

Colorado weather and climate update for extension agents

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



ATMOSPHERIC SCIENCE
COLORADO STATE UNIVERSITY

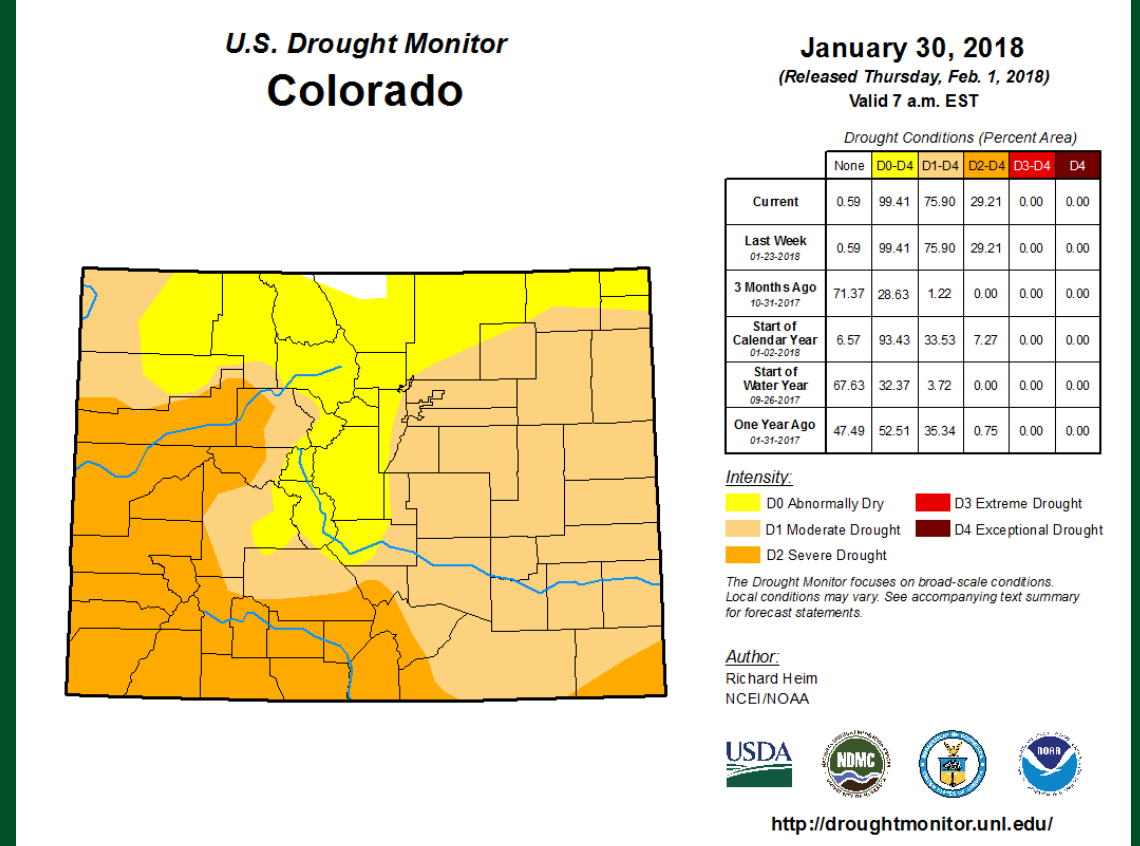
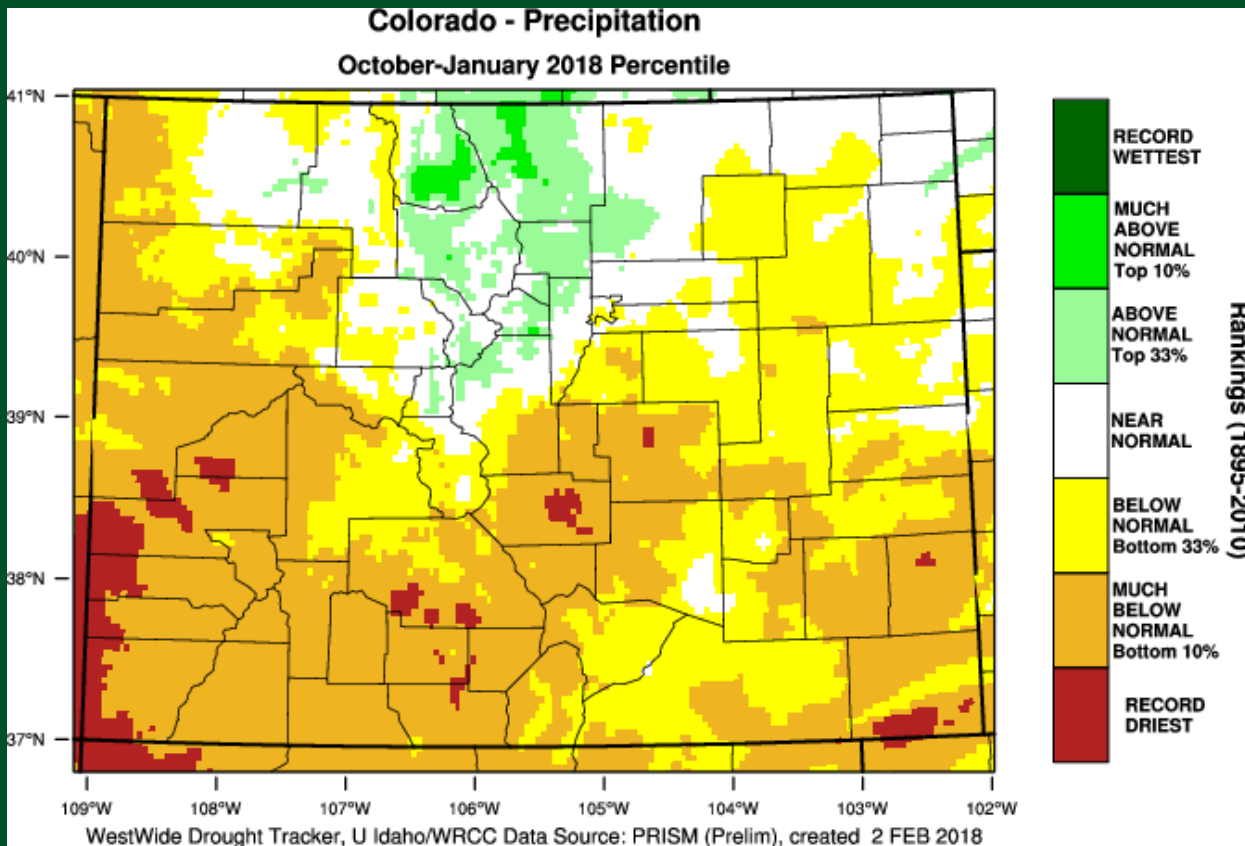


COLORADO CLIMATE CENTER

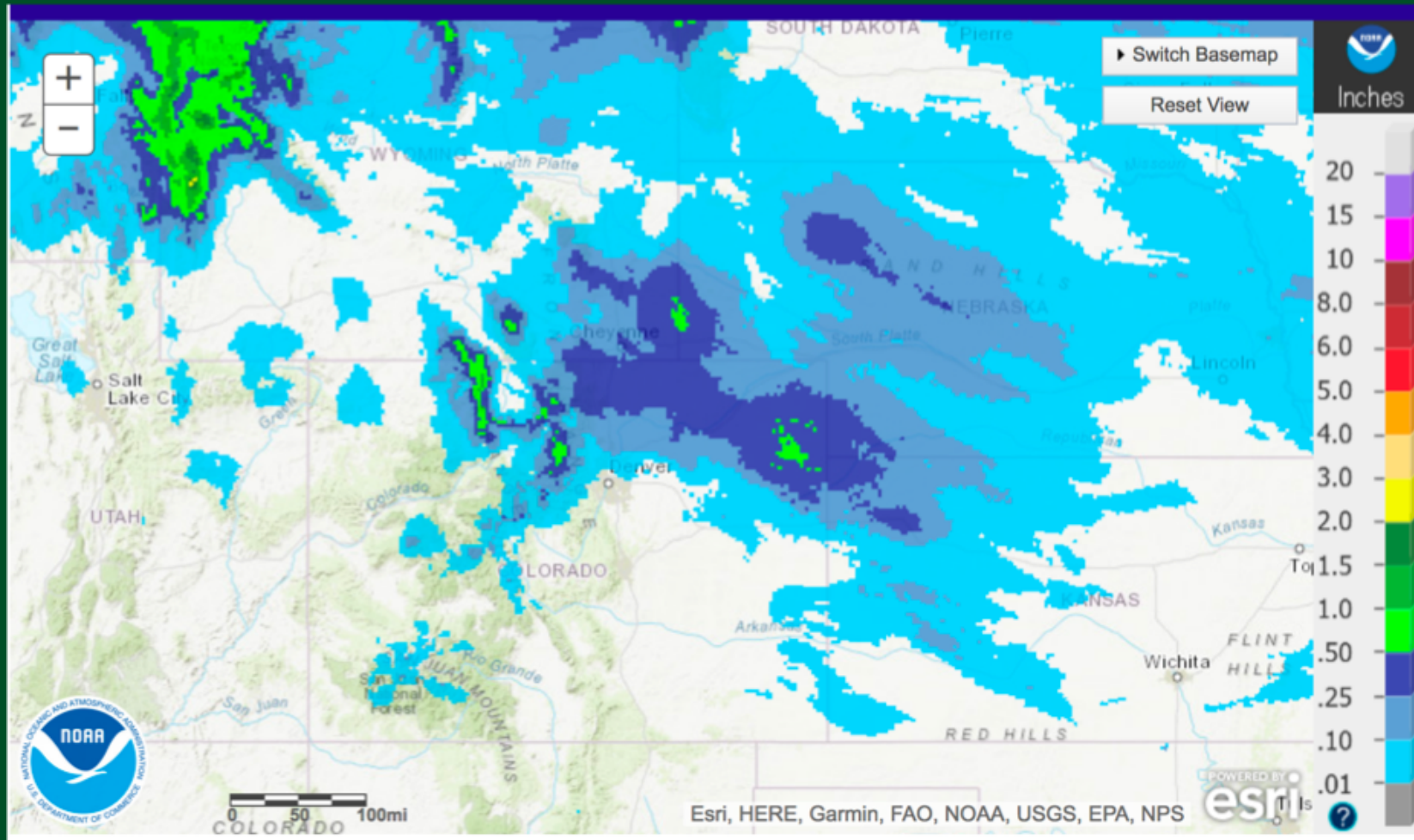
Providing information and expertise on Colorado's complex climate

5 February 2018

Water-year precipitation and current drought



Precipitation: last 7 days

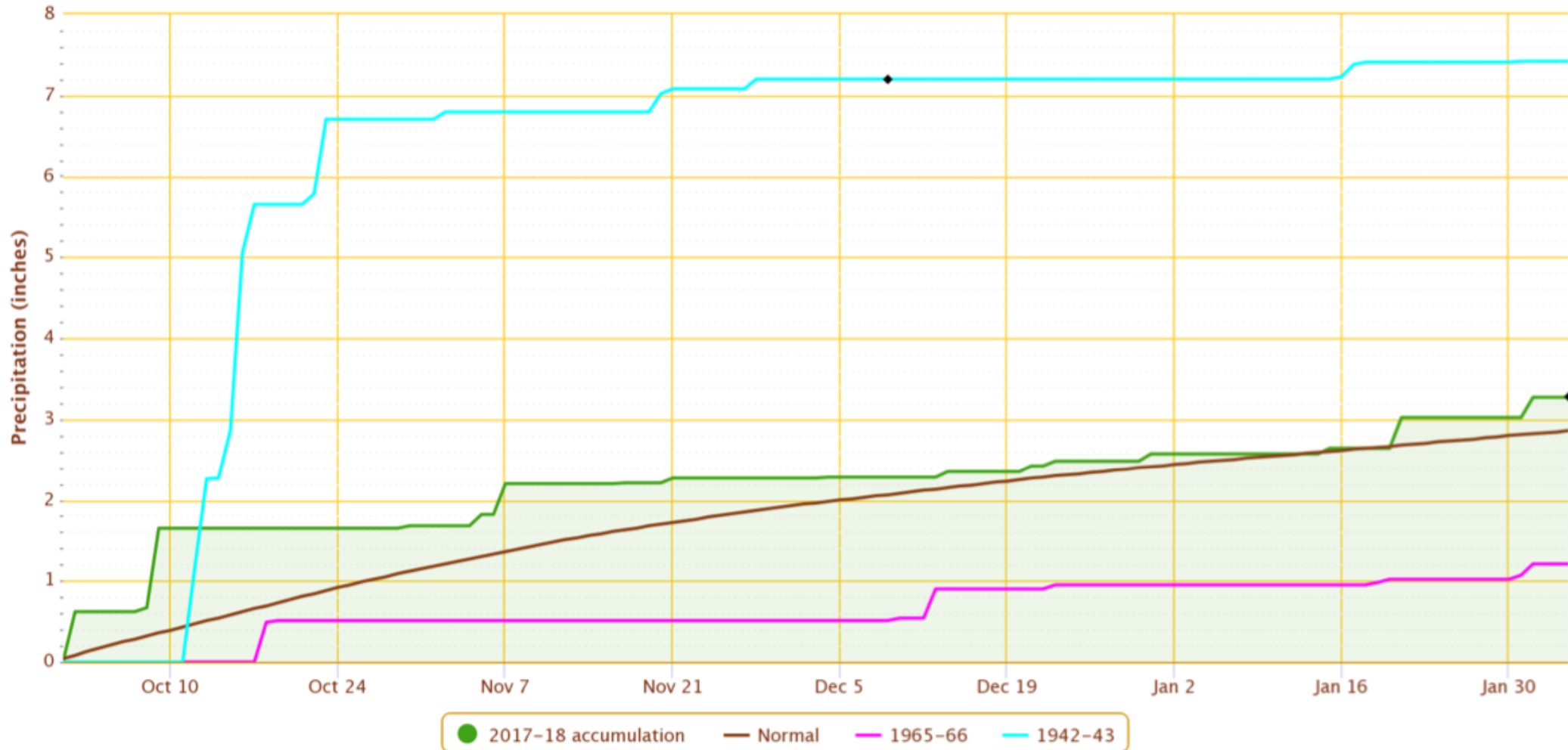


<http://climate.colostate.edu/~drought/>

Water-year precip: Fort Collins

Accumulated Precipitation - FORT COLLINS, CO

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



(wettest)

