

Colorado weather and climate update (or: “What a difference a year makes”)

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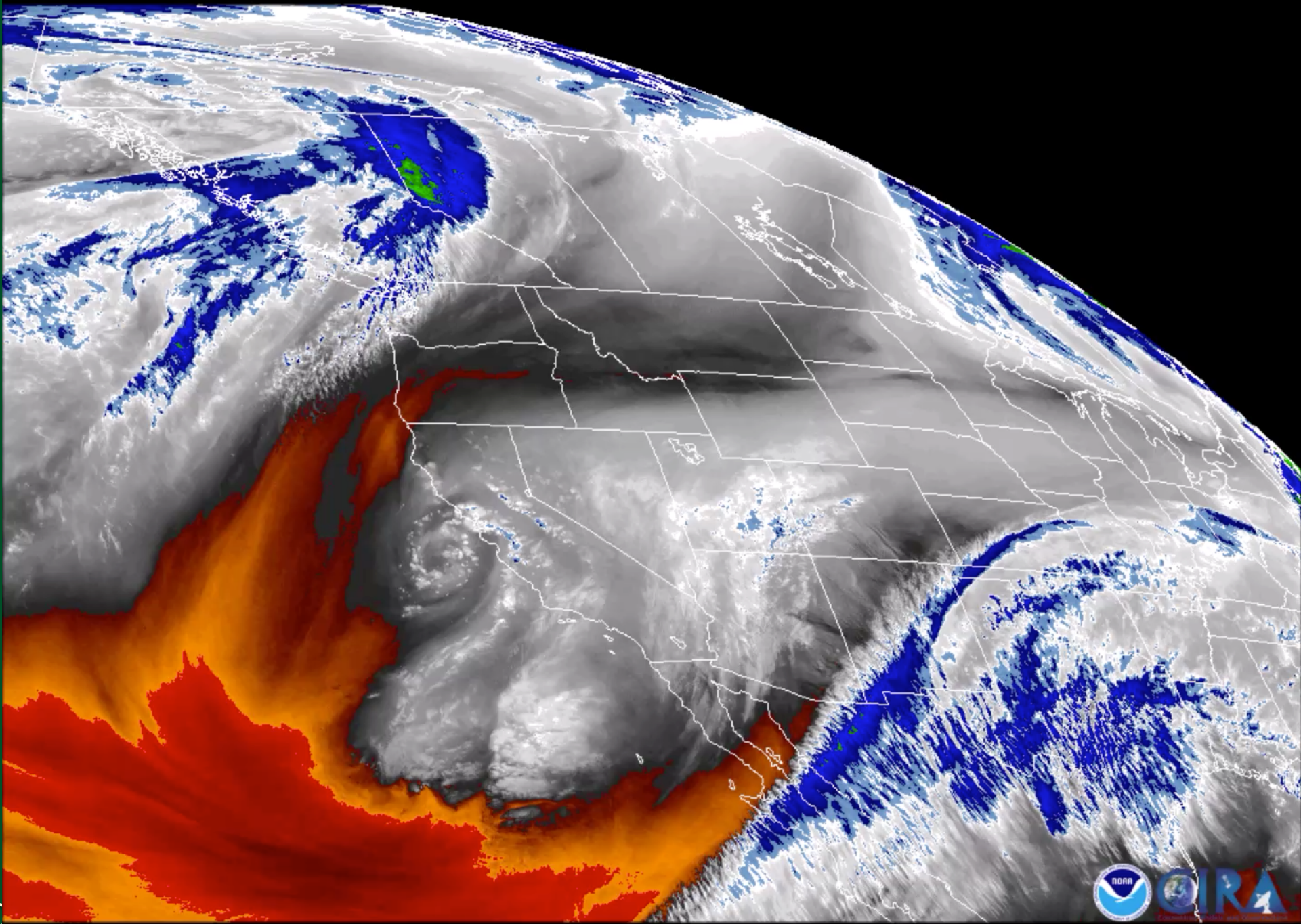
Along with: Zach Schwalbe, Becky Bolinger, Peter Goble, Nolan Doesken



Greeley Water roundup
March 2019



ATMOSPHERIC SCIENCE
COLORADO STATE UNIVERSITY

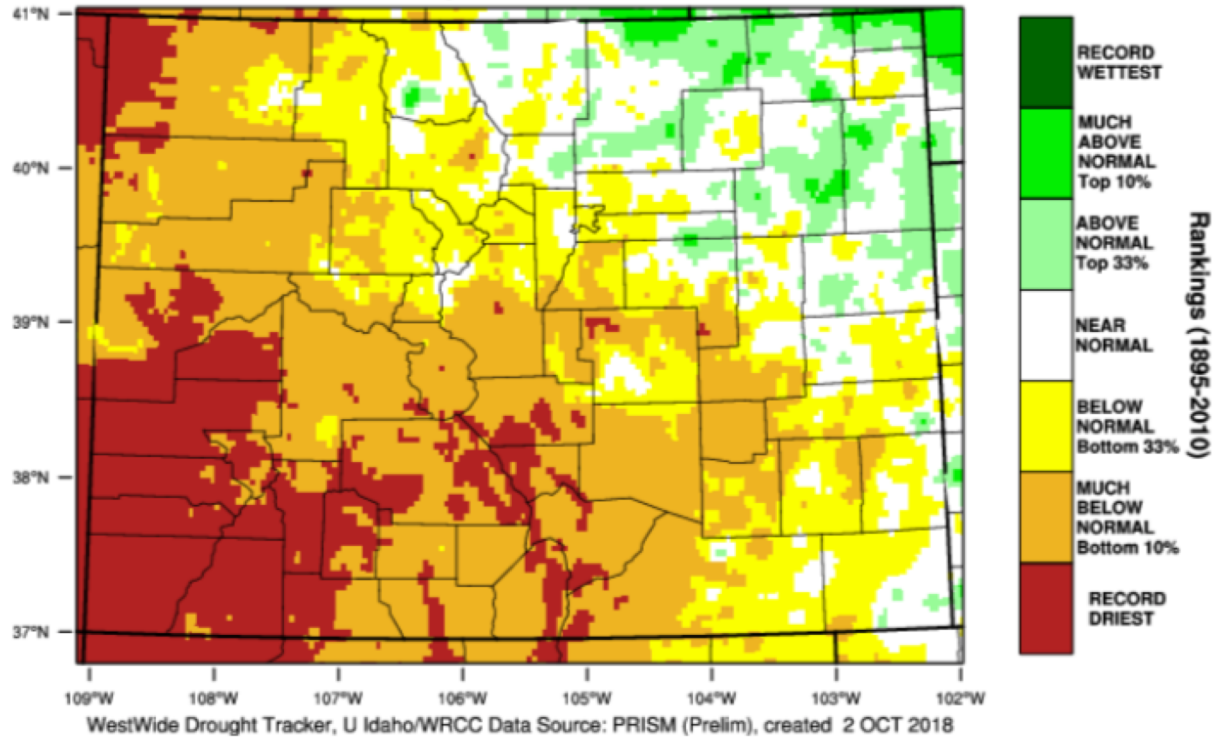


CC



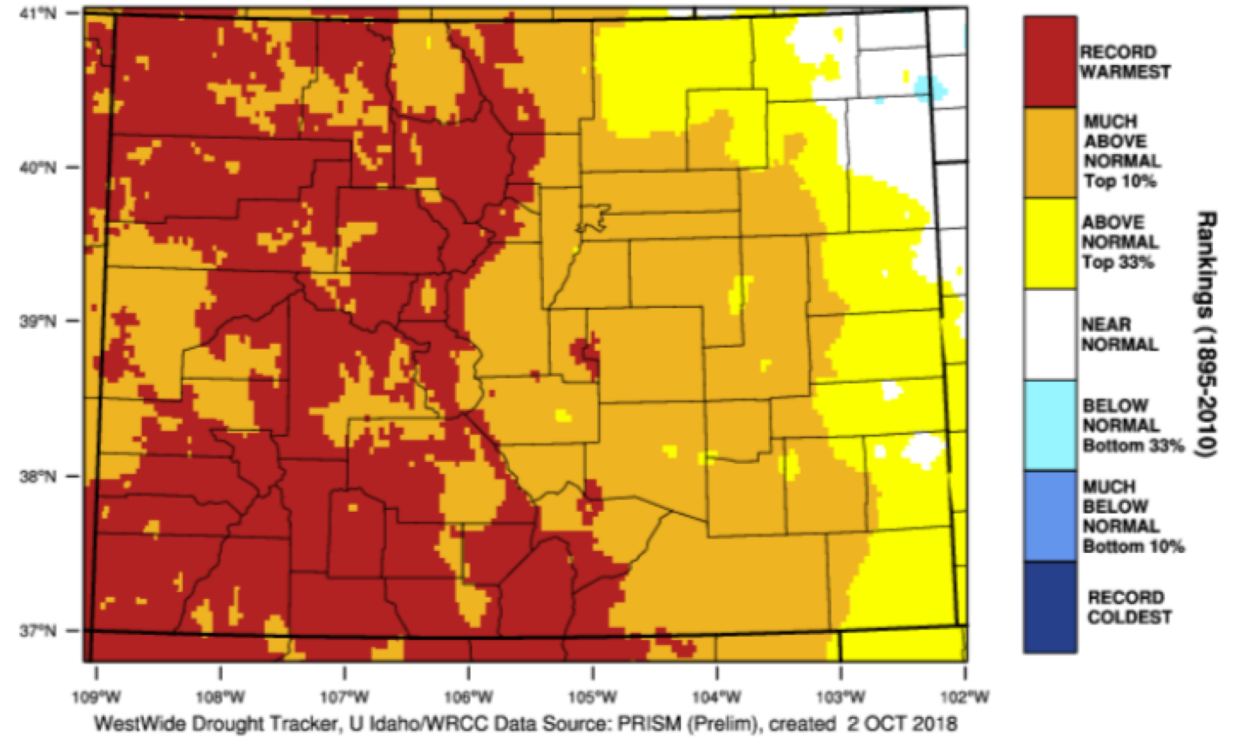
Water Year 2018: One to forget!

Colorado - Precipitation
October-September 2018 Percentile



2nd driest water year on record for Colorado

Colorado - Mean Temperature
October-September 2018 Percentile



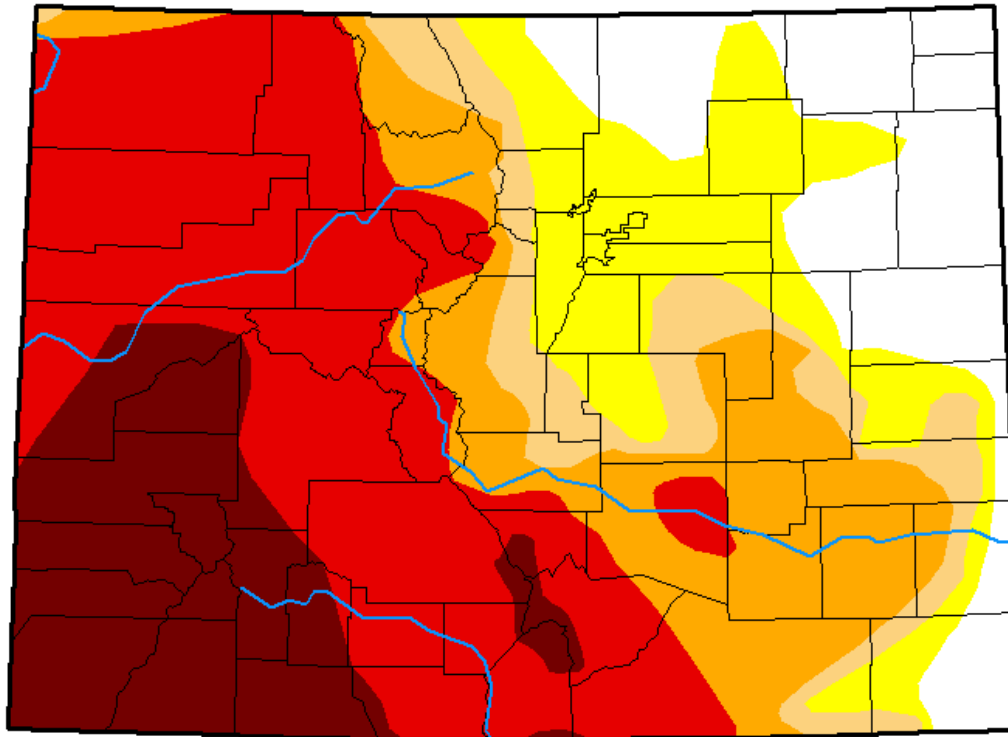
3rd warmest water year on record for Colorado






Water Year 2018: One to forget!

U.S. Drought Monitor Colorado

October 2, 2018
(Released Thursday, Oct. 4, 2018)
Valid 8 a.m. EDT



Intensity:

-  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. See accompanying text summary for forecast statements.

