

CBRFC Forecast Update: Fontenelle Reservoir

April 20th, 2016

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Colorado Basin River Forecast Center
National Weather Service/NOAA



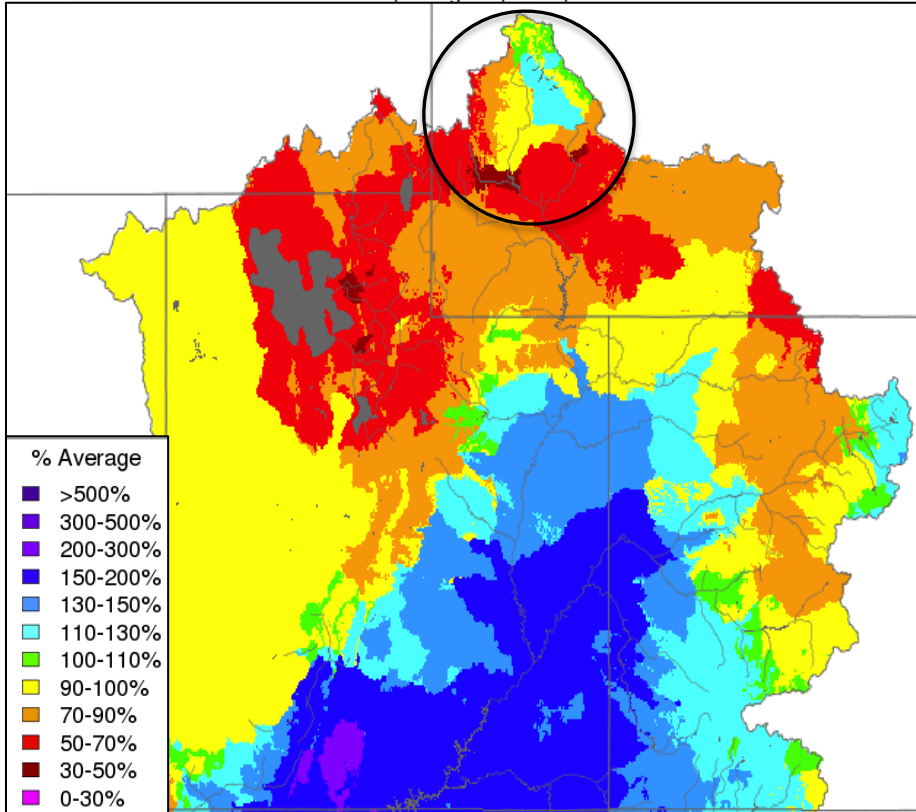
Today's Presentation

- Weather Review (Fall +Winter)
- Current Conditions Impacting Forecasts
 - Soil Moisture (modeled)
 - Snow
- Forecasts
 - April-July Water Supply Volumes
- Upcoming Weather

Weather Review: Fall Precipitation/Temperatures

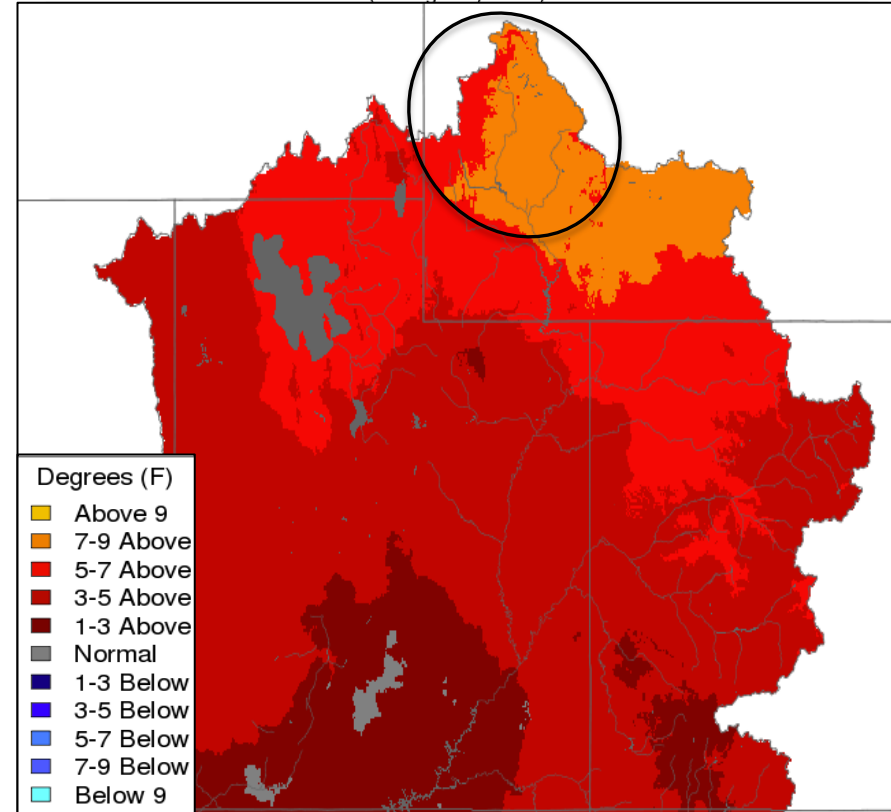
Water Year Precipitation, October 2014 - November 2015

(Averaged by Basin)



Max Temp - Monthly Deviation - October 2015

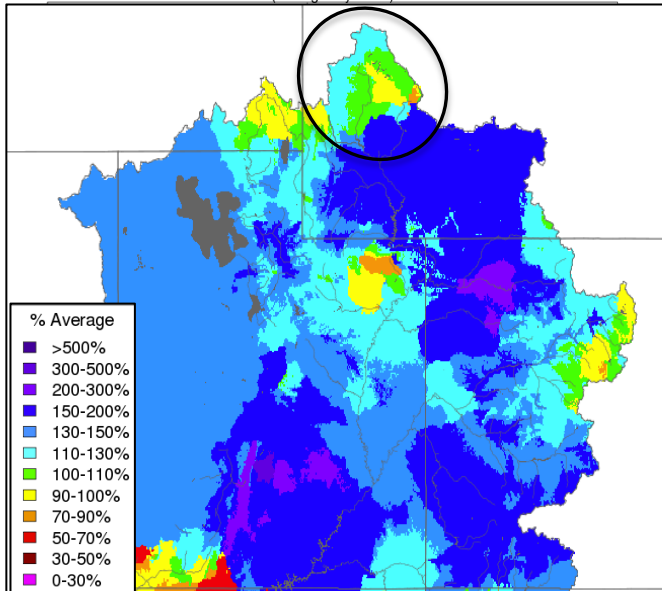
(Averaged by Basin)



