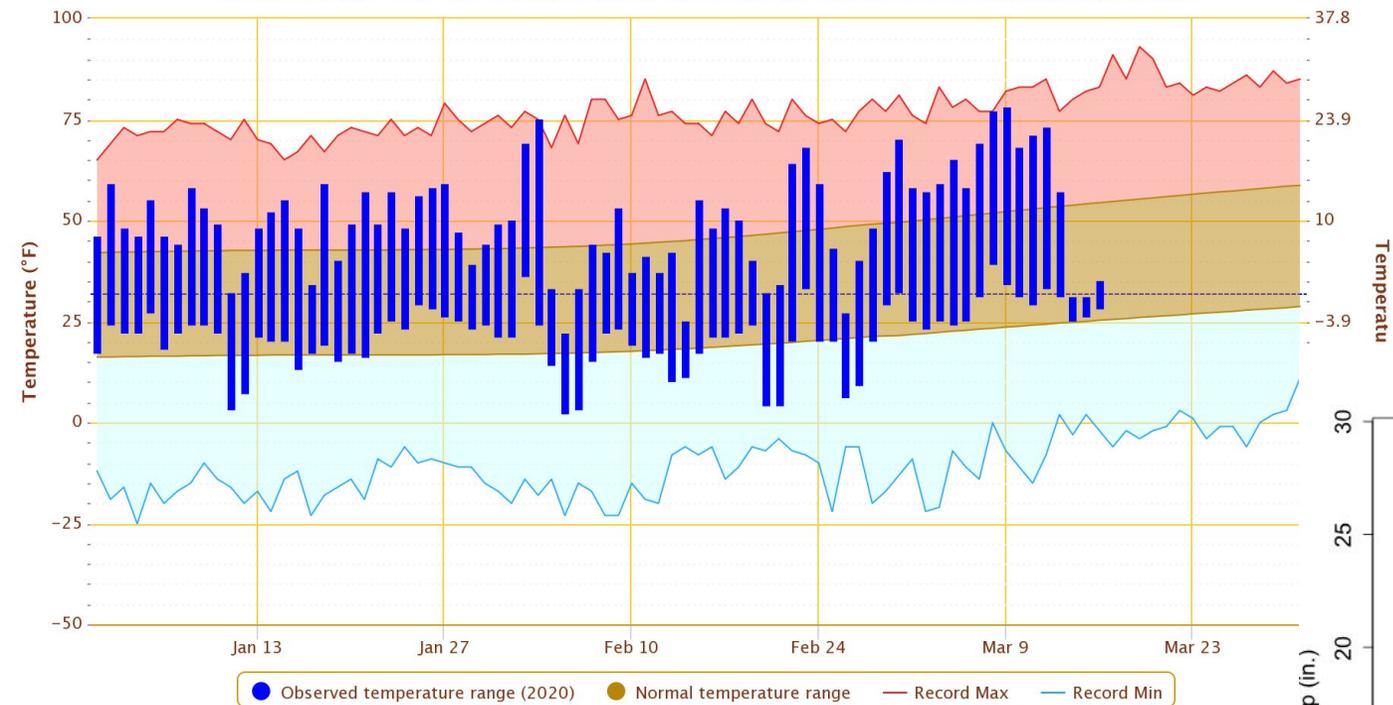


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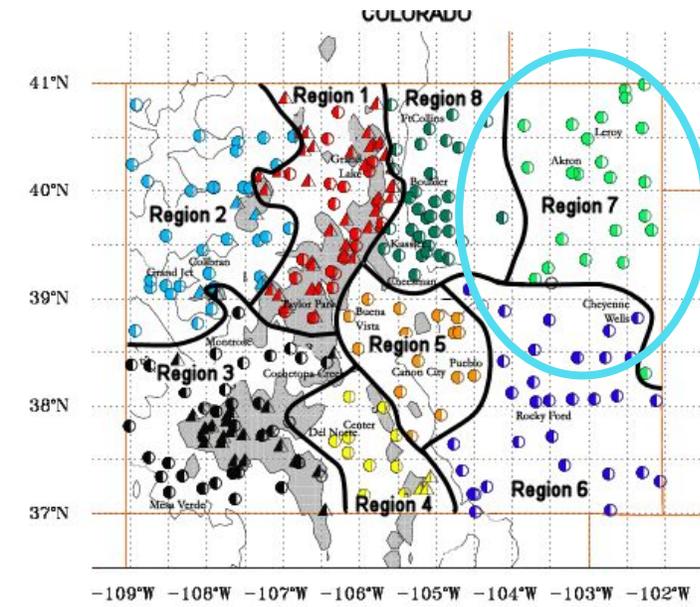
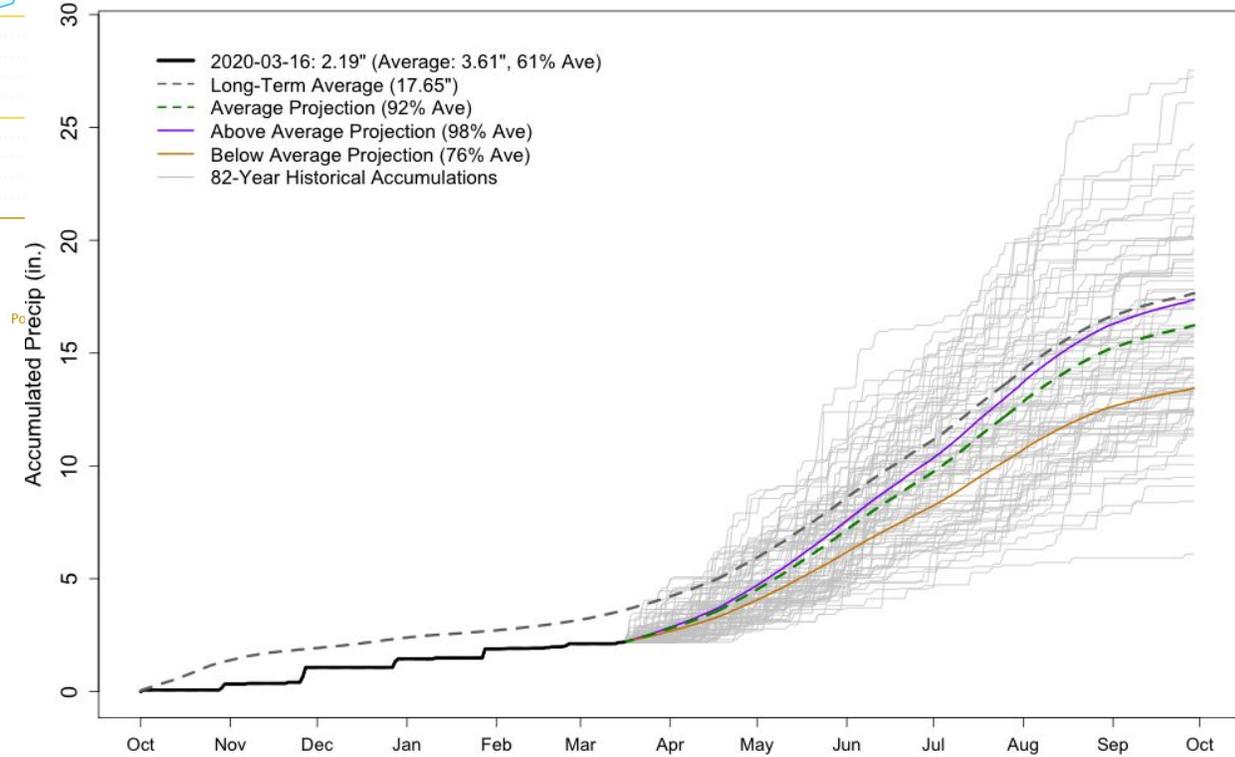


Daily Temperature Data - BURLINGTON, CO

Period of Record - 1903-12-01 to 2020-03-16. Normals period: 1981-2010. Click and drag to zoom chart.