Author:

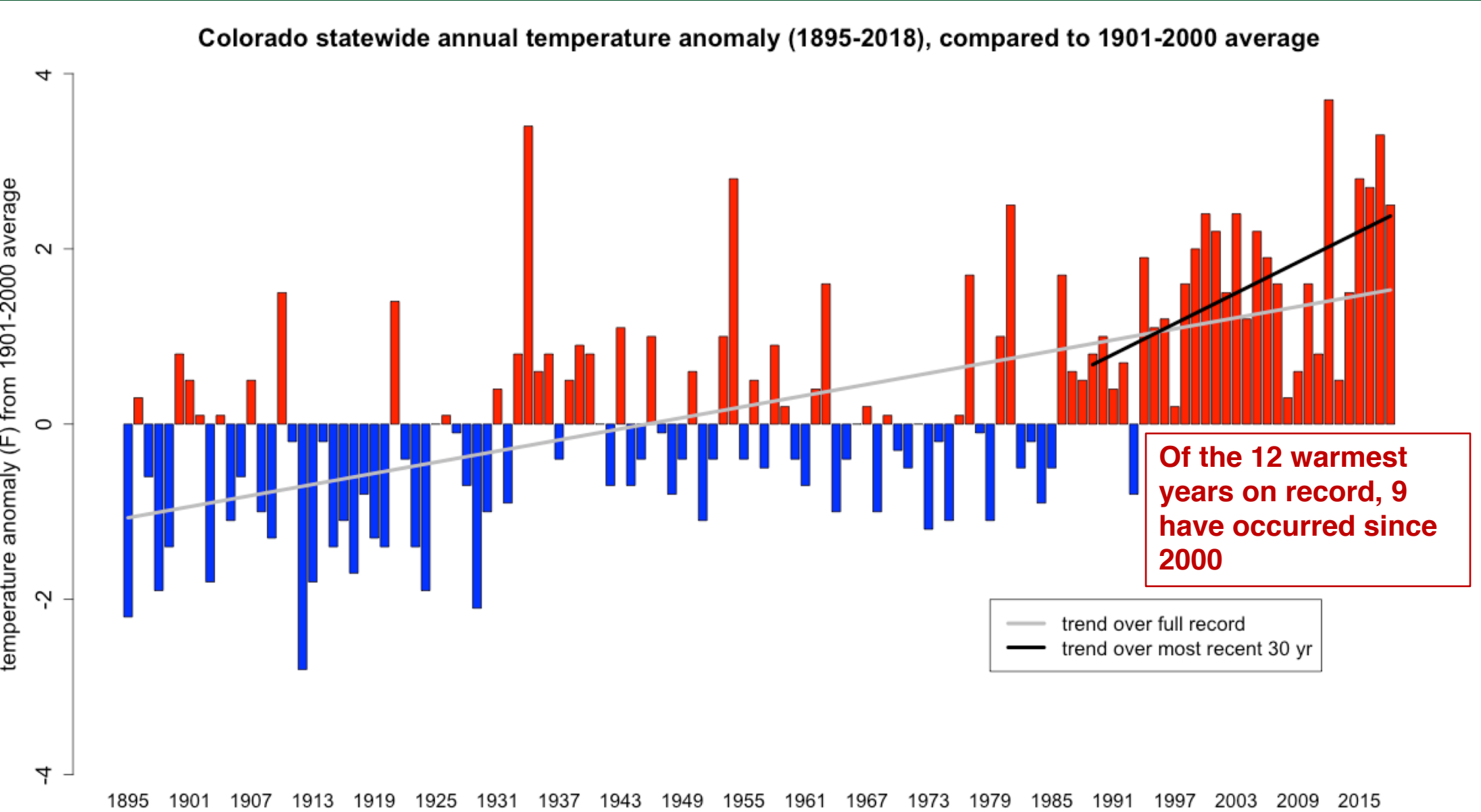
David Miskus
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>



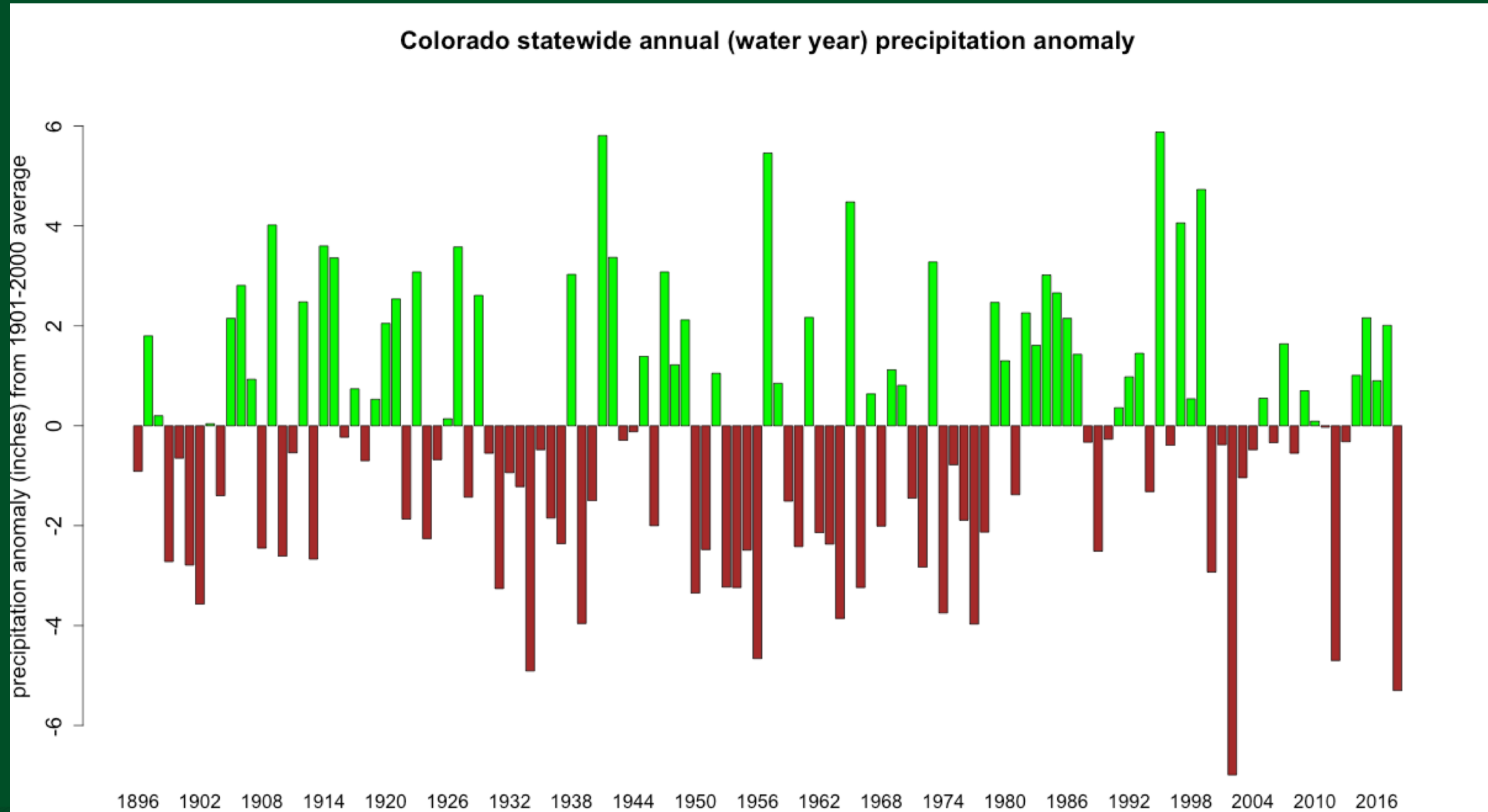
Statewide annual average temperature anomalies



Data source: NOAA/NCEI
Graphic by Colorado Climate Center



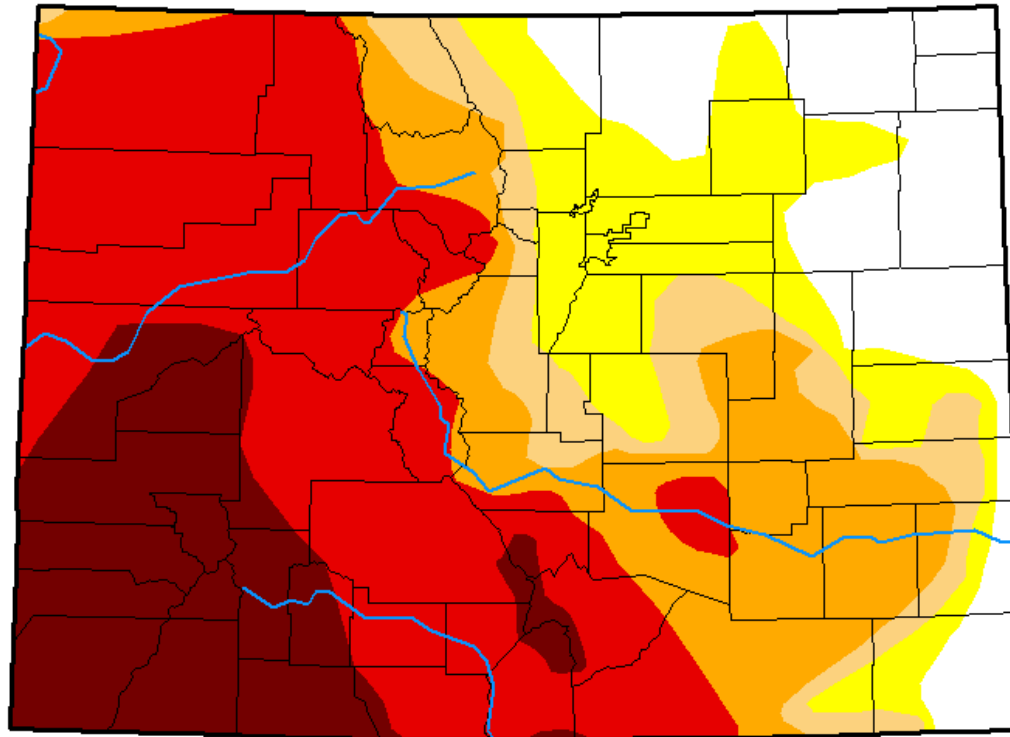
Statewide water year precipitation anomalies






Water Year 2019: A huge turnaround!

U.S. Drought Monitor Colorado

October 2, 2018
(Released Thursday, Oct. 4, 2018)
Valid 8 a.m. EDT



Intensity:

-  D0 Abnormally Dry
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Author:

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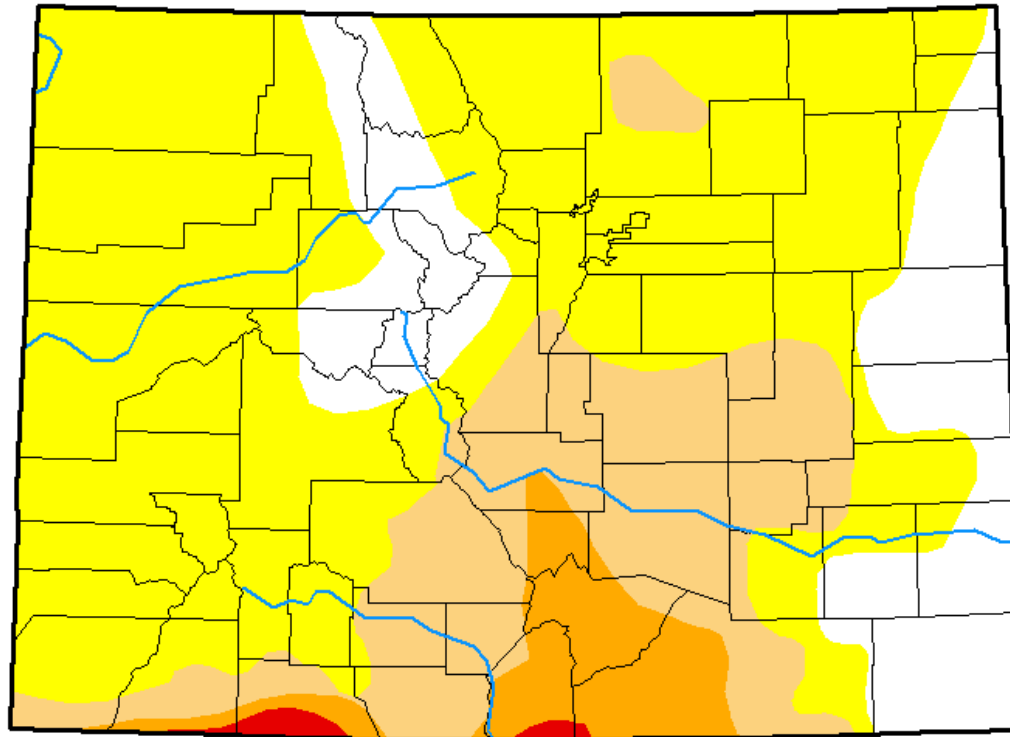
<http://droughtmonitor.unl.edu/>




Water Year 2019: A huge turnaround!

U.S. Drought Monitor Colorado

March 12, 2019
(Released Thursday, Mar. 14, 2019)
Valid 8 a.m. EDT



Intensity:

-  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. See accompanying text summary for forecast statements.