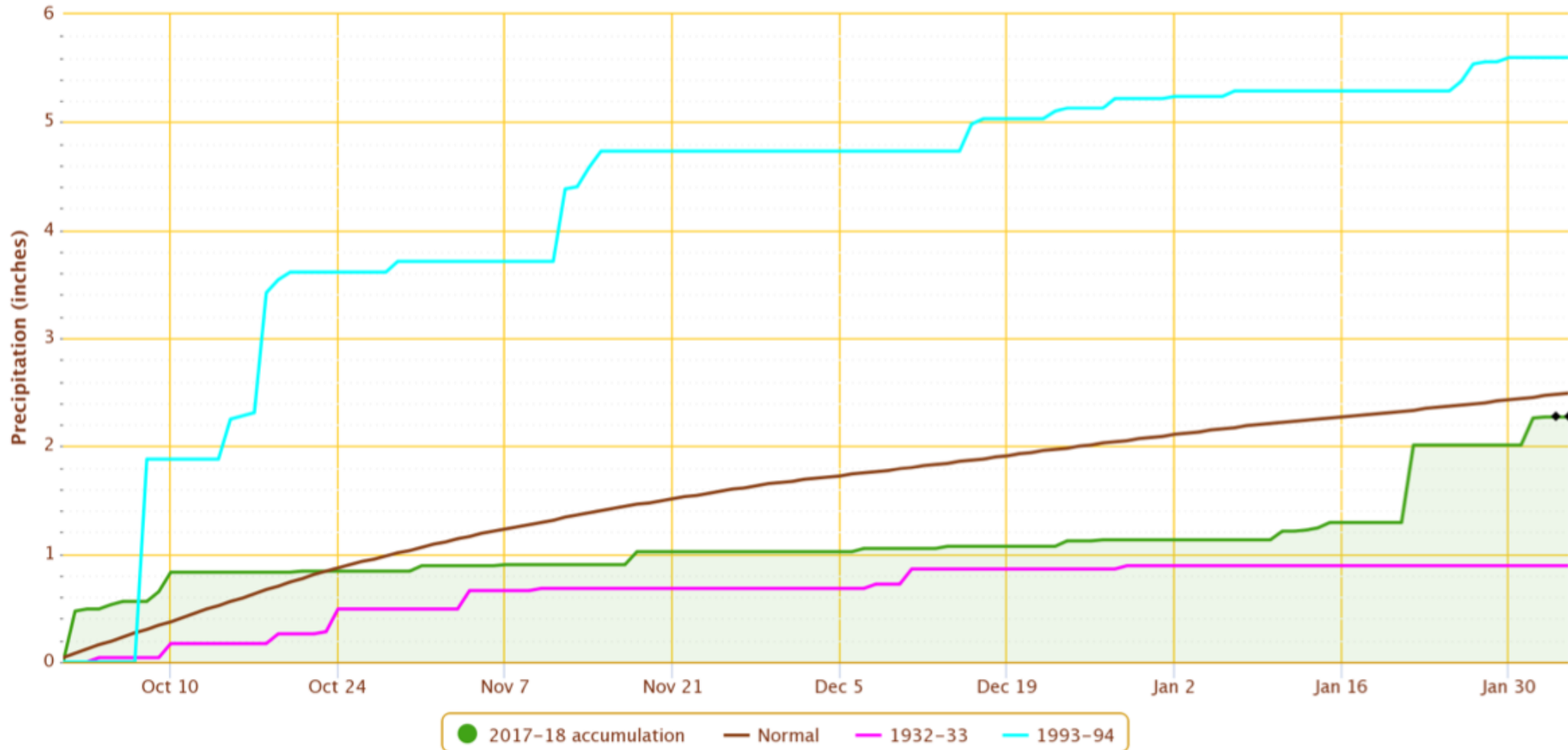
This year
Average

(driest)

Water-year precip: Akron

Accumulated Precipitation – AKRON 4 E, CO

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



(wettest)

Average
This year

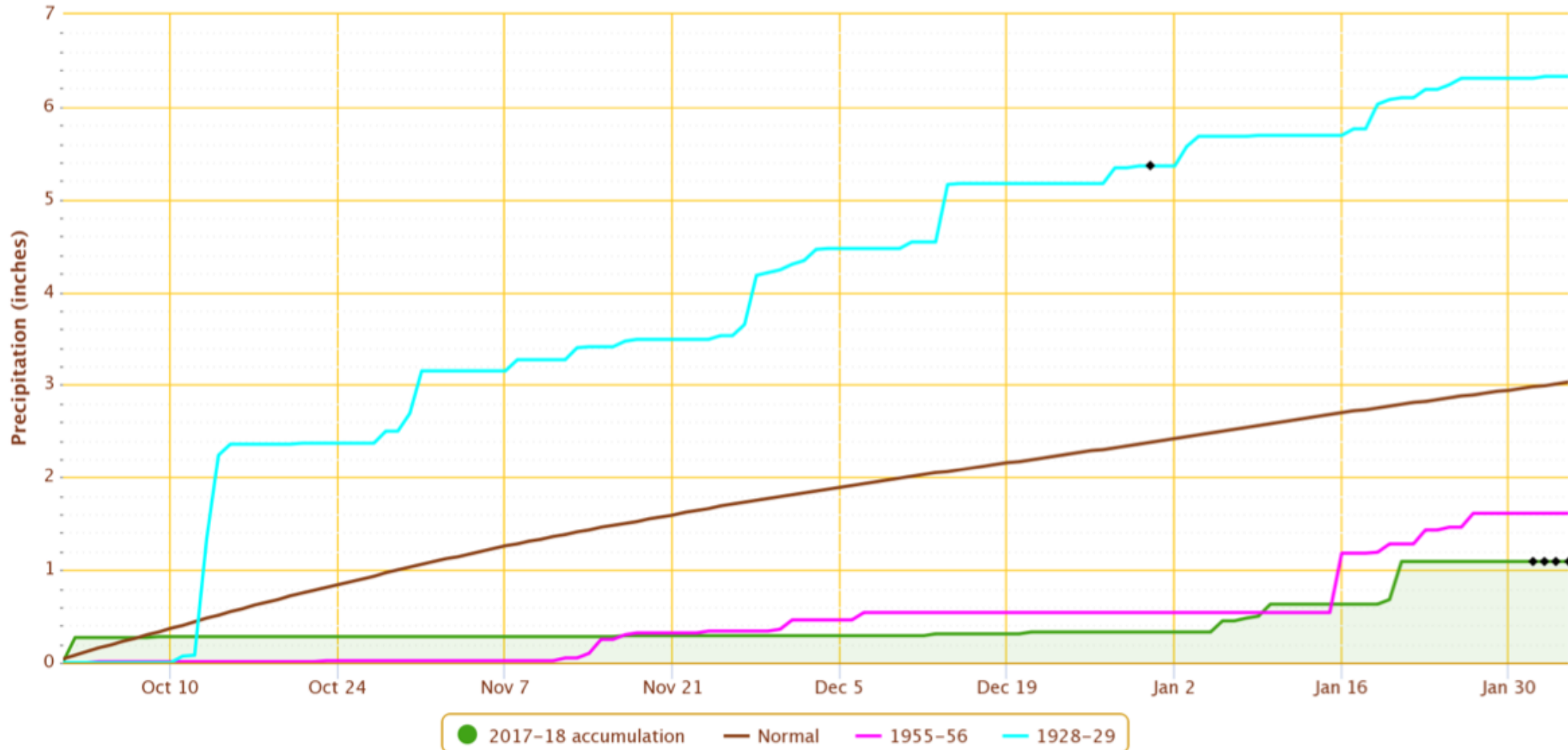
(driest)

Powered by ACIS

Water-year precip: Grand Junction

Accumulated Precipitation - GRAND JUNCTION WALKER FIELD, CO

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



(wettest)

Average

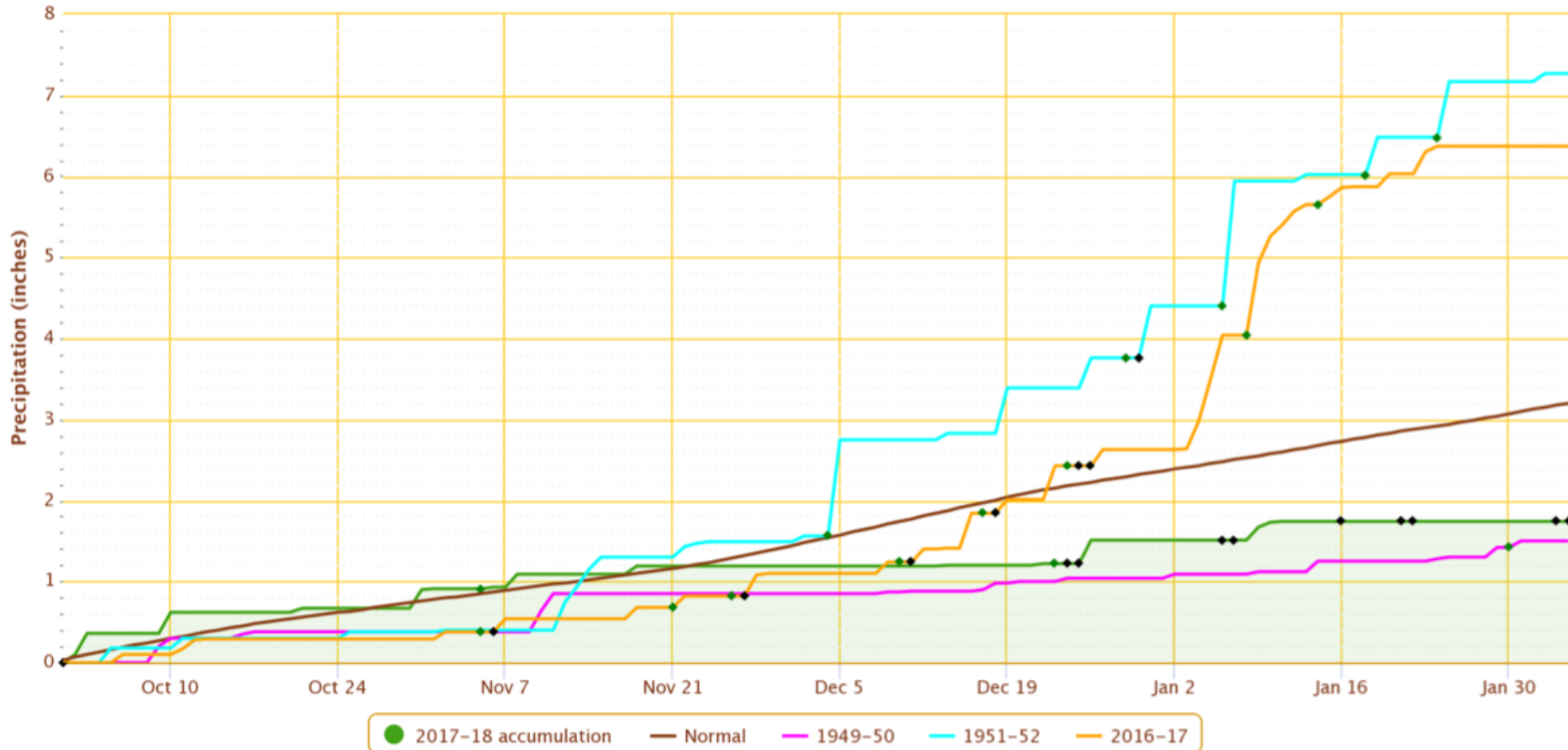
(driest)

This year

Water-year precip: Gunnison

Accumulated Precipitation - GUNNISON 3SW, CO

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



(wettest)

Last year

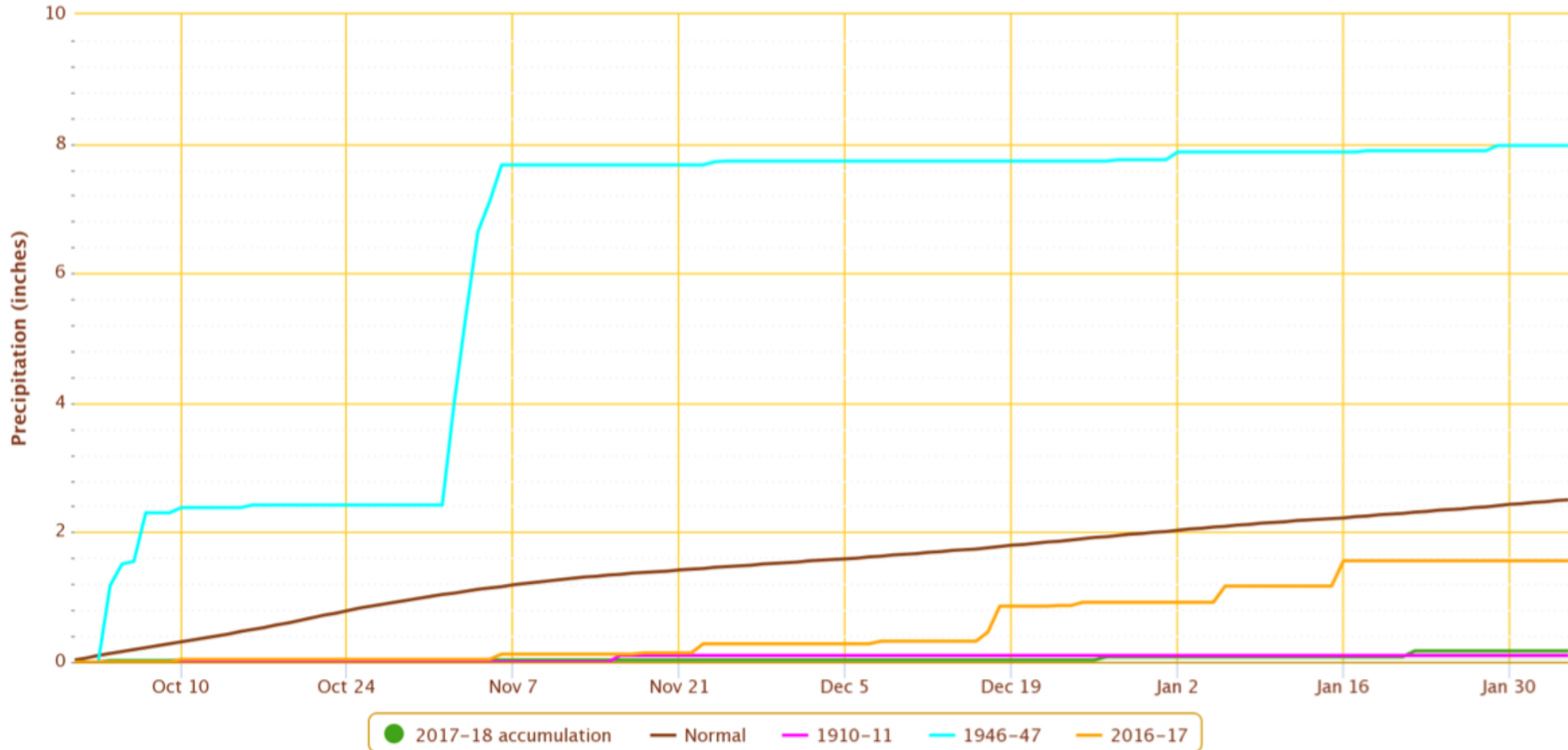
Average

This year
(driest)

Water-year precip: Lamar

Accumulated Precipitation - LAMAR, CO

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



(wettest)