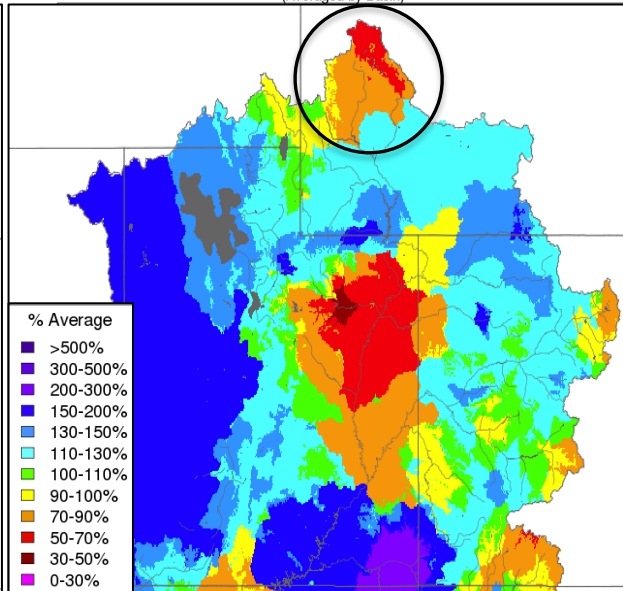
Warm October resulted in rain rather than snow at high elevations

Weather Review: Winter Precipitation

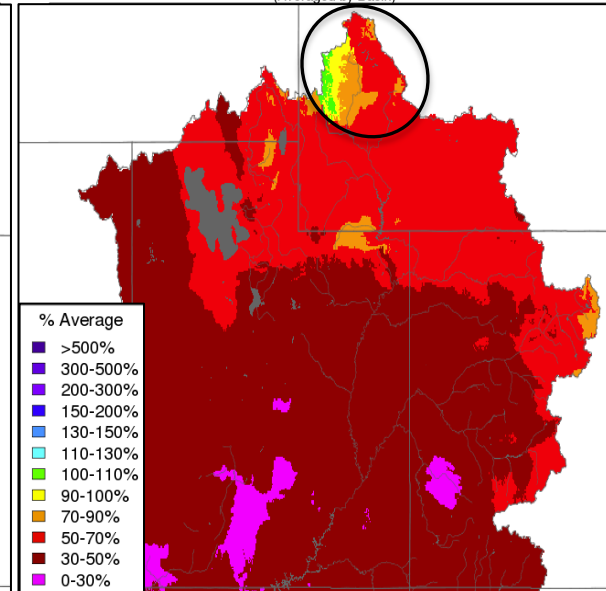
Monthly Precipitation - December 2015
(Averaged by Basin)



Monthly Precipitation - January 2016
(Averaged by Basin)

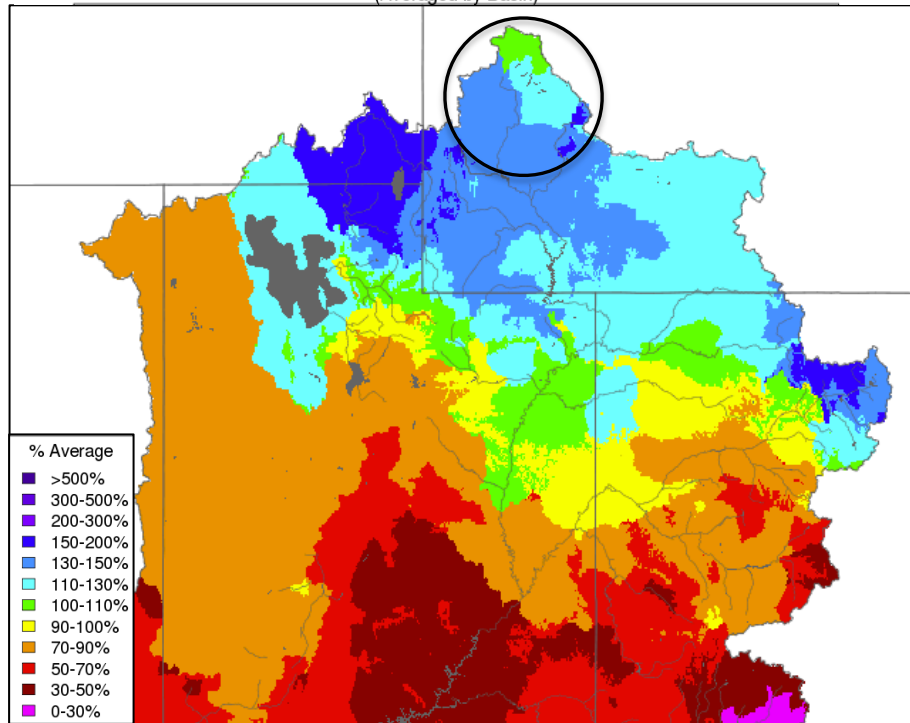


Monthly Precipitation - February 2016
(Averaged by Basin)

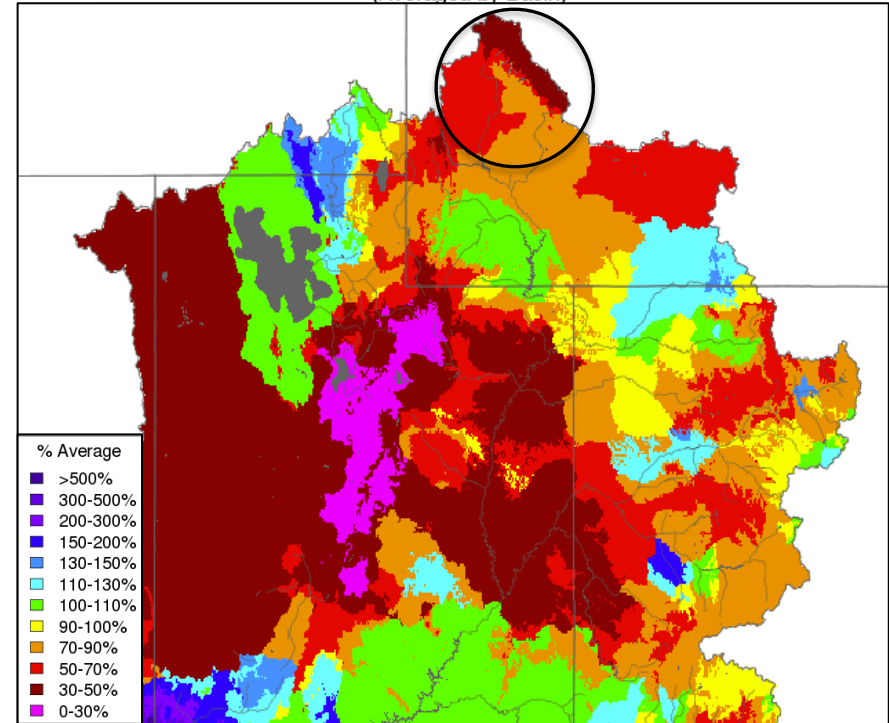


Weather Review: Spring Precipitation

Monthly Precipitation - March 2016
(Averaged by Basin)