Author:

Jessica Blunden
NCEI/NOAA

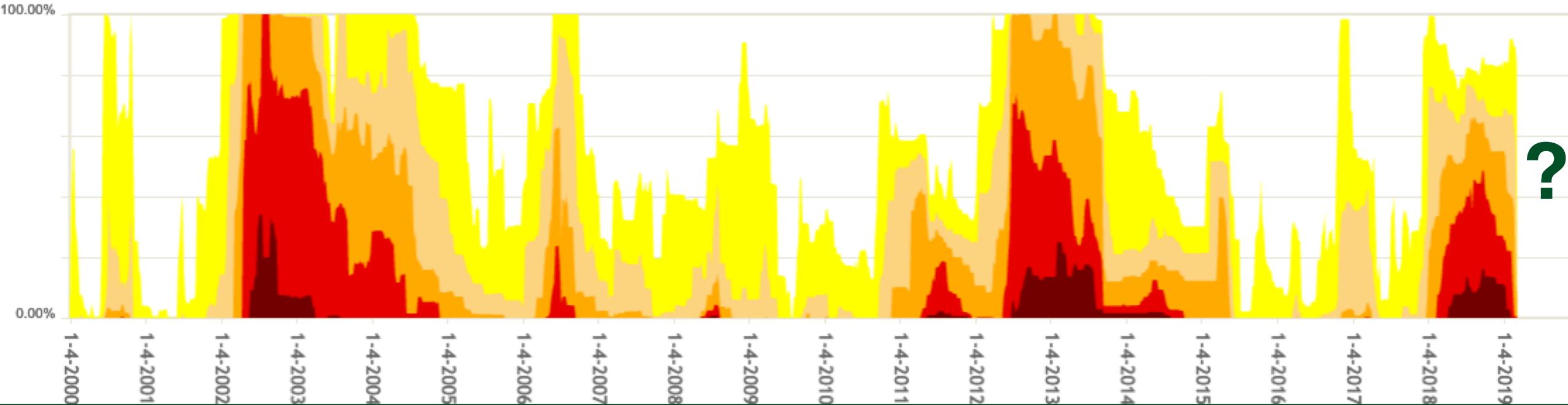


<http://droughtmonitor.unl.edu/>





US Drought Monitor: Colorado

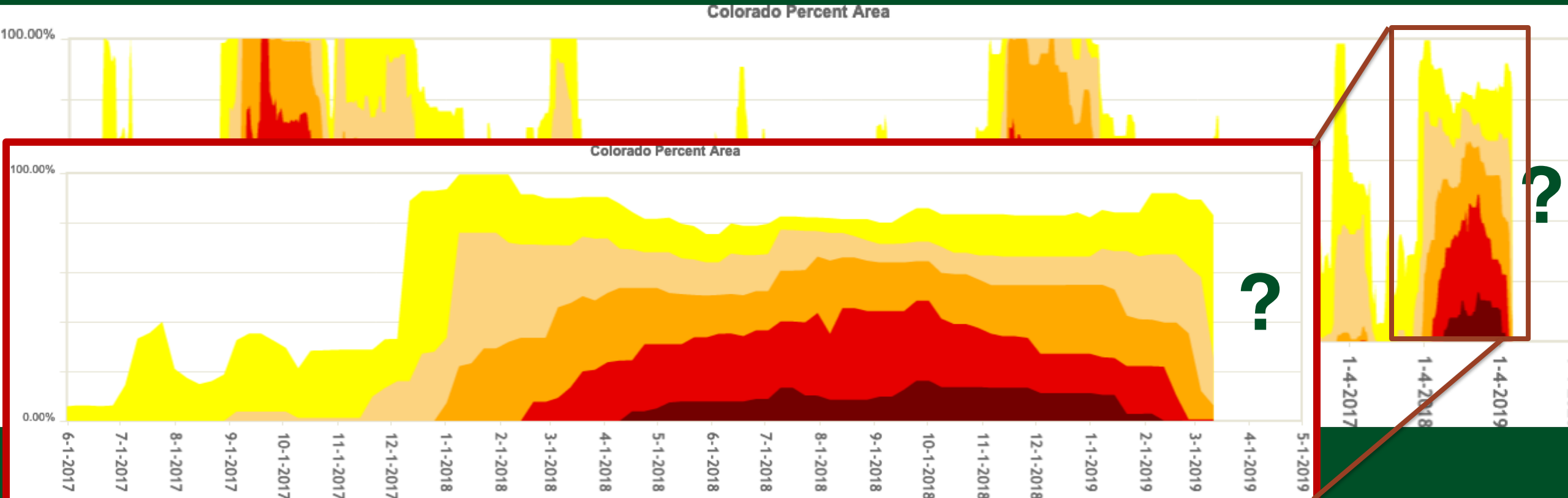
Colorado Percent Area



Intensity:

-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

US Drought Monitor: Colorado

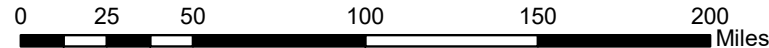
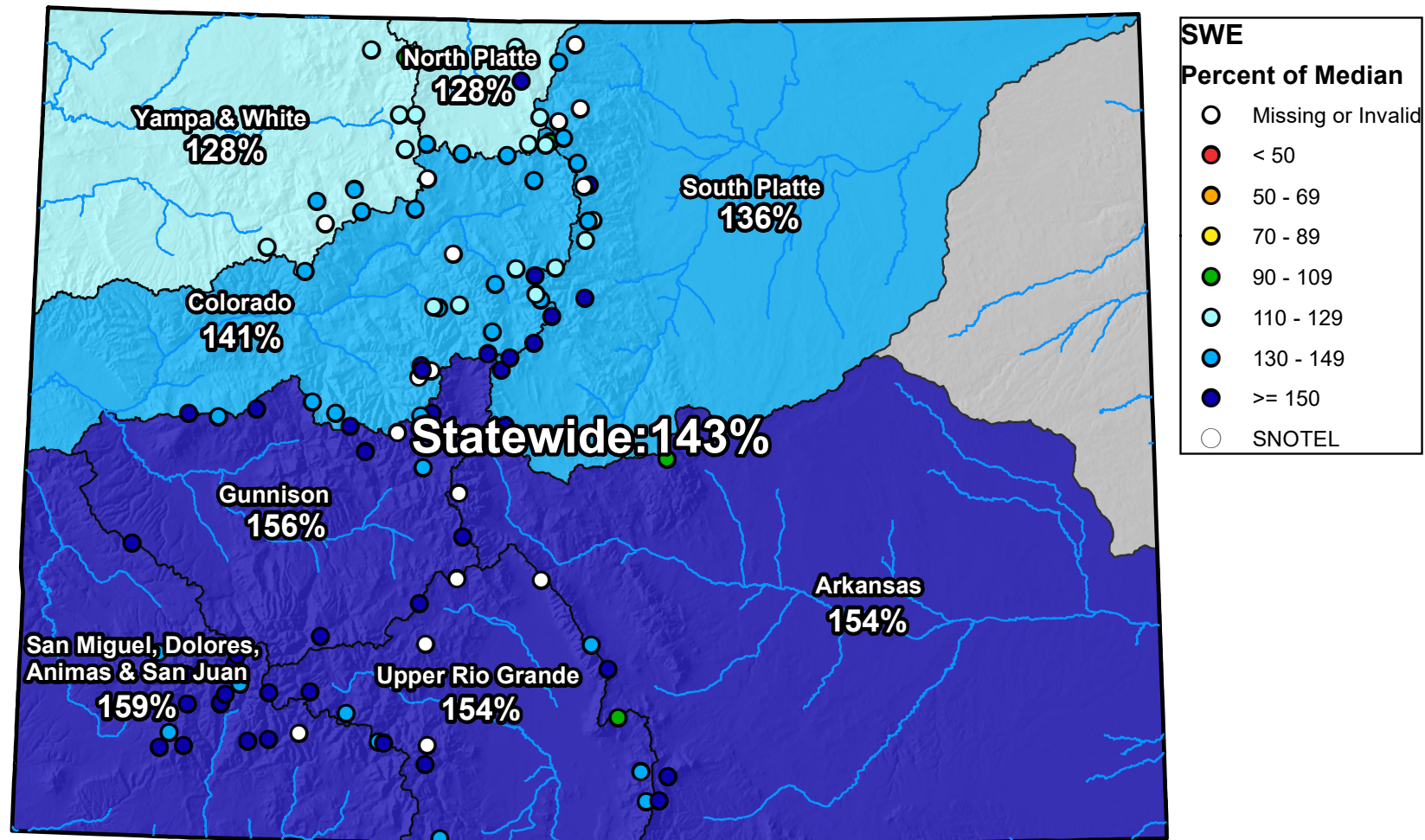


- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

Current as of Mar 14, 2019



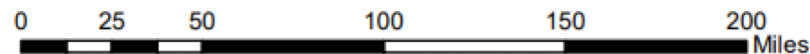
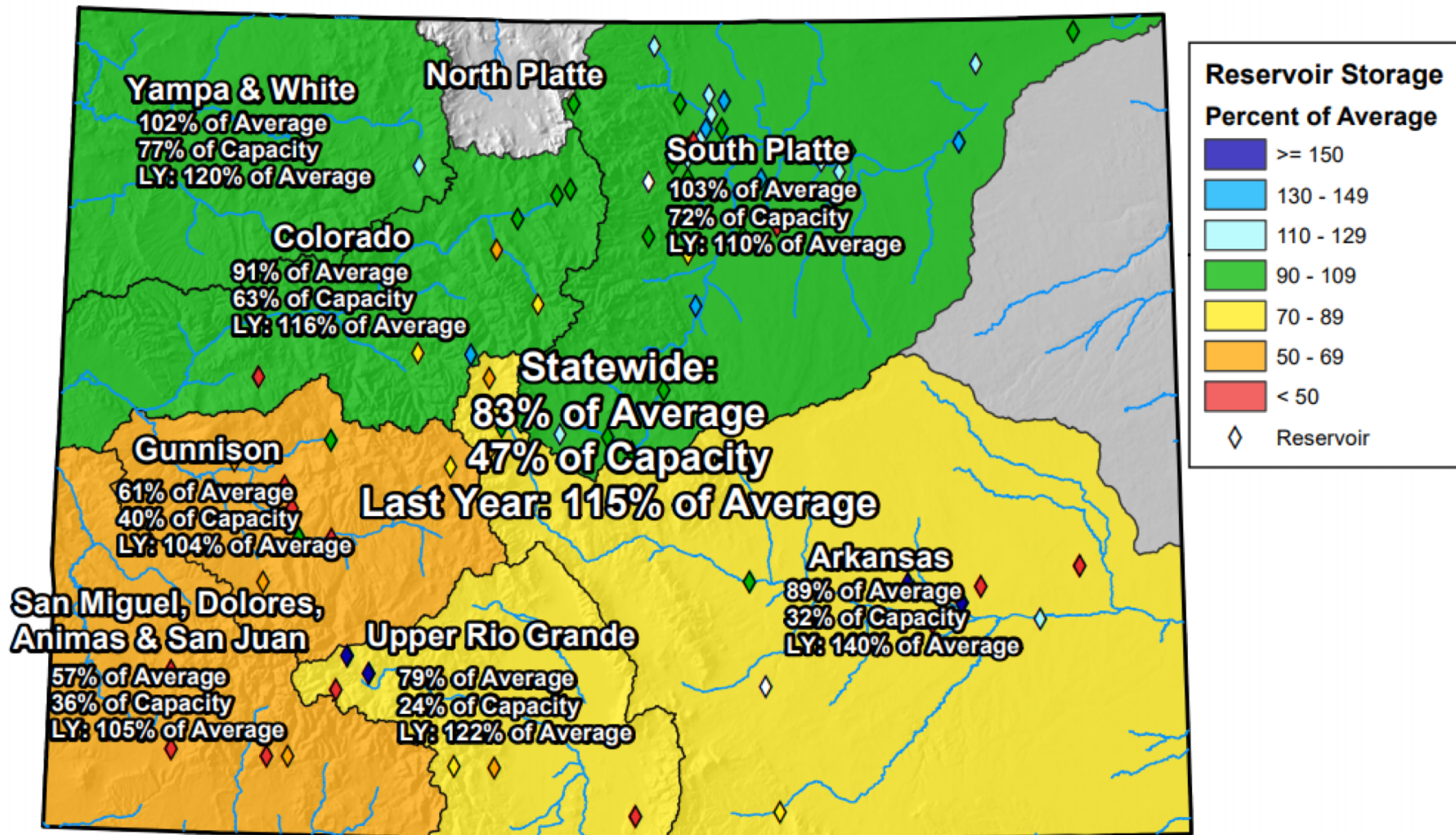
United States Department of Agriculture