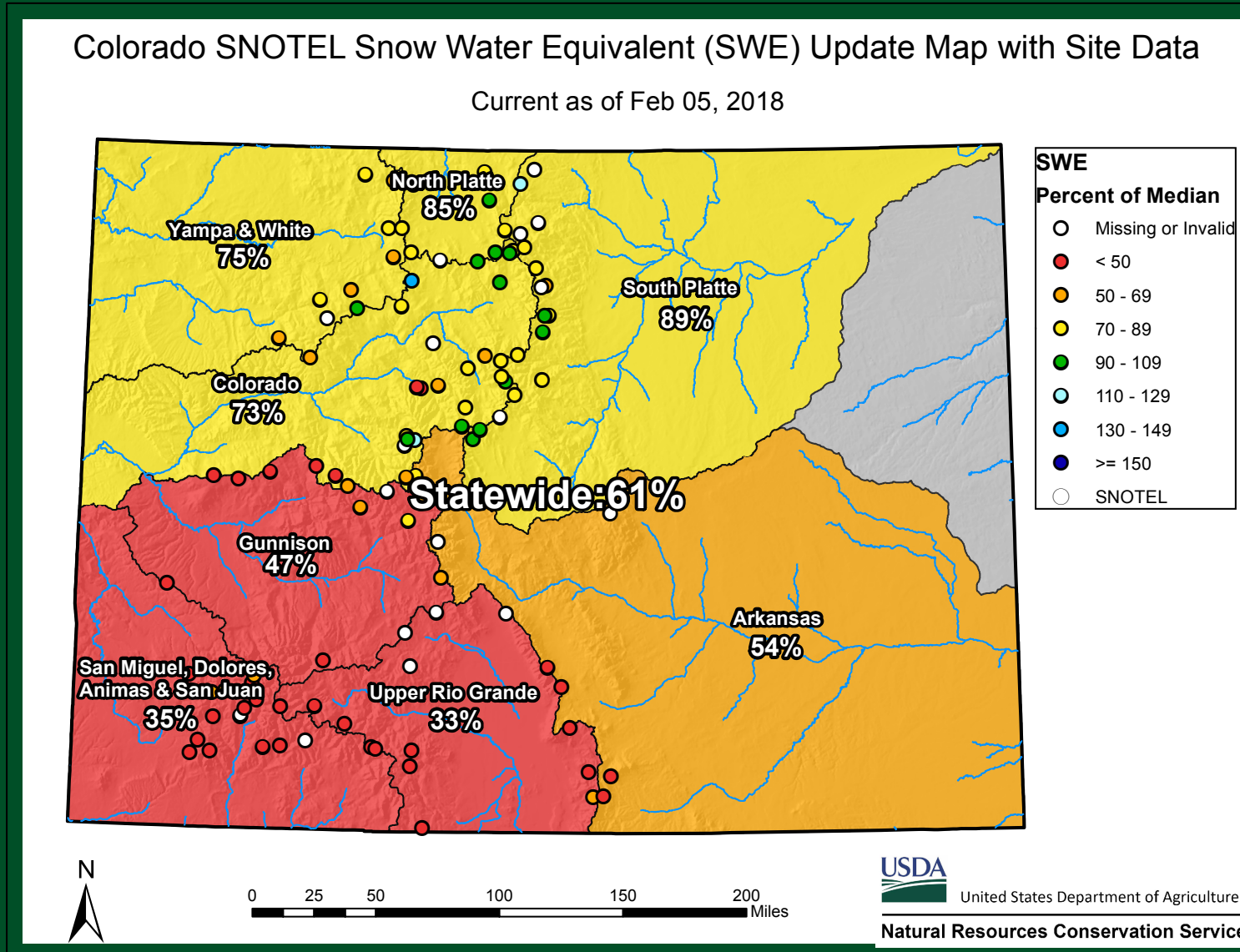
Average

Last year

This year

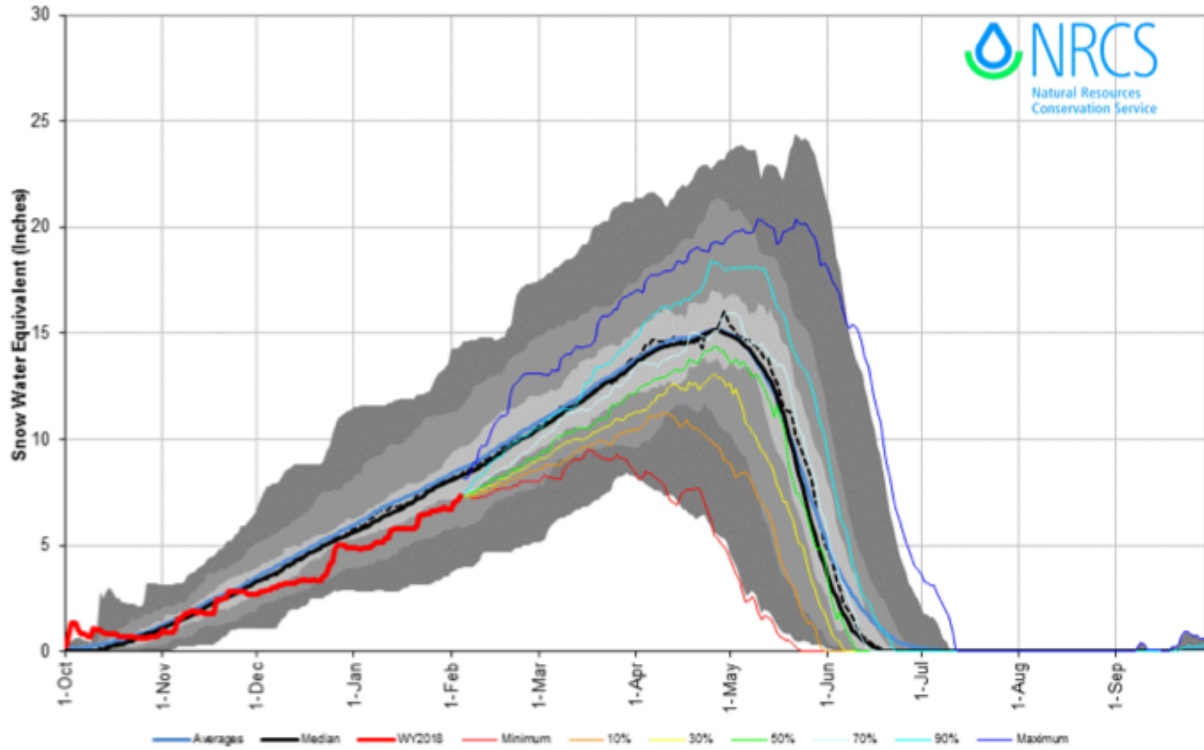
(driest)

A tale of two halves of the state...



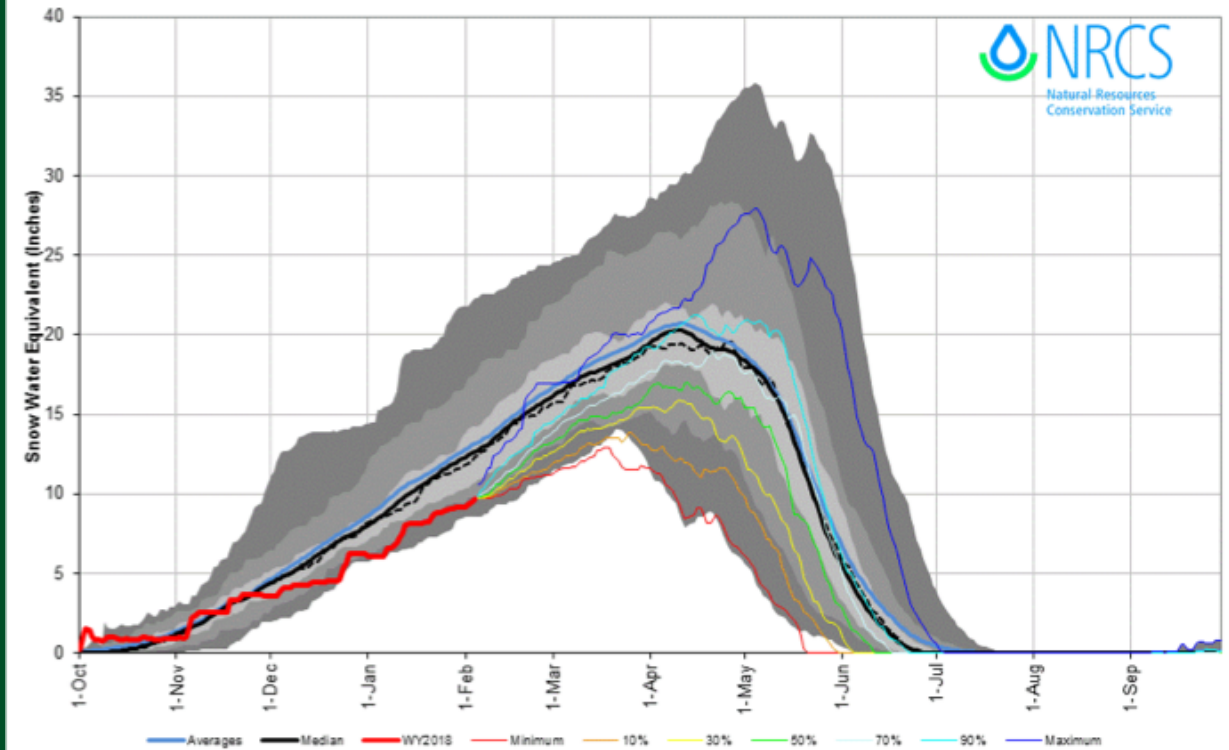
South Platte River basin

South Platte River Basin with Non-Exceedence Projections
 Based on Provisional SNOTEL Data as of Feb 04, 2018



Yampa/White/North Platte River basin

Yampa, White & North Platte River Basins with Non-Exceedence Projections
 Based on Provisional SNOTEL Data as of Feb 04, 2018

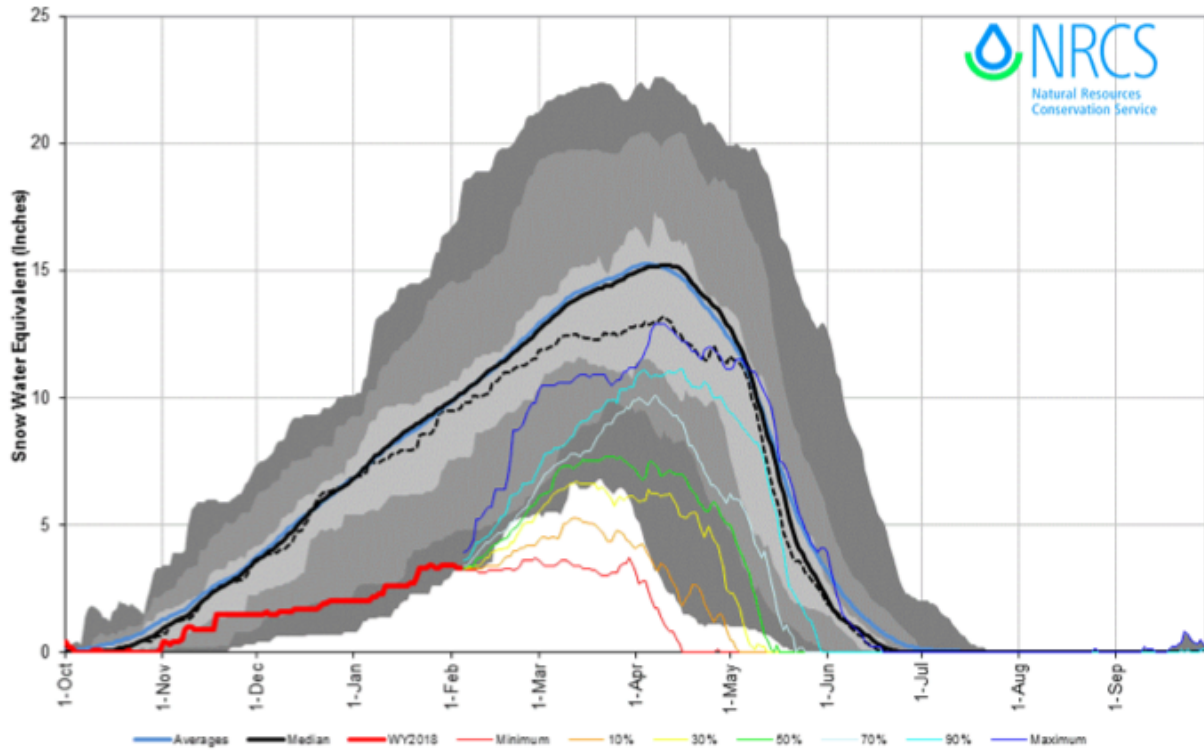


From NRCS

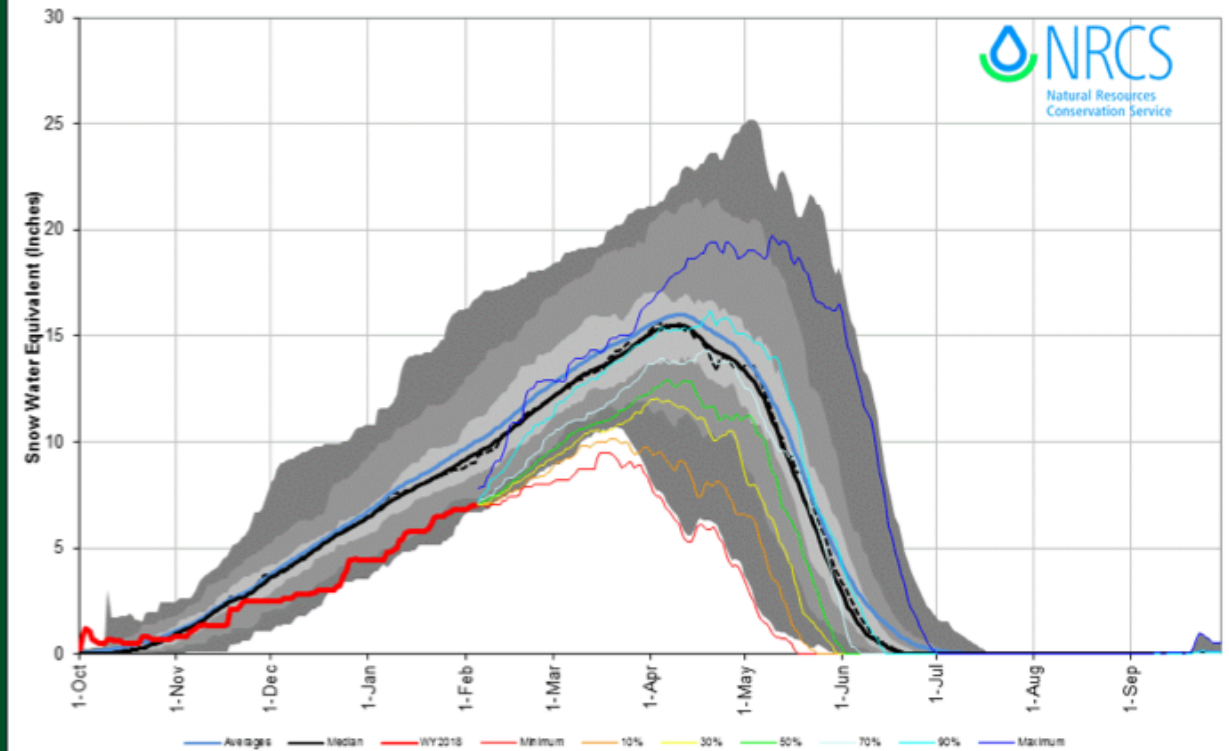
Upper Rio Grande River basin

Upper Colorado River basin

Upper Rio Grande River Basin with Non-Exceedence Projections
Based on Provisional SNOTEL Data as of Feb 04, 2018



Upper Colorado River Basin with Non-Exceedence Projections
Based on Provisional SNOTEL Data as of Feb 04, 2018