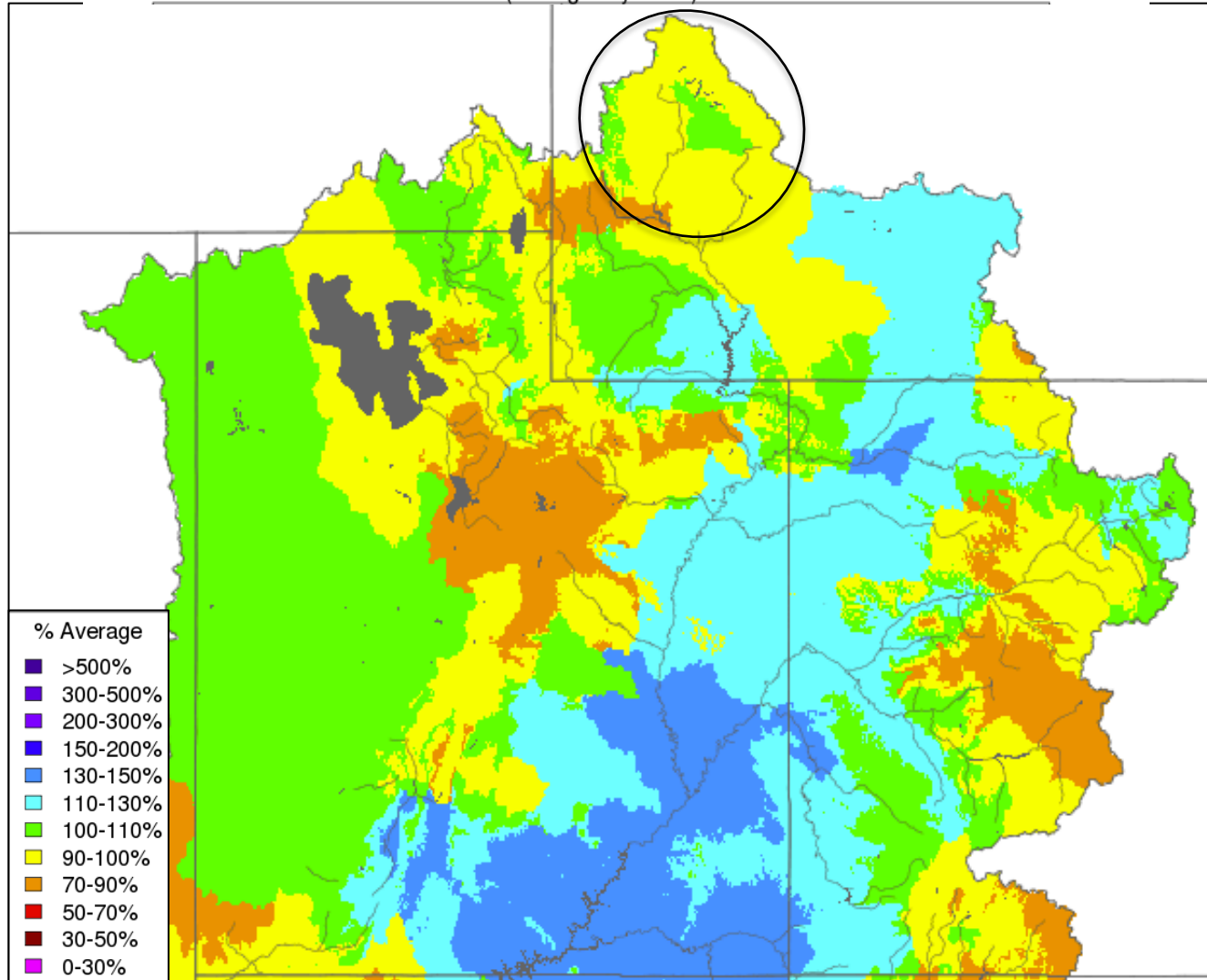
Month to Date Precipitation - April 17 2016
(Averaged by Basin)



Weather Review: Water Year Precipitation

Water Year Precipitation, October 2015 - March 2016

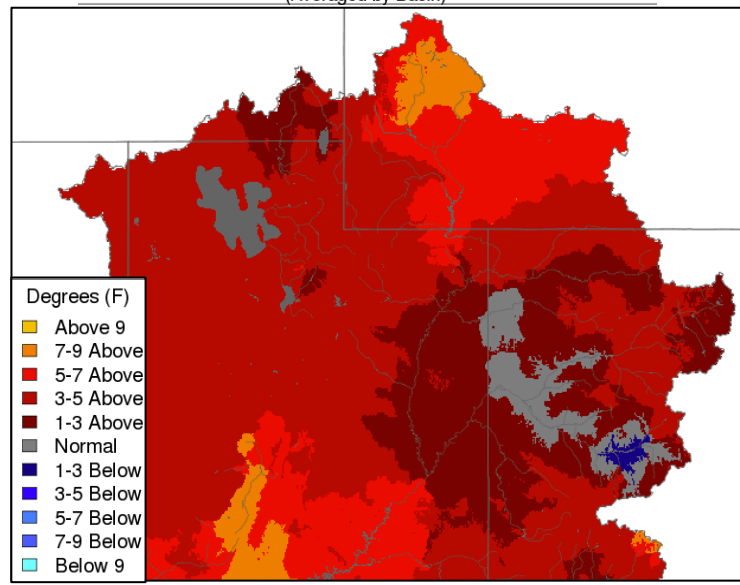
(Averaged by Basin)



Weather Review: February and March Temperatures

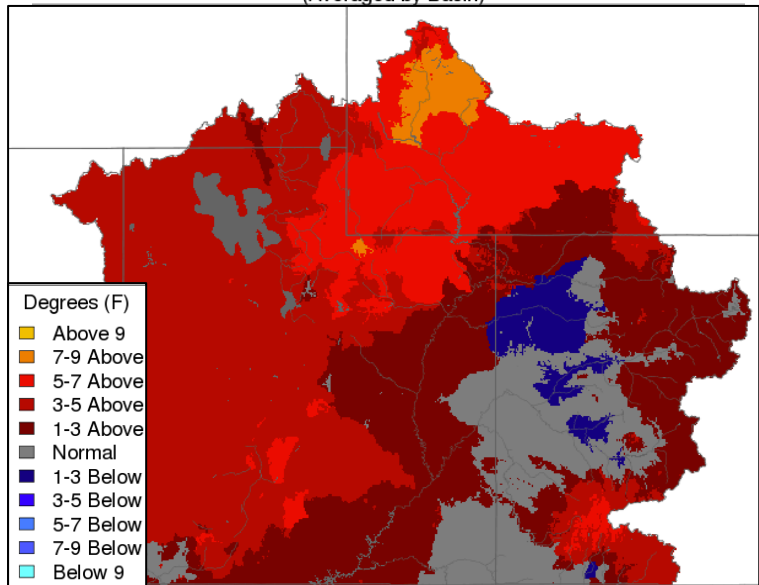
Max Temp - Monthly Deviation - February 2016

(Averaged by Basin)



