

CBRFC Forecast Update: Fontenelle Reservoir

April 15, 2014

Ashley Nielson

Senior Hydrologist

NWS Colorado Basin River Forecast Center





Today's Presentation

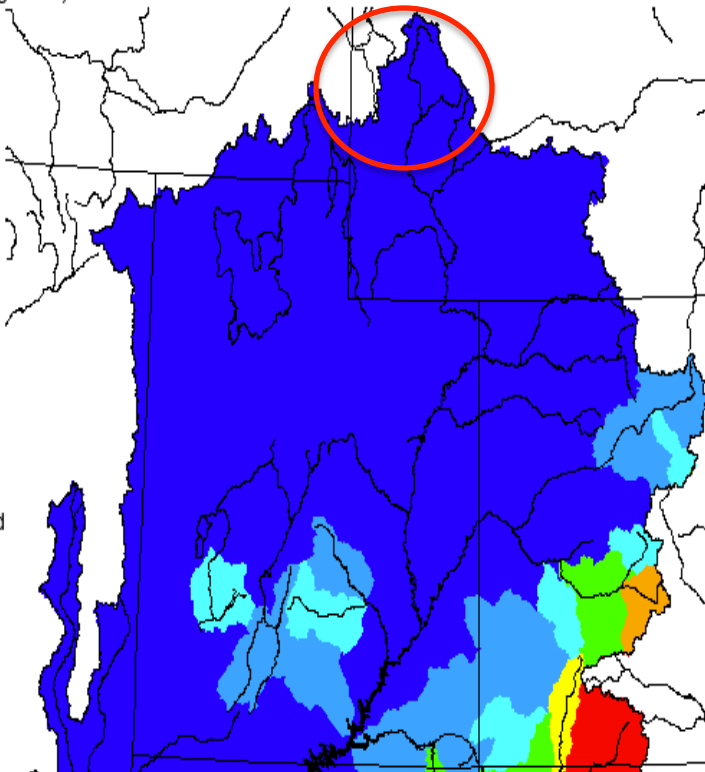
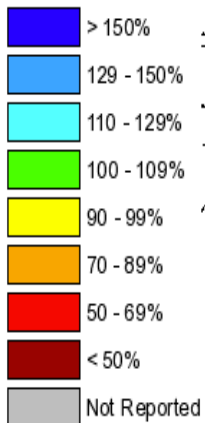
- Weather Review (Fall + Winter)
- Current conditions driving forecast:
 - Soil Moisture
 - Snow Conditions
- Forecasts
 - April-July Water Supply Volumes
- Upcoming Weather

Late Summer/ Fall Precipitation

Monthly Precipitation for August 2014

(Averaged by Hydrologic Unit)

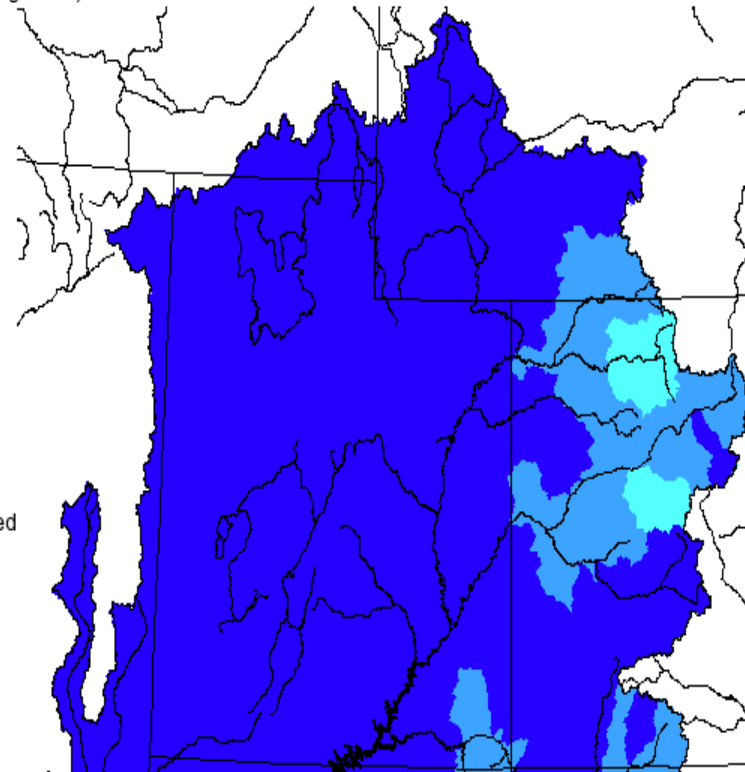
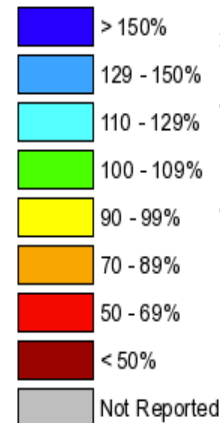
% Average



Monthly Precipitation for September 2014

(Averaged by Hydrologic Unit)

% Average

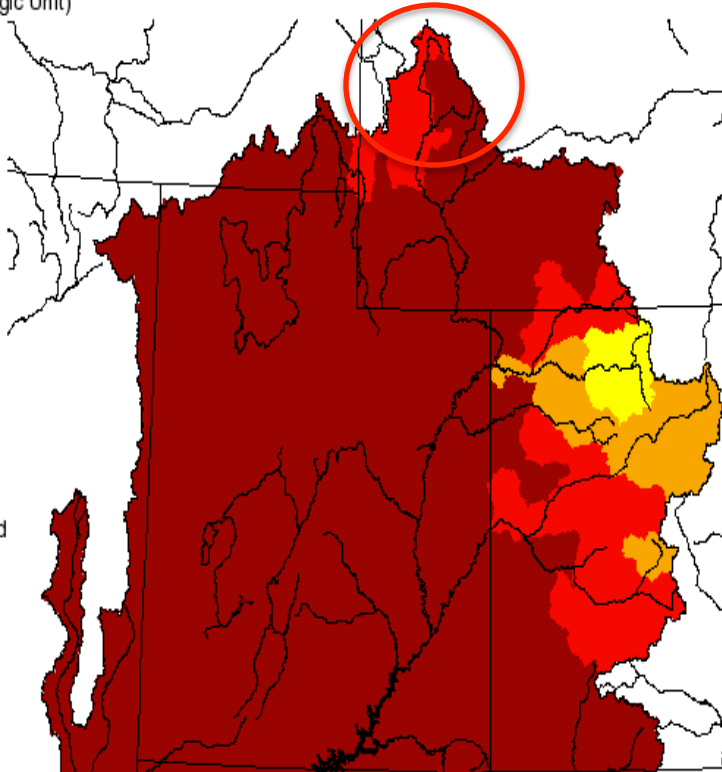
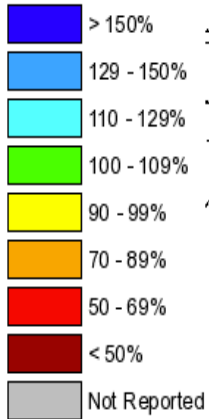


Fall Precipitation

Monthly Precipitation for October 2014

(Averaged by Hydrologic Unit)

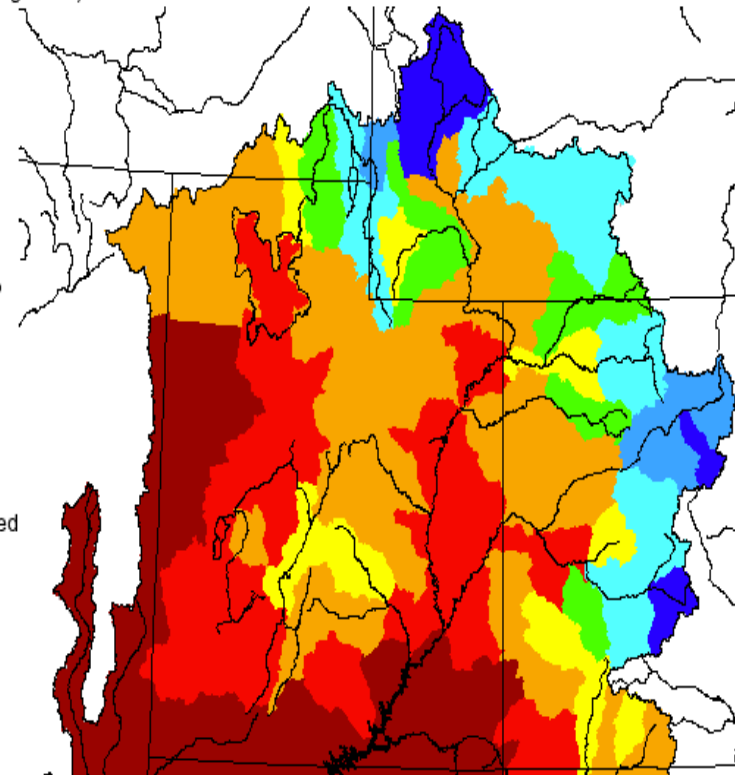
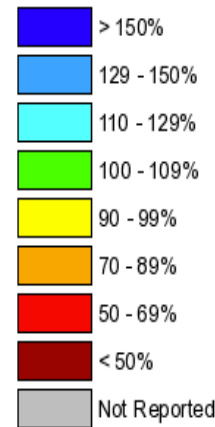
% Average