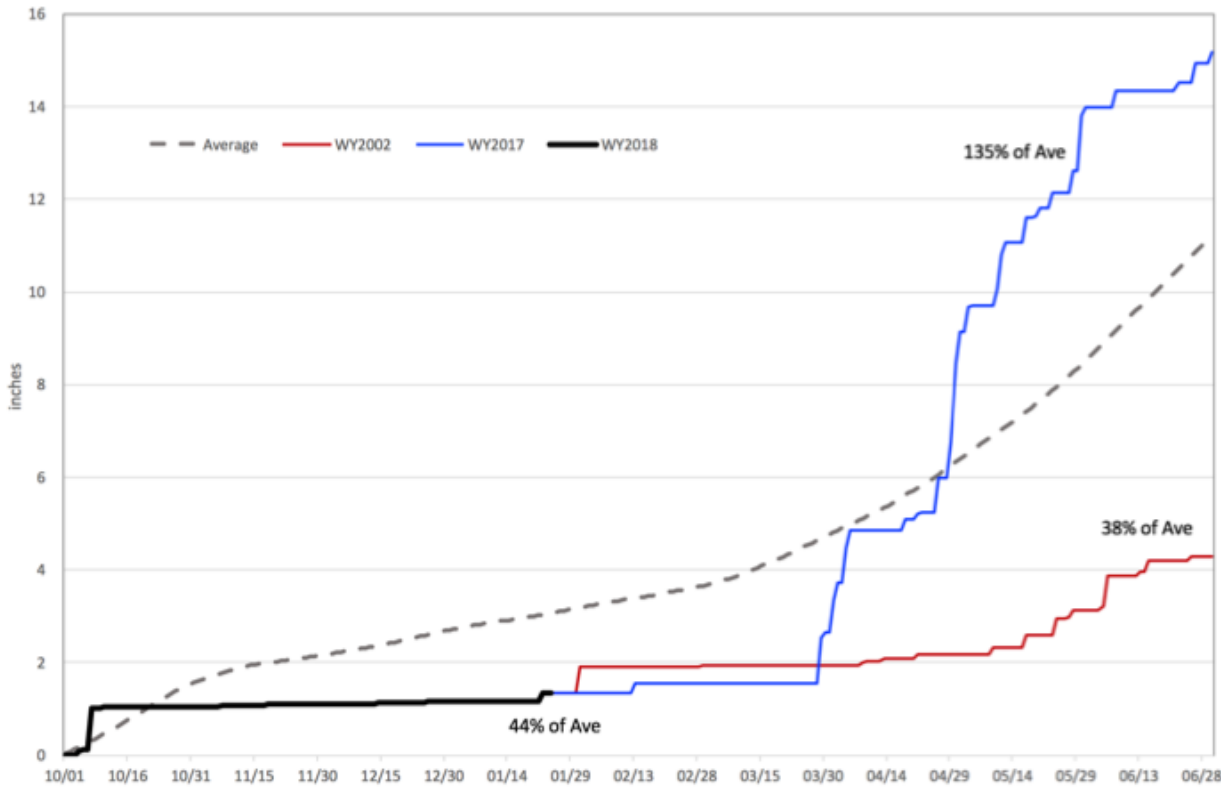


Essentially no chance of getting back to normal in southern mountains

Eastern Plains

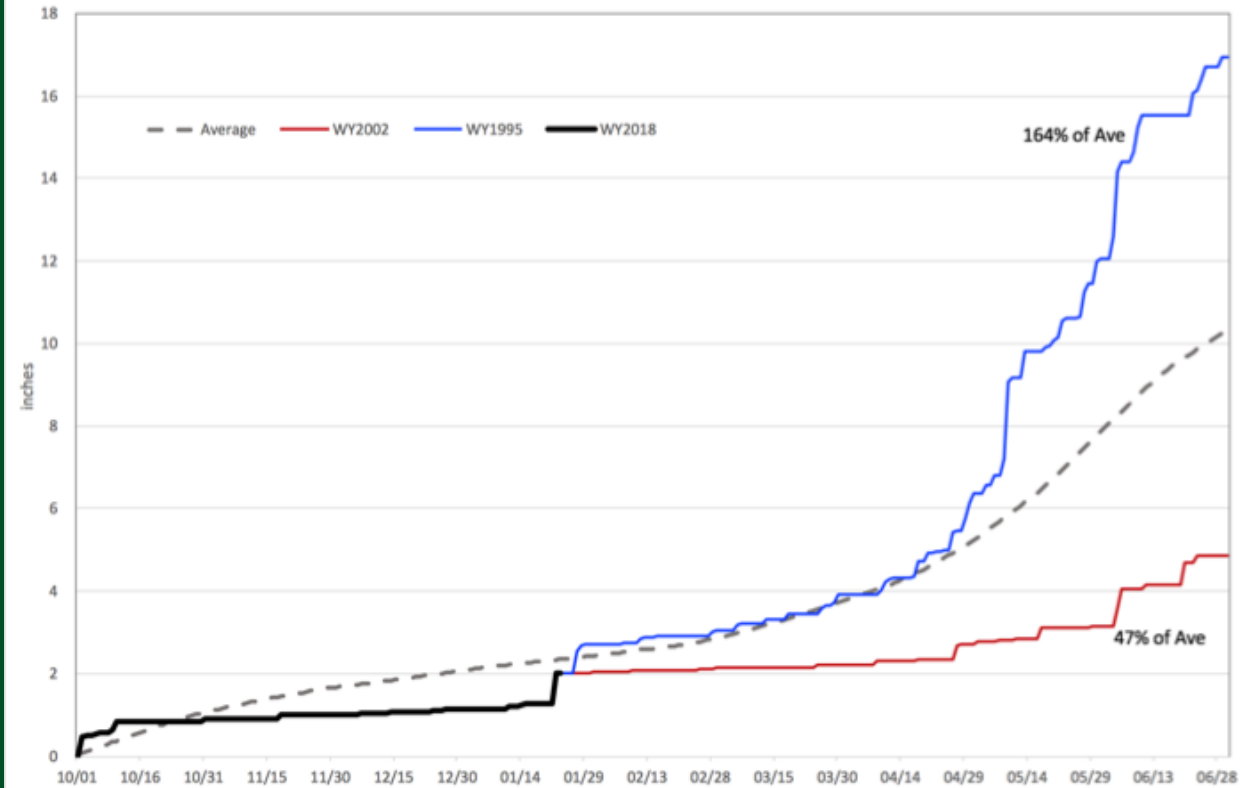
Walsh

Precipitation Accumulation Projections at Walsh 1 W



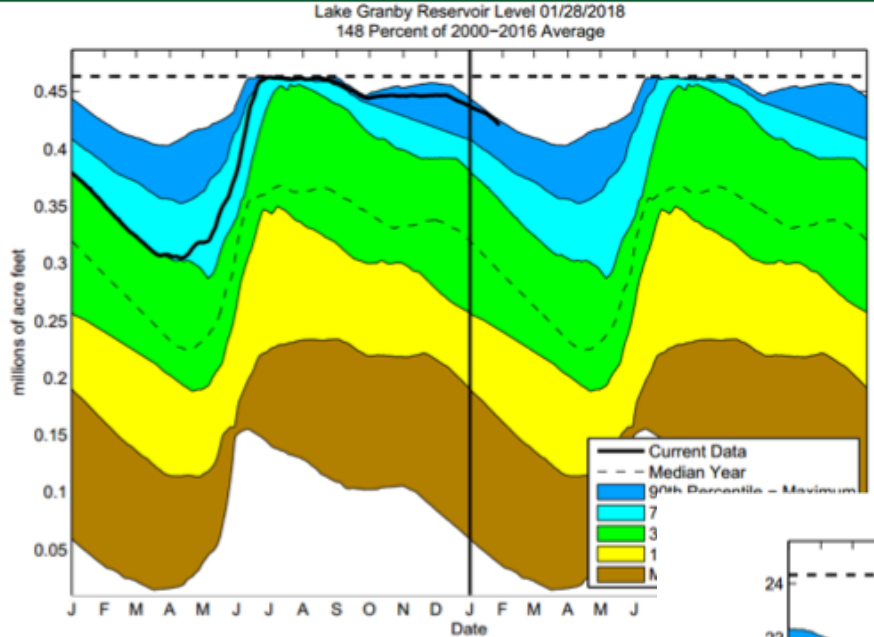
Akron

Precipitation Accumulation Projections at Akron 4 E

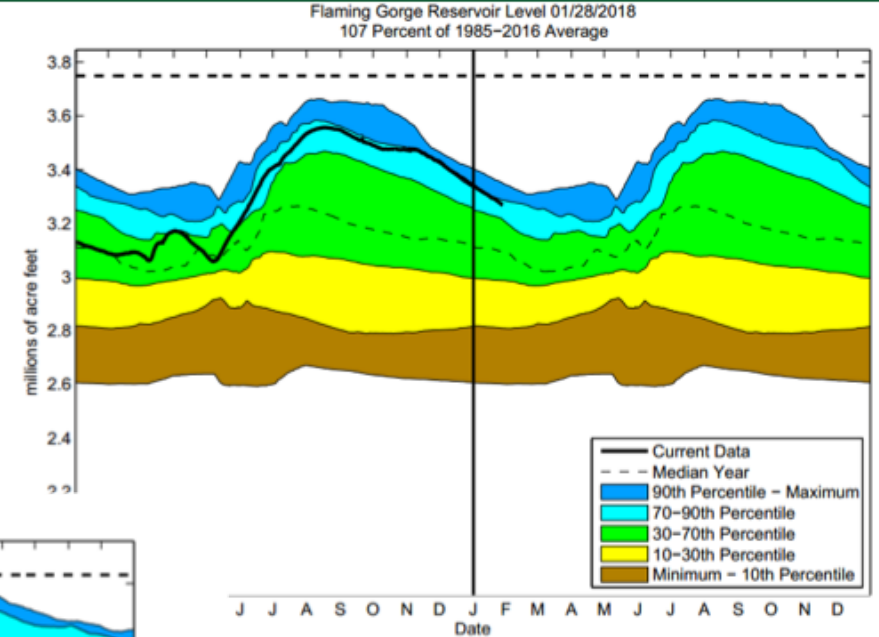


Good news is reservoirs are in fine shape

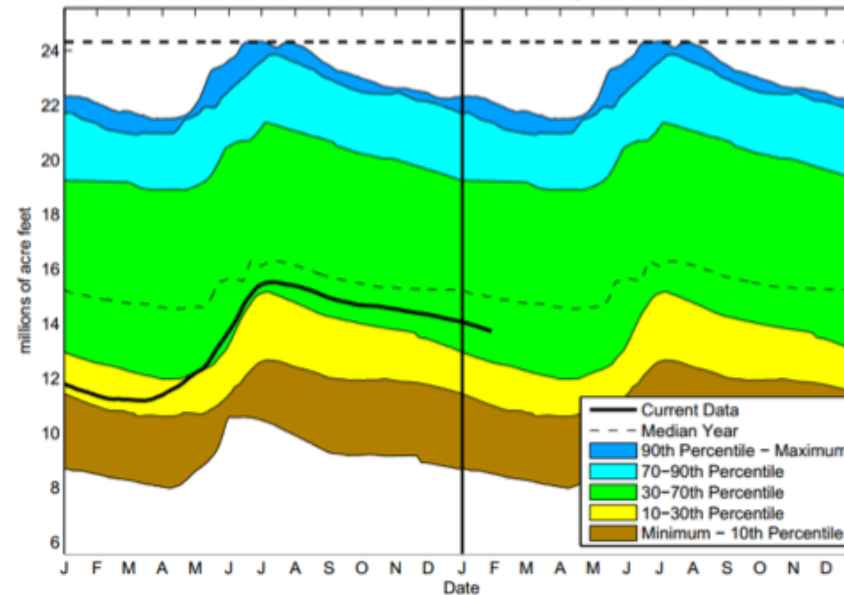
Lake Granby: 148% of average



Flaming Gorge: 107% of average



Lake Powell Reservoir Level 01/28/2018
86 Percent of 1985-2016 Average



Lake Powell: 86% of average

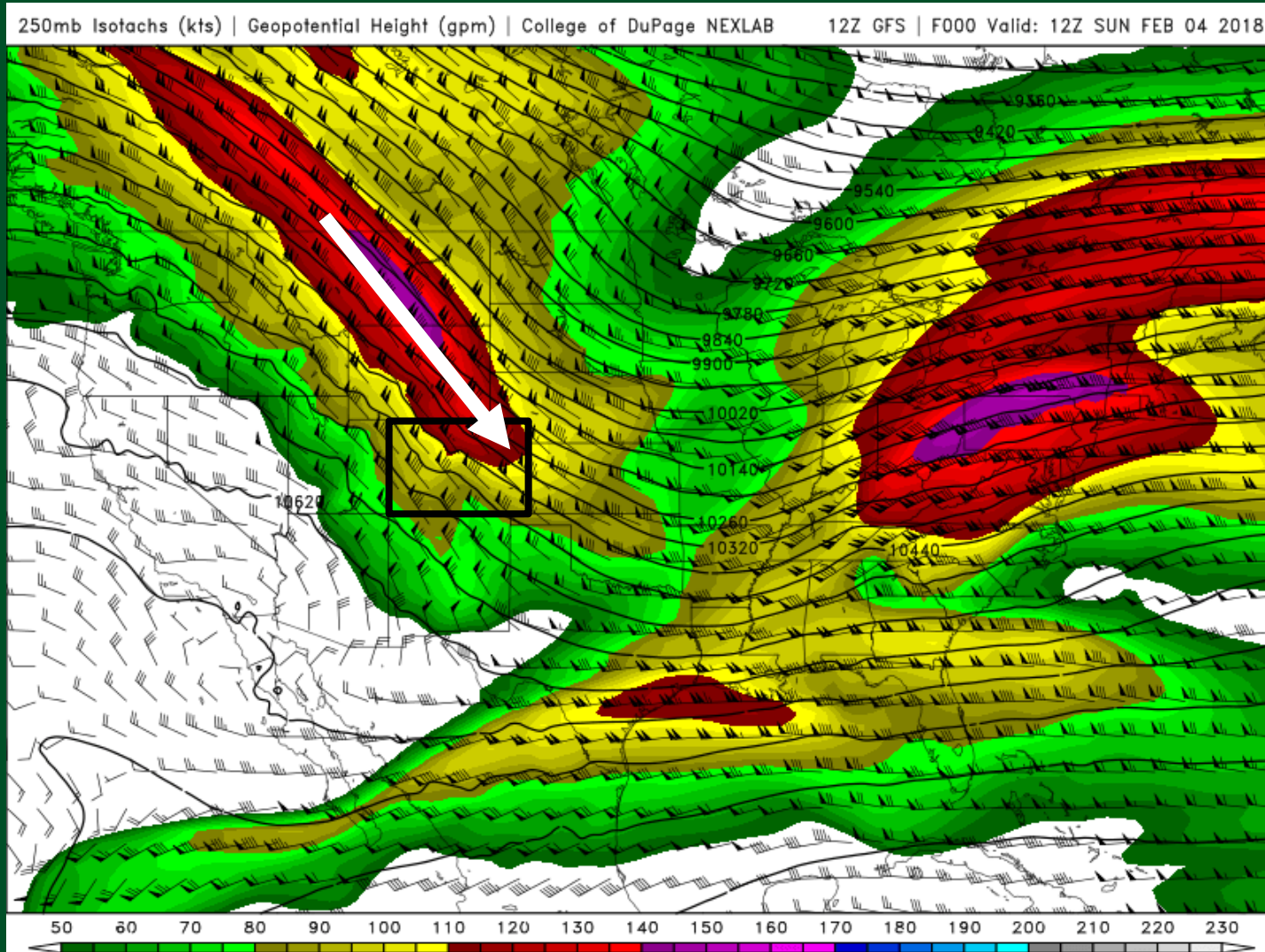
Outlook

ENSO (El Niño / Southern Oscillation)

- One of the biggest drivers of seasonal climate over North America is ENSO, the periodic variation of ocean temperatures in the Pacific Ocean
- This year, we are in **La Niña** conditions: cool ocean near South America, warm in the western Pacific
- La Niña conditions expected to continue through the winter, then returning to neutral in the spring
- But...
 - ENSO influences on Colorado aren't as consistent as they are to our north and south
 - ENSO is only one driver of our winter conditions...and they've only partially explained our conditions this winter
 - This is a “double-dip” La Niña year, which is often even drier than a “usual” La Niña