Natural Resources Conservation Service



Colorado Monthly Reservoir Storage Summary

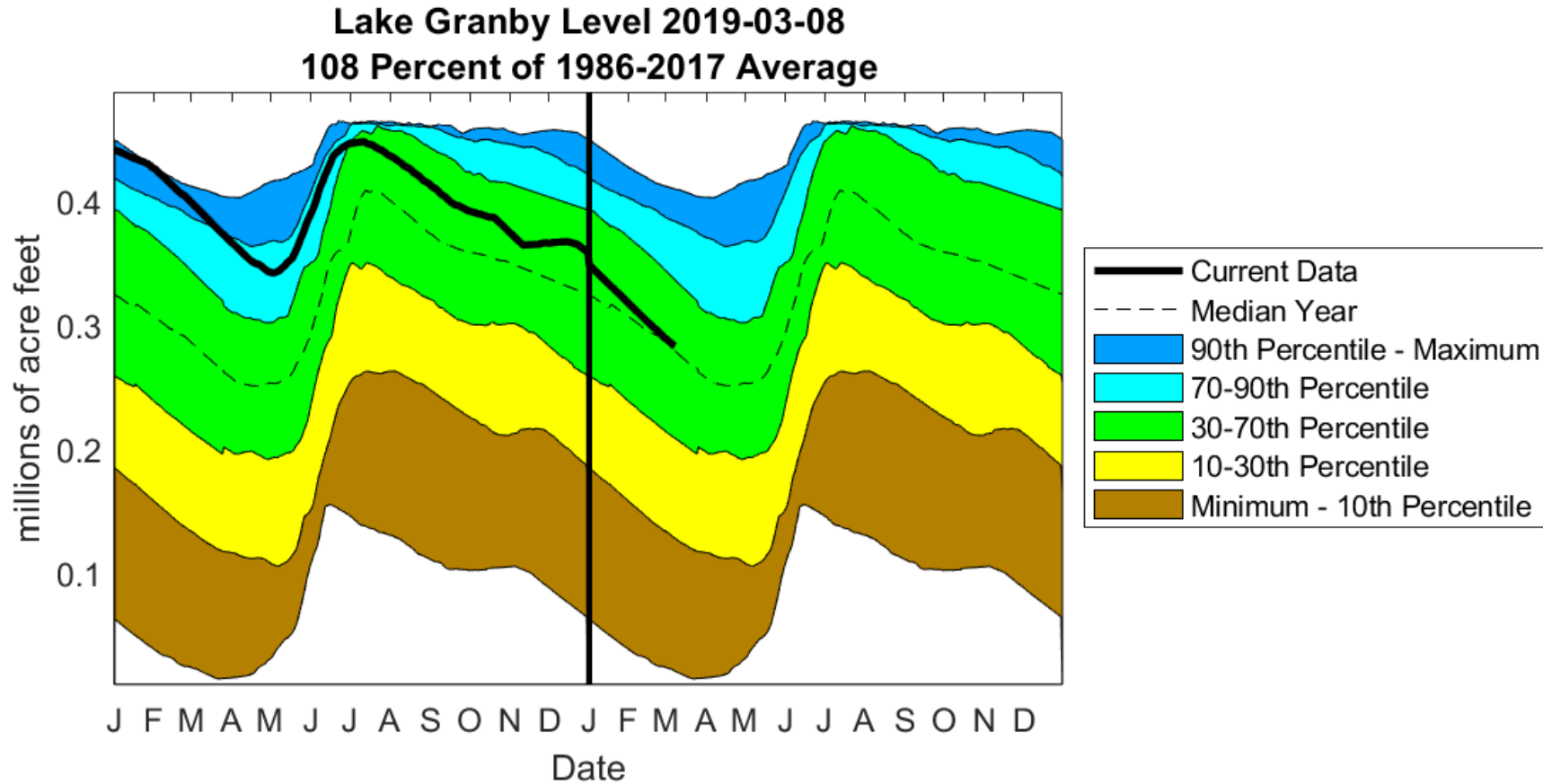
End of January 2019



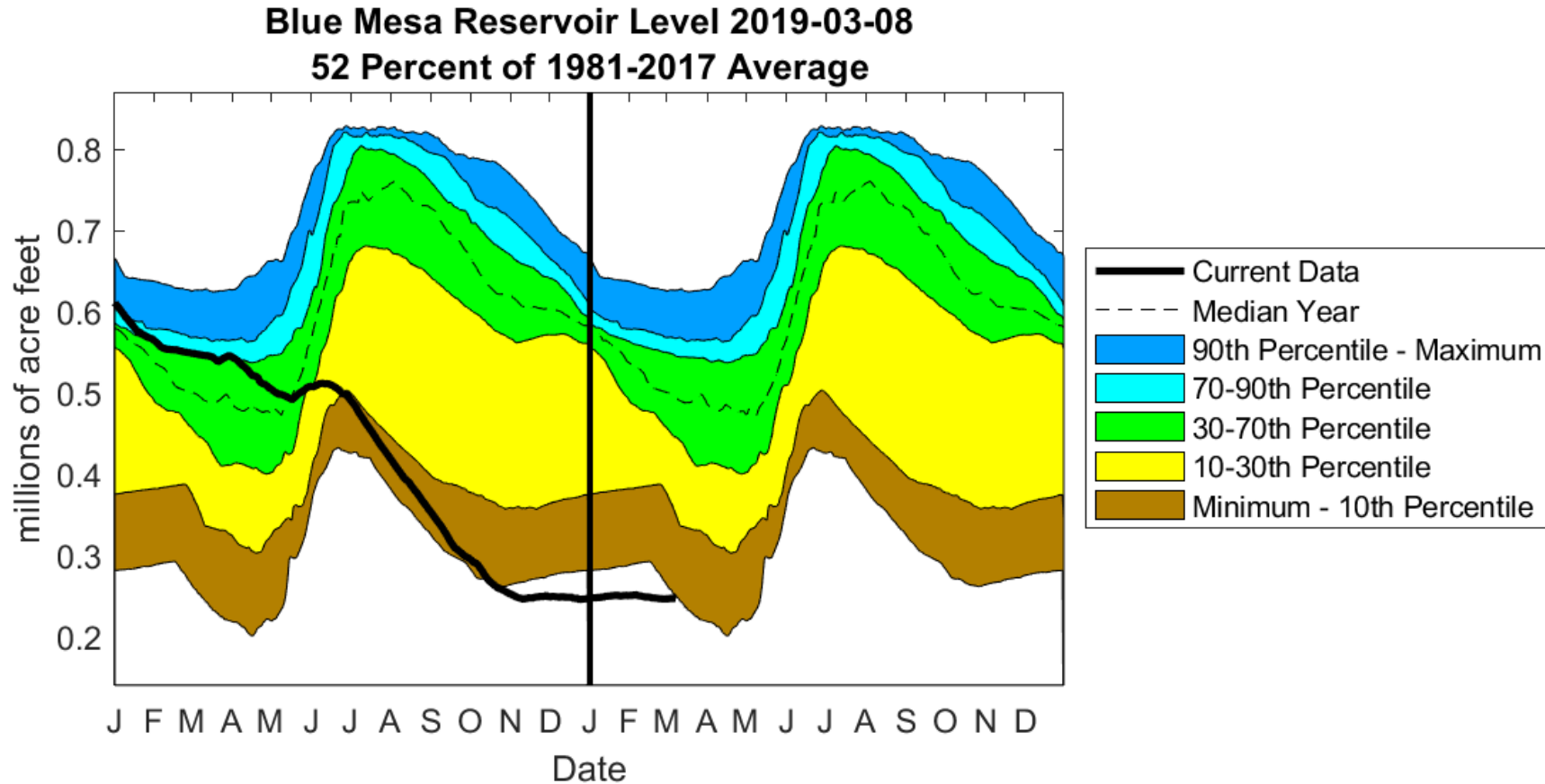
United States Department of Agriculture

Natural Resources Conservation Service

Lake Granby

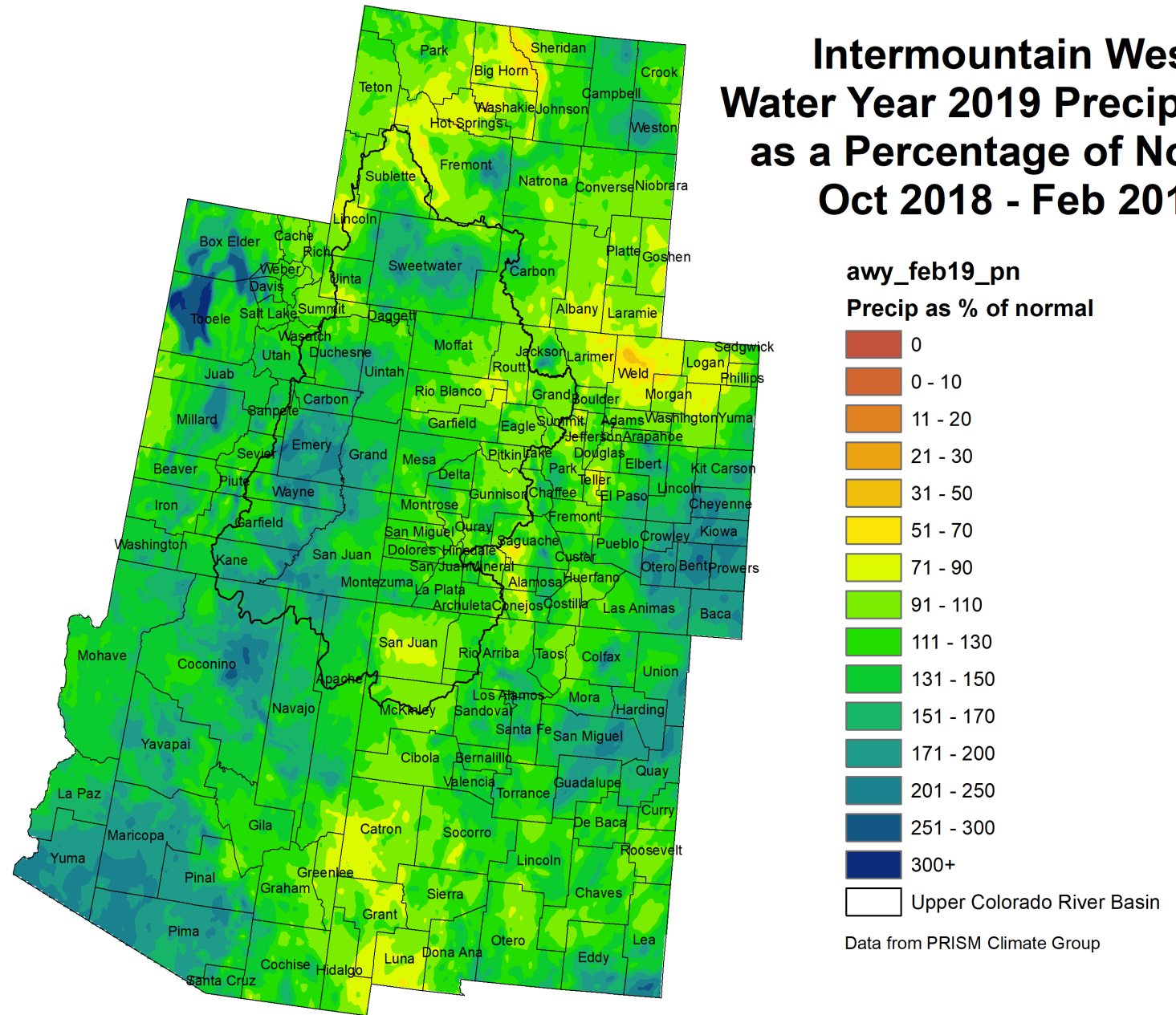


Blue Mesa reservoir

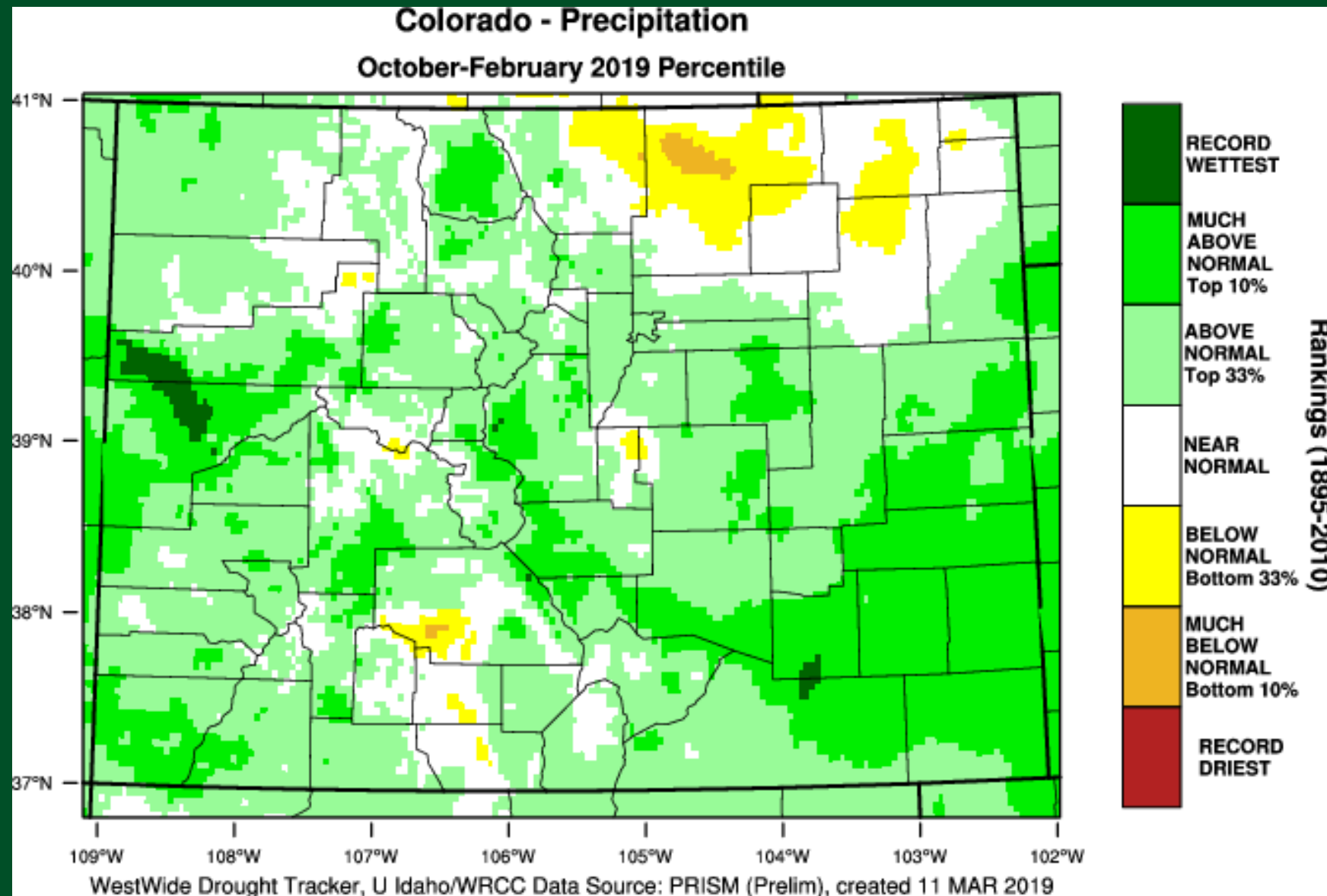


Precipitation (Oct - Feb)