Monthly Precipitation for November 2014

(Averaged by Hydrologic Unit)

% Average

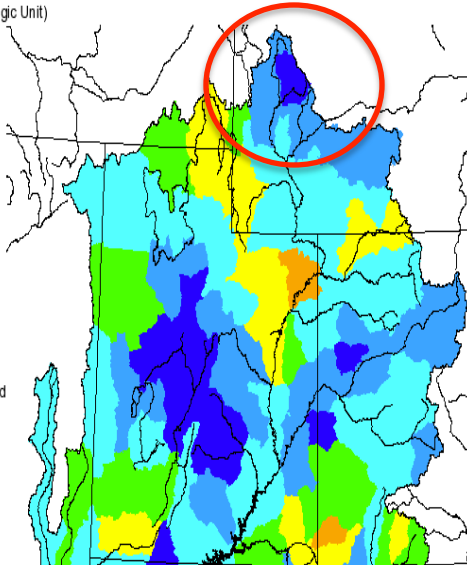
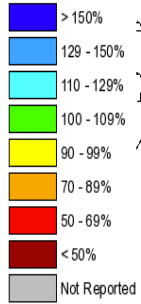


Winter Precipitation

Monthly Precipitation for December 2014

(Averaged by Hydrologic Unit)

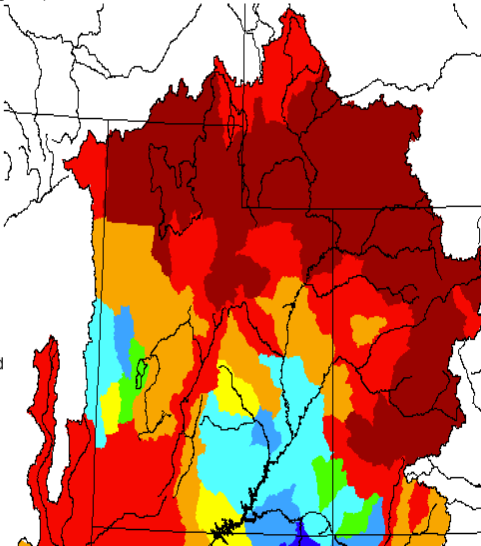
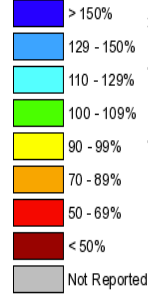
% Average



Monthly Precipitation for January 2015

(Averaged by Hydrologic Unit)

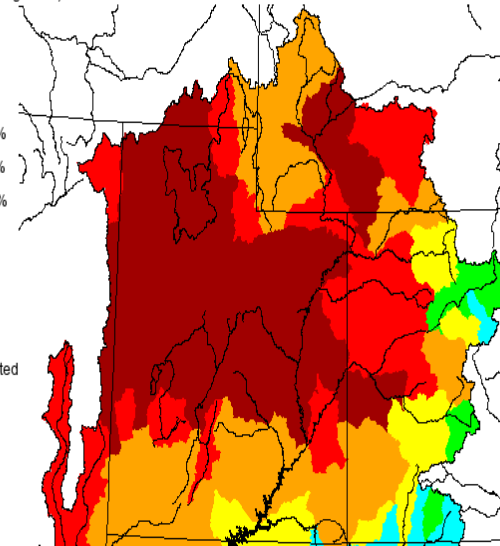
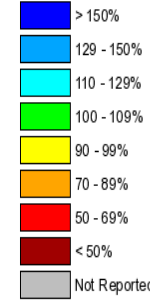
% Average



Monthly Precipitation for February 2015

(Averaged by Hydrologic Unit)

% Average

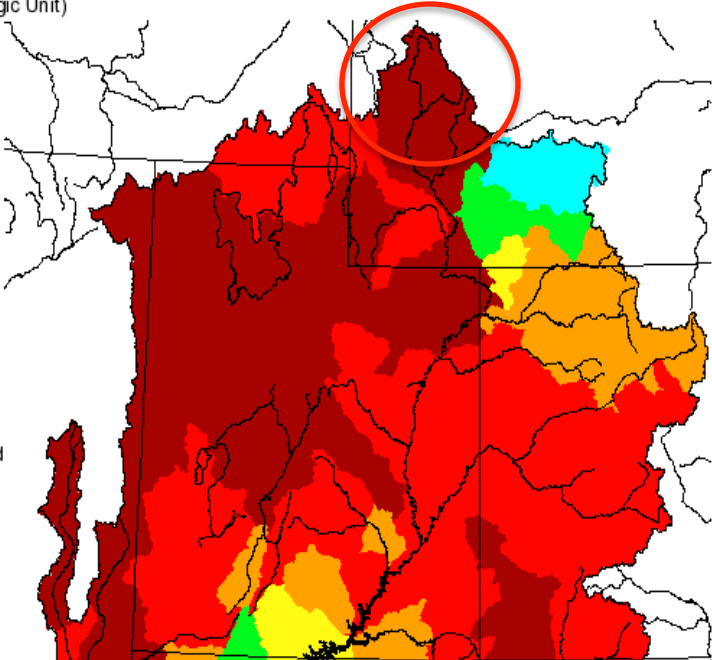
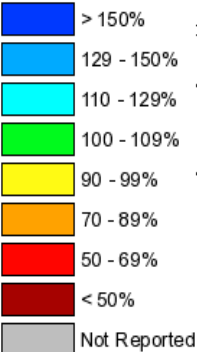


March and Seasonal Precipitation

Monthly Precipitation for March 2015

(Averaged by Hydrologic Unit)

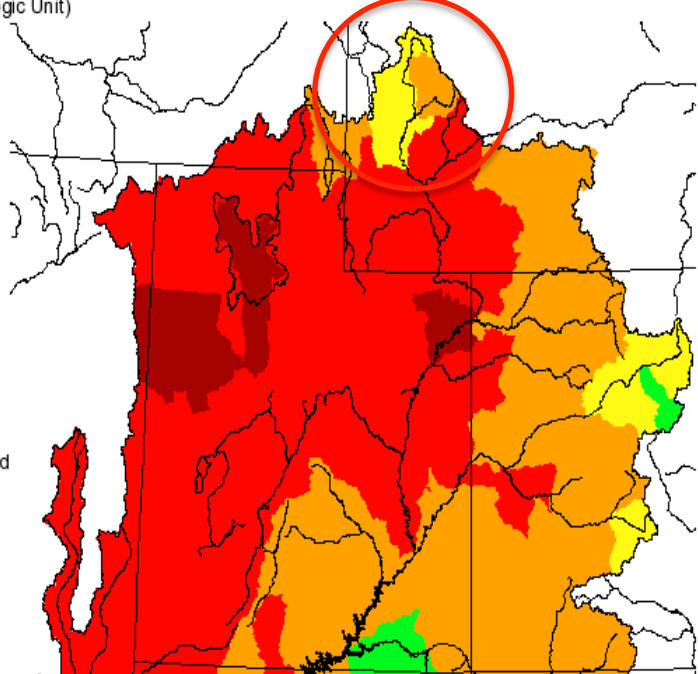
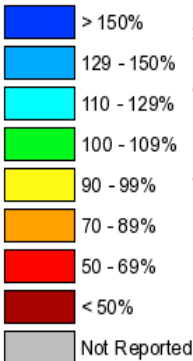
% Average