Remaining in northwest flow for the next week or more

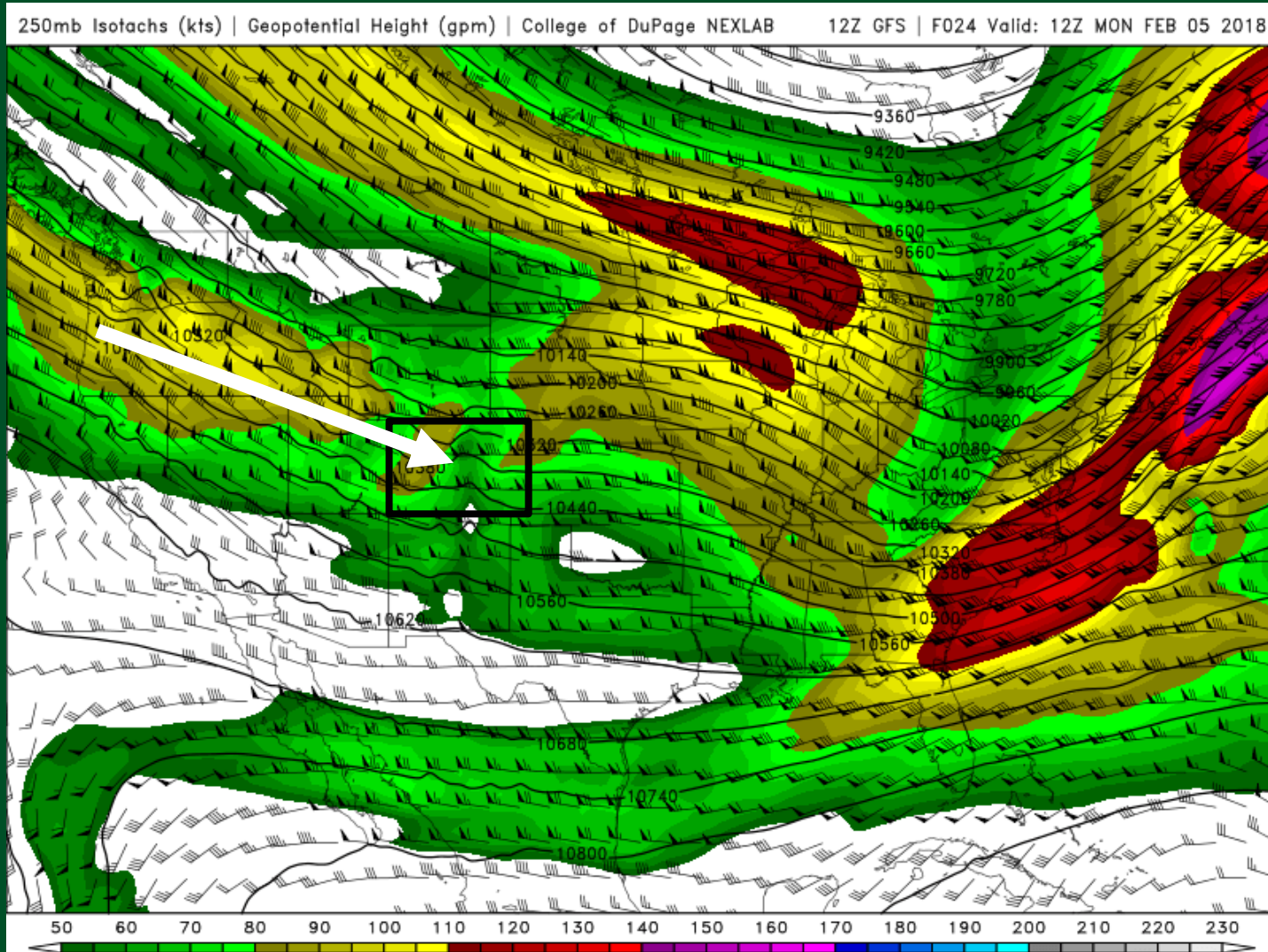
Jet stream
Sunday



<http://weather.cod.edu/forecast>

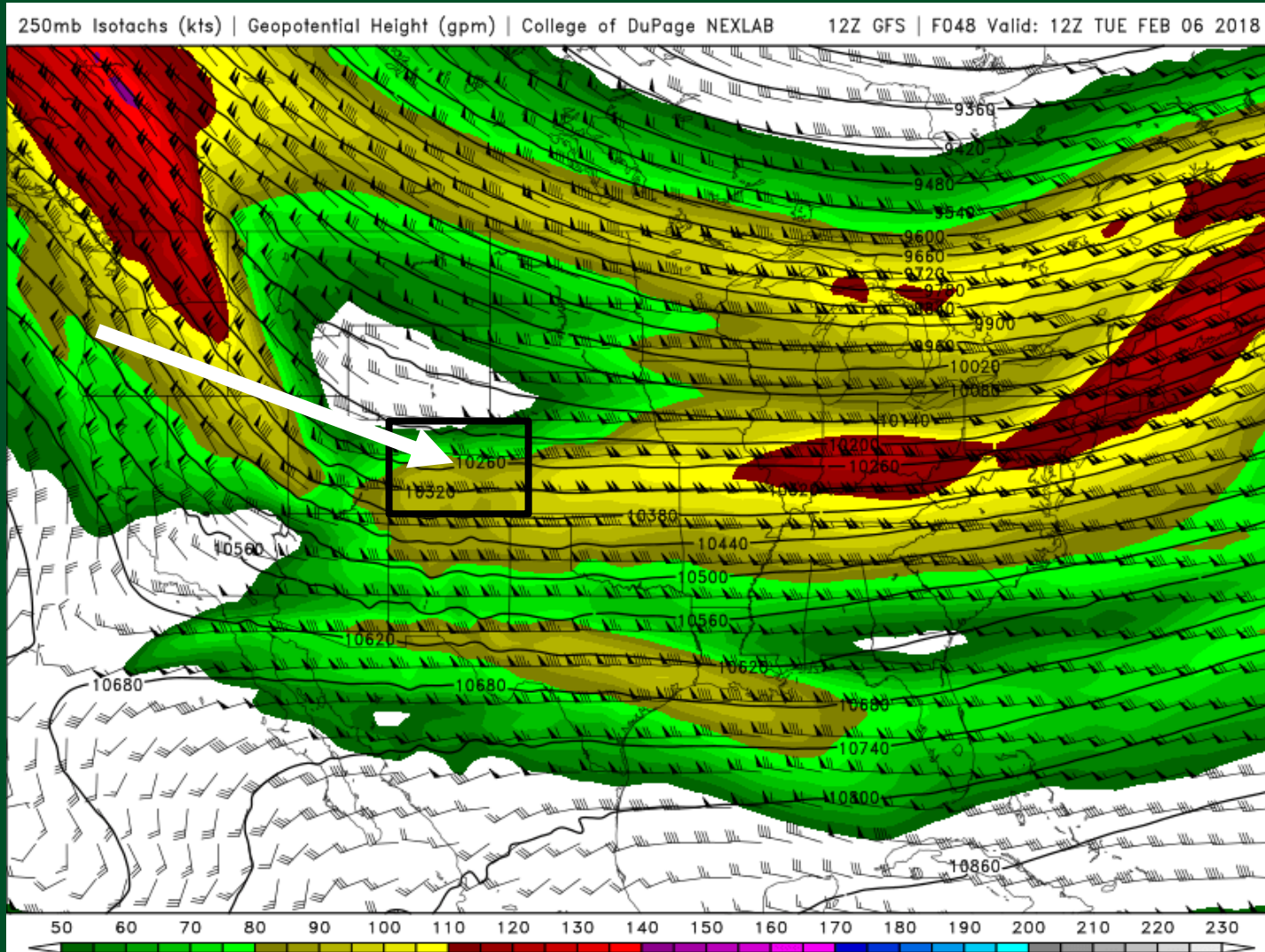
Remaining in northwest flow for the next week or more