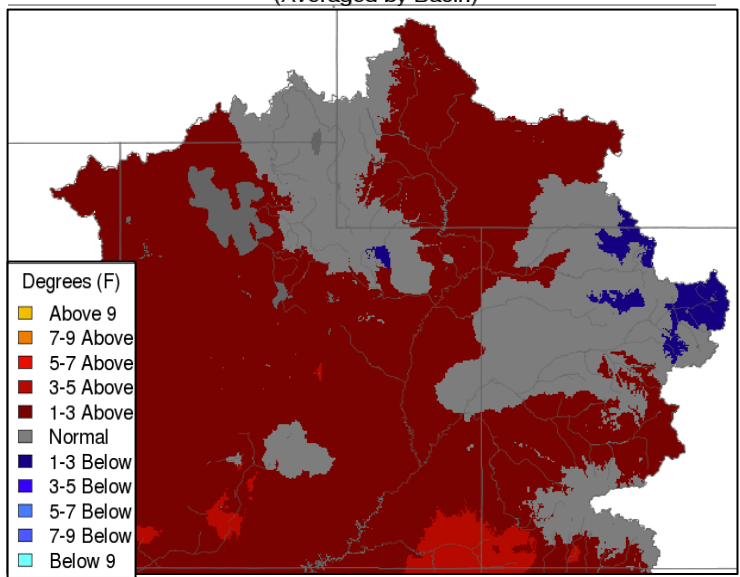
Min Temp - Monthly Deviation - February 2016

(Averaged by Basin)



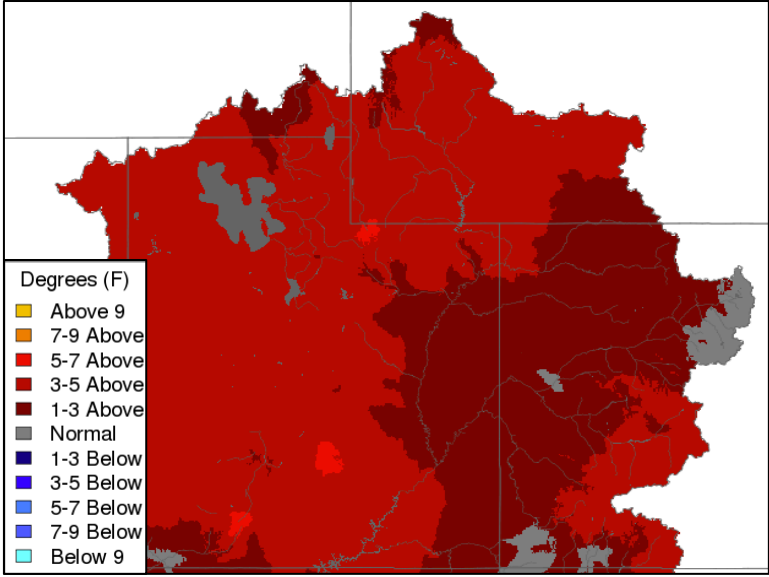
Max Temp - Monthly Deviation - March 2016

(Averaged by Basin)

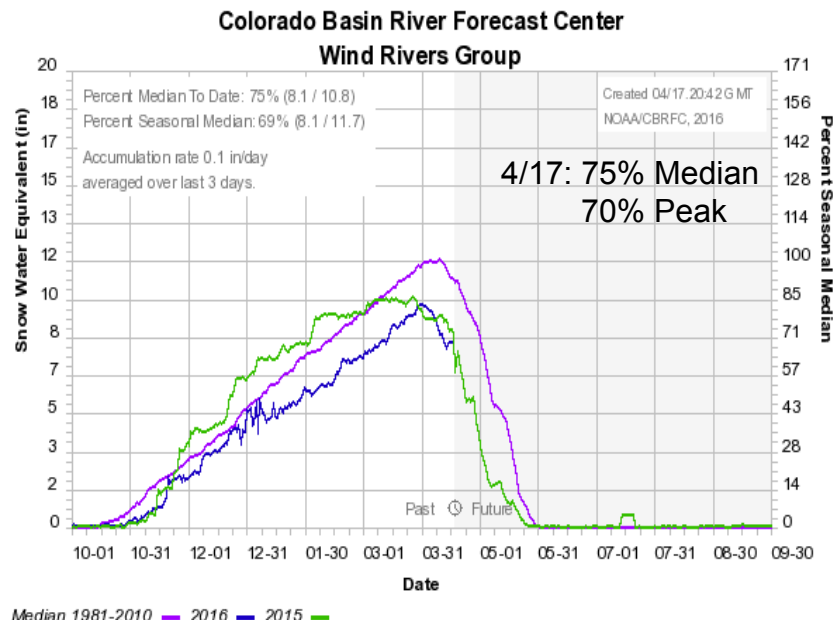
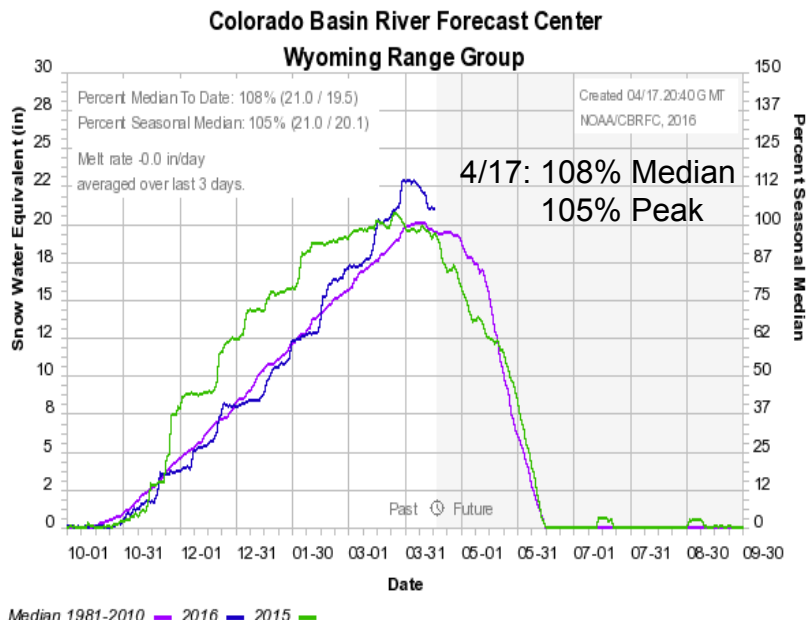
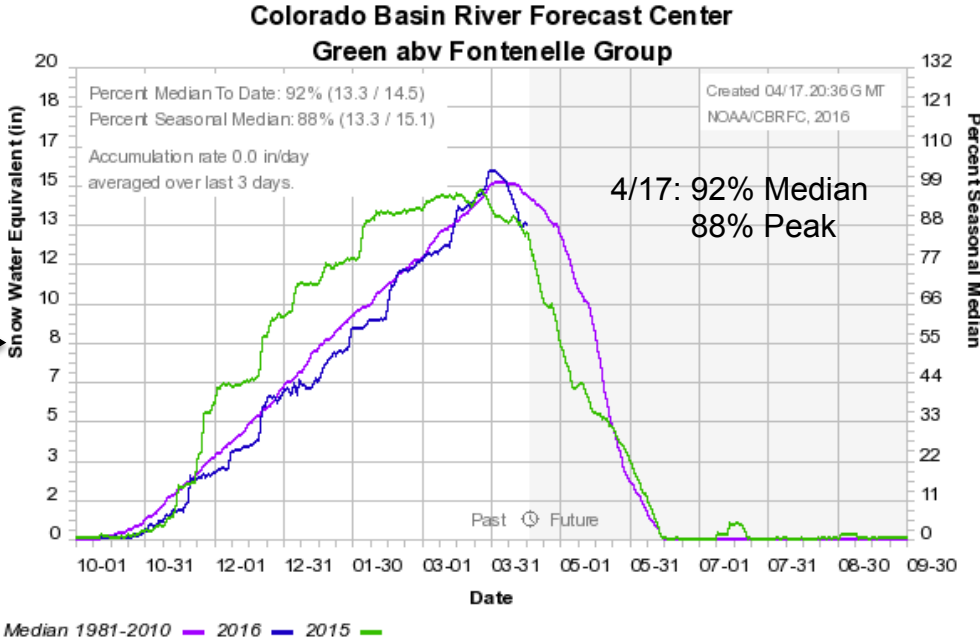
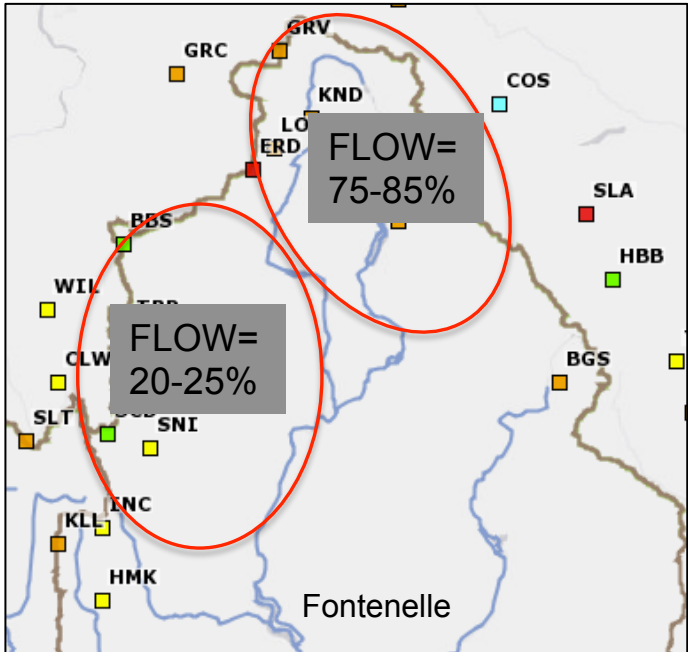