BURLINGTON WY2020 Precipitation Projections

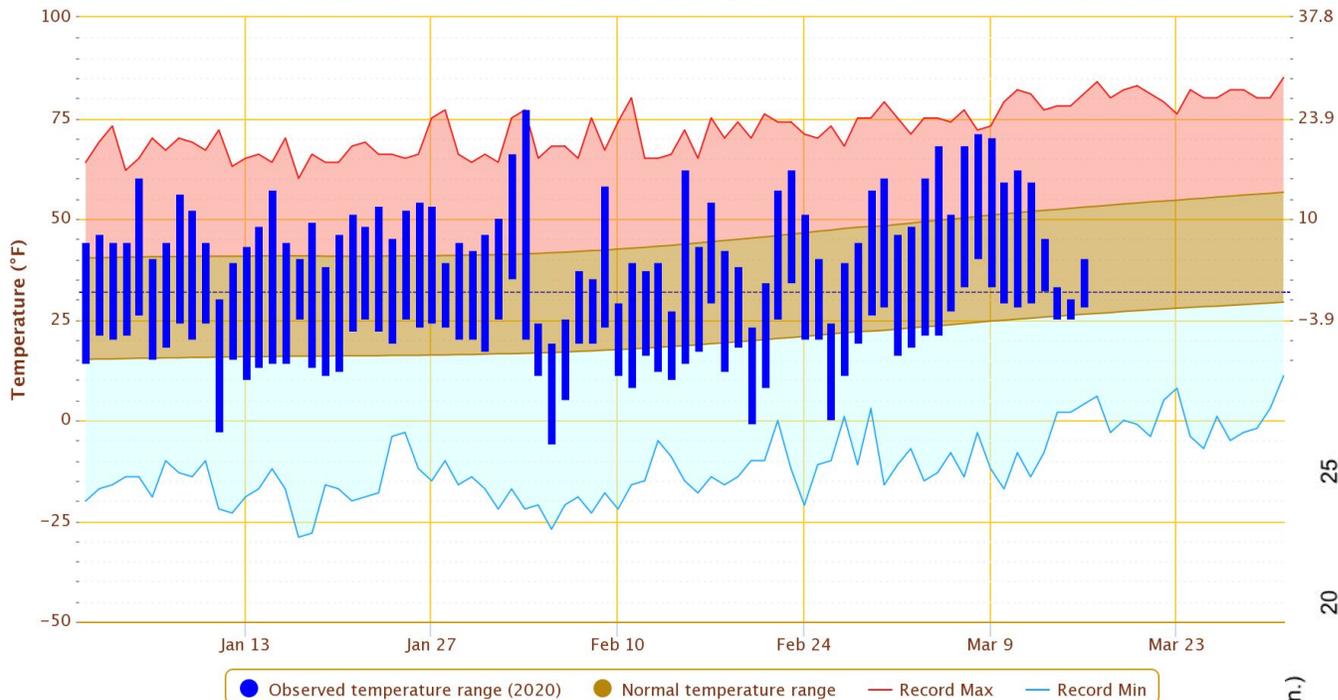


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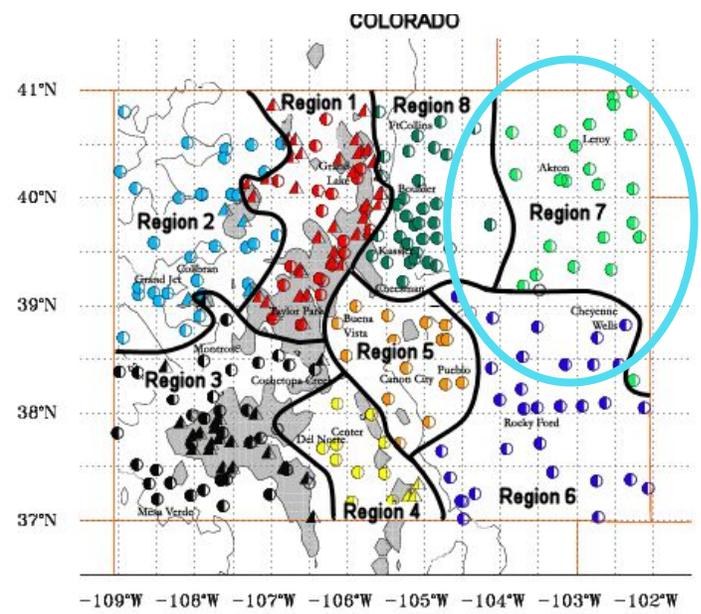
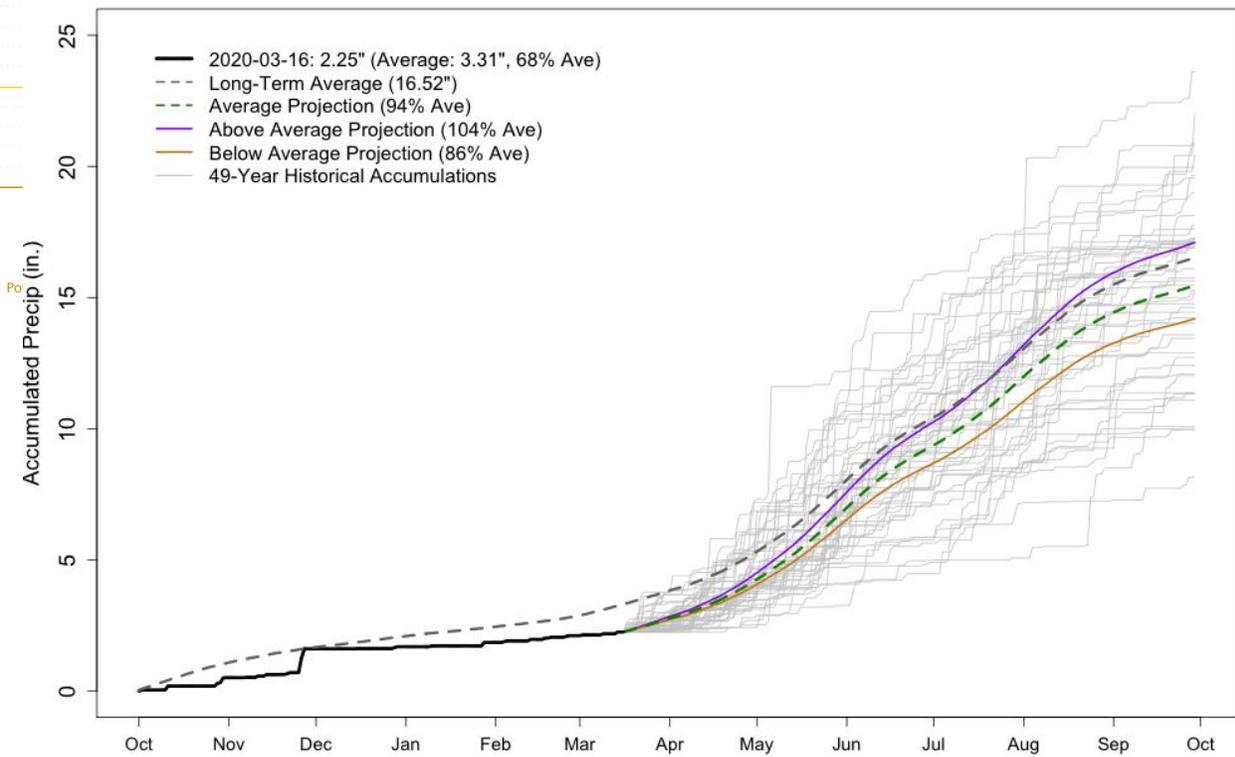


Daily Temperature Data – AKRON 4 E, CO

Period of Record – 1893-06-01 to 2020-03-16. Normals period: 1981-2010. Click and drag to zoom chart.