Jet stream forecast
Monday 5 Feb

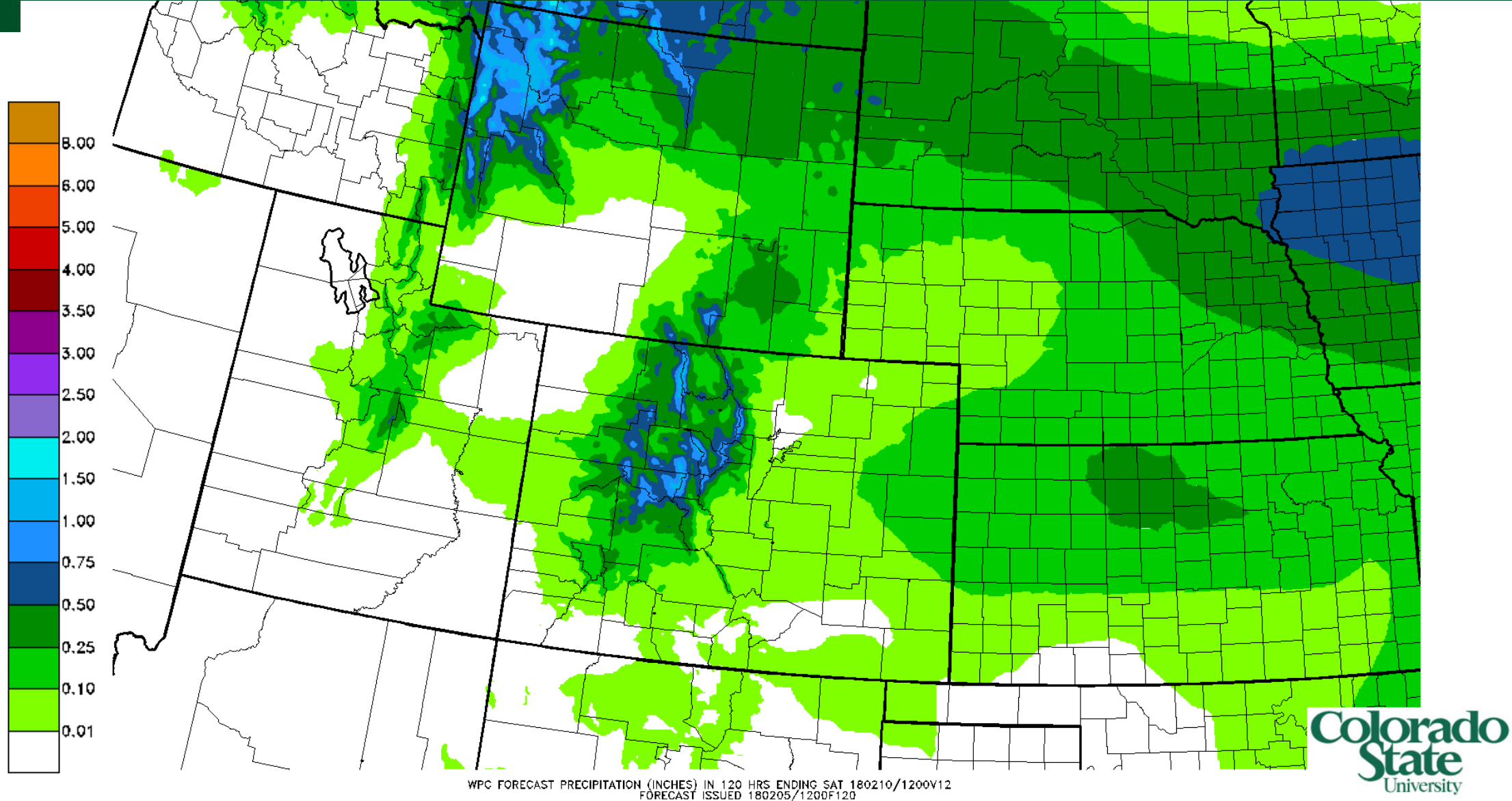


Remaining in northwest flow for the next week or more

Jet stream forecast
Tues 6 Feb

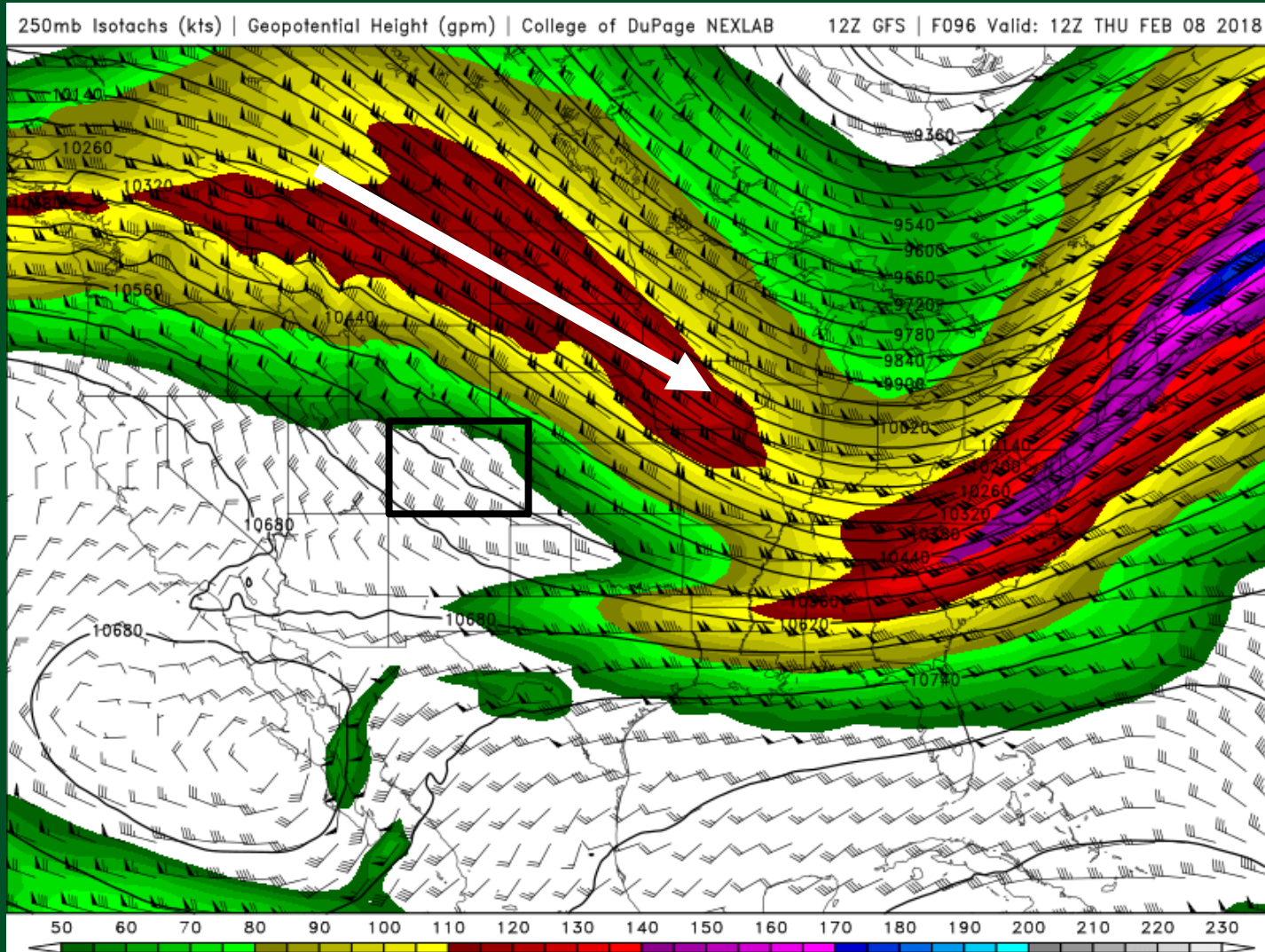


NWS precip forecast for Monday-Tuesday storm



Remaining in northwest flow for the next week or more

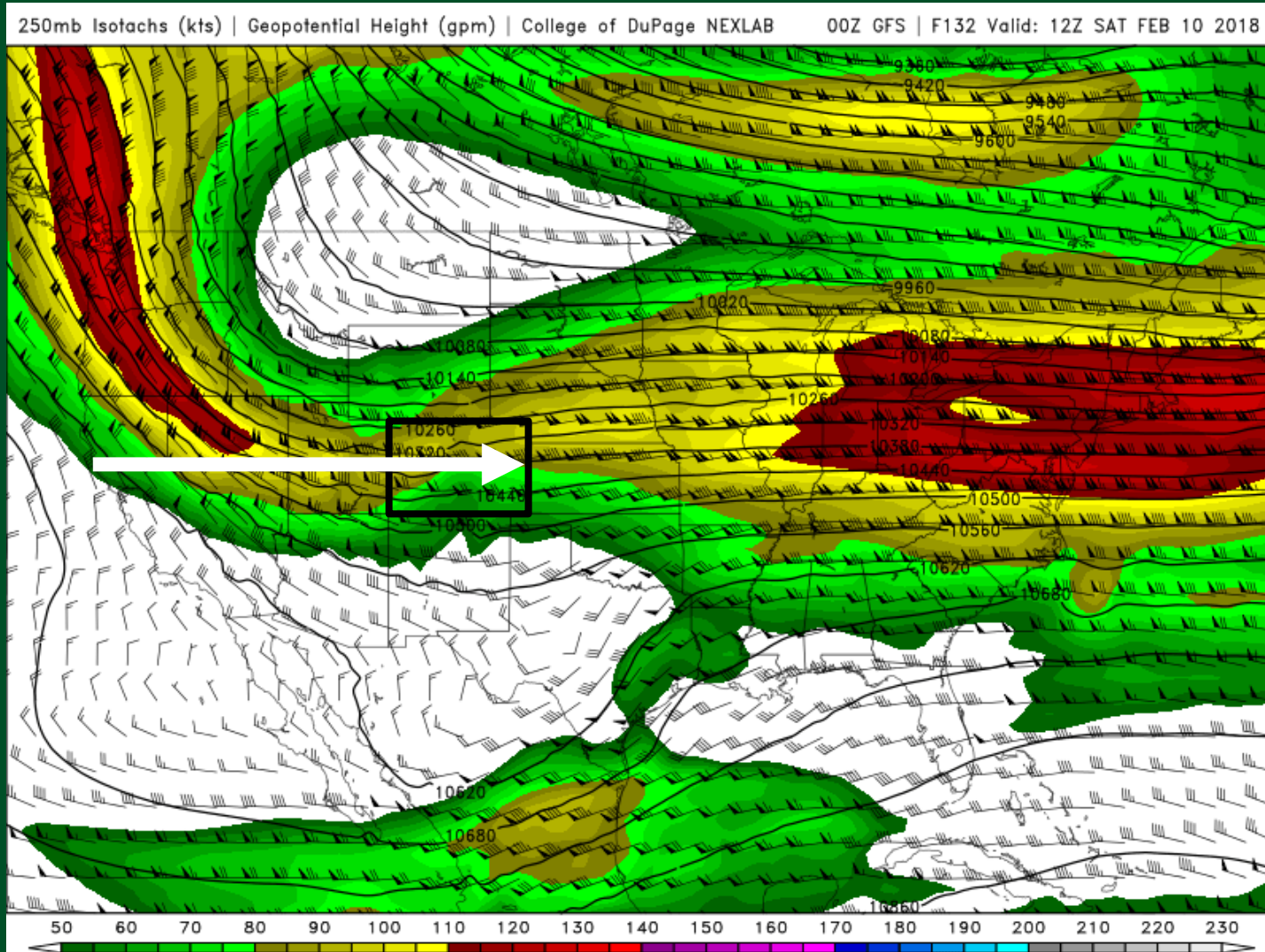
Jet stream forecast
Thurs 8 Feb



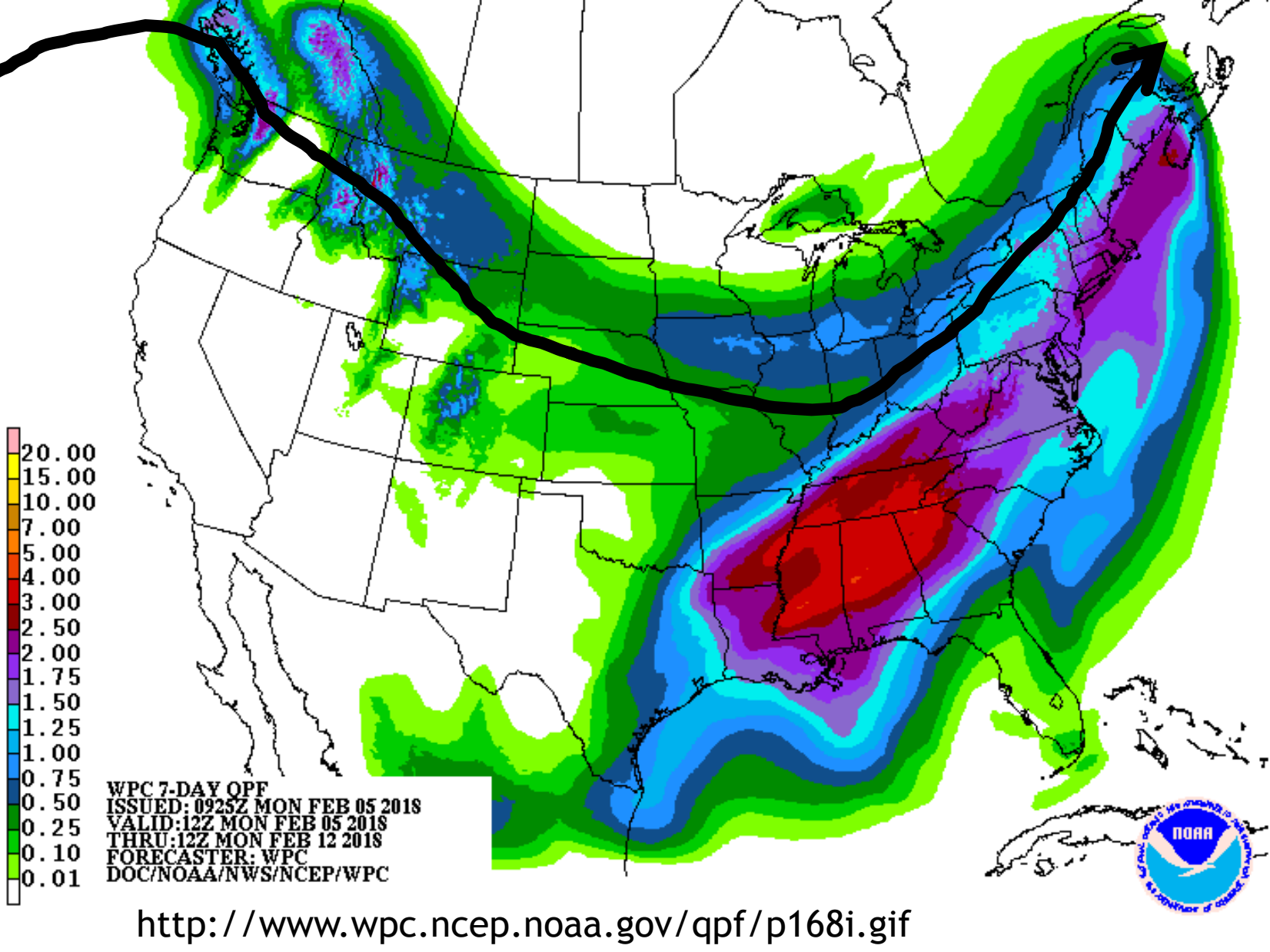
Remaining in northwest flow for the next week or more

Jet stream forecast
Sat 10 Feb

Note: forecast
much less certain
at 6 days out!



7-day precipitation forecast

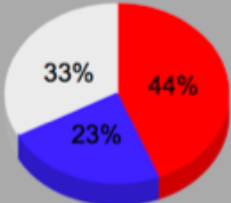


February outlook

Find address or place

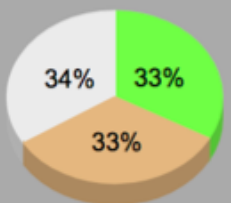
[7 Day Forecast for Gunnison, CO](#)

Three Category Temperature Outlook
 Normal Maximum Temperature: **36**
 Normal Minimum Temperature: **9**