Seasonal Precipitation, October 2014 - March 2015

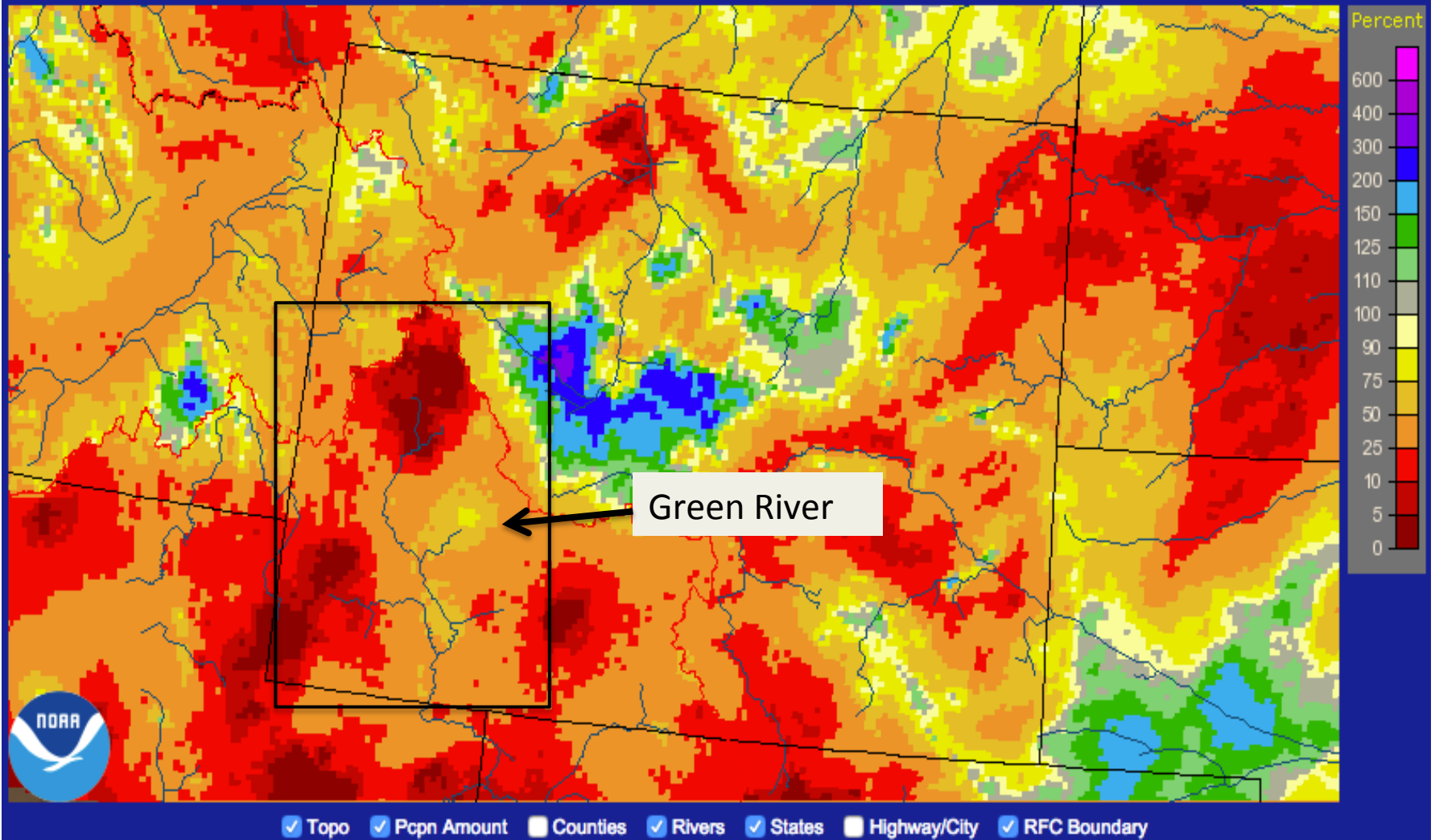
(Averaged by Hydrologic Unit)

% Average



April Precipitation

Wyoming: Current 14-Day Percent of Normal Precipitation
Valid at 4/13/2015 1200 UTC - Created 4/13/15 20:23 UTC



Below average for April 1-13

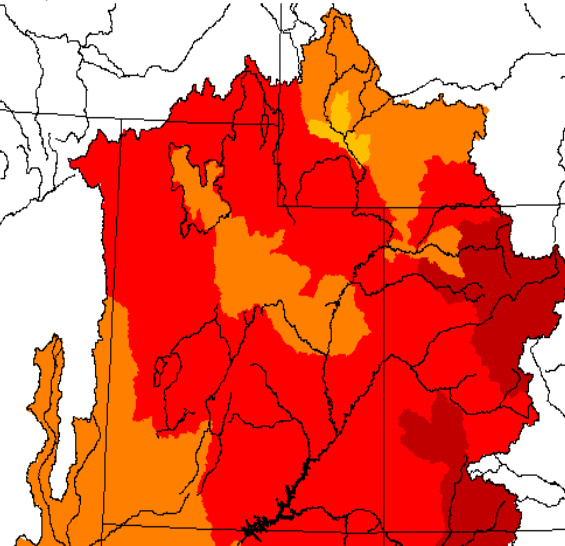
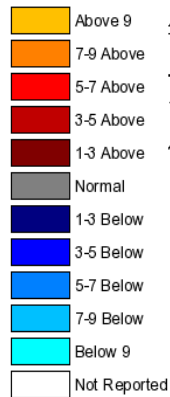
February/March Temperatures

* Warmest February/March on Record – Several Locations

Monthly Max Temp Deviation for February 2015

(Averaged by Hydrologic Unit)

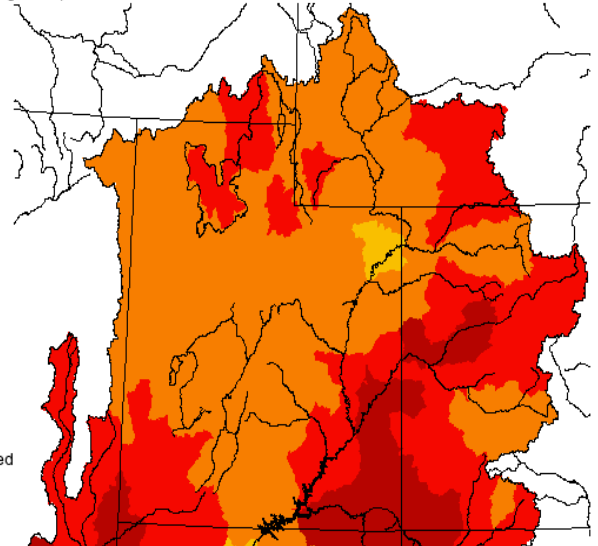
Degrees (F)



Monthly Min Temp Deviation for February 2015

(Averaged by Hydrologic Unit)

Degrees (F)

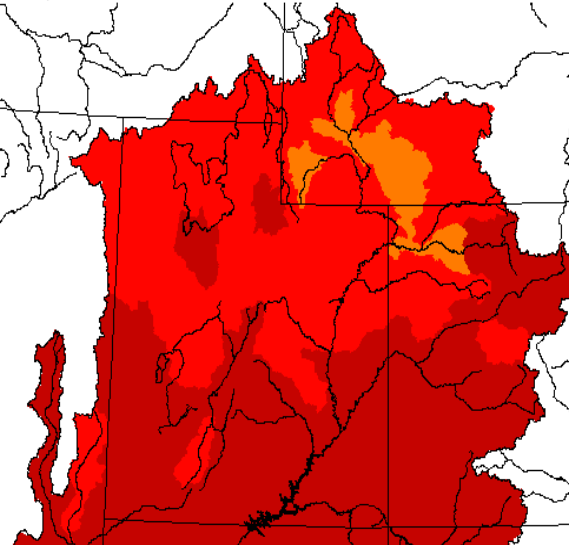
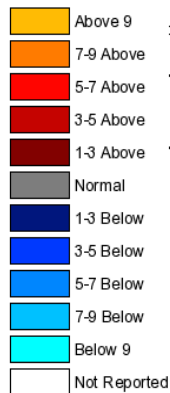


February

Monthly Max Temp Deviation for March 2015

(Averaged by Hydrologic Unit)

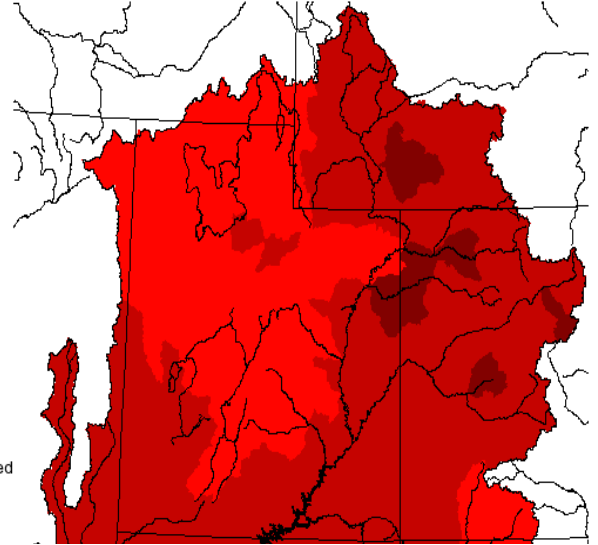
Degrees (F)