AKRON 4 E WY2020 Precipitation Projections

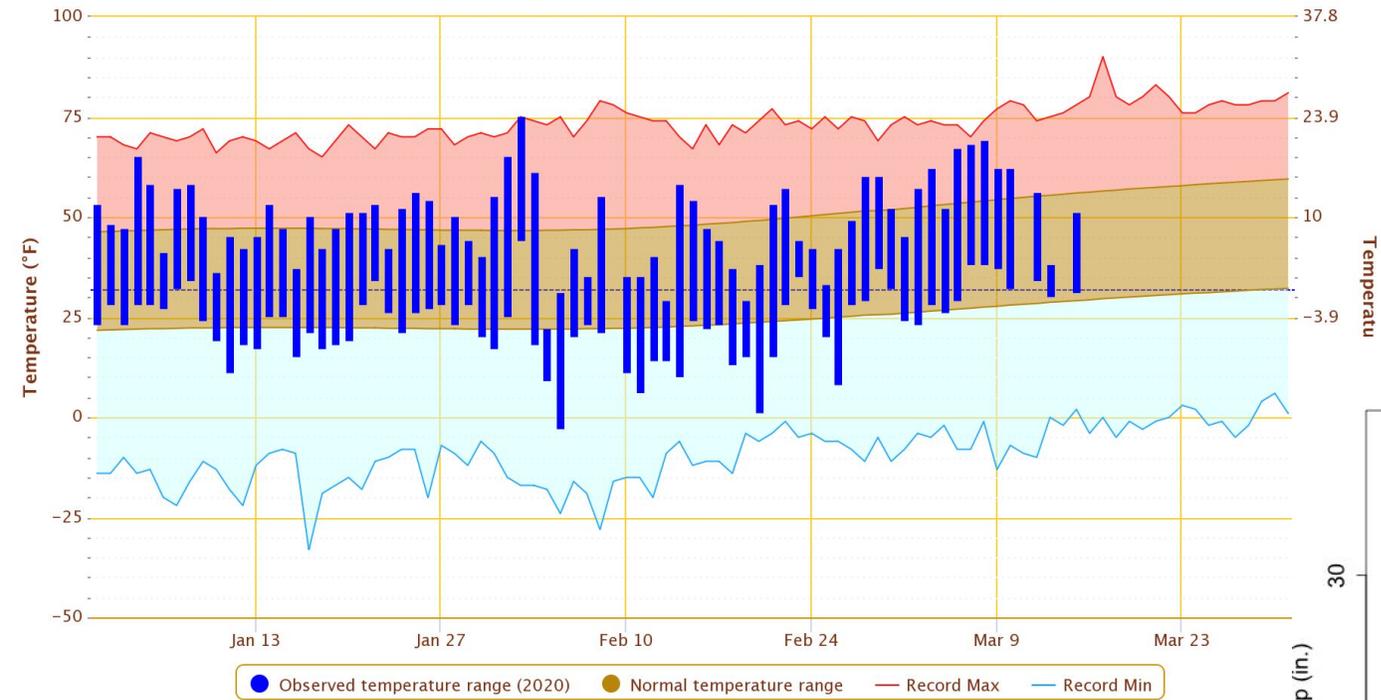


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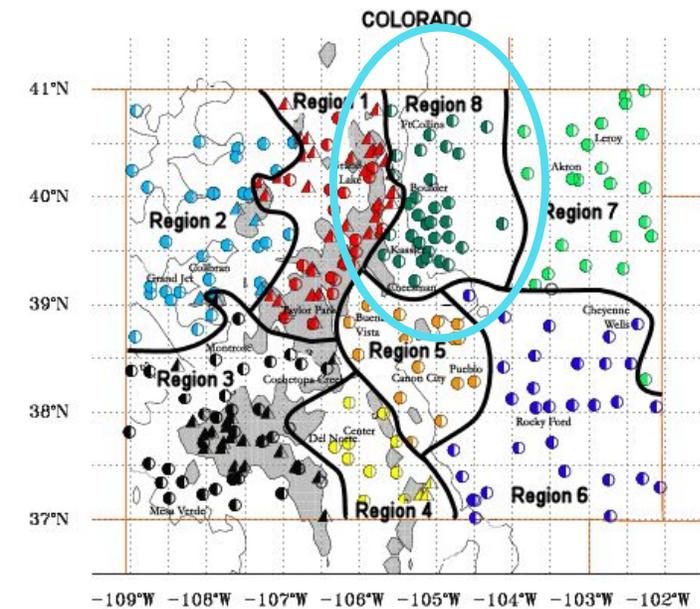
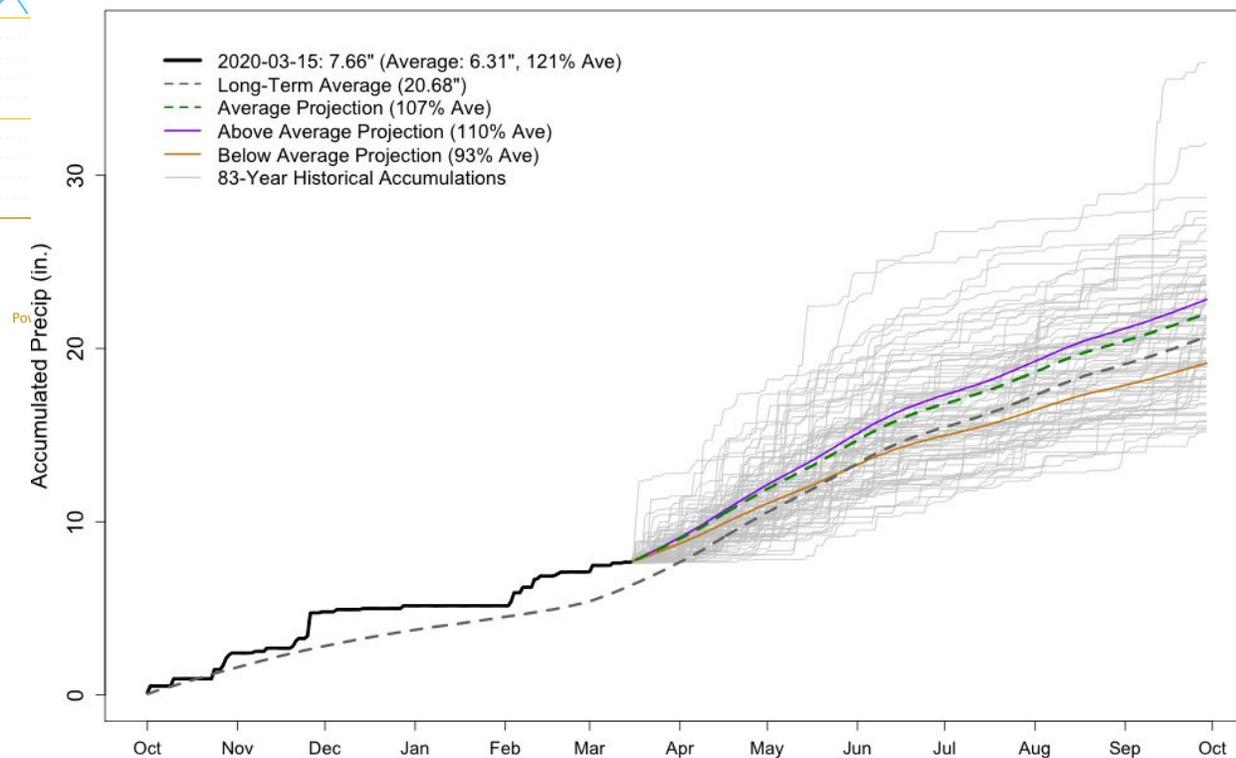


Daily Temperature Data – BOULDER, CO

Period of Record – 1893-10-01 to 2020-03-15. Normals period: 1981-2010. Click and drag to zoom chart.



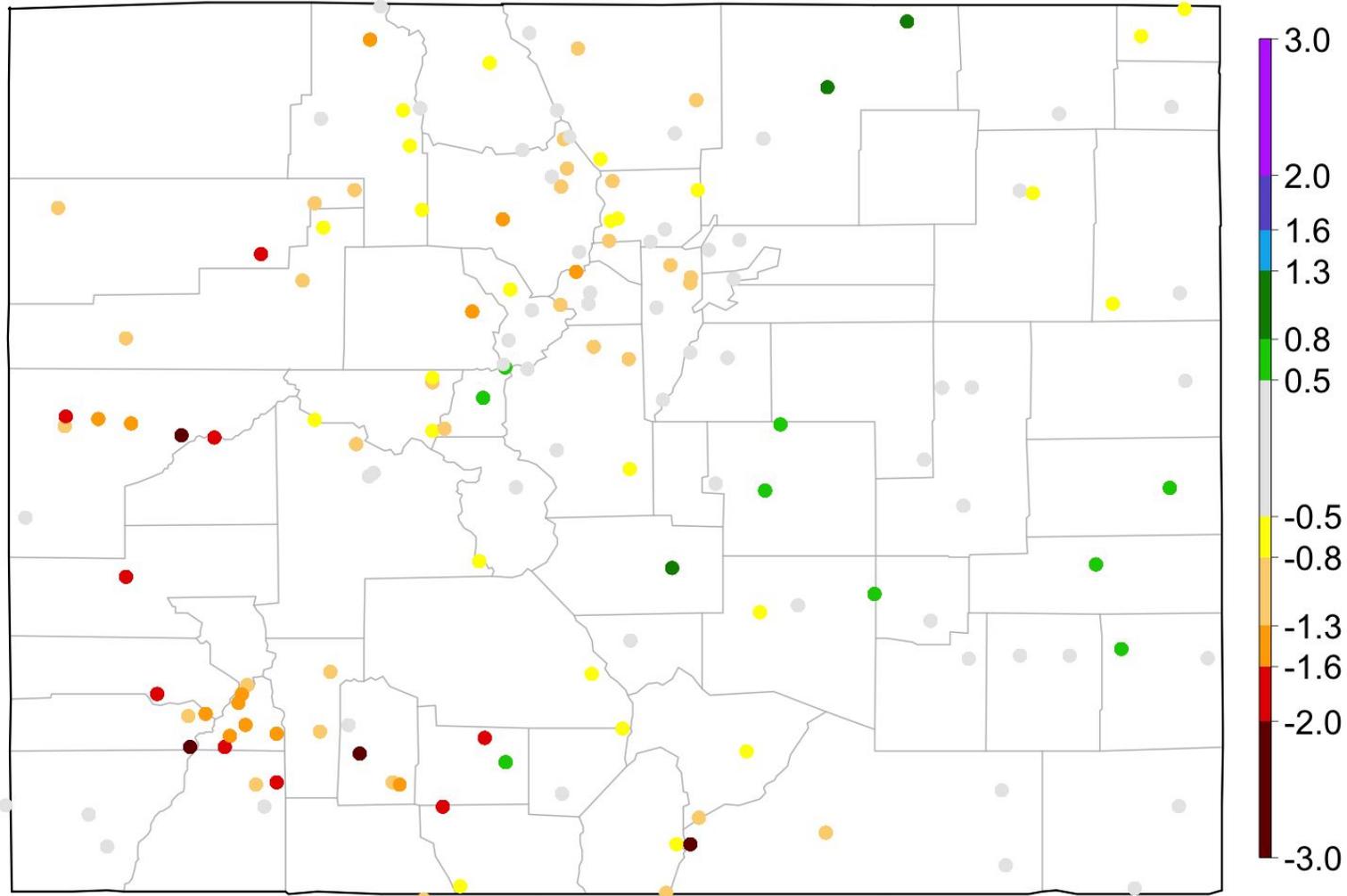
BOULDER WY2020 Precipitation Projections