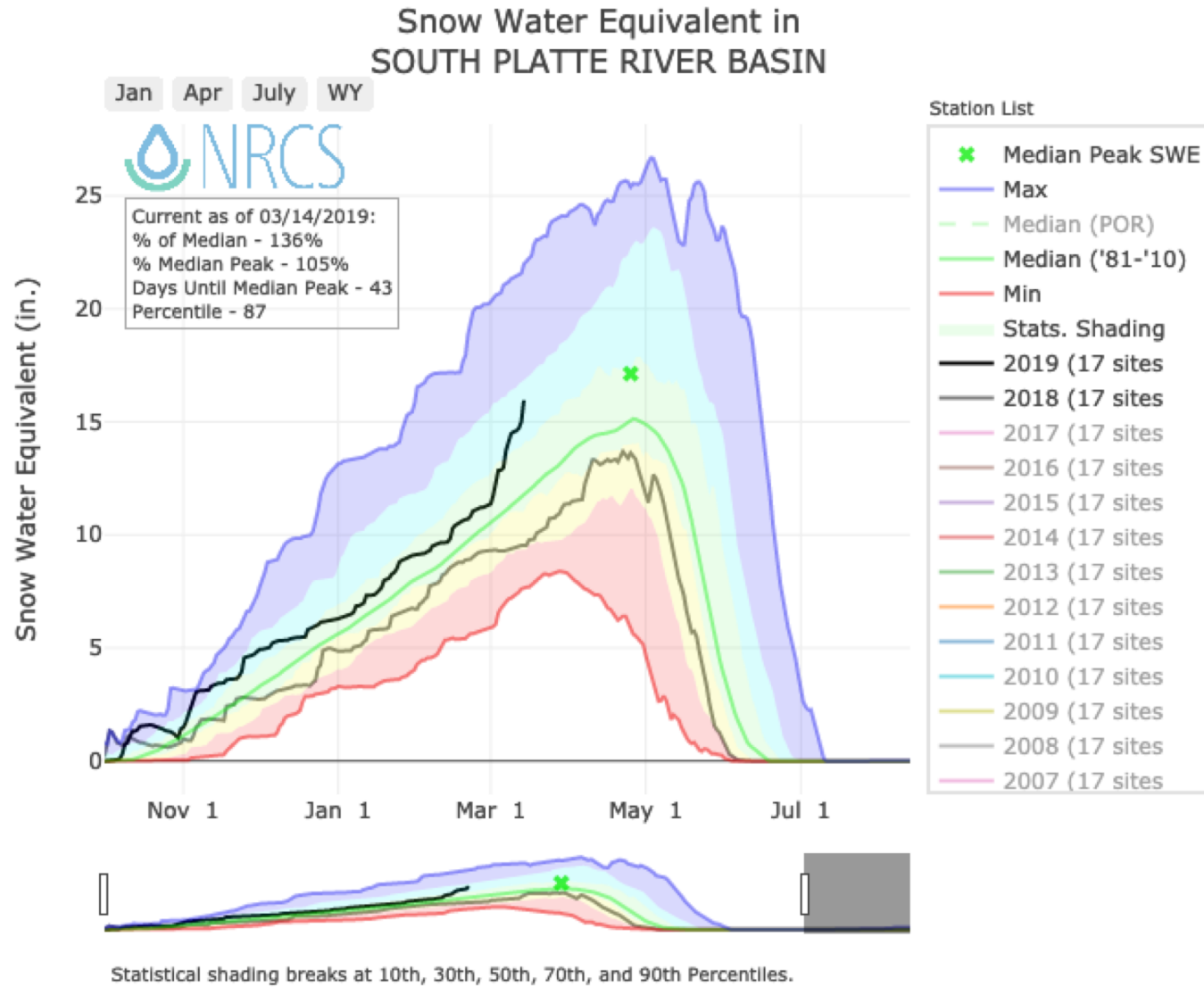
Intermountain West Water Year 2019 Precipitation as a Percentage of Normal Oct 2018 - Feb 2019



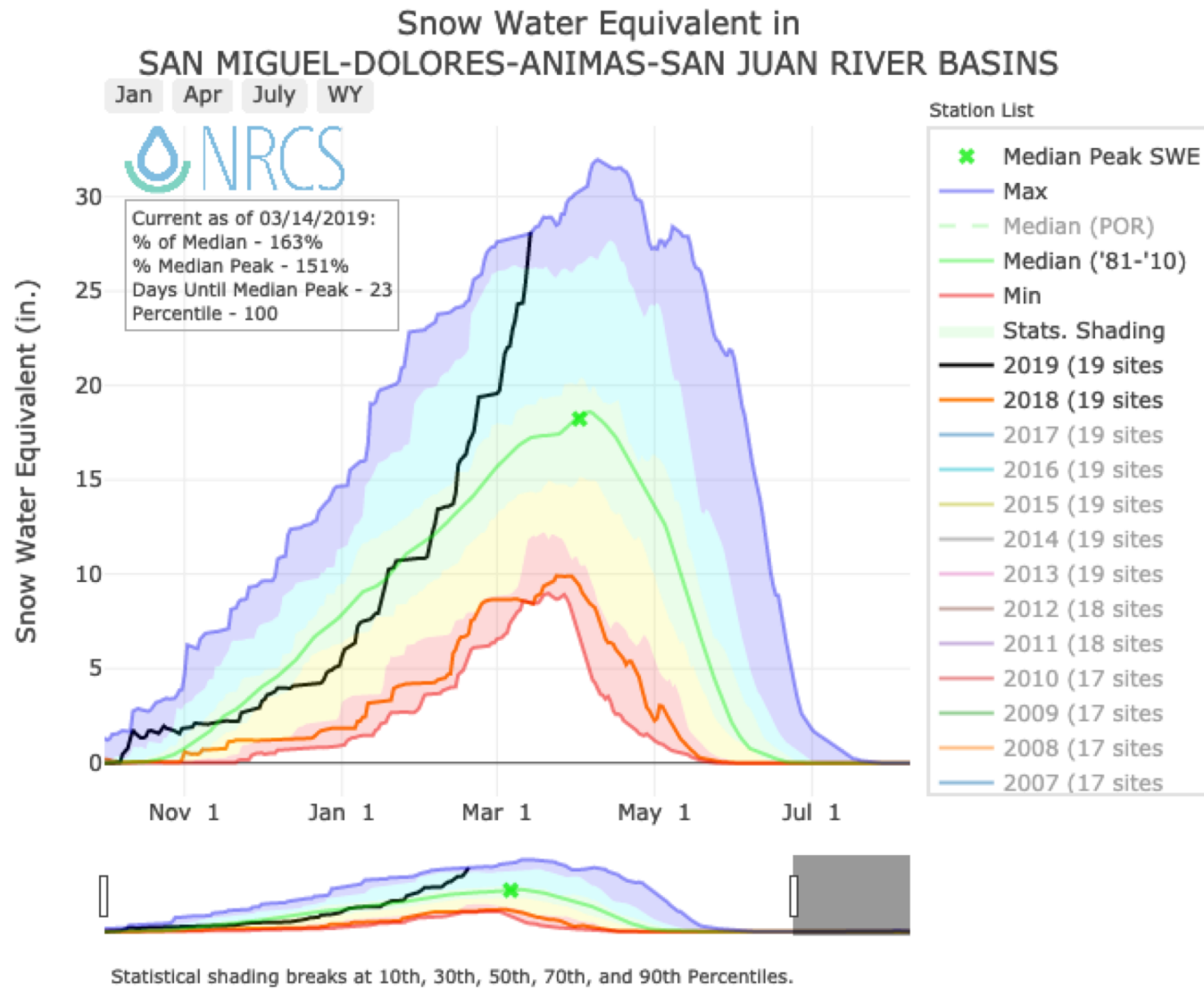
Precipitation (Oct - Feb)



South Platte River basin



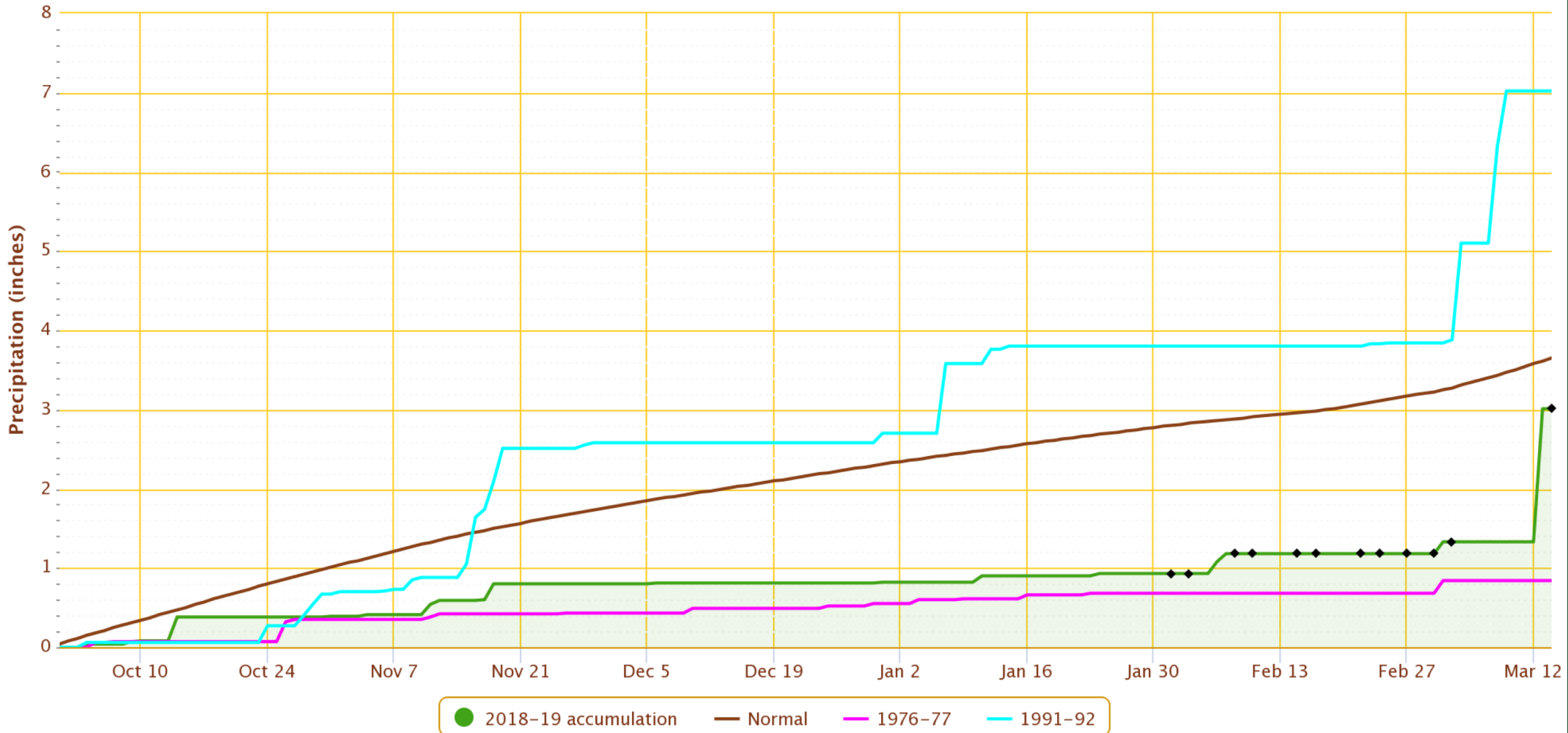
Southwest river basins



Water year precipitation thus far: Greeley

Accumulated Precipitation - GREELEY UNC, CO

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



(wettest)

Average

This year

(driest)