Monthly Min Temp Deviation for March 2015

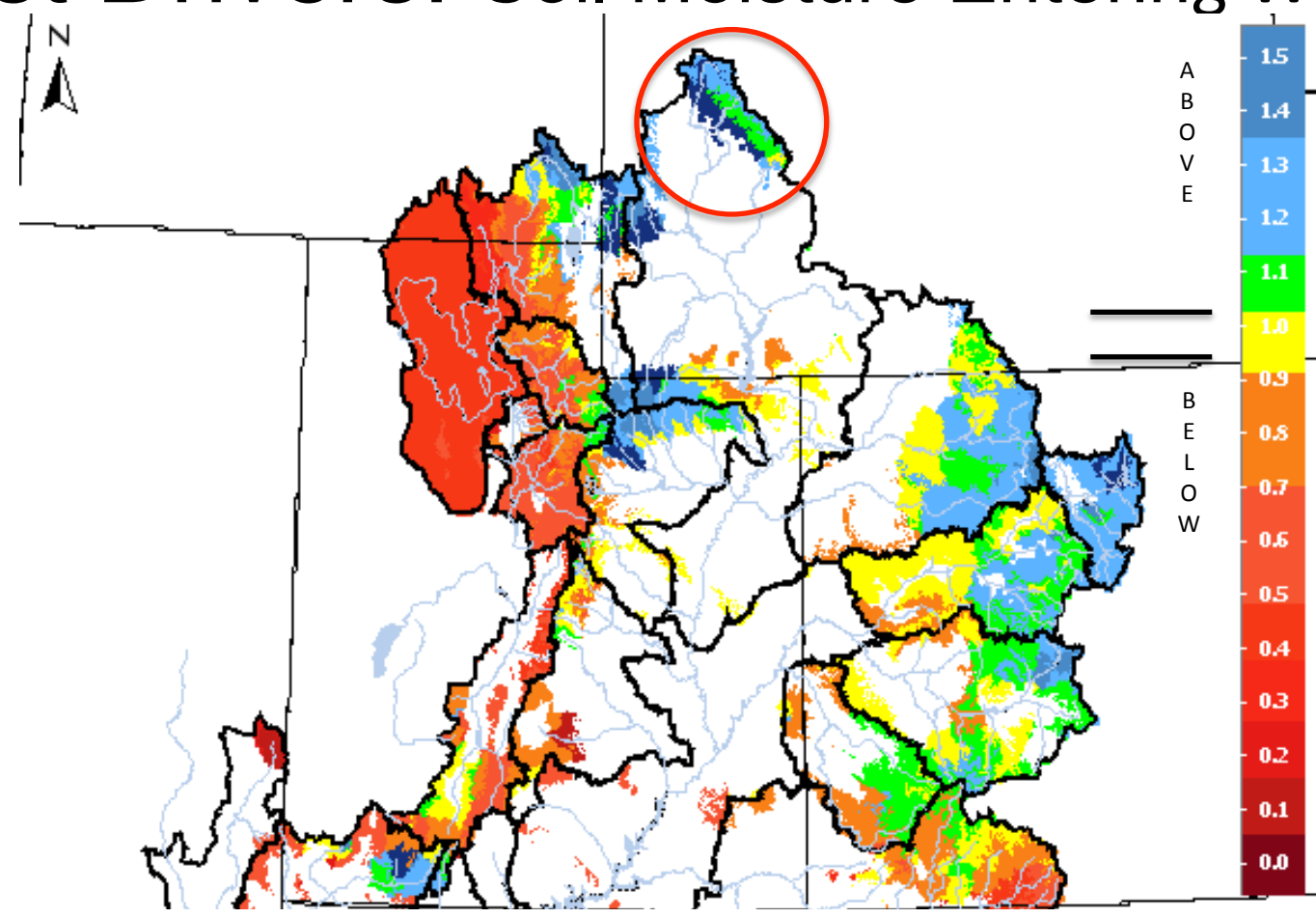
(Averaged by Hydrologic Unit)

Degrees (F)



March

Forecast Drivers: Soil Moisture Entering Winter



How will this affect water supply forecasts?

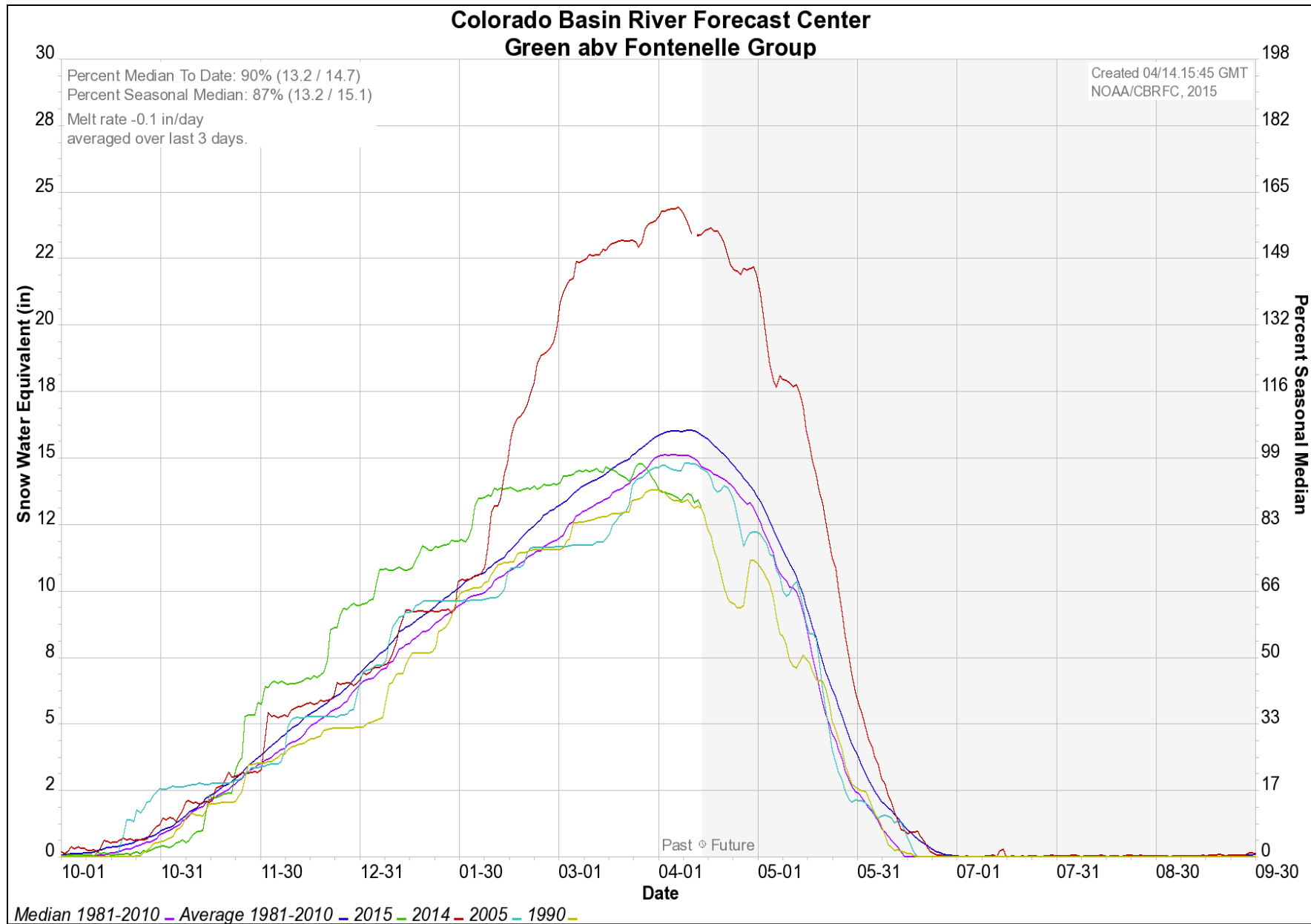
Positive (+):

- Green above Fontenelle**
- Upper Colorado/Yampa/Gunnison
- Uinta Range (Bear, Provo, Duchesne)