ENTER



30-day SPI: 2020/02/13 - 2020/03/14

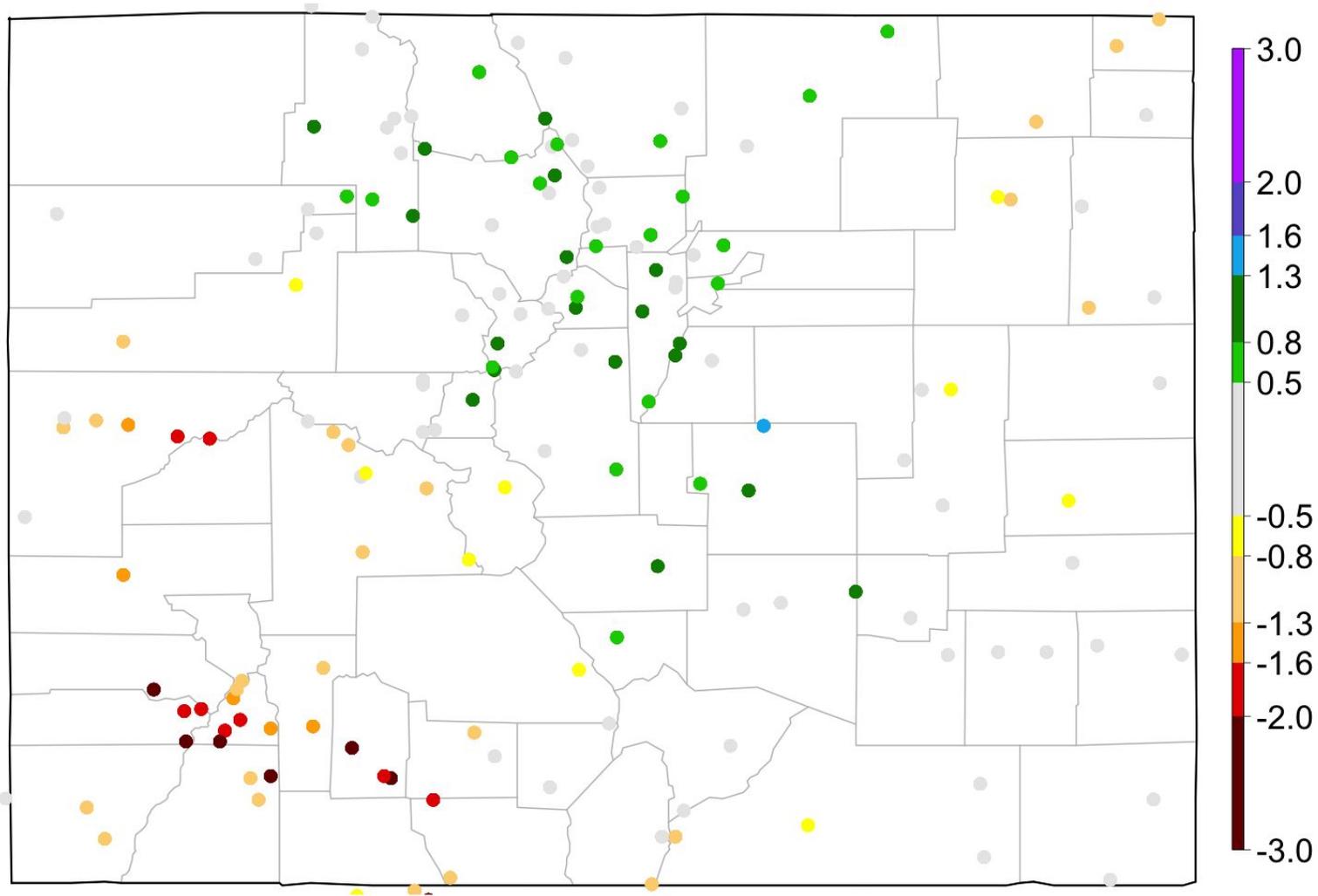


Data from High Plains Regional Climate Center and ACIS

<http://climate.colostate.edu/~drought/spi.html>



60-day SPI: 2020/01/14 - 2020/03/14

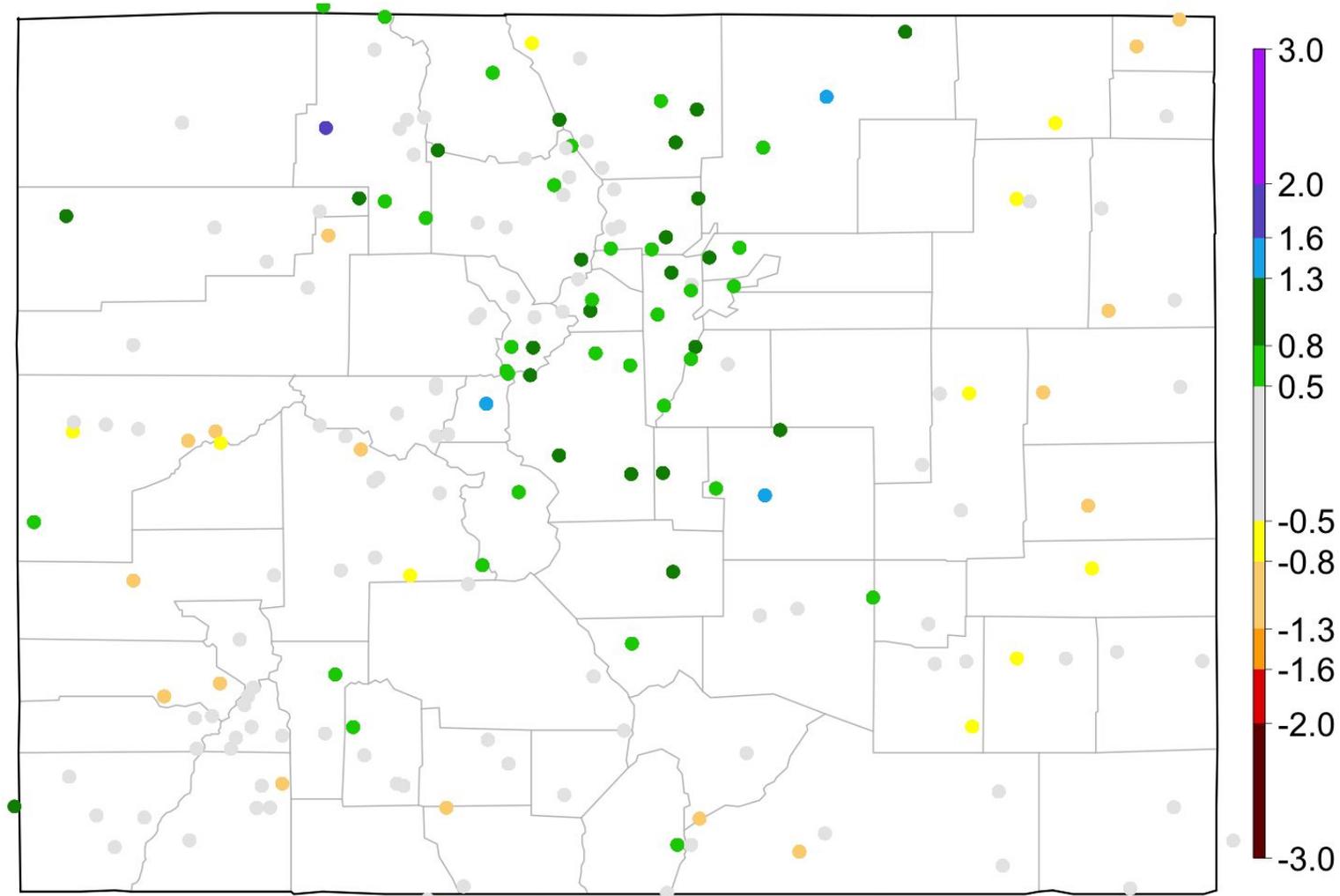


Data from High Plains Regional Climate Center and ACIS

<http://climate.colostate.edu/~drought/spi.html>



120-day SPI: 2019/11/15 - 2020/03/14

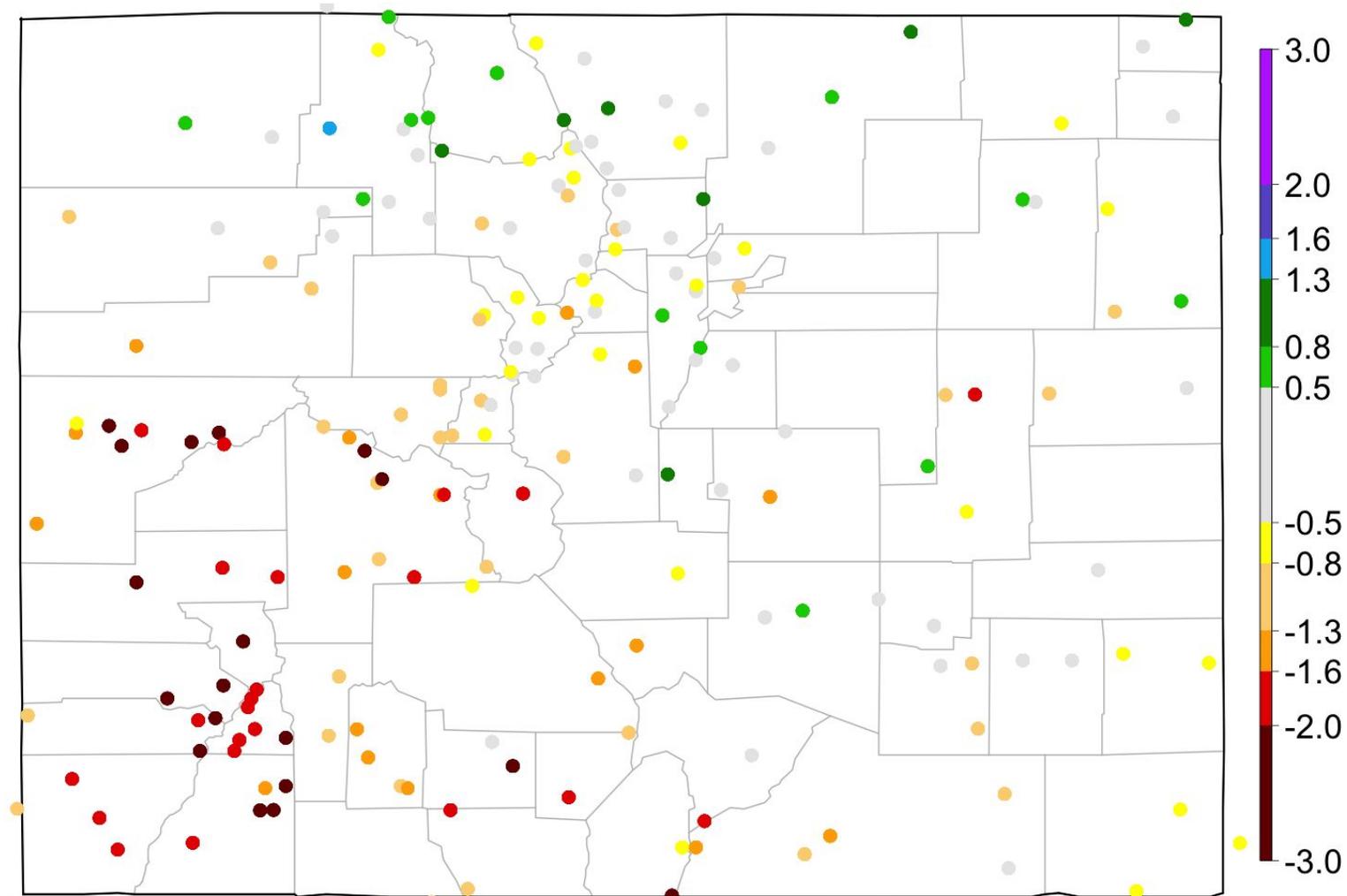


Data from High Plains Regional Climate Center and ACIS

<http://climate.colostate.edu/~drought/spi.html>



9-month SPI: 2019/06/15 - 2020/03/14

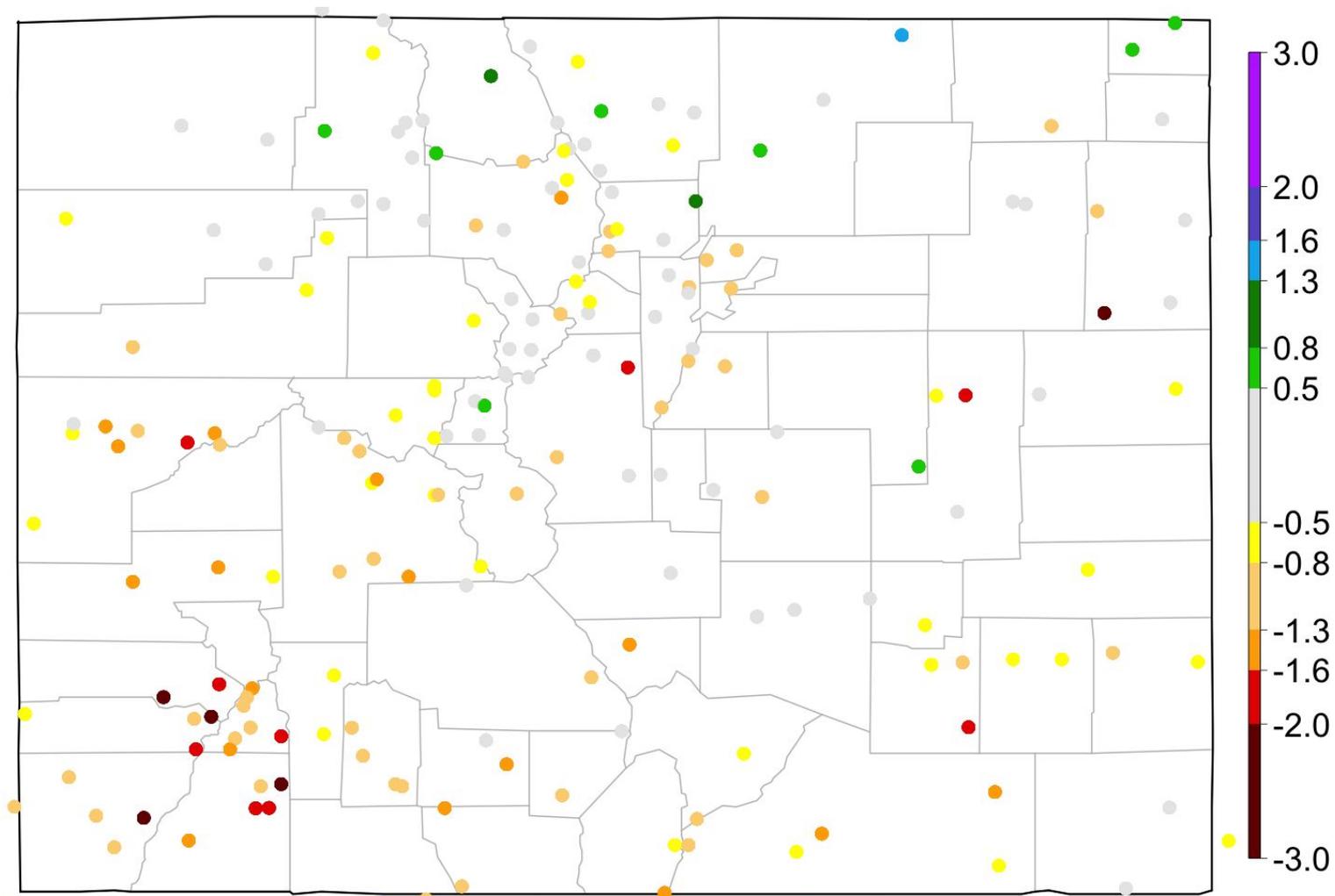


Data from High Plains Regional Climate Center and ACIS

<http://climate.colostate.edu/~drought/spi.html>



12-month SPI: 2019/03/15 - 2020/03/14



Data from High Plains Regional Climate Center and ACIS