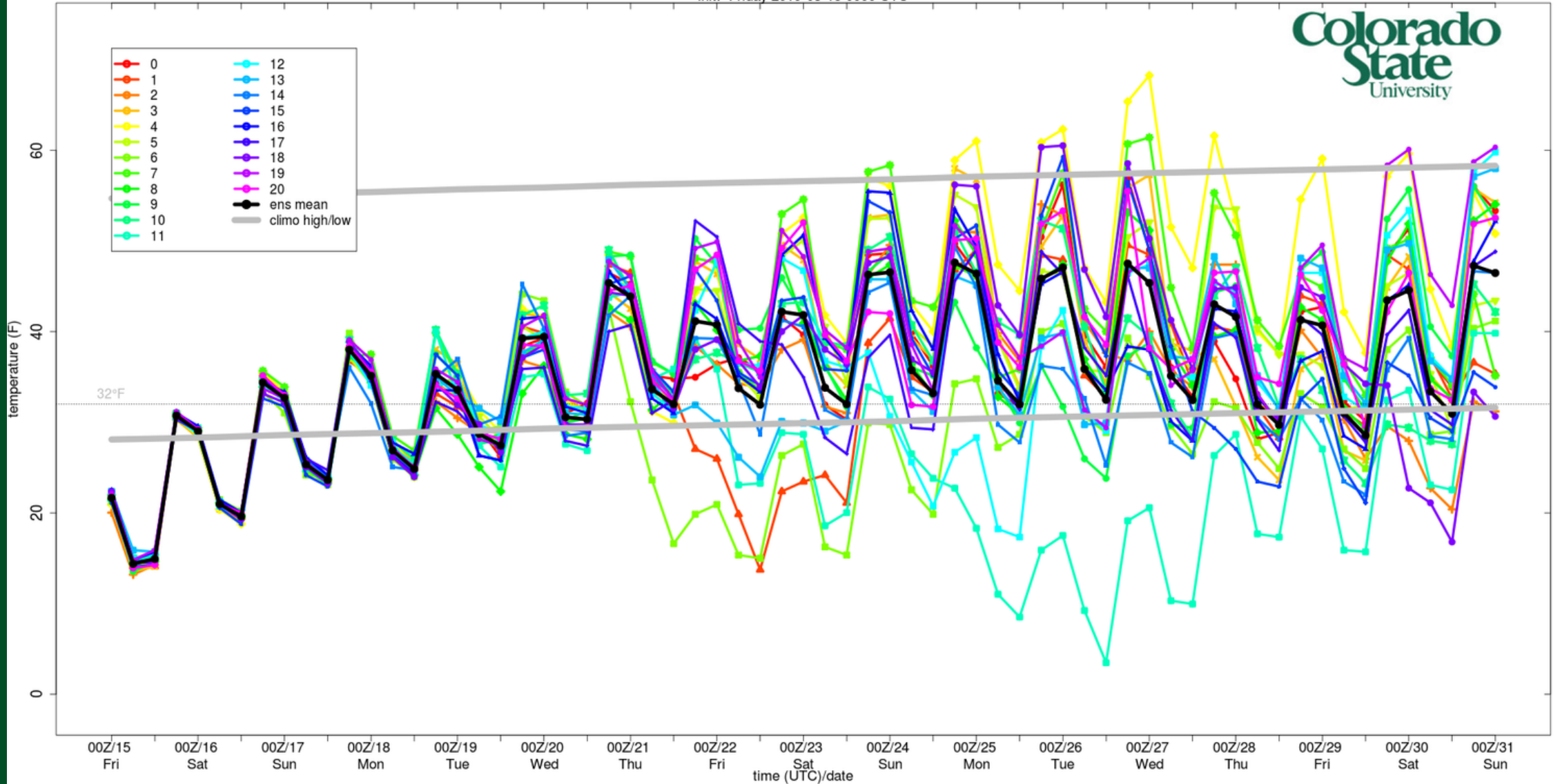
Powered by ACIS



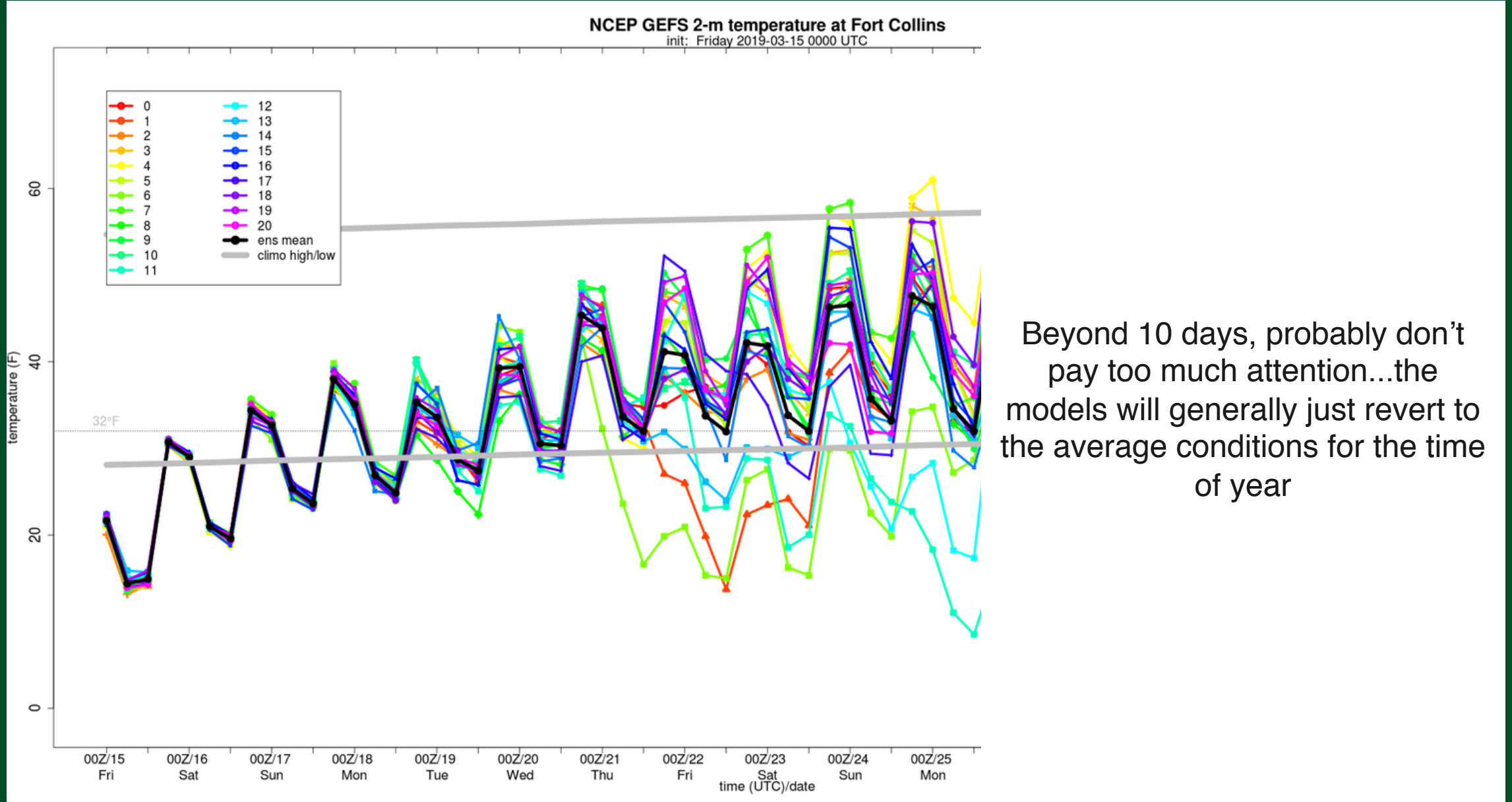
Ensemble weather forecasts (out two weeks)

NCEP GEFS 2-m temperature at Fort Collins

init: Friday 2019-03-15 0000 UTC



Ensemble weather forecasts (out two weeks)



Beyond 10 days, probably don't pay too much attention...the models will generally just revert to the average conditions for the time of year



Ensemble weather forecasts (out two weeks)

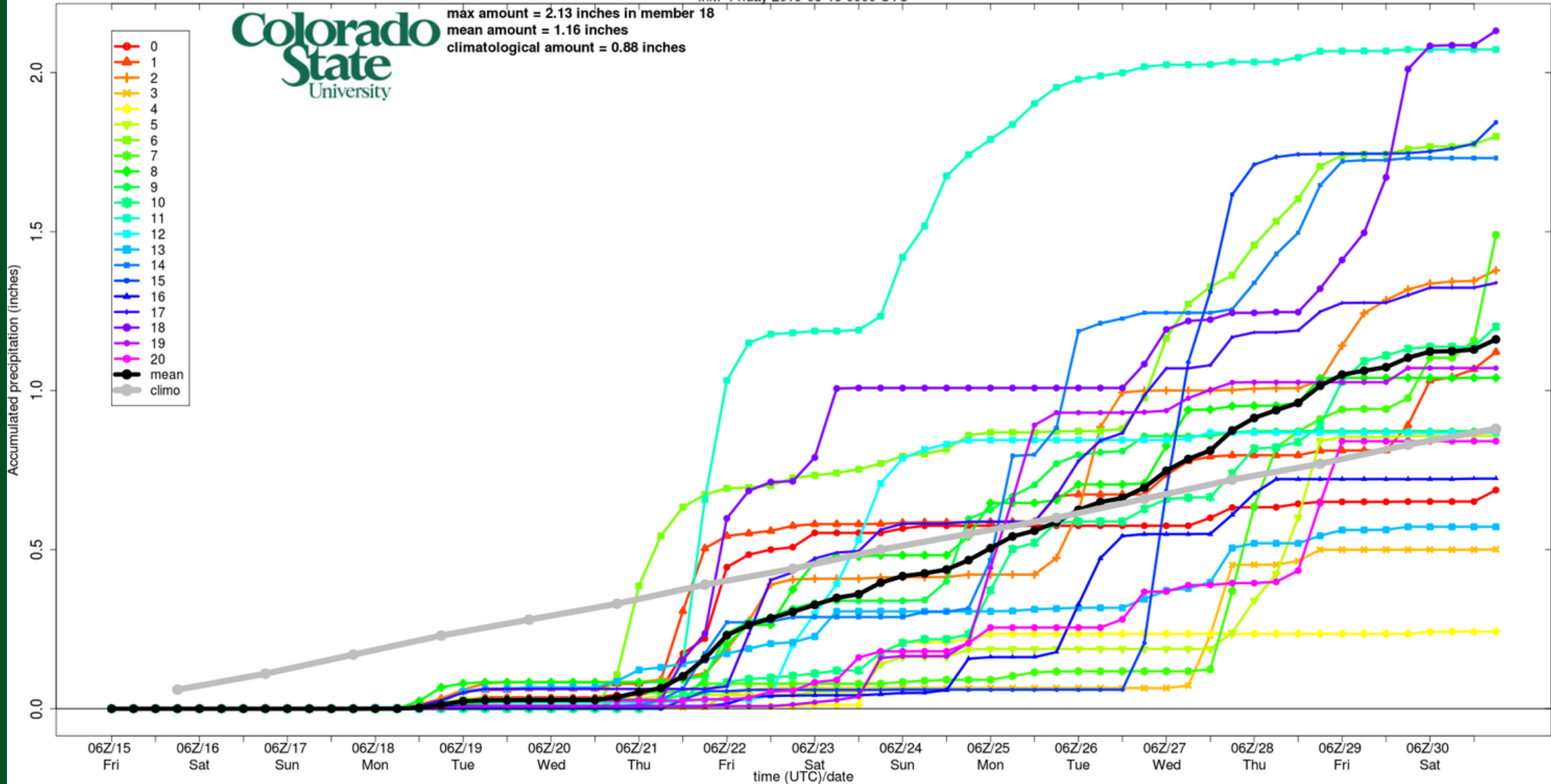
NCEP GEFS accumulated precipitation at Fort Collins

init: Friday 2019-03-15 0000 UTC

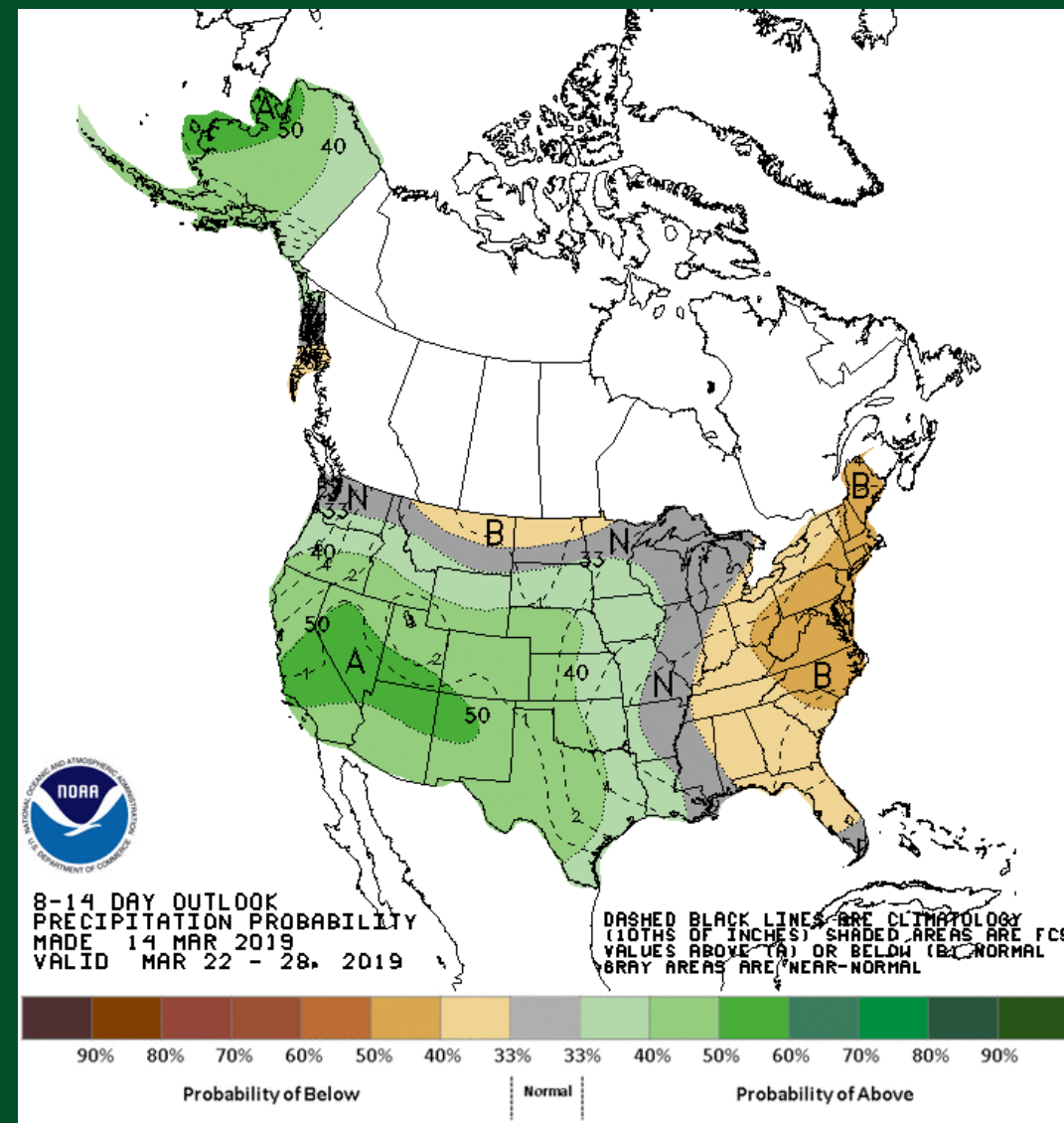
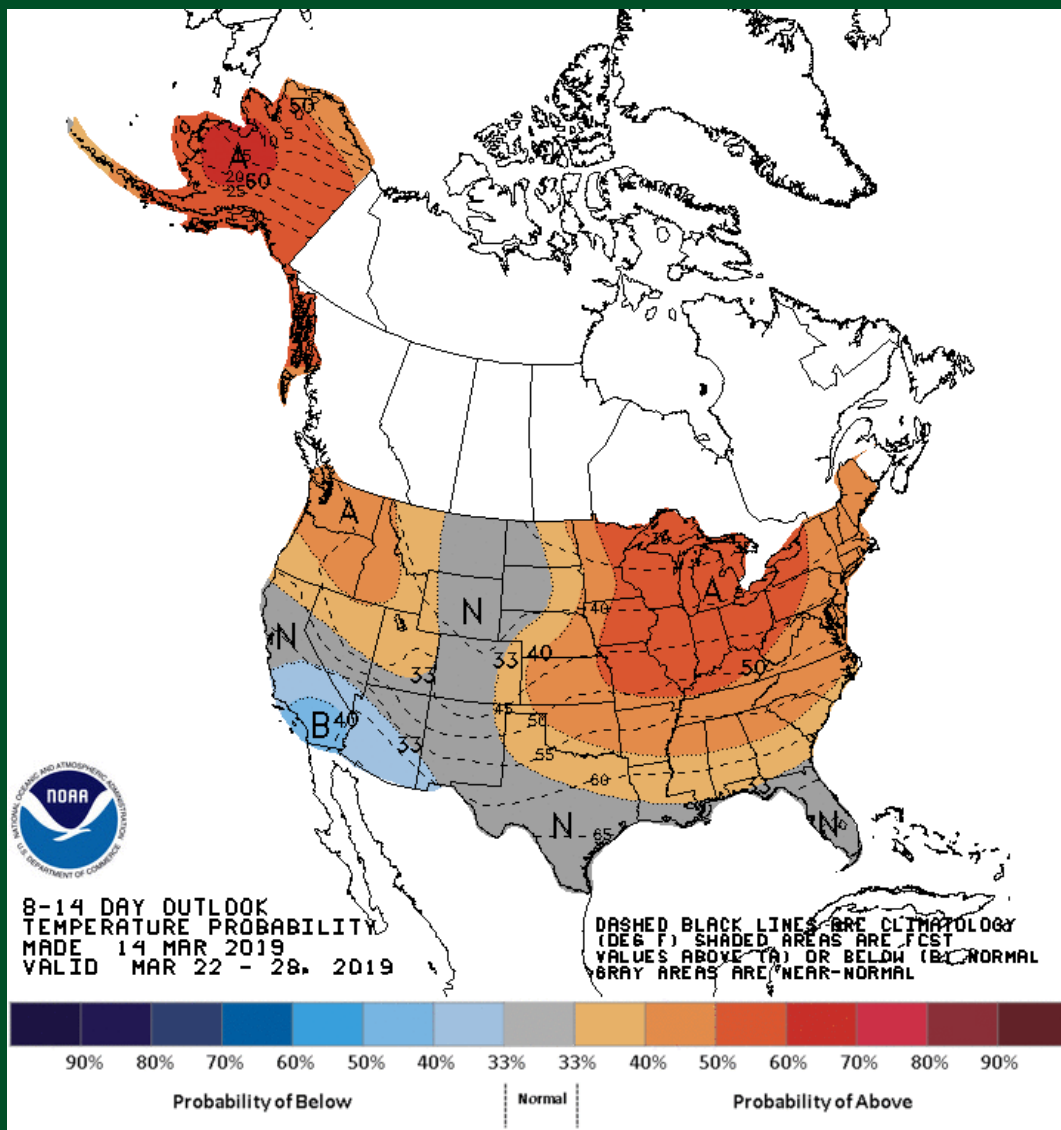
max amount = 2.13 inches in member 18