Negative (-):

- Northern Great Basin (Weber, Provo)
- Sevier/Virgin
- San Juan

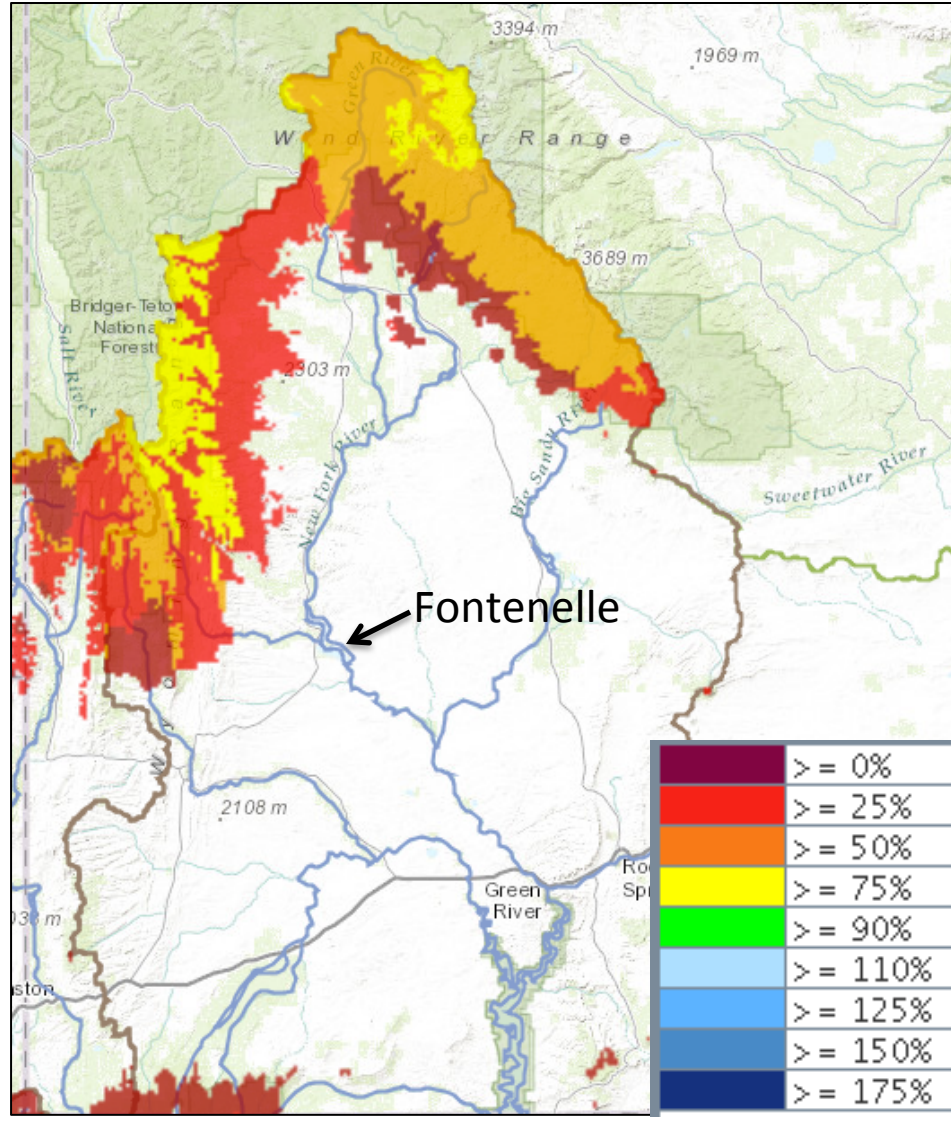
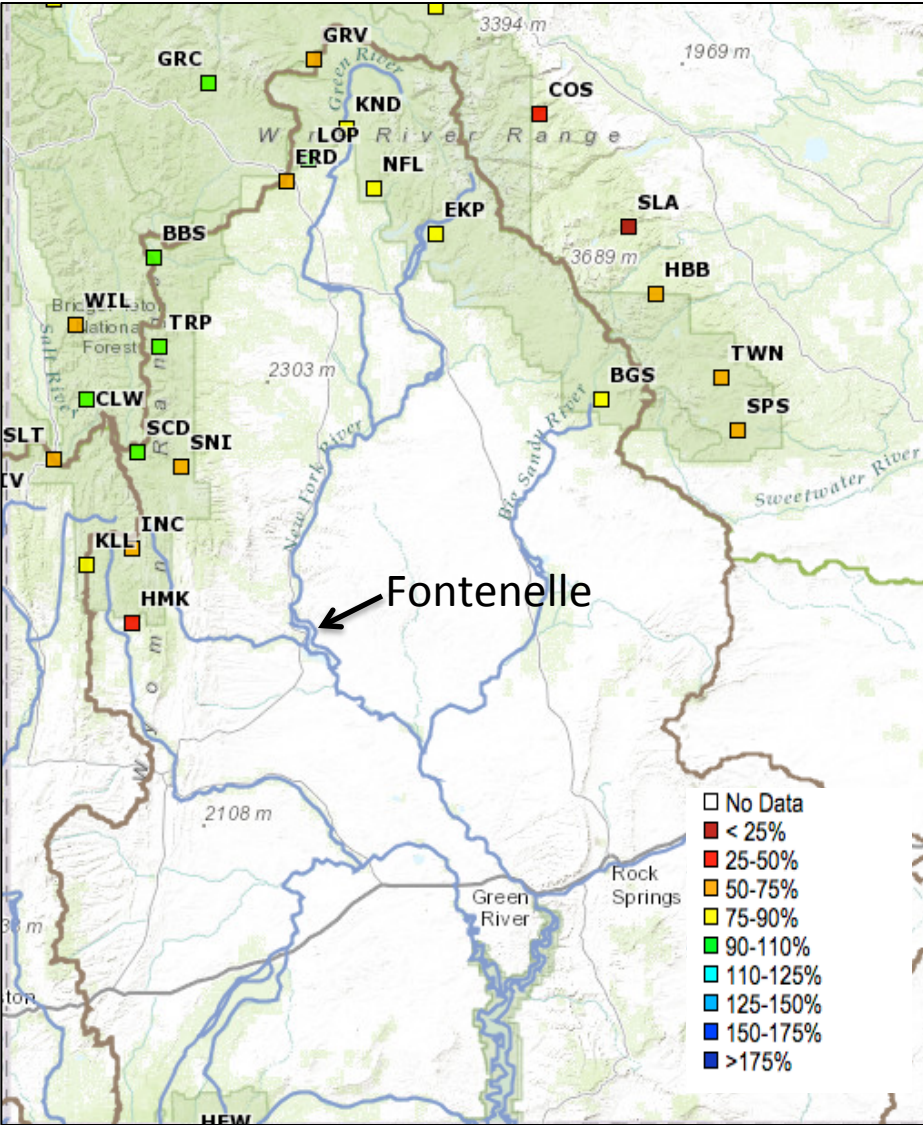
Forecast Drivers: Snow Conditions