<http://climate.colostate.edu/~drought/spi.html>





Drought

National Drought

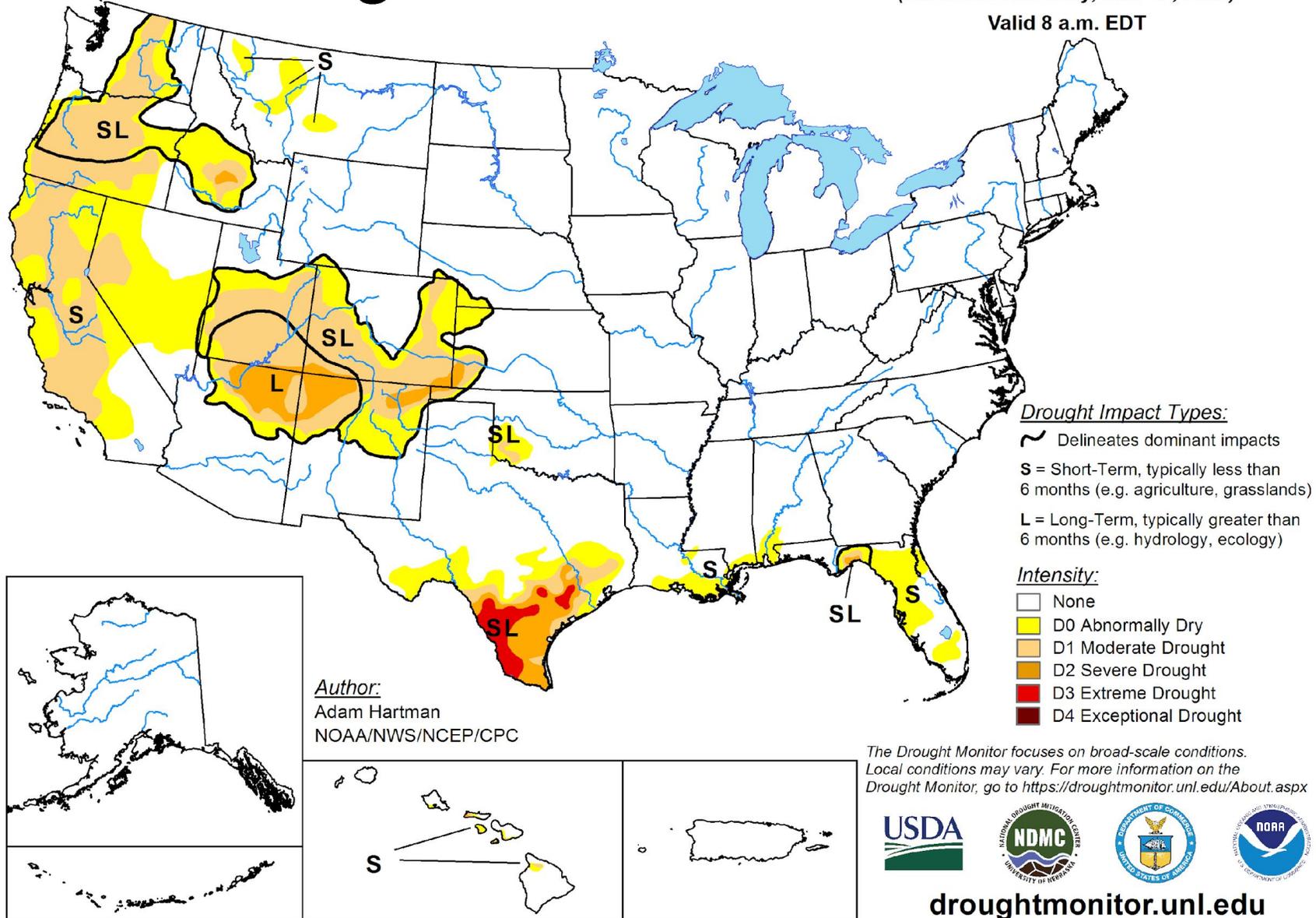
Colorado Drought

Colorado Drought Facts



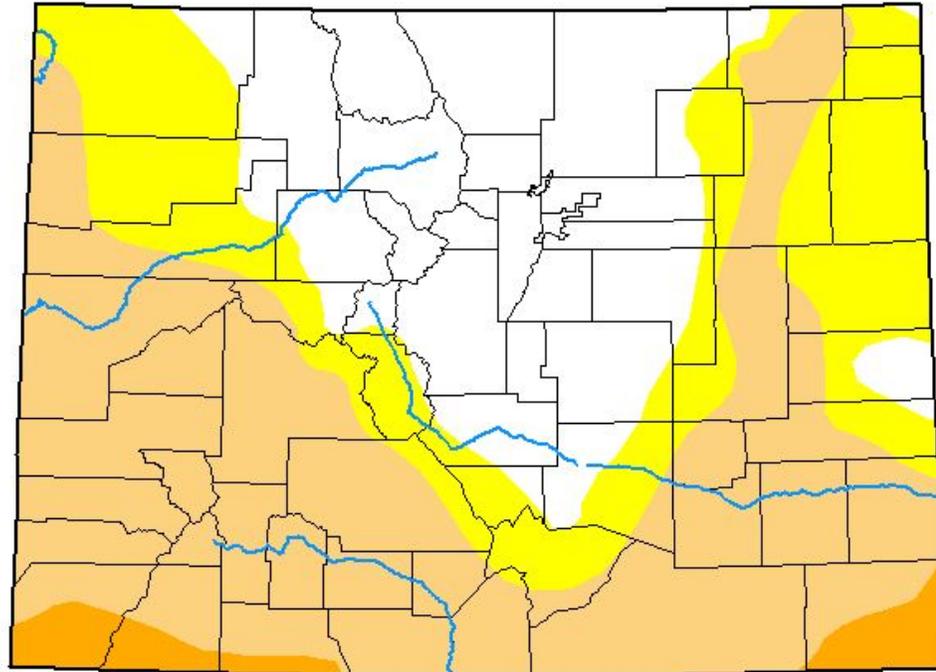
U.S. Drought Monitor

March 10, 2020
(Released Thursday, Mar. 12, 2020)
Valid 8 a.m. EDT



U.S. Drought Monitor Colorado

March 10, 2020
(Released Thursday, Mar. 12, 2020)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	30.09	69.91	46.88	3.30	0.00	0.00
Last Week 03-03-2020	30.09	69.91	45.33	3.30	0.00	0.00
3 Months Ago 12-10-2019	28.03	71.97	55.82	30.09	0.00	0.00
Start of Calendar Year 12-31-2019	31.72	68.28	51.19	20.11	0.00	0.00
Start of Water Year 10-01-2019	30.14	69.86	27.53	0.00	0.00	0.00
One Year Ago 03-12-2019	17.00	83.00	25.44	6.26	0.58	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Adam Hartman
NOAA/NWS/NCEP/CPC