Min Temp - Monthly Deviation - March 2016

(Averaged by Basin)



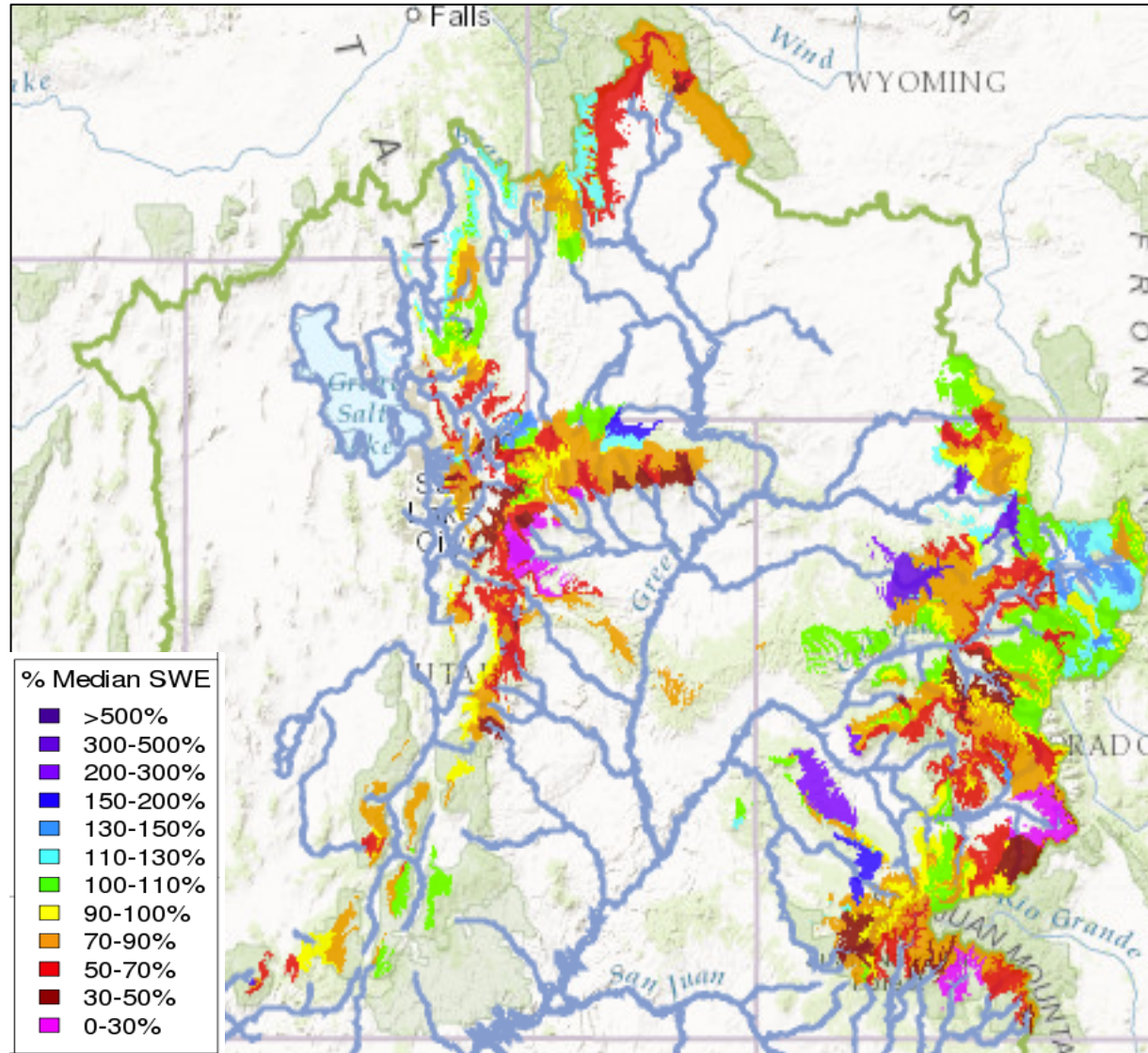
SNOW (SNOTELS above Fontenelle)



Snow (CBRFC Hydrologic Model)