Forecast Drivers: Snow Conditions

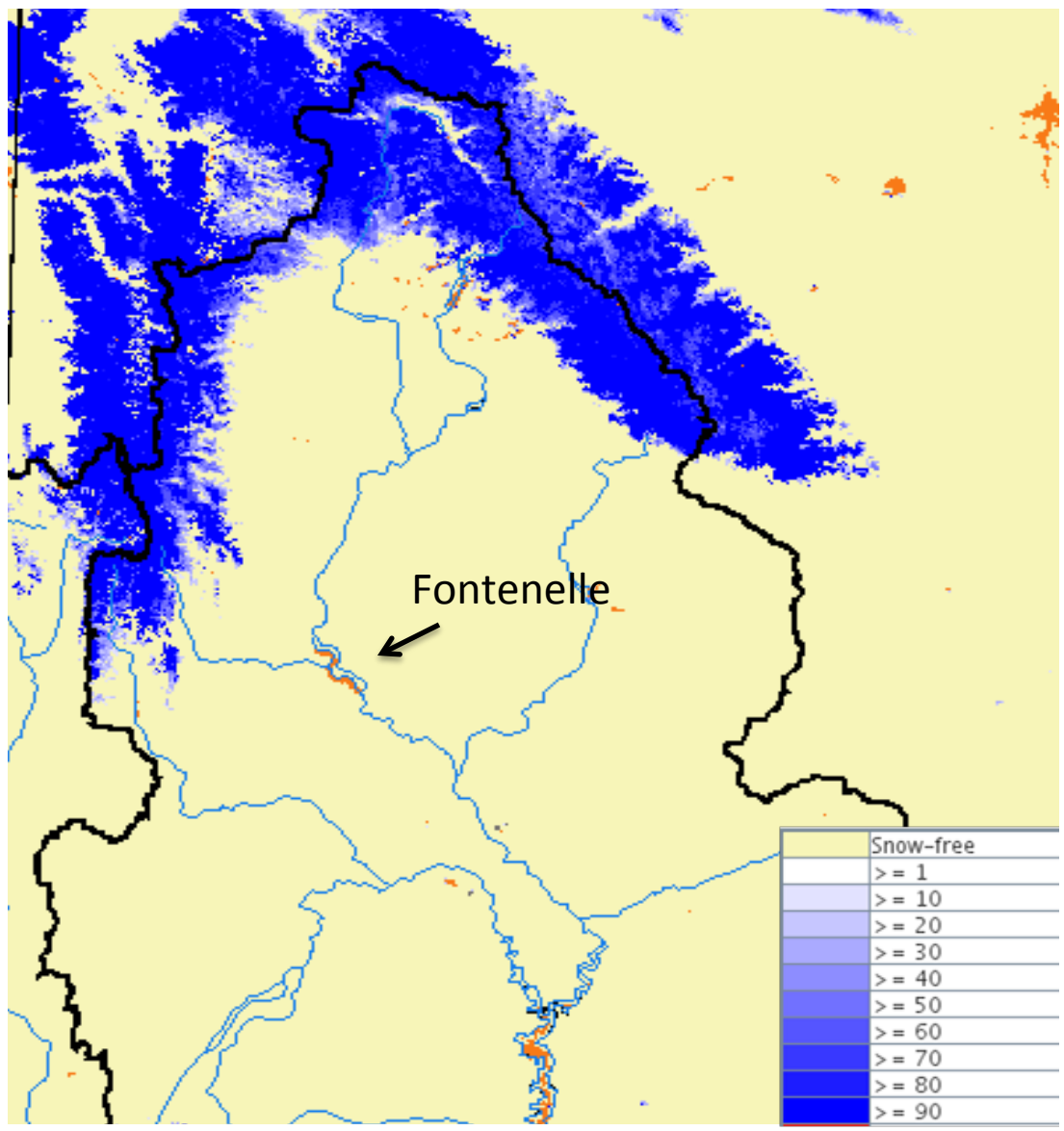
SNOTELs: April 14

Model Snow: April 14



Forecast Drivers: Snow Conditions

Satellite Derived Snow Covered Area: April 14

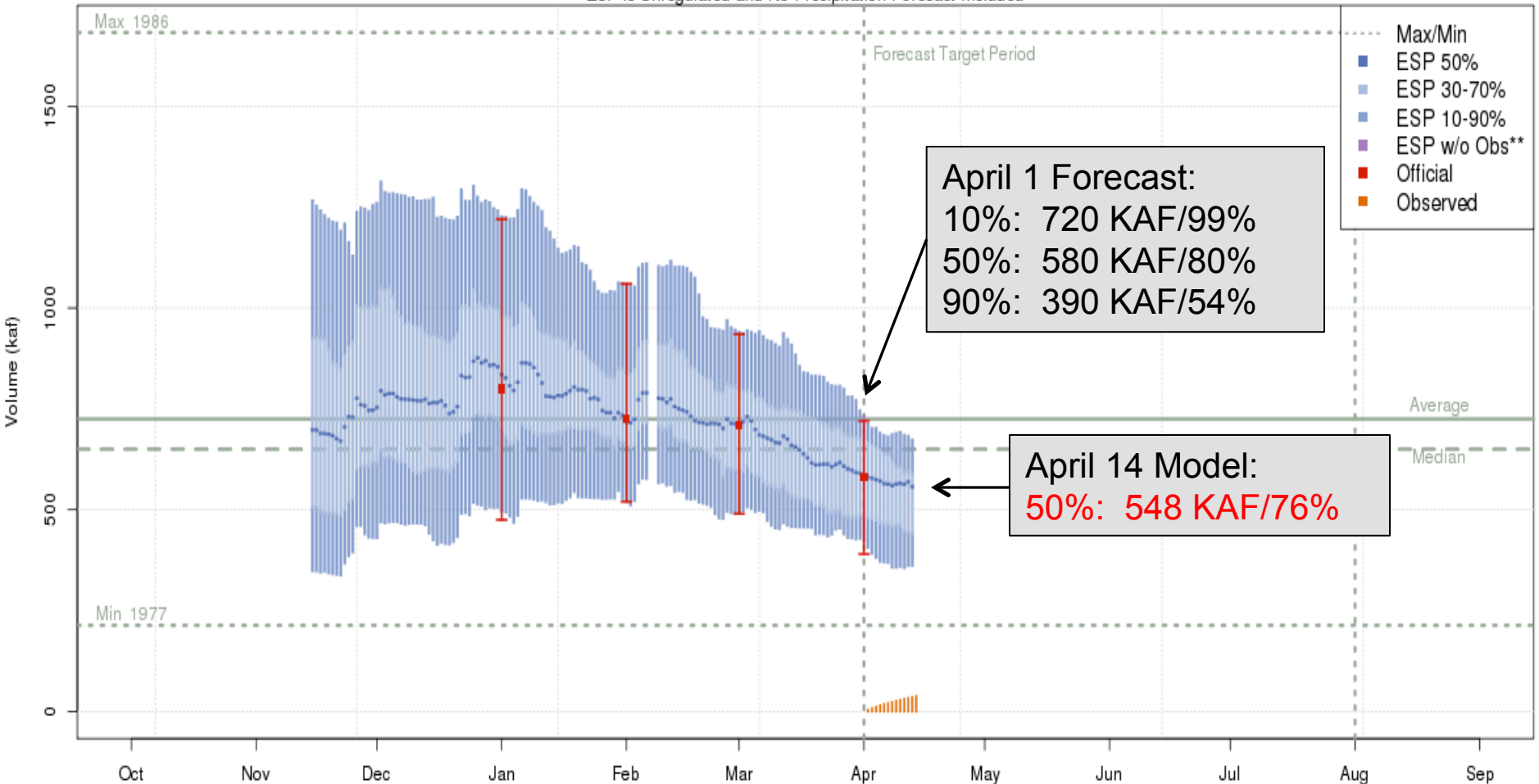


-Low elevation snow has melted

Forecast: Fontenelle Inflow

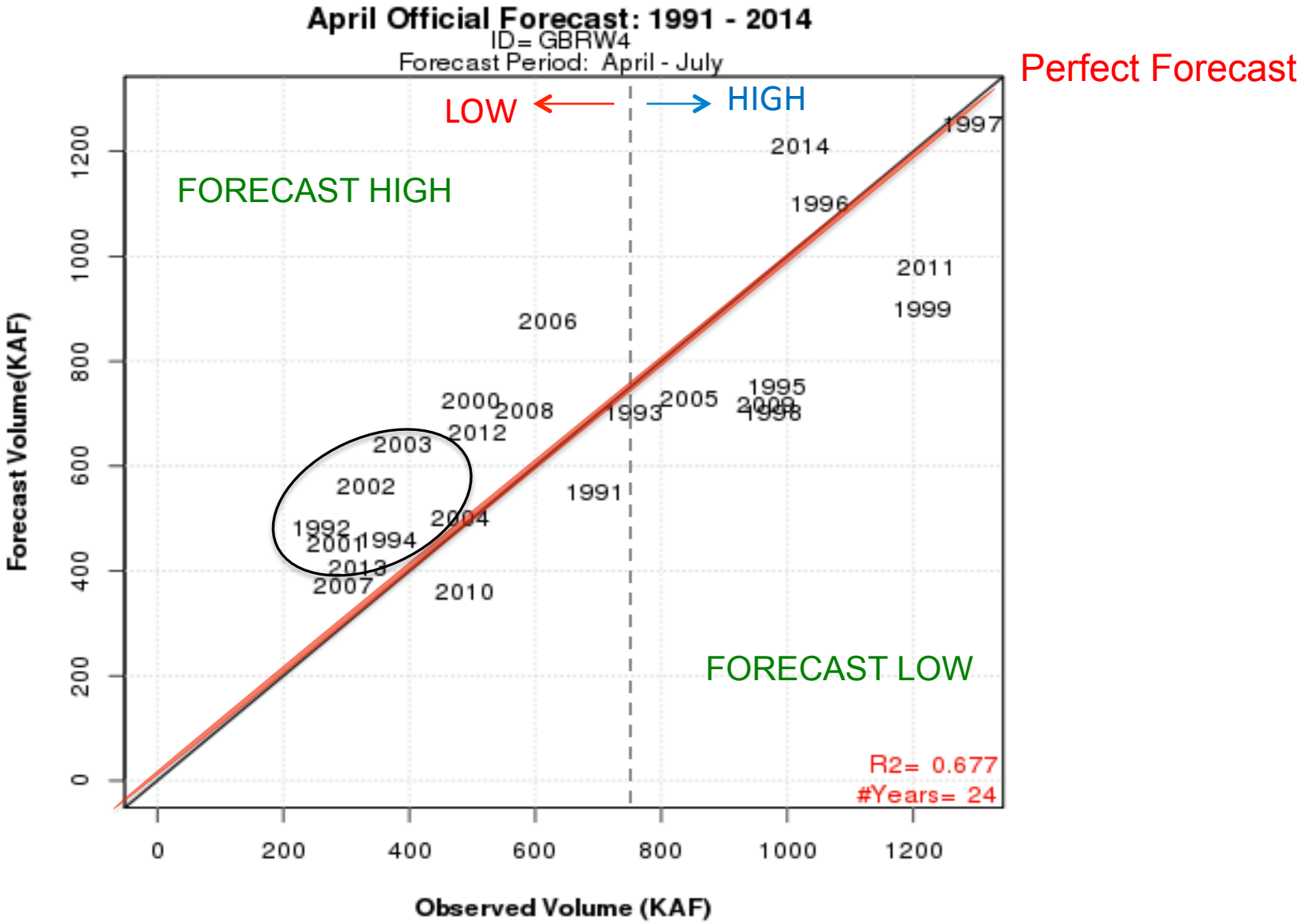
Seasonal Forecast Progression

Green - Fontenelle Res- Fontenelle Nr (GBRW4)
2015-04-01 Apr-Jul Official 50% Forecast: 580 kaf (80% of average)