- Above Normal
- Below Normal
- Near Normal

Three Category Precipitation Outlook
 Normal Precipitation: **1.44**



- Above Normal
- Below Normal
- Near Normal



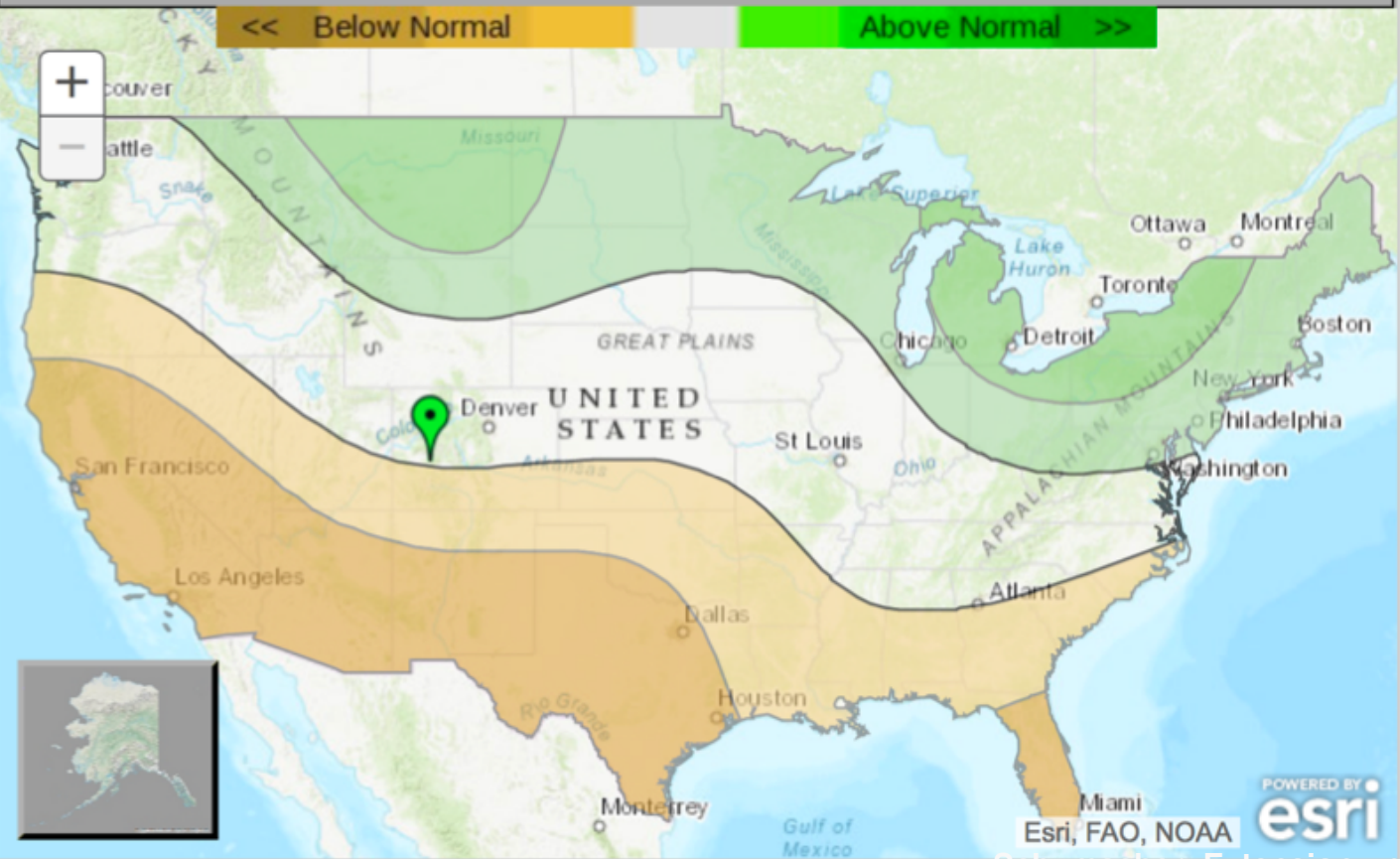
Monthly Outlook


February 2018

Temperature Outlook Opacity: 60% Precipitation Outlook

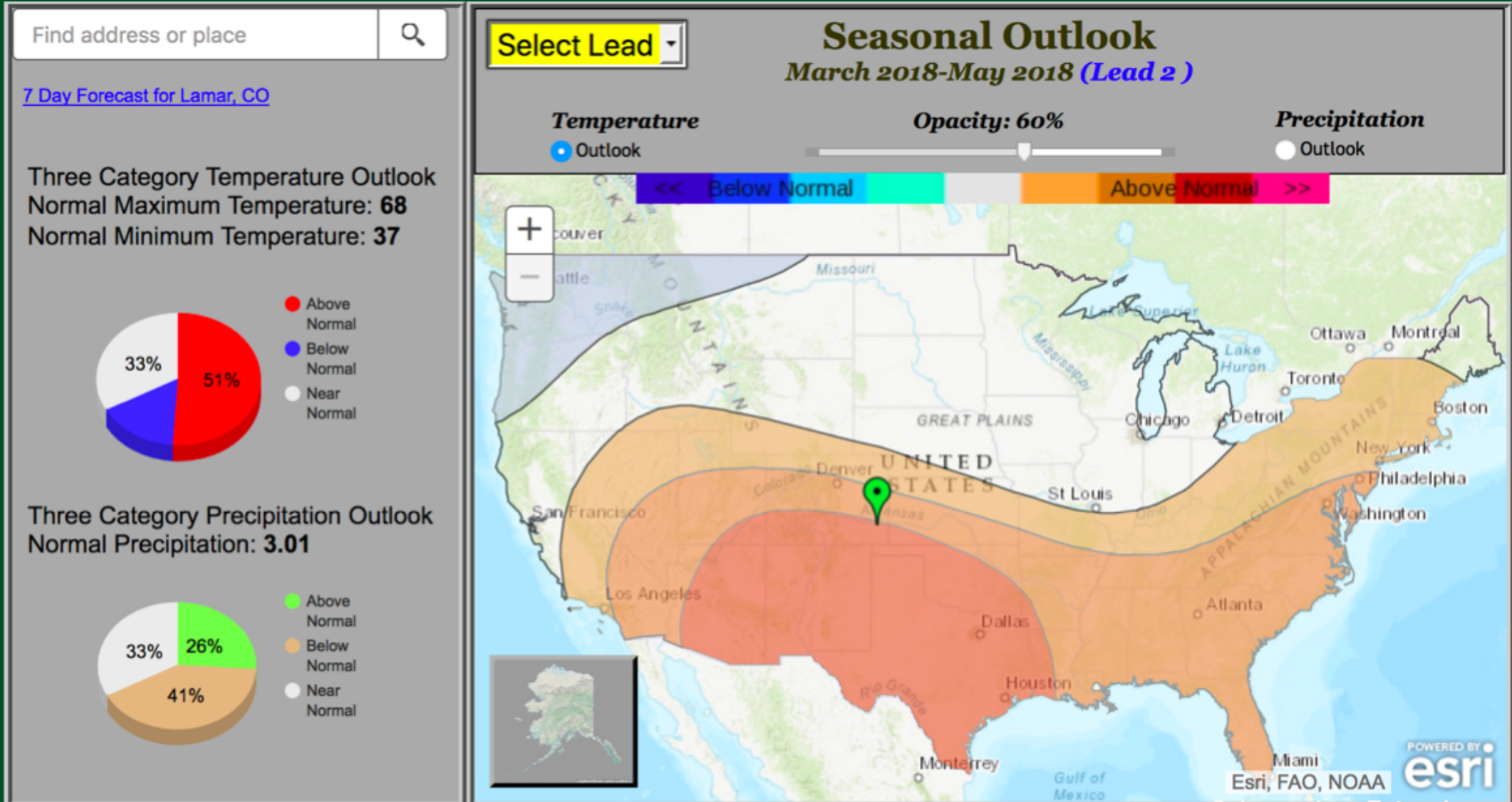
● Outlook ● Outlook

<< Below Normal Above Normal >>

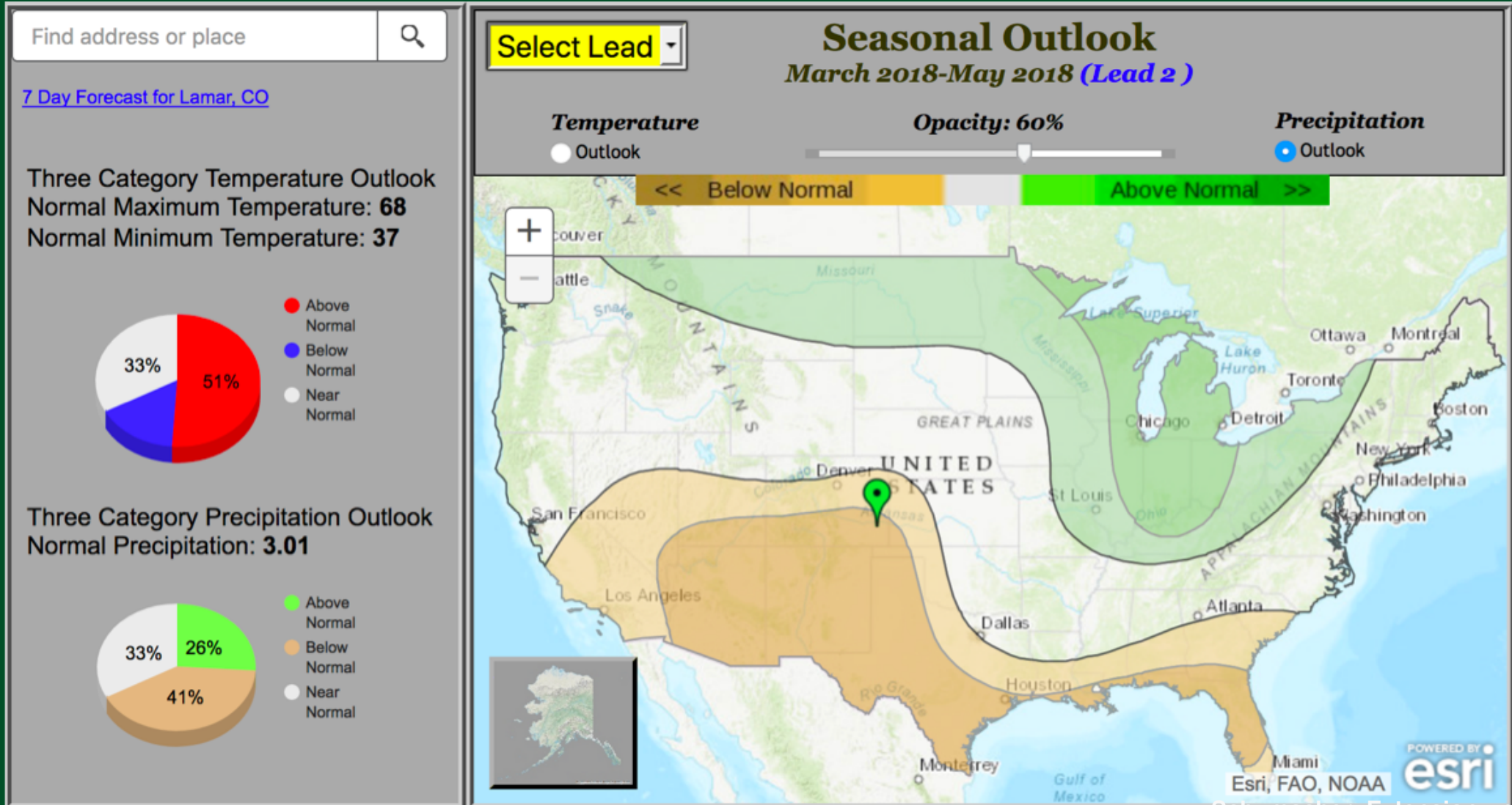


POWERED BY
Esri, FAO, NOAA 

Spring (March-April-May) outlook: temp

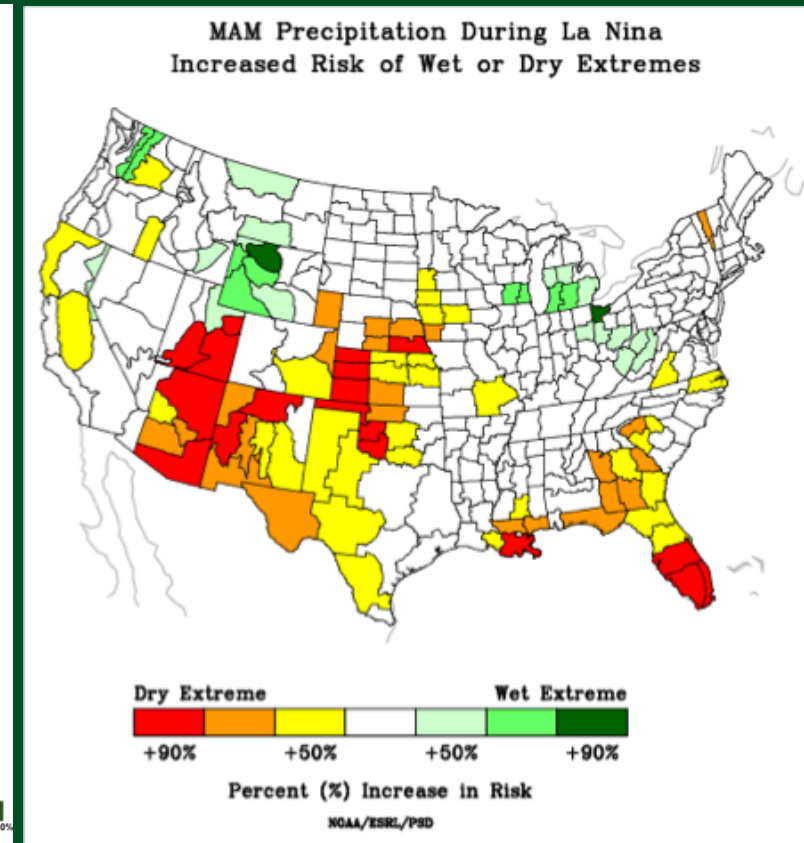
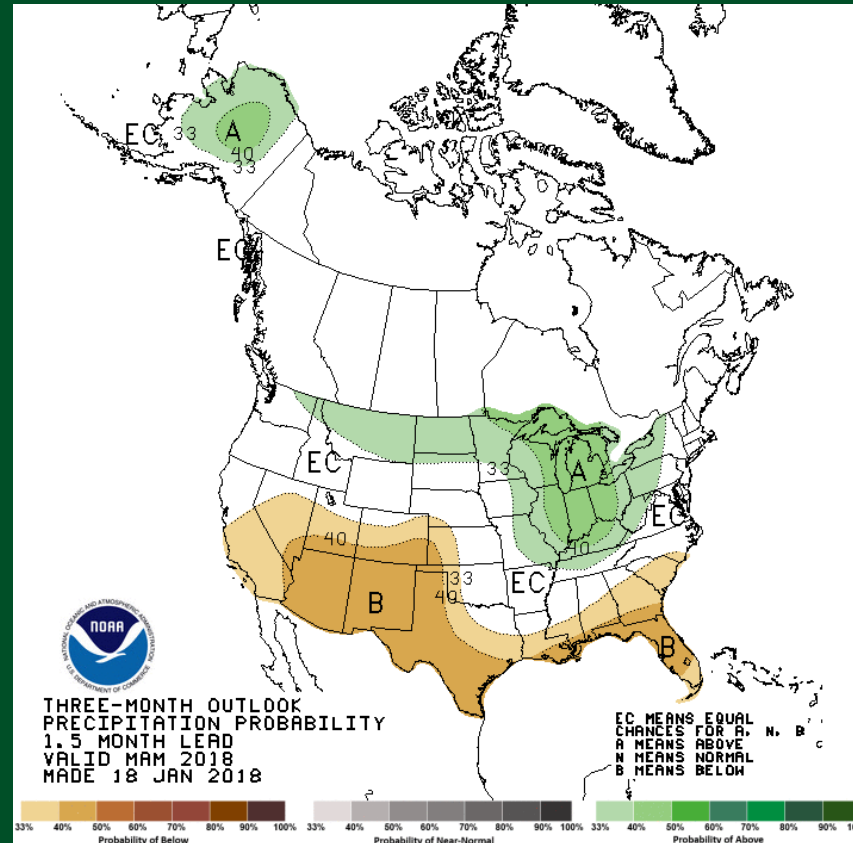


Spring (March-April-May) outlook: precip



Outlook for precip (and extreme events?) in relation to La Nina

- Outlooks show an increased chance of a warm and dry spring
- But there is at least some precedent for wet spring following a La Niña winter (April 1999 as one example)



Orchard Mesa meta ✕

Station ID: ORM01 Lat: 39.0420 Lon: -108.4600 Elev: 4600 ft

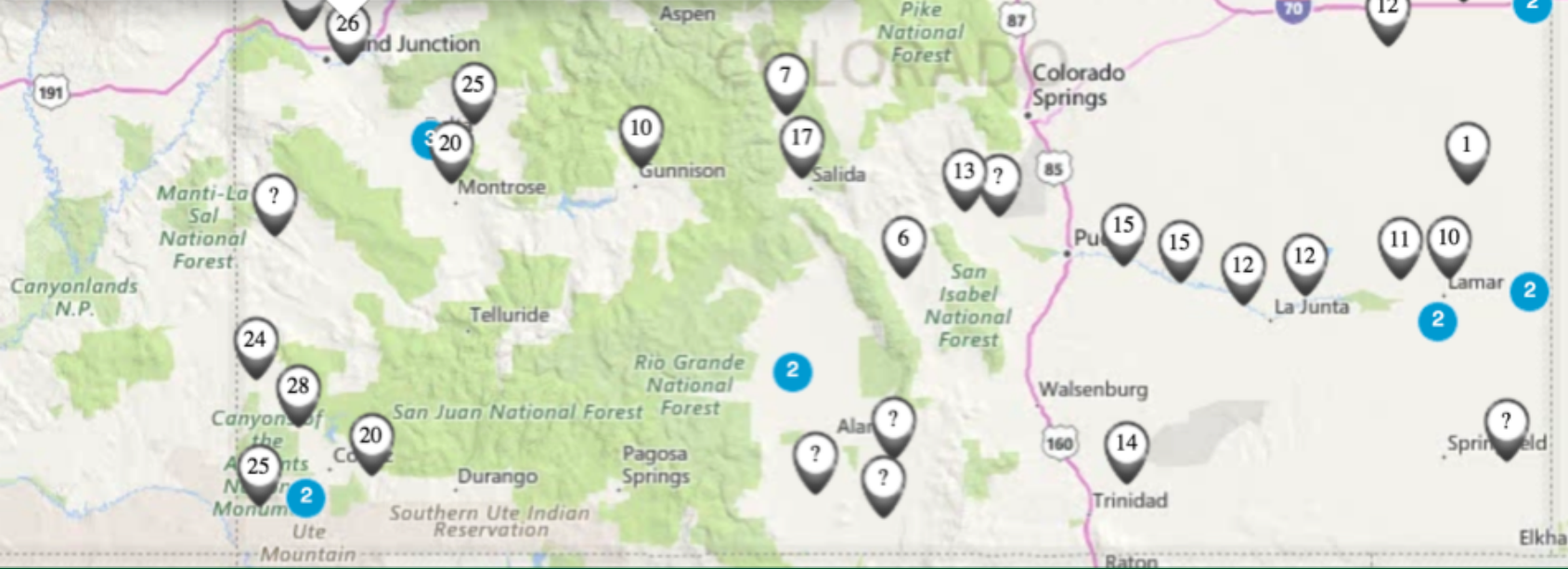
Latest Historical Photos

26°F

0.00 in 63% 1.7 mph

Vapor Pressure: 0.30 kPa Solar Radiation: 0.0 kJ/m²min

Updated January 16th 2018, 9:00 pm

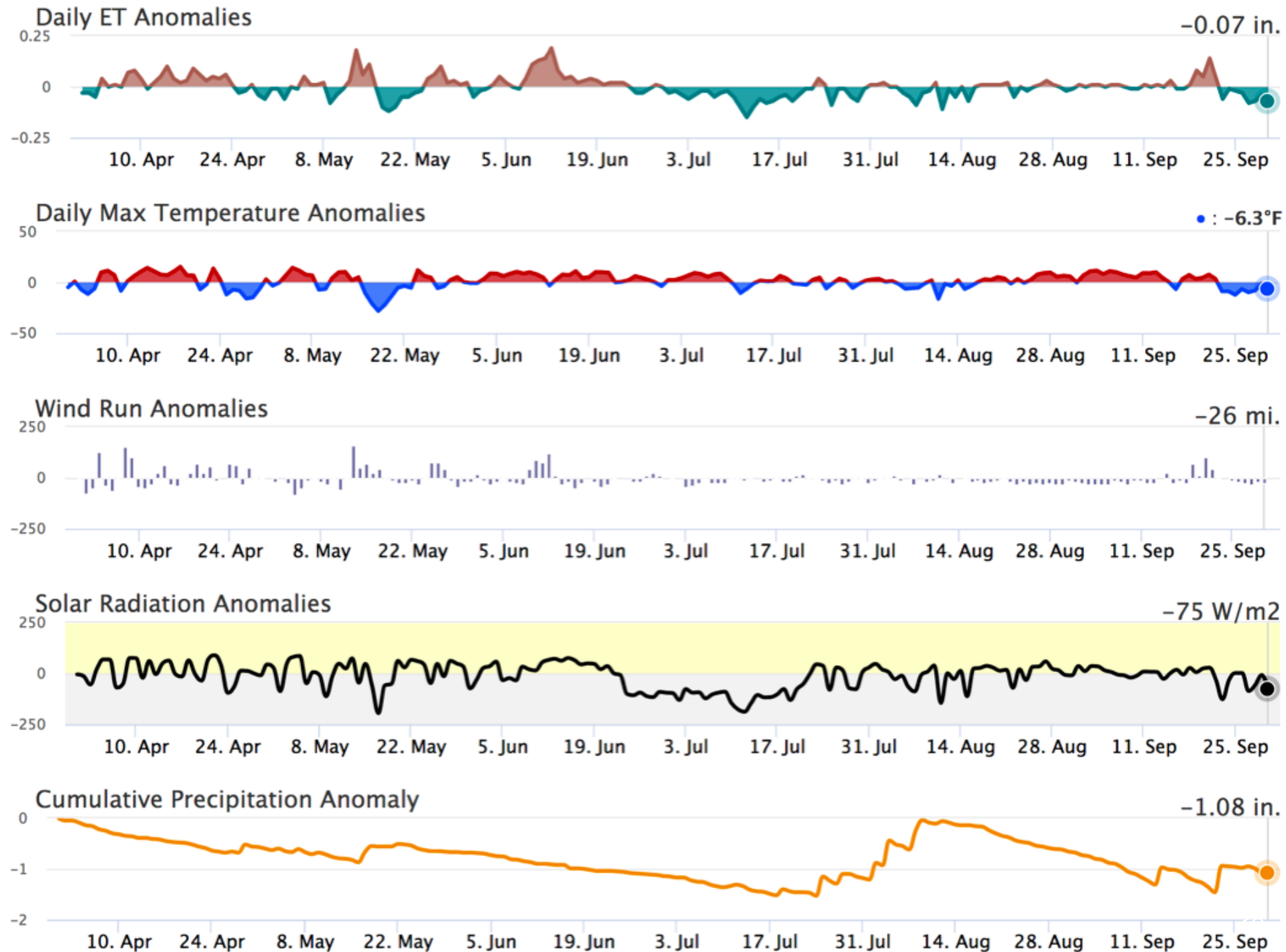


CoAgMET

- ❑ 75 stations
- ❑ 10 proposed for west slope
- ❑ 44 5-minute stations
- ❑ interactive mapping through eRAMS
- ❑ includes
 - ❑ time series charts
 - ❑ site photos

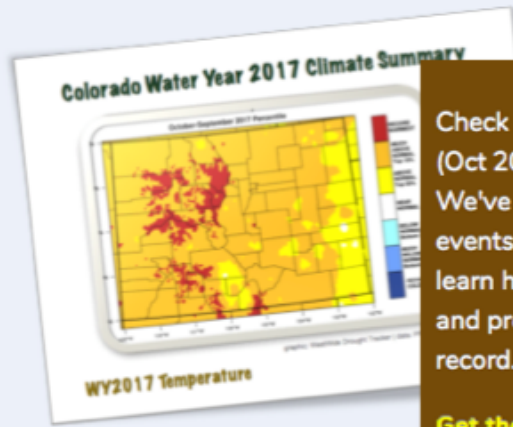
coagmet.colostate.edu

Growing season summaries at long-term stations: Olathe (2017)



http://climate.colostate.edu/2017ET/et_summary_oth_anom.html

- General Info ▾
- Colorado's Climate ▾
- Data Access
- Climate Maps
- Normals and Extremes ▾
- Drought ▾
- Tools ▾



Check out our Water Year summary (Oct 2016 - Sep 2017) for Colorado. We've compiled a list of significant events and water year records. Also learn how our water year temperature and precipitation ranks in the historic record.

Get the 2017 Water Year Report!

Previous | Next

Current Conditions

Fort Collins, CO

33.8°F

Last Updated on November 8, 5:25 PM MST

Wind: Calm
Dewpoint: 33°F
Humidity: 98%

Zip Code Local Conditions

News Feeds

Colorado Climate Ce...
Liked 738 likes

Colorado Climate Center 7 hours ago

Fog along the Front Range this morning - check out this magical time-lapse looking south over Lyons. Colorado:

new website features at climate.colostate.edu

- Data Access
- Climate Maps (coming soon)
- Climate Normals
- Climate Extremes
- Tools

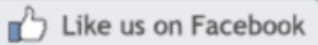




INTERMOUNTAIN WEST DROUGHT EARLY WARNING SYSTEM



WEBINAR SPONSORS



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[US Drought Monitor](#)

Greetings,

Please join us tomorrow morning, **Tuesday, January 16th at 10:00AM MST** for our monthly "Climate, Water and Drought Assessment" Webinar.

To register go to the Colorado Climate Center website at: http://climate.colostate.edu/webinar_registration.html.

A toll-free 800 number is provided for calling-in. Our webinars are brief (usually less than 30 minutes) and provide updated information assessing climate, water and drought for the Intermountain West.