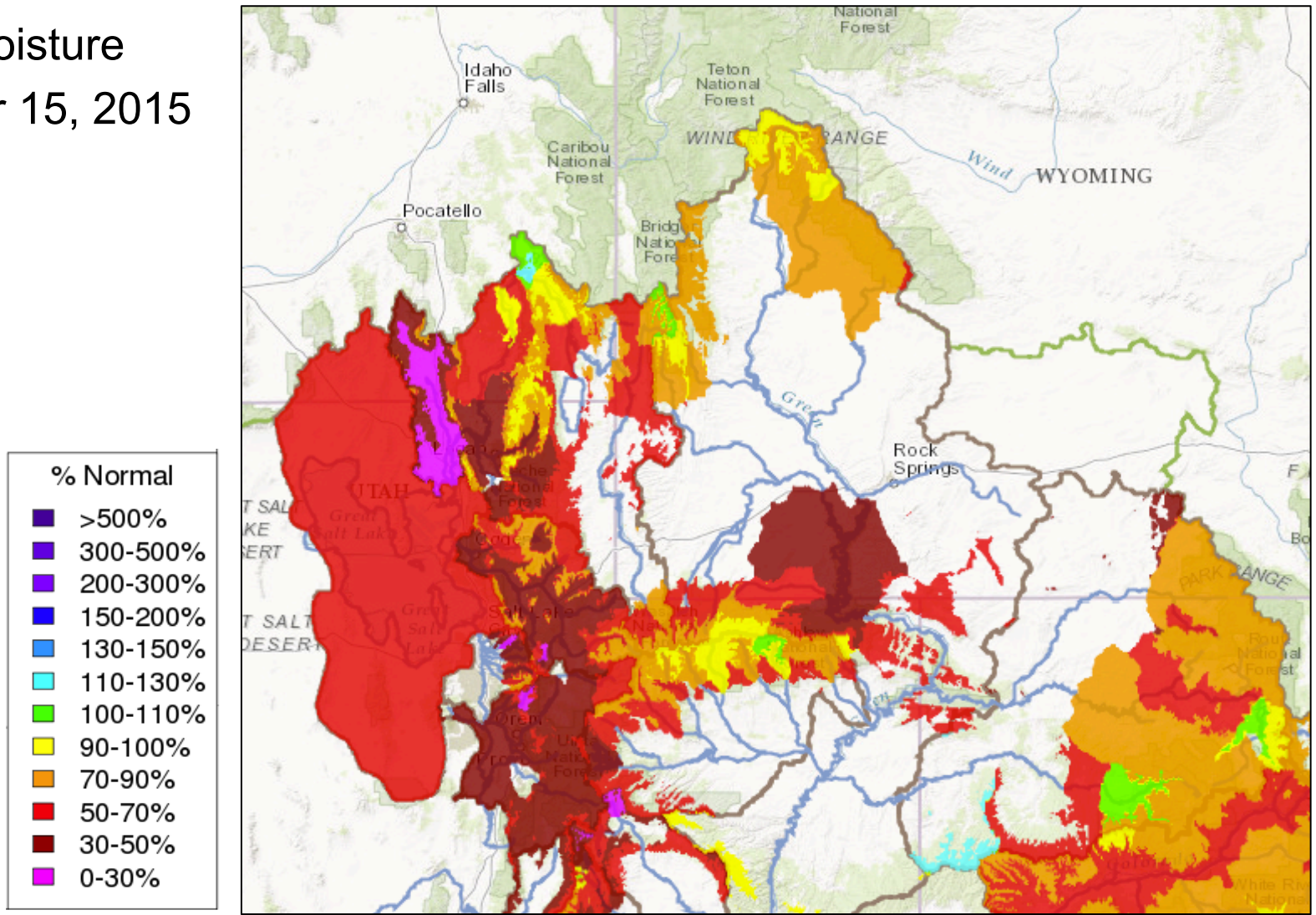
April 17th 2016

Significant Runoff Areas



Fall Soil Moisture

Soil Moisture
November 15, 2015

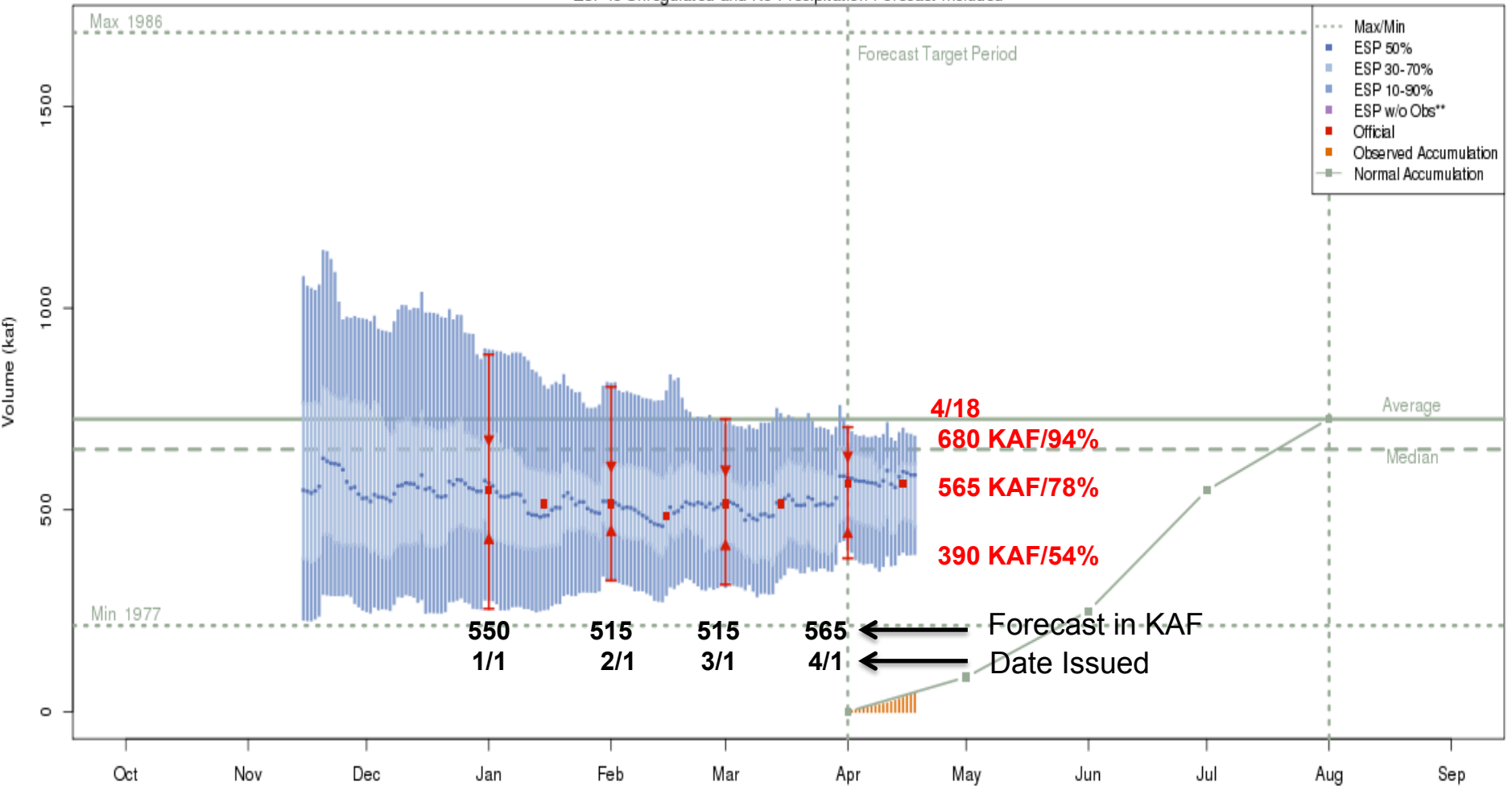


Soil Moisture representation from the CBRFC hydrologic model

Forecast: Fontenelle Inflow

Seasonal Forecast Progression

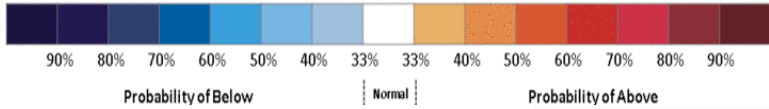
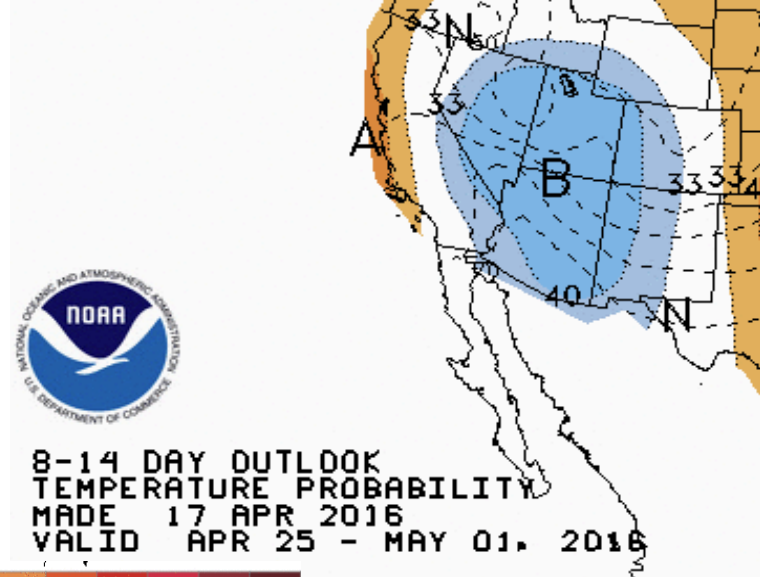
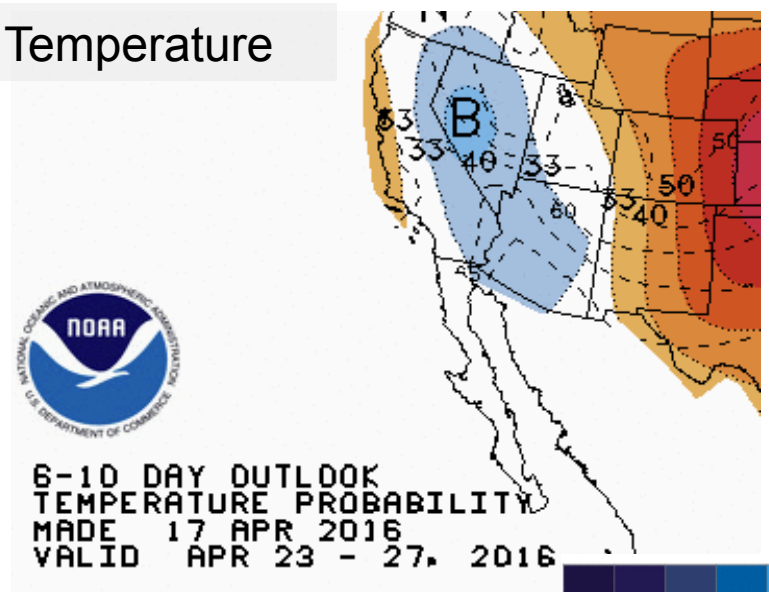