ESP is Unregulated and No Precipitation Forecast Included



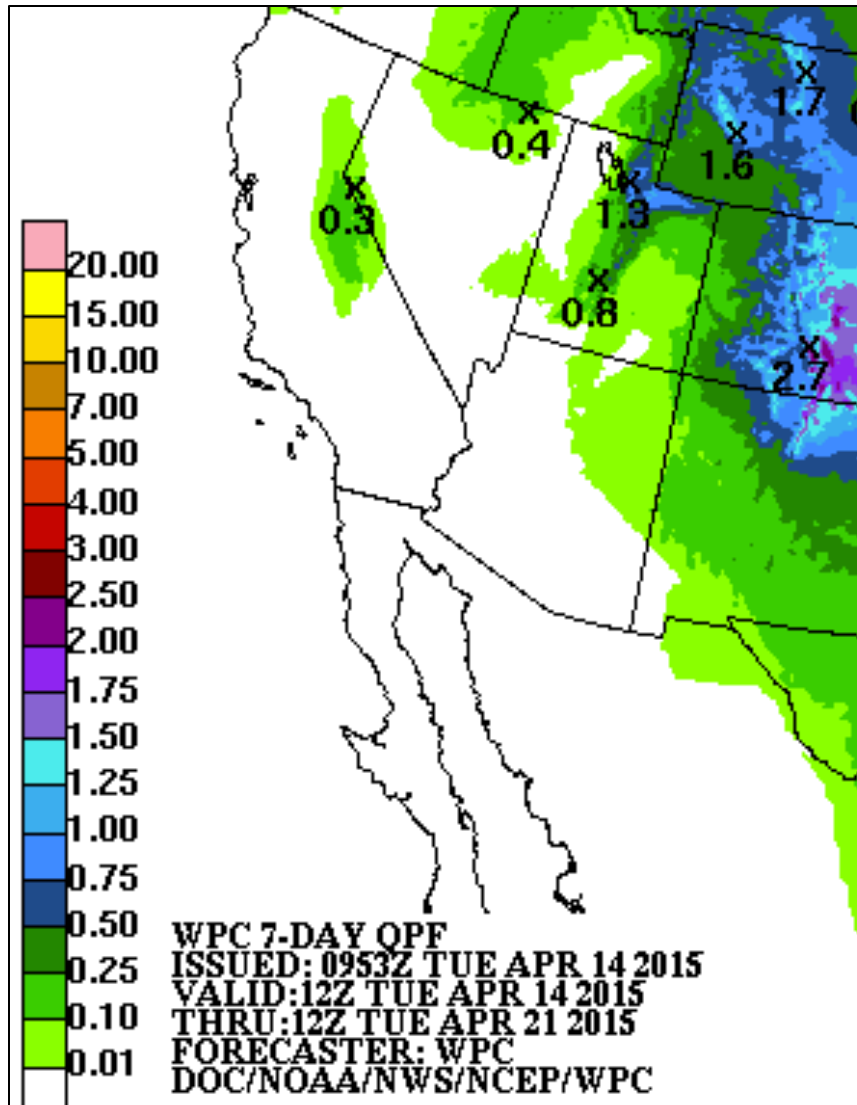
The latest (2015-04-13) 50% ESP forecast is 557 kaf.
Plot Created 2015-04-14 11:20:20, NOAA / NWS / CBRFC
Forecasts in the forecast target period include observed values.

How well do forecasts perform in similar years?

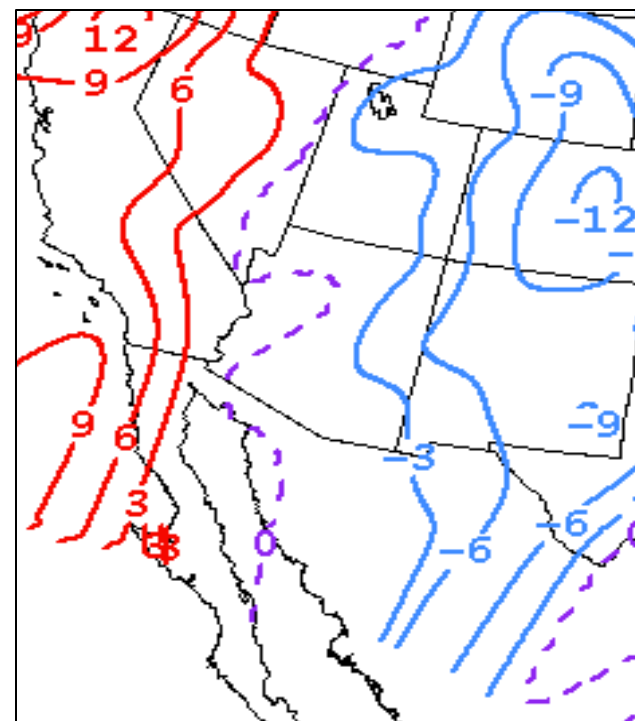


Weather Forecasts

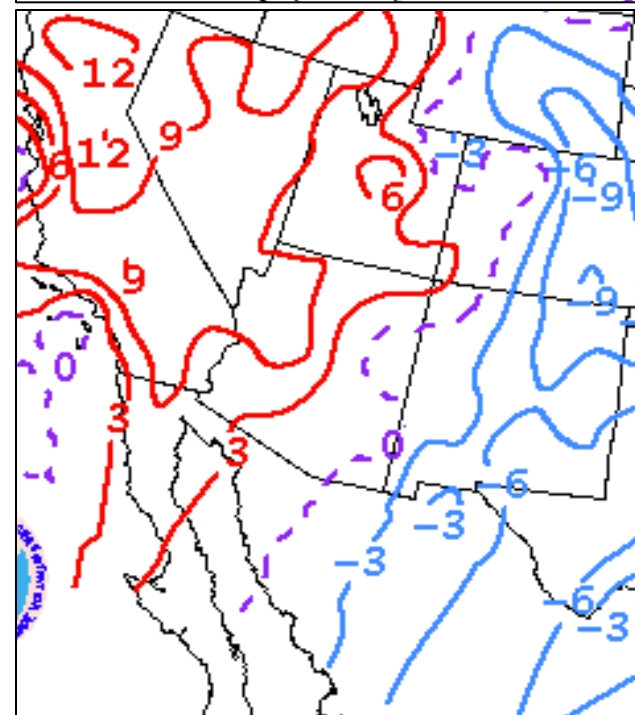
7 Day Forecast Precipitation
Issued 4/14