mean amount = 1.16 inches

climatological amount = 0.88 inches



Outlook: 8-14 day temp and precip



Spring (March-April-May) outlook

Find address or place

[7 Day Forecast for Greeley, CO](#)

Three Category Temperature Outlook
 Normal Maximum Temperature: **64**
 Normal Minimum Temperature: **34**

Three Category Precipitation Outlook
 Normal Precipitation: **5.09**

Select Lead

Seasonal Outlook

March 2019-May 2019 (Lead 1)

Temperature

Outlook

Opacity: 60%

Precipitation

Outlook

<< Below Normal Above Normal >>

Temperature Outlook Legend:

- Above Normal
- Below Normal
- Near Normal

Precipitation Outlook Legend:

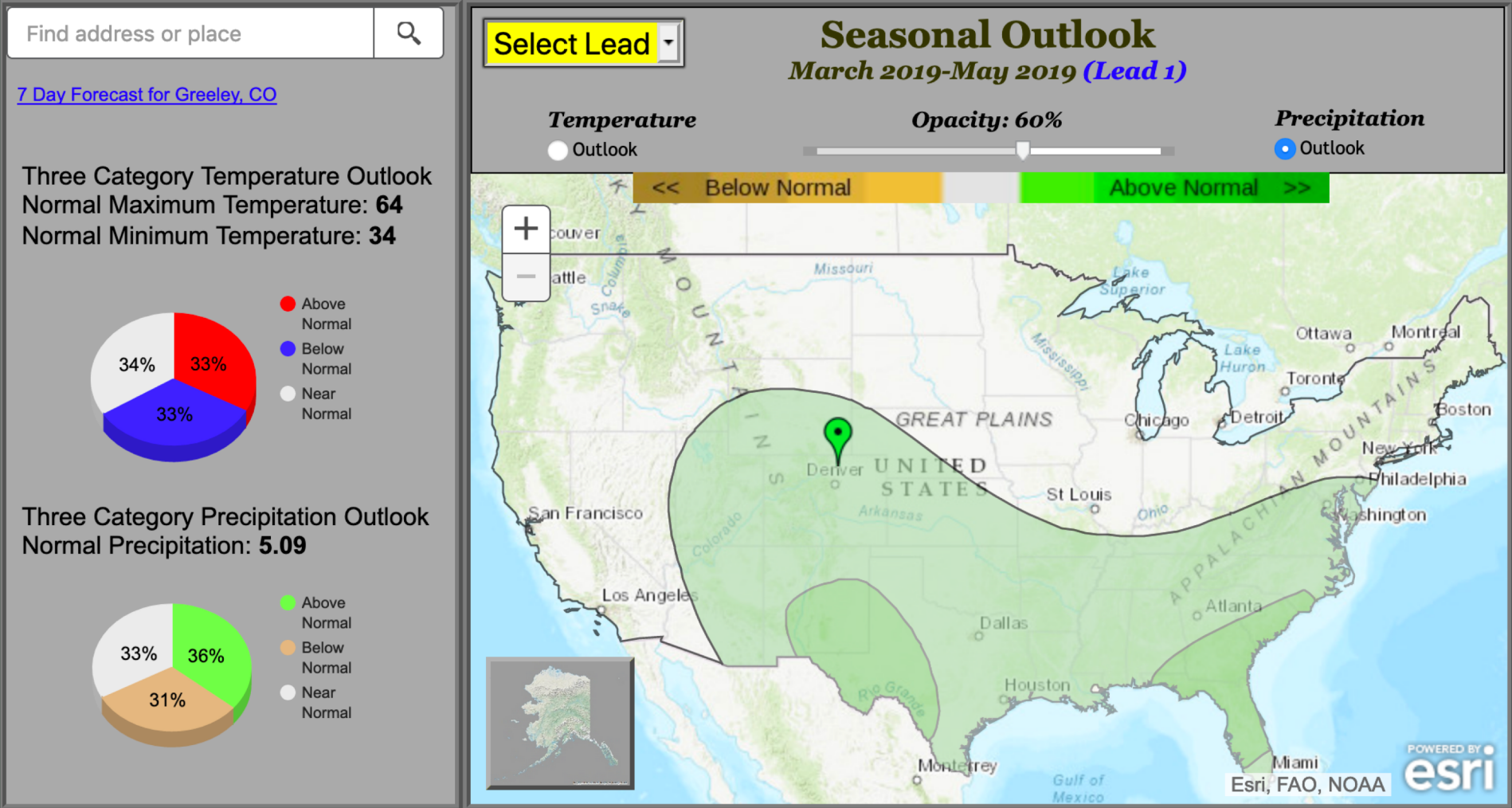
- Above Normal
- Below Normal
- Near Normal

POWERED BY **esri**

Esri, FAO, NOAA



Spring (March-April-May) outlook



**And finally, the all-important question:
“Do you have a rain gauge?” (and a
snowboard!)**



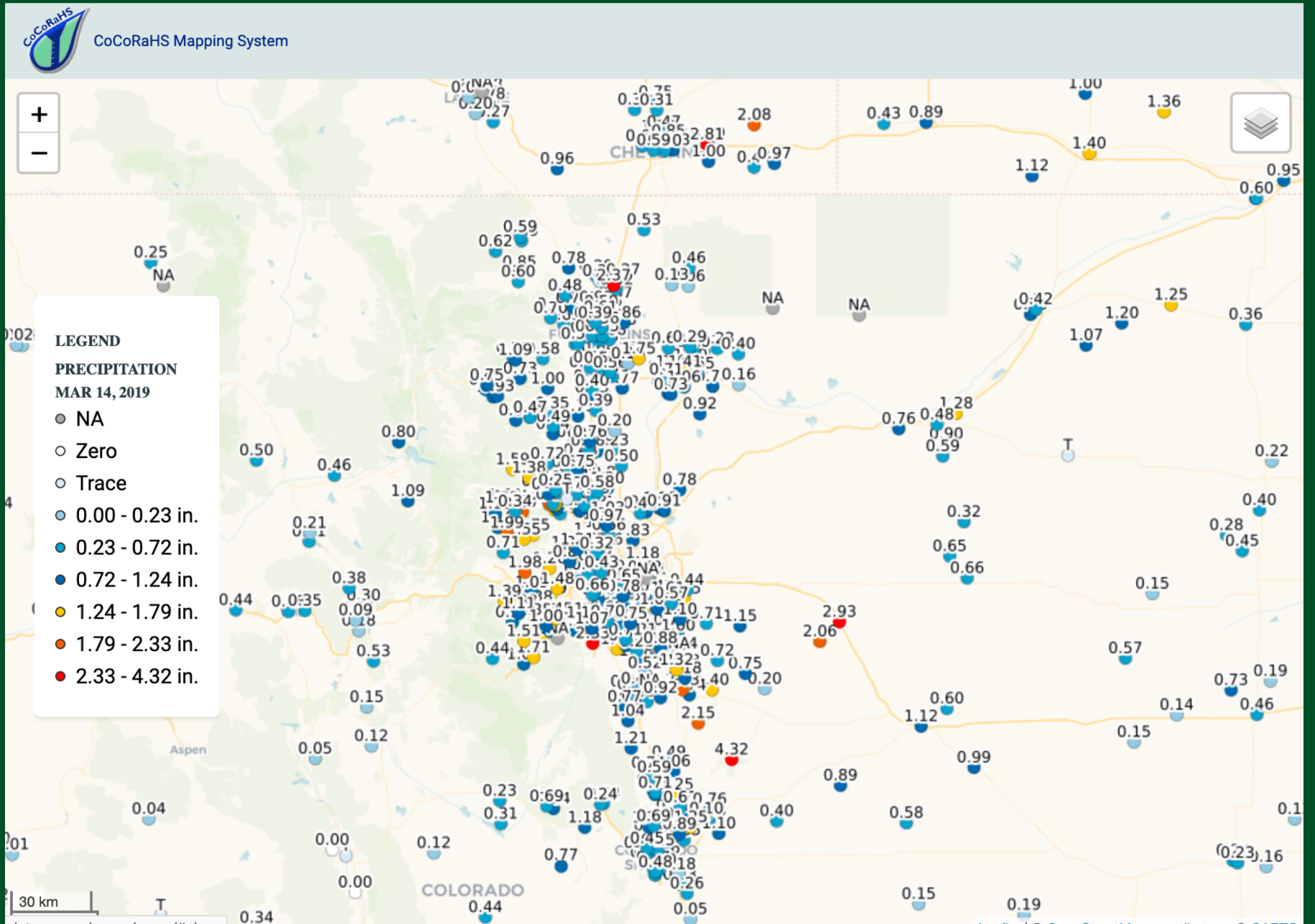


If you are interested in weather and the variations in precipitation, please join the Community Collaborative Rain, Hail and Snow Network

<http://www.cocorahhs.org>

or see me today

Precip observations from 14 March 2019



Thank you!