Intermountain West Drought Early Warning System Webinars are being brought to you by the Colorado Climate Center at Colorado State University with support from the National Integrated Drought Information System (NIDIS). For more information on NIDIS please visit: <https://www.drought.gov/drought/what-nidis>

Sincerely,

The Colorado Climate Center Team

Intermountain West drought early warning system

We lead monthly webinars on the drought situation in the intermountain west (might become every 2 weeks if drought worsens)...next one is next Tuesday the 13th.

Register at http://climate.colostate.edu/webinar_registration.html

See graphics at <http://climate.colostate.edu/~drought/>

Thank you!

<http://climate.colostate.edu/>

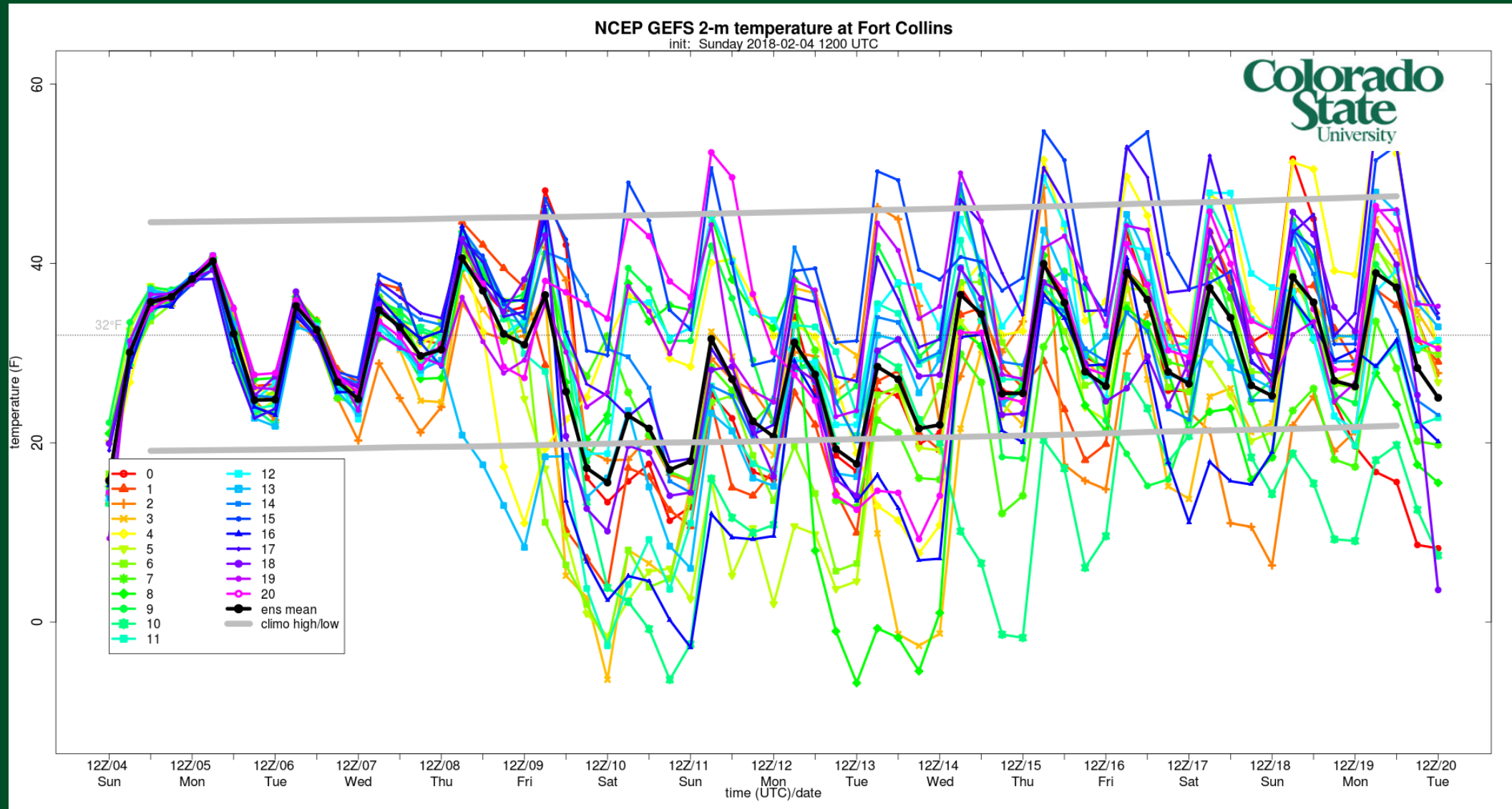
russ.schumacher@colostate.edu



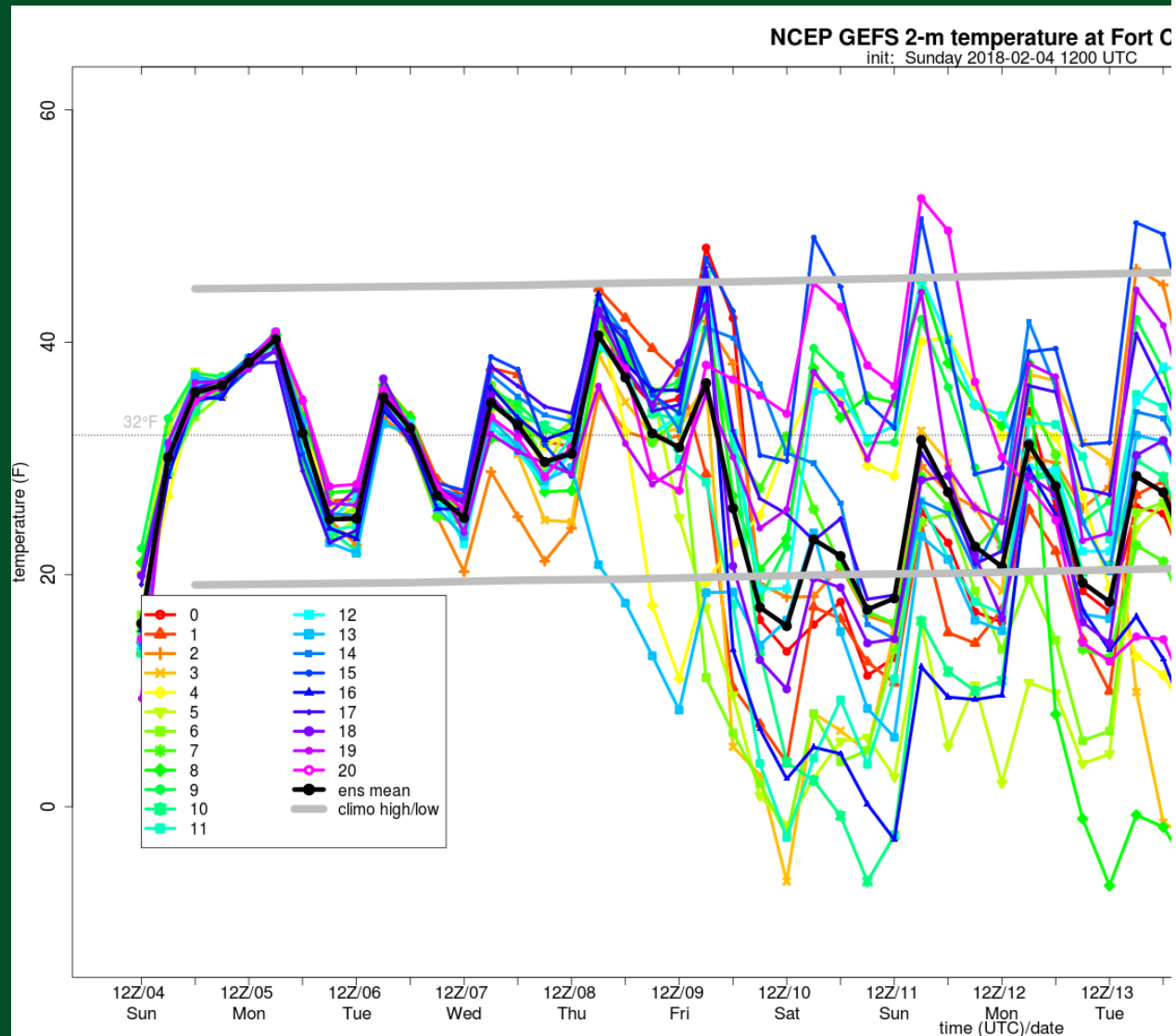
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Backup slides

“Ensemble” weather forecasts

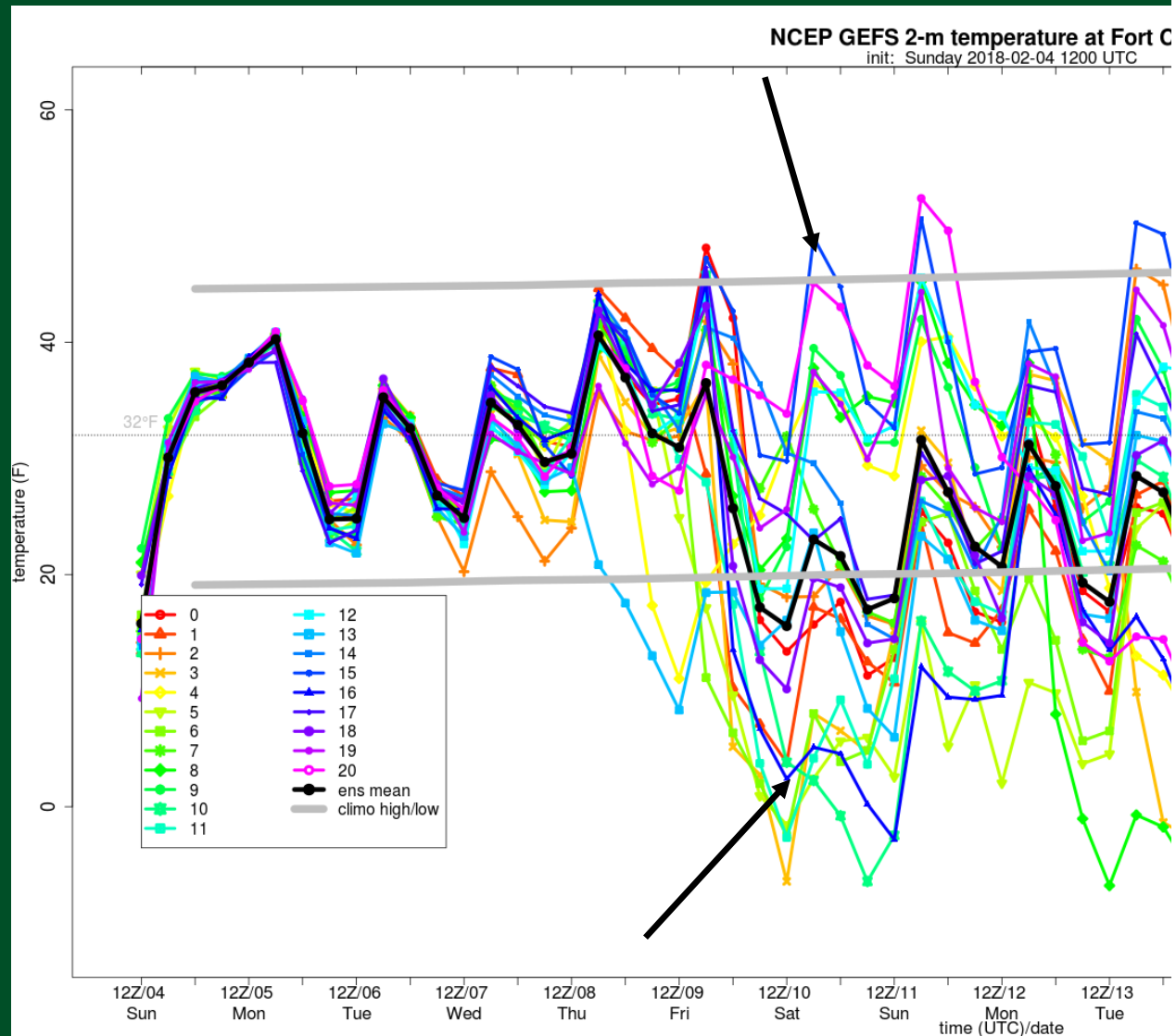


“Ensemble” weather forecasts



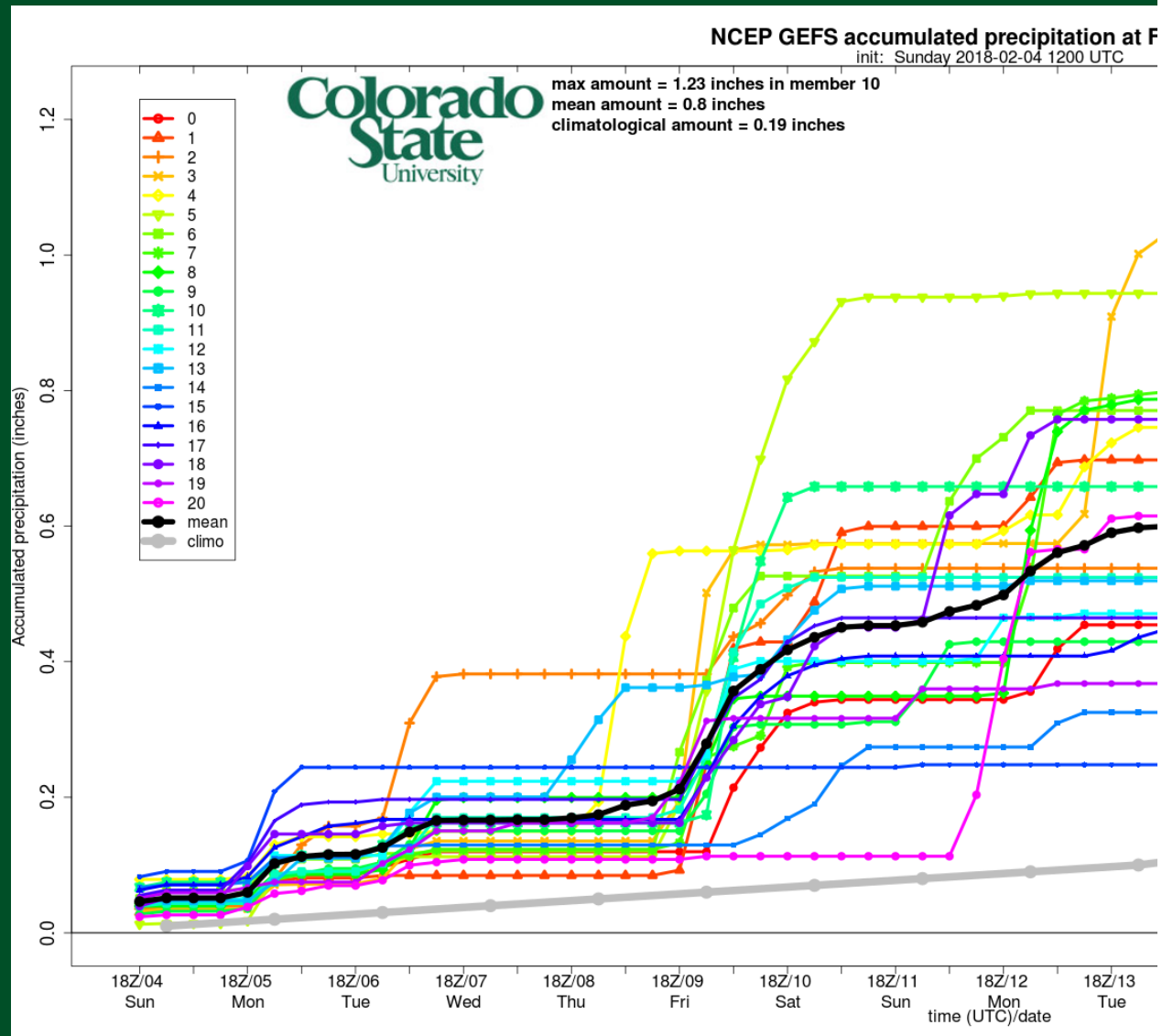
Beyond 10 days, probably don't pay too much attention...the models will generally just revert to the average conditions for the time of year

“Ensemble” weather forecasts



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“Ensemble” weather forecasts



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