Days 1-5
Mean Max
Temperature
Anomaly
Issued 4 /14

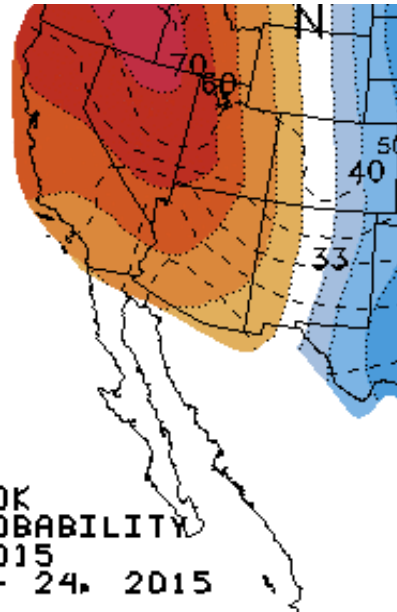


Days 3-7
Mean Max
Temperature
Anomaly
Issued 4/14

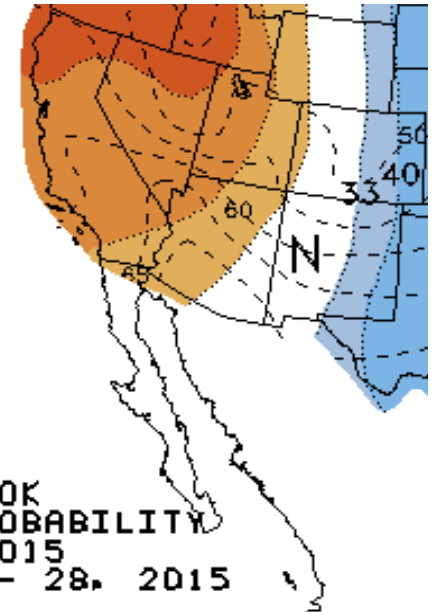


Weather Forecasts

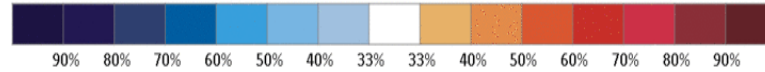
Temperature



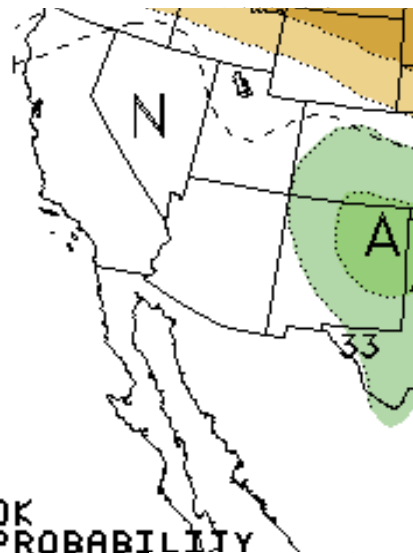
6-10 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 14 APR 2015
VALID APR 20 - 24, 2015



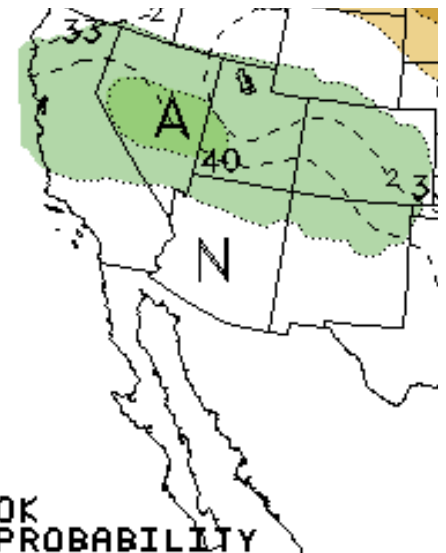
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 14 APR 2015
VALID APR 22 - 28, 2015



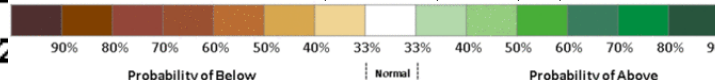
Precipitation



6-10 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 14 APR 2015
VALID APR 20 - 24, 2015



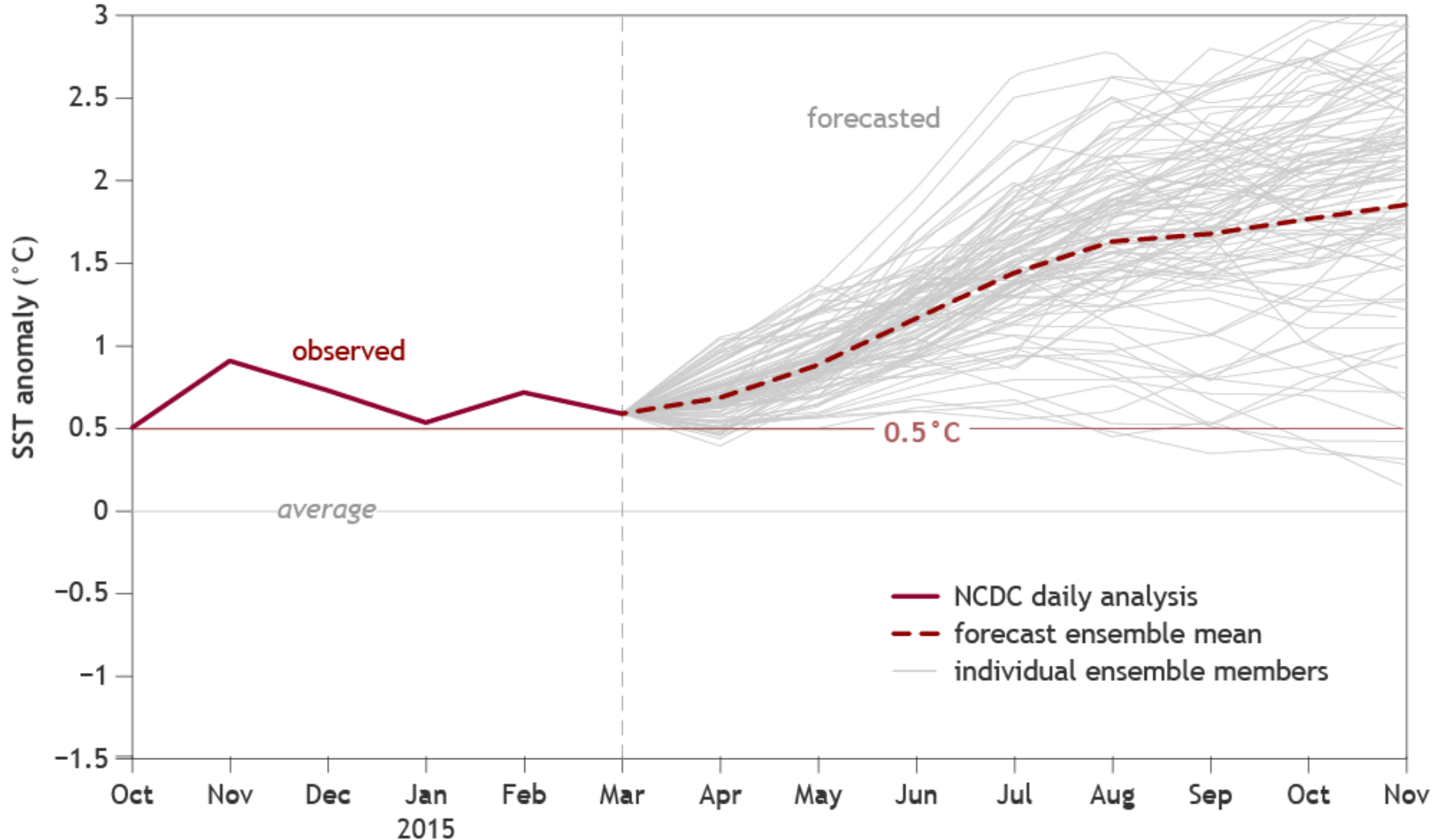
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 14 APR 2015
VALID APR 22 - 28, 2015



Latest ENSO Projections

El Nino Officially Declared in March
60-70% chance of El Nino through most of 2015

Multi-model ensemble forecast for tropical Pacific Niño3.4 region



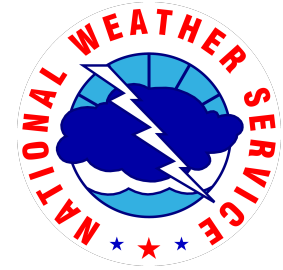
- NCDC daily analysis
- - - forecast ensemble mean
- individual ensemble members



Questions??



Ashley Nielson
CBRFC Senior Hydrologist
Phone: 801.524.5130 ext 333
Email: ashley.nielson@noaa.gov



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