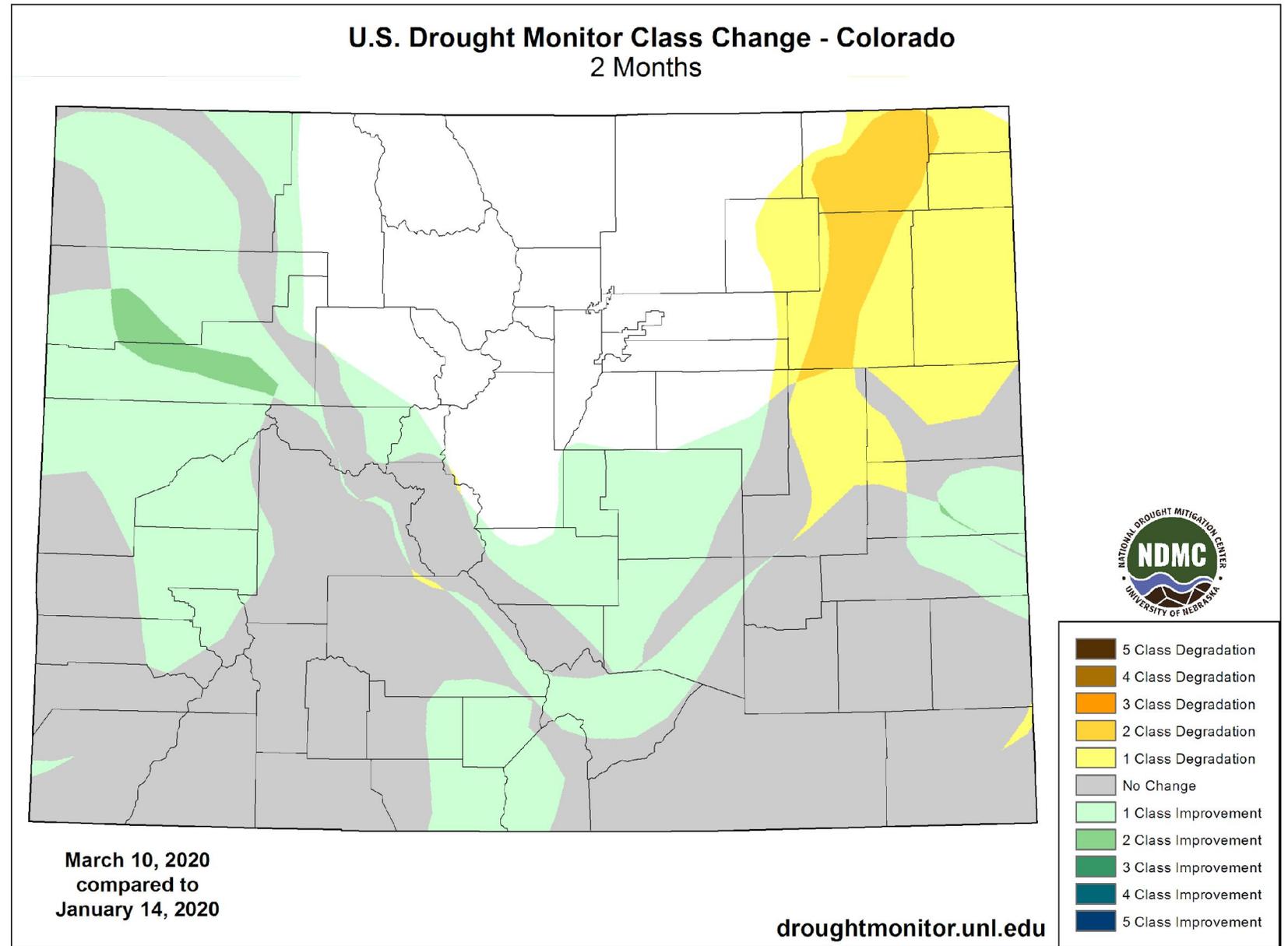
droughtmonitor.unl.edu



In the last 2 months, we've seen improvements over parts of western CO and the Front Range near CO Springs and Pueblo.

Conditions have deteriorated over northeast CO.

While no recent changes have been made over southwest or southeast CO, both areas remain in drought.





Outlook

Next 7 days

8-14 day Outlook

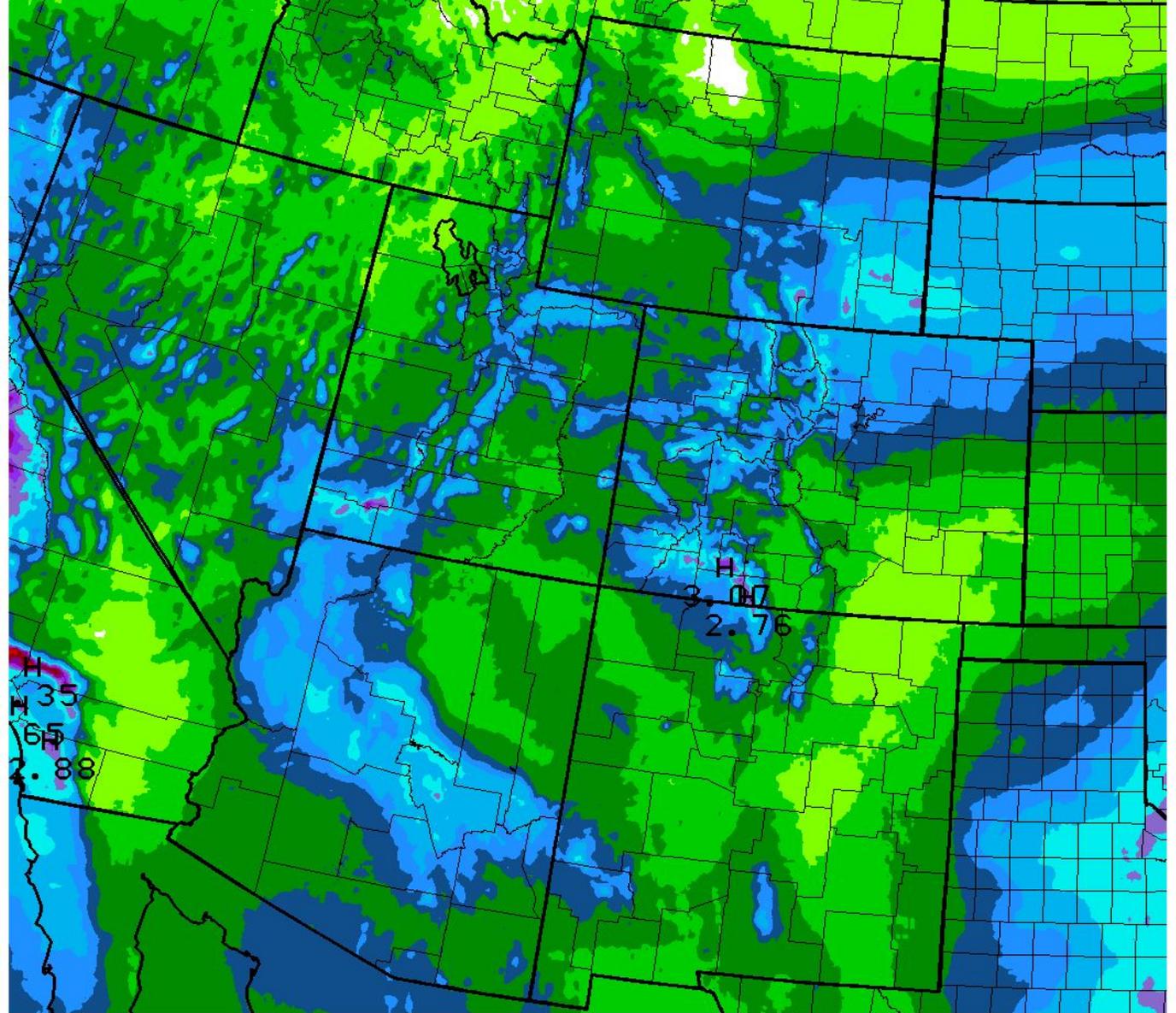
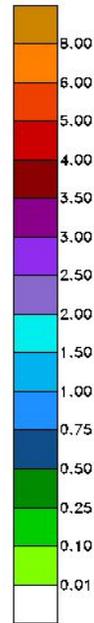
CPC Outlooks

Precipitation Projections

What is happening with El Niño?