<http://climate.colostate.edu/>
russ.schumacher@colostate.edu

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Twitter! @ColoradoClimate



COLORADO CLIMATE CENTER

Providing information and expertise on Colorado's complex climate

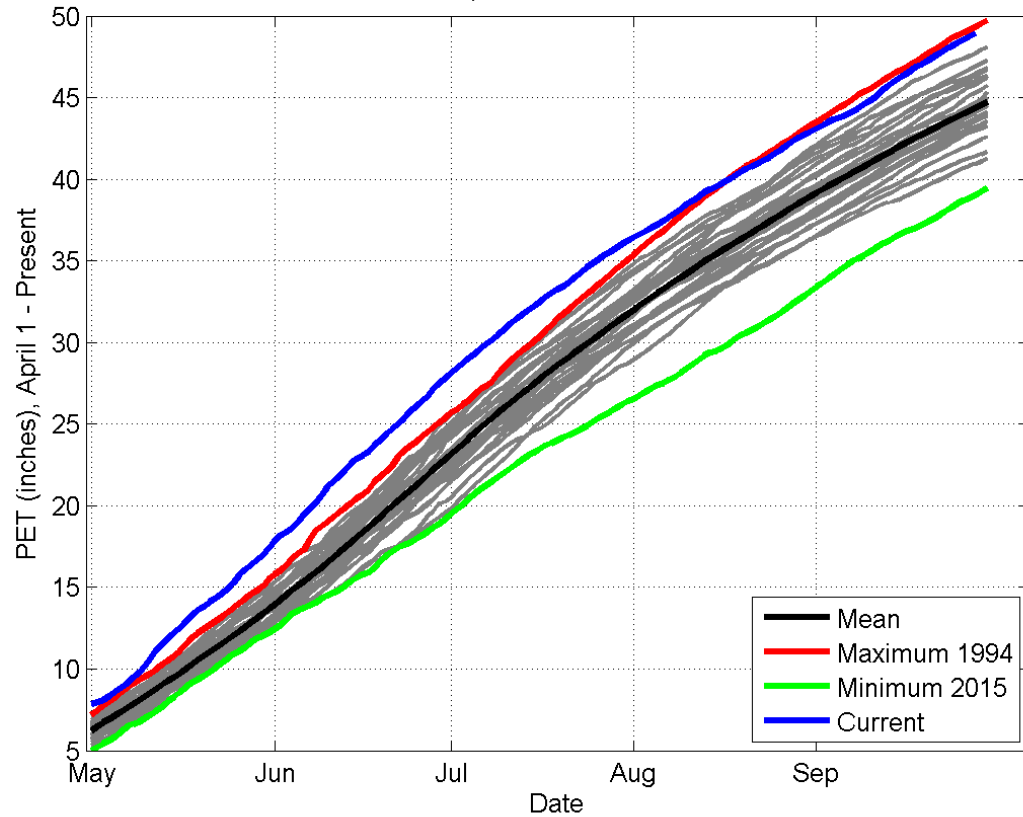




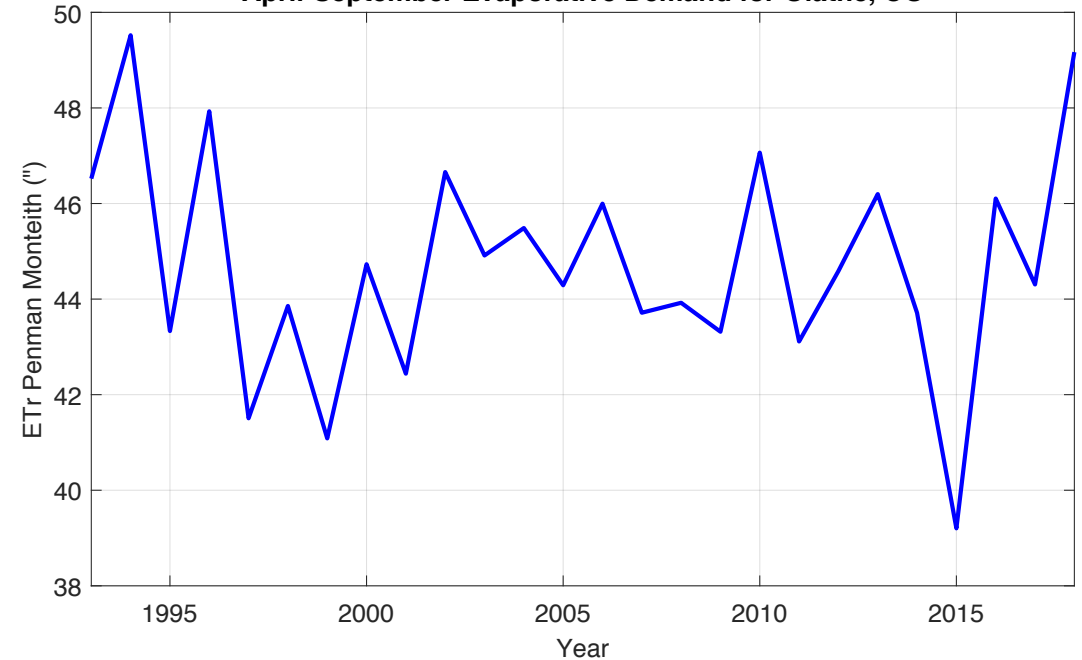
Olathe CoAgMET station, 2018 growing season

Evaporative demand: the atmosphere's "thirst"

Olathe Growing Season Evaporative Demand
September 28, 2018

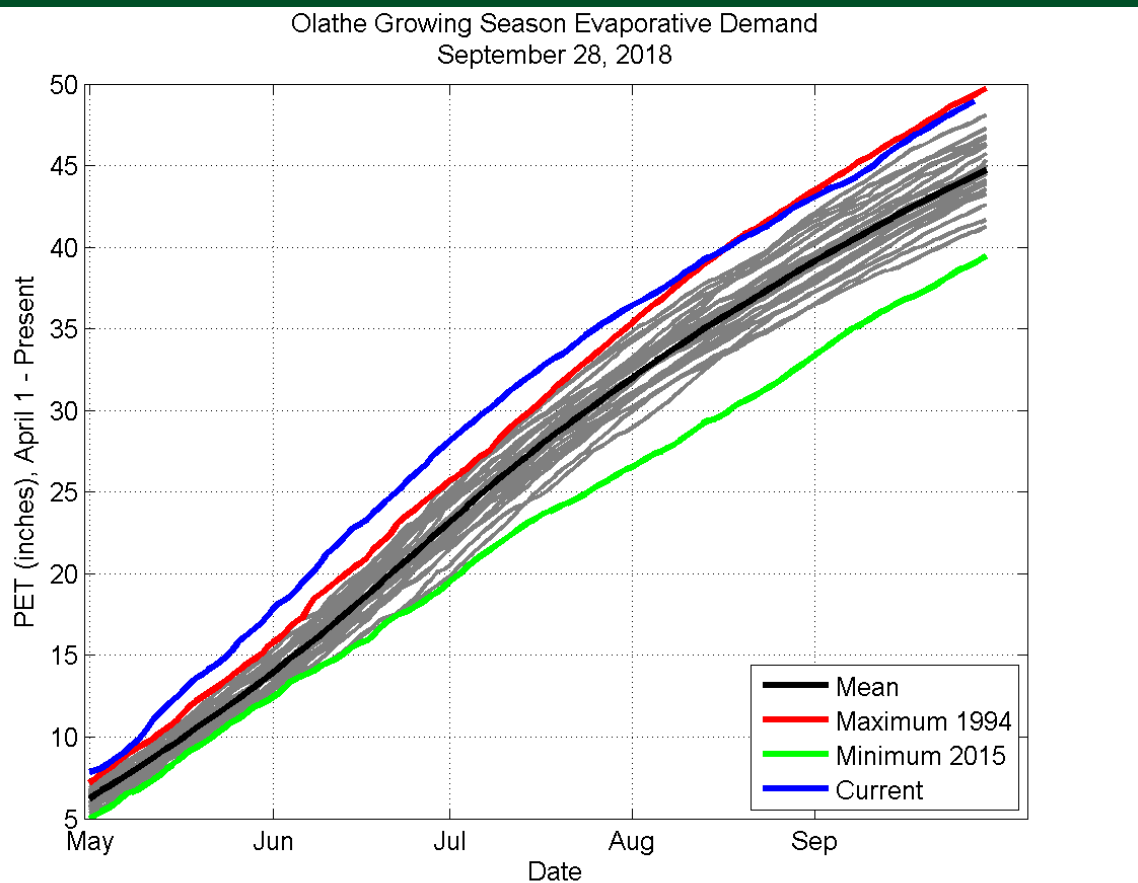


April-September Evaporative Demand for Olathe, CO

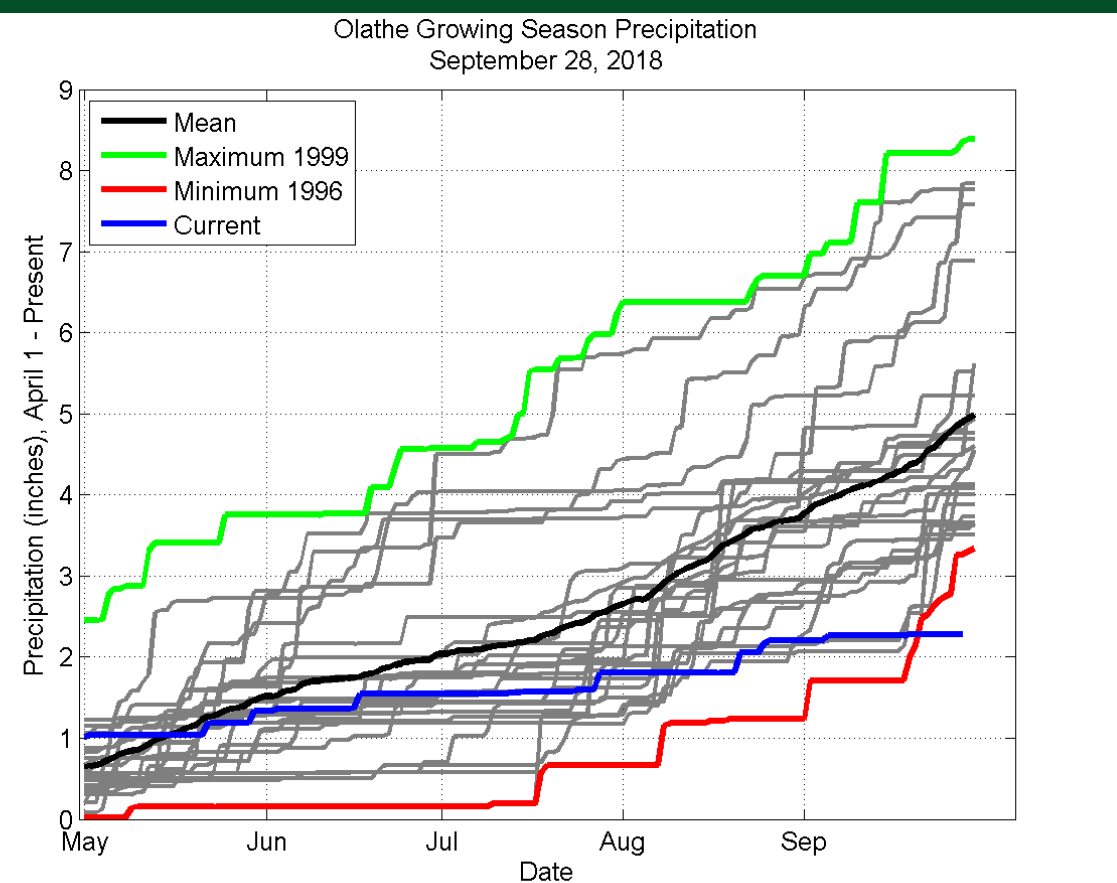


Olathe CoAgMET station, 2018 growing season

Evaporative demand: the atmosphere's "thirst"

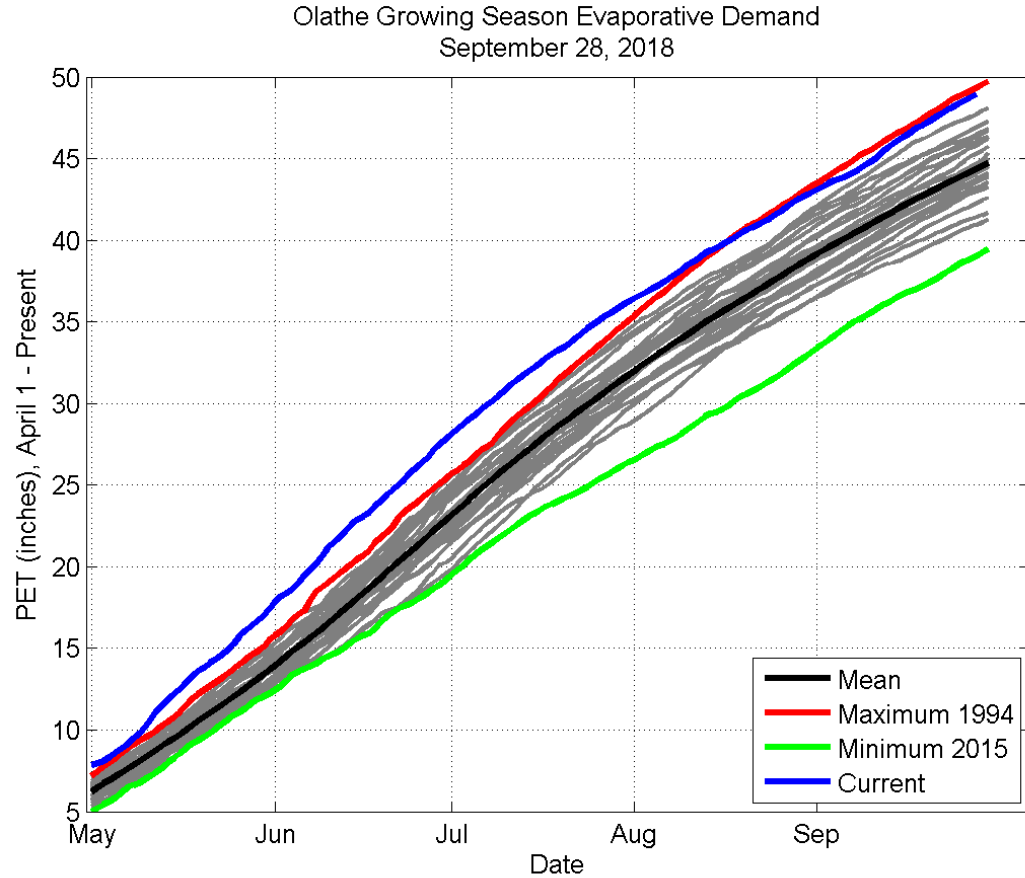


Precipitation



Olathe CoAgMET station, 2018 growing season

Evaporative demand: the atmosphere's "thirst"



Water balance (precipitation minus evaporative demand)