Green - Fontenelle Res- Fontenelle Nr (GBRW4)
 2016-04-15 Apr-Jul Official 50% Forecast: 565 kaf (78% of average)
 ESP is Unregulated and No Precipitation Forecast Included



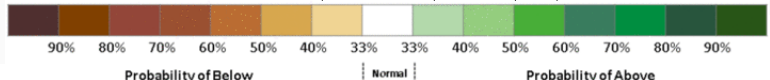
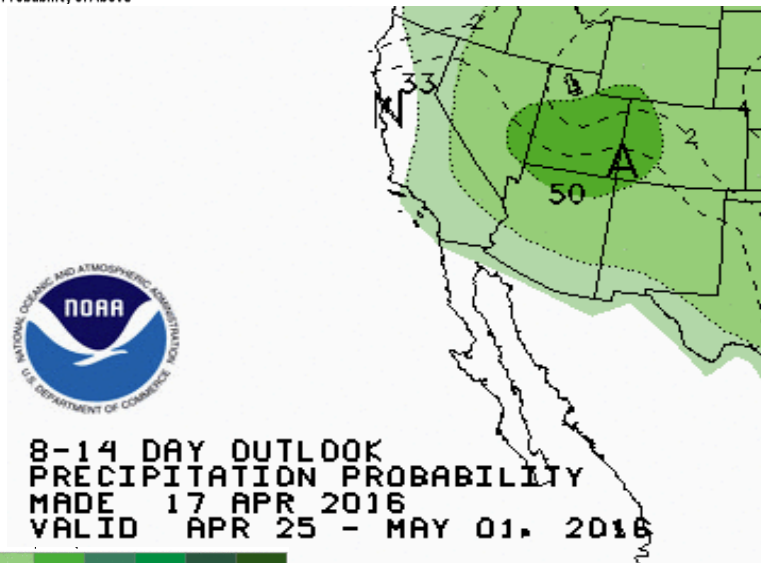
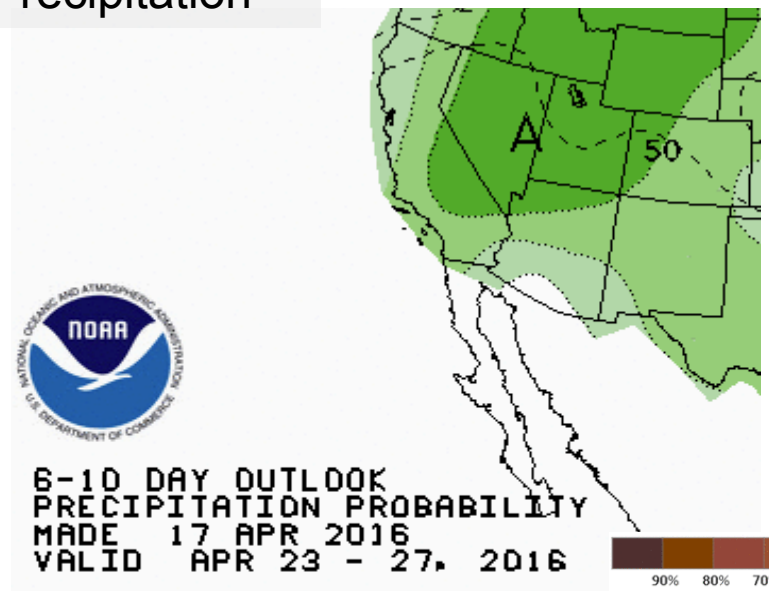
The latest (2016-04-18) 50% ESP forecast is 586 kaf.
 Plot Created 2016-04-18 14:46:48, NOAA / NWS / CBRFC
 Forecasts in the forecast target period include observed values.