NOAA 7-day precip forecast

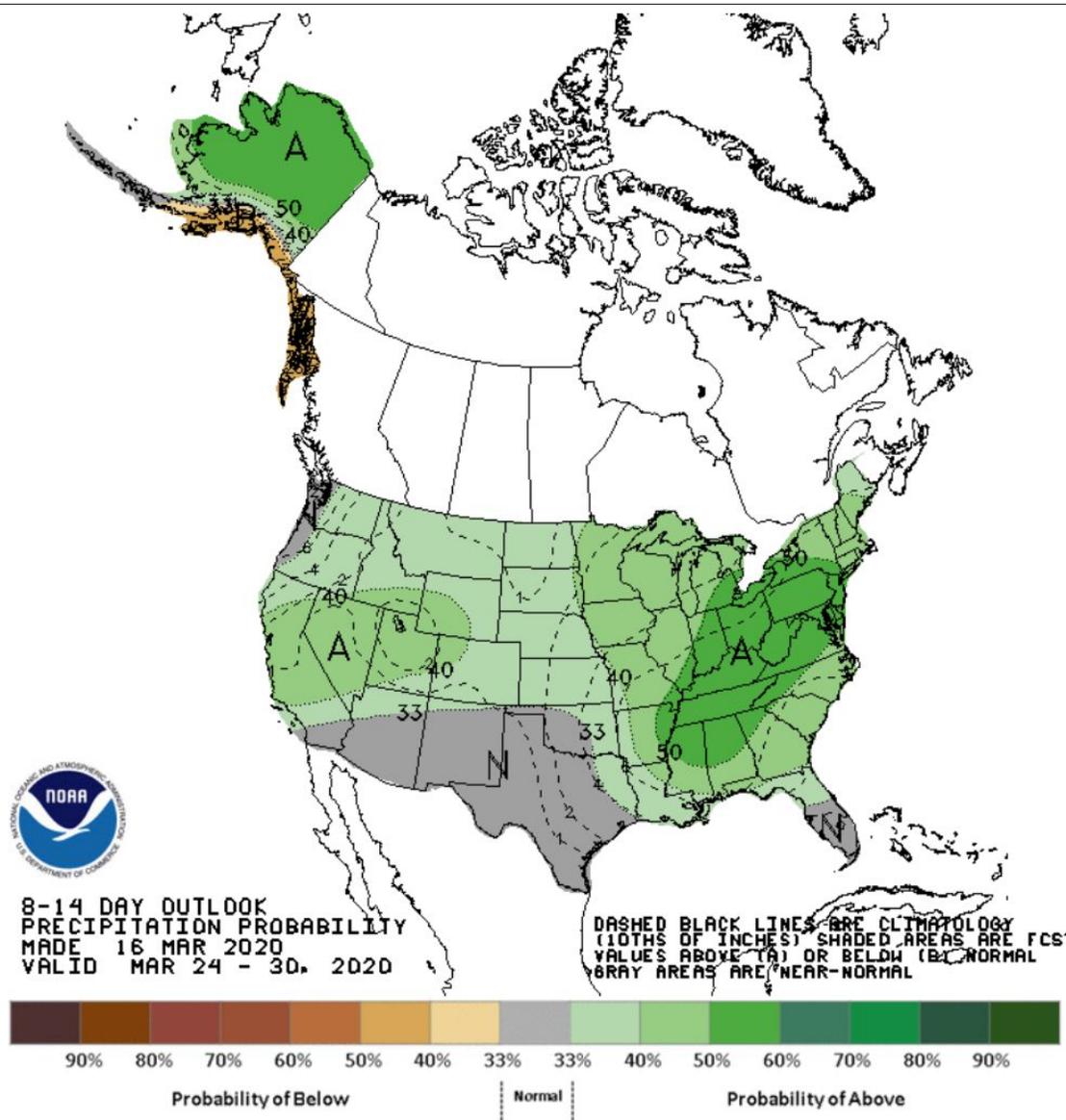
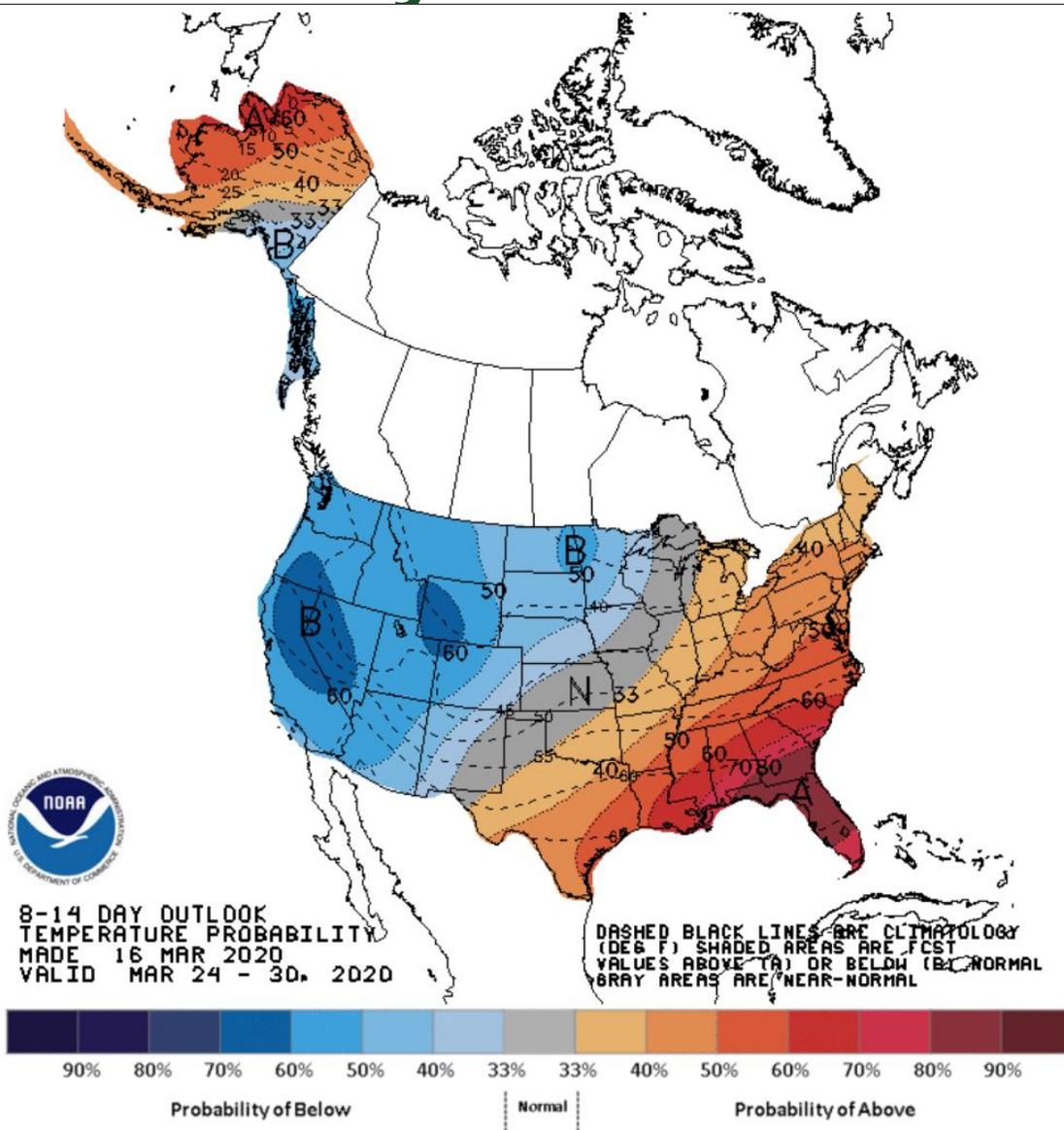