Weather Outlook: Short-Term

Temperature



Precipitation



Contact Us!

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- Michelle Stokes - Hydrologist In Charge
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COLORADO BASIN RIVER FORECAST CENTER
NATIONAL WEATHER SERVICE / NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME RIVERS SNOW WATER SUPPLY RESERVOIRS WEATHER CLIMATE HELP ABOUT NEWS SEARCH

News Colorado River Basin Water Supply Briefing - April 7th 11 am MDT - Register here: [Read More...](#)
Great Basin Basin Water Supply Briefing - April 7th 1 pm MDT - Register here: [Read More...](#)

Conditions Map Help

River Conditions
Data Updated: 03/21/2022 Help

- Show Hide Other Types
 - Data
 - Forecast
 - Reservoir Inflow
 - Reservoir Outflow
 - Official Flood
 - Active
- Not Available
- Normal
- Significant Rise
- Near Bankfull
- Above Bankfull
- Above Flood Stage
- Outlook (> 3 days)

Pop-up Alerts

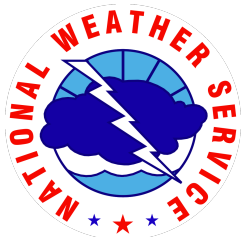
Snow Conditions
Water Supply Forecasts
Peak Flood Probability
Reservoir Conditions
Daily Precipitation
Monthly Precipitation
Soil Moisture
Map Options
Search Points

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Questions?



Why is the forecast only ~75 % of average when the snowpack is near normal?

1. Dry fall soil moisture conditions

- Can impact spring runoff efficiency
- Negative impact on the forecasts

2. High elevation snow conditions are not as good

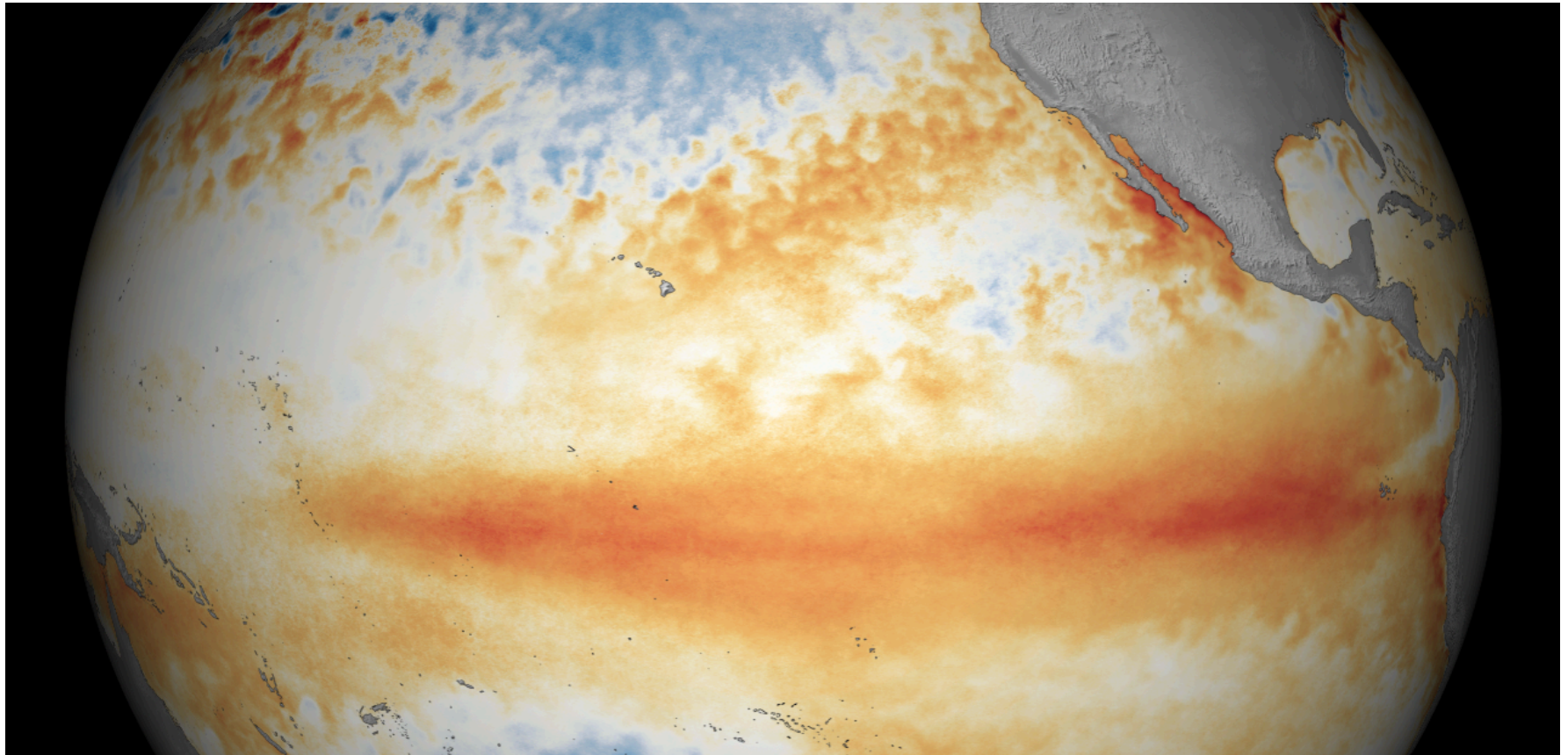
- Rain rather than snow in Fall, normally snow
- SNOTELS don't represent this area
- Largest contributing area for water supply

3. Distribution of snow in contributing areas

- Wind Rivers → Below normal snow → ~75-80% of inflow
- Wyoming Range → Normal snow → ~20-25% of inflow

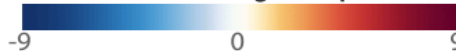
El Niño Event

- Still a strong event but has been weakening over the past several weeks.
- The 2015-2016 will go down as one of the strongest on record (82-83, 97-98)
- Impacts the Jet stream strength, location, and storm tracks (favors LC Basin)
- No strong correlation between ENSO and April-July runoff volumes in Green River Basin
- La Niña conditions are possible by later this fall (~50% chance)



March 2016
compared to 1981-2010

Difference from average temperature (°F)



Climate.gov/NNVL
Data: Geo-Polar SST