NOAA WPC FORECAST PRECIPITATION (INCHES) IN 7 DAYS ENDING MON 200323/120
FORECAST ISSUED 200318/1200F168

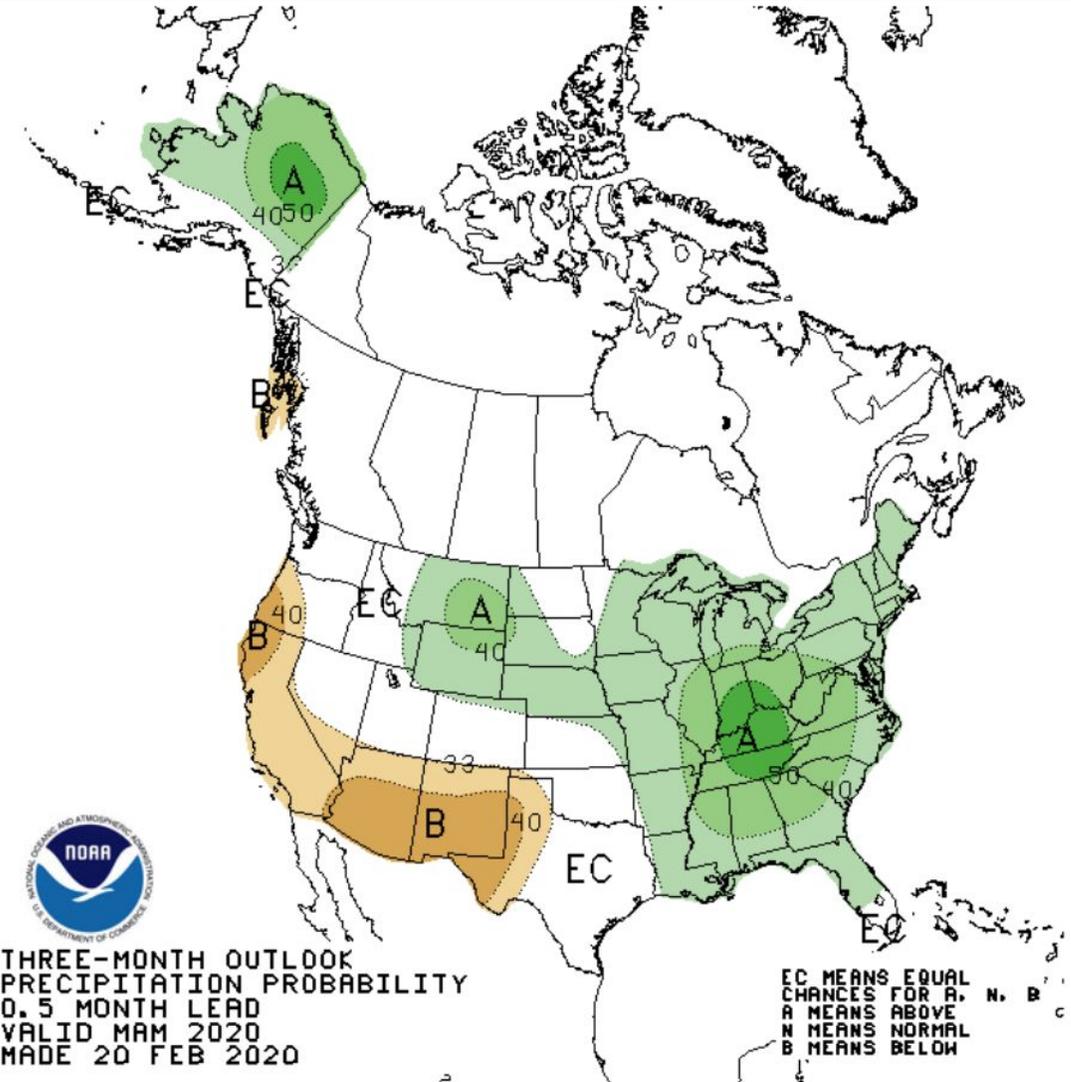
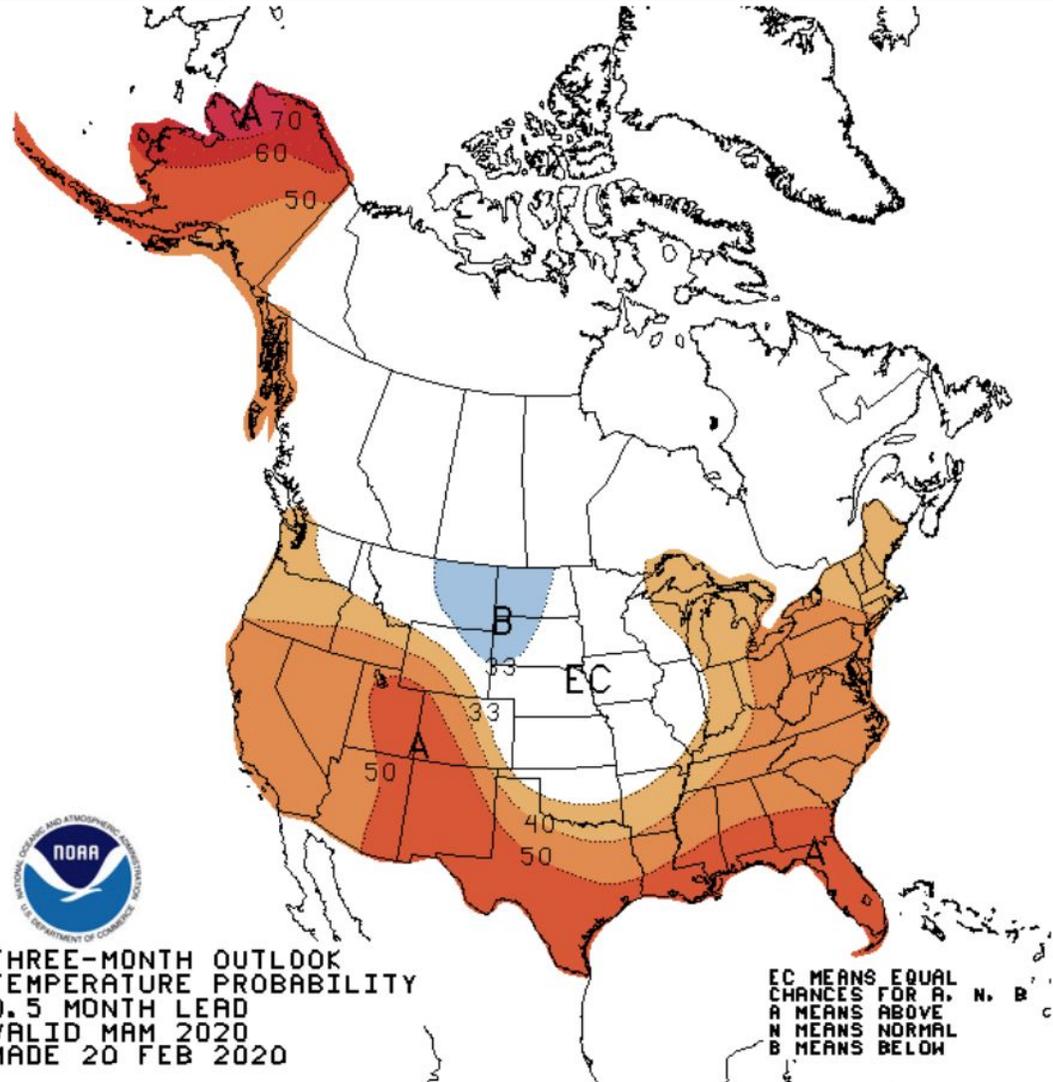
http://schumacher.atmos.colostate.edu/weather/real_time/hpc_qpf_168h_imw/hpc_qpf_168h_imw.gif



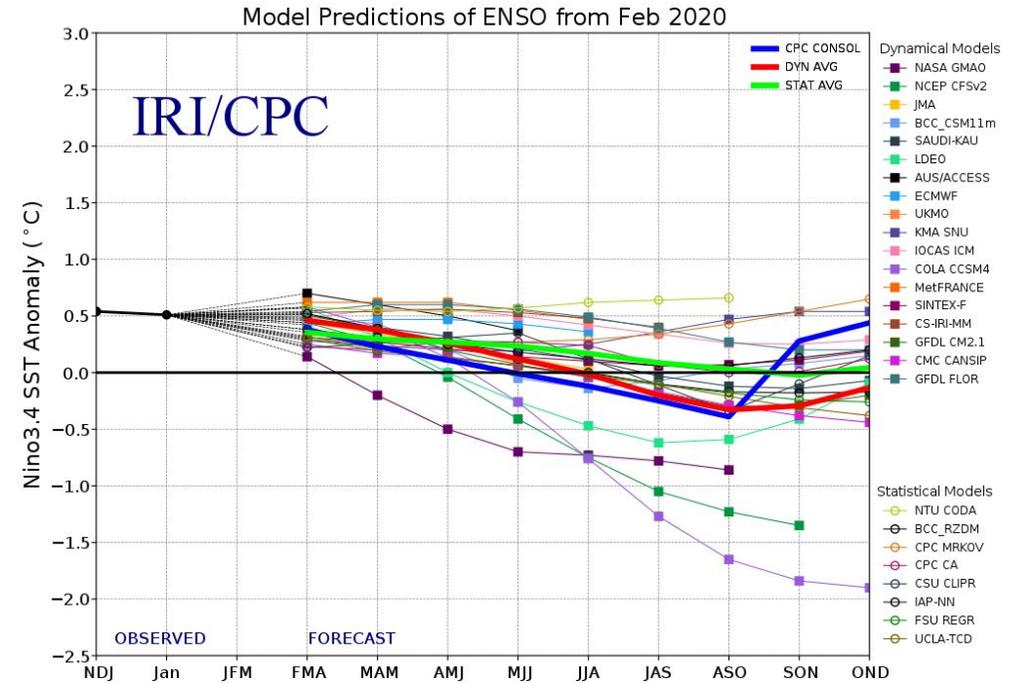
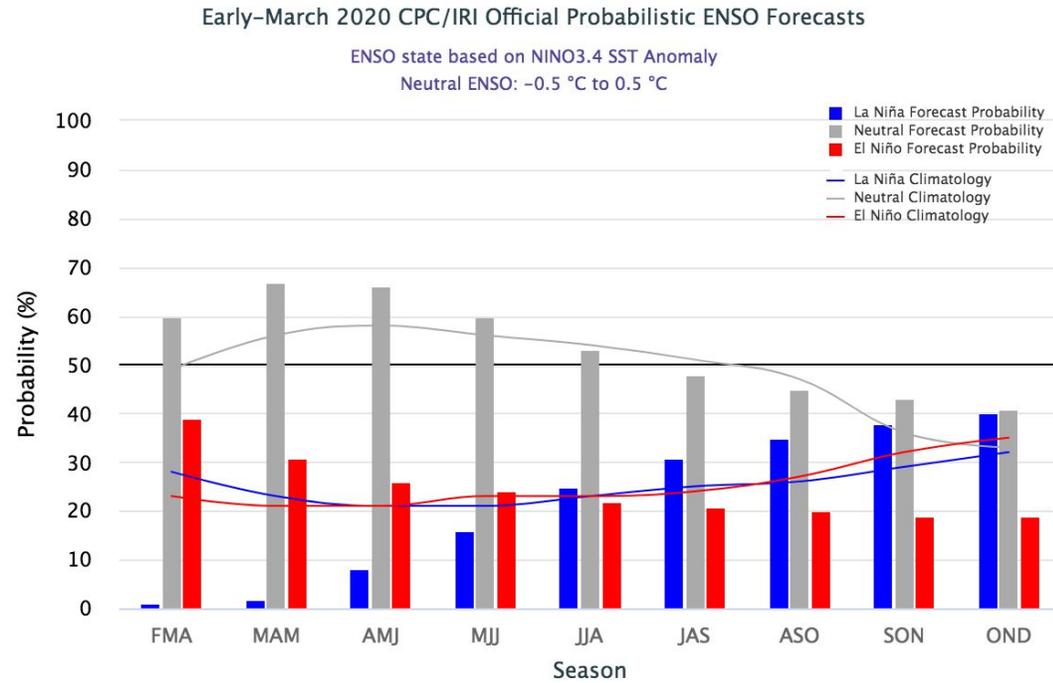
8-14 day outlook



One month outlook



What's the El Niño forecast?



Sea surface temperatures show weak El Niño conditions with atmospheric patterns showing up more neutral. Most models favor warm-neutral SSTs during spring and cooling by the summer.



Summary points

- Northern mountains, Front Range looking good
- Some dry concerns along the Eastern Plains – spring moisture would go a long way to help
- Growing concerns in southwest and San Juans. Not as bad as 2018, but struggling to keep up with average
- Tough to say what to expect over the next couple of months, no ENSO signal driving variability
- With patterns and trends observed this water year, best bet is that we will have some areas experience short to mid-term droughts. Vegetation stress and crop damage, but not as extreme or widespread.



To view this and other presentations:
http://climate.colostate.edu/ccc_archive.html

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Thank you!



ATMOSPHERIC SCIENCE
COLORADO STATE UNIVERSITY