

Winter 2010



NIDIS - UPPER COLORADO BASIN PILOT PROJECT

Weekly Climate, Water & Drought Assessment

Today's Agenda

- Background Information
- Assessment of current water conditions
- Precipitation Forecast
- Recommendations for Drought Monitor

B a c k g r o u n d

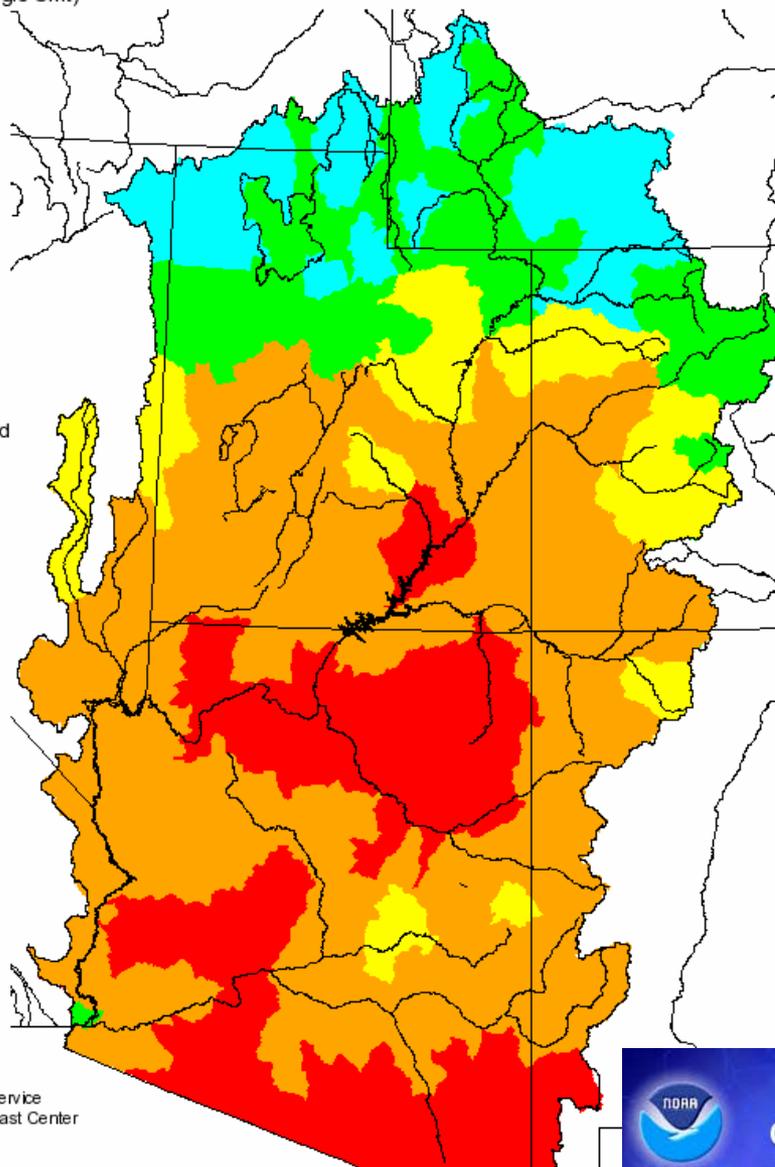
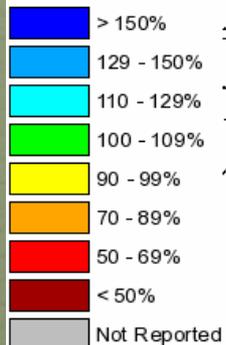


WY 2009 Precipitation

Seasonal Precipitation, October 2008 - September 2009

(Averaged by Hydrologic Unit)

% Average



Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbifc.noaa.gov

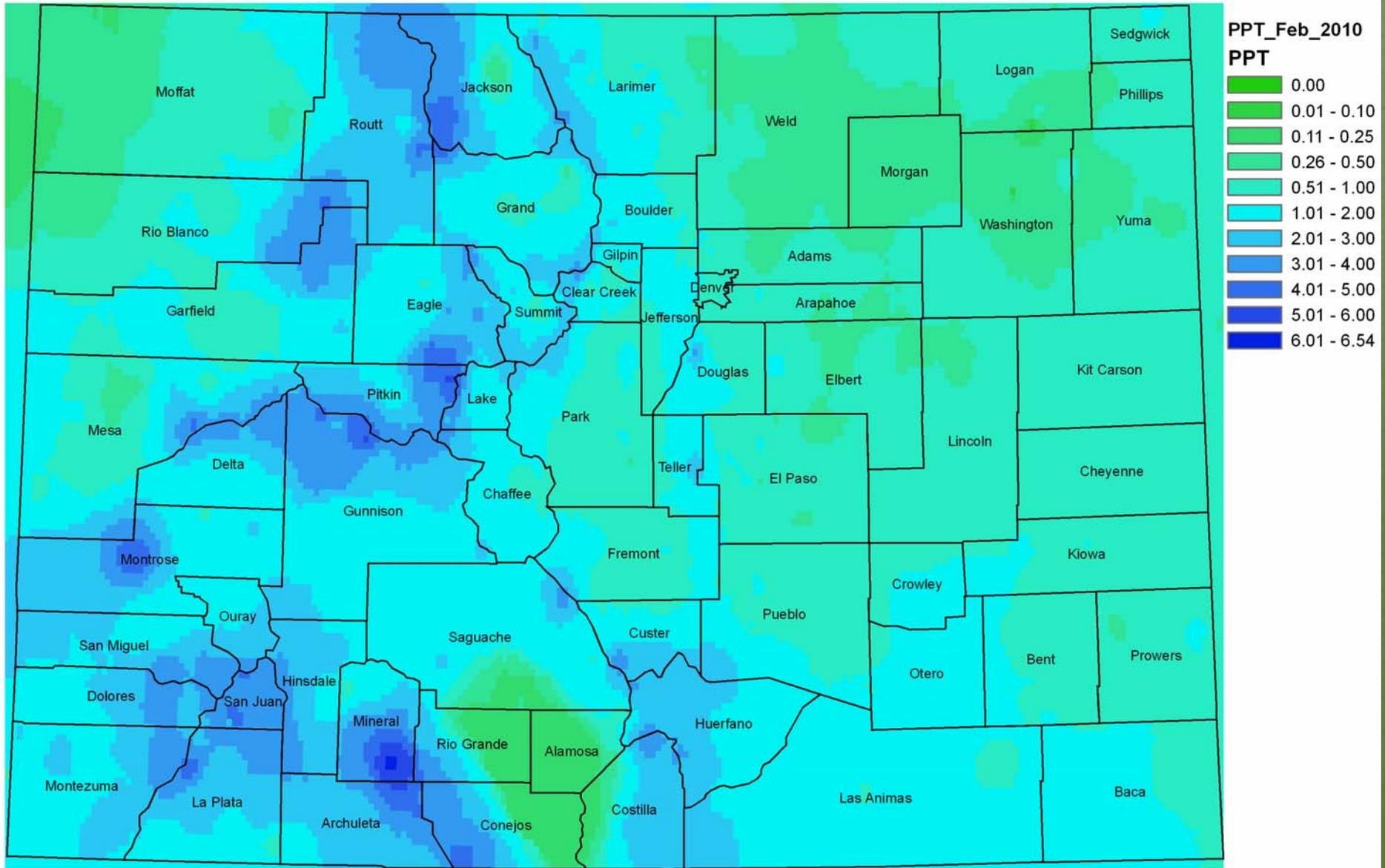


NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

Precipitation/Snowpack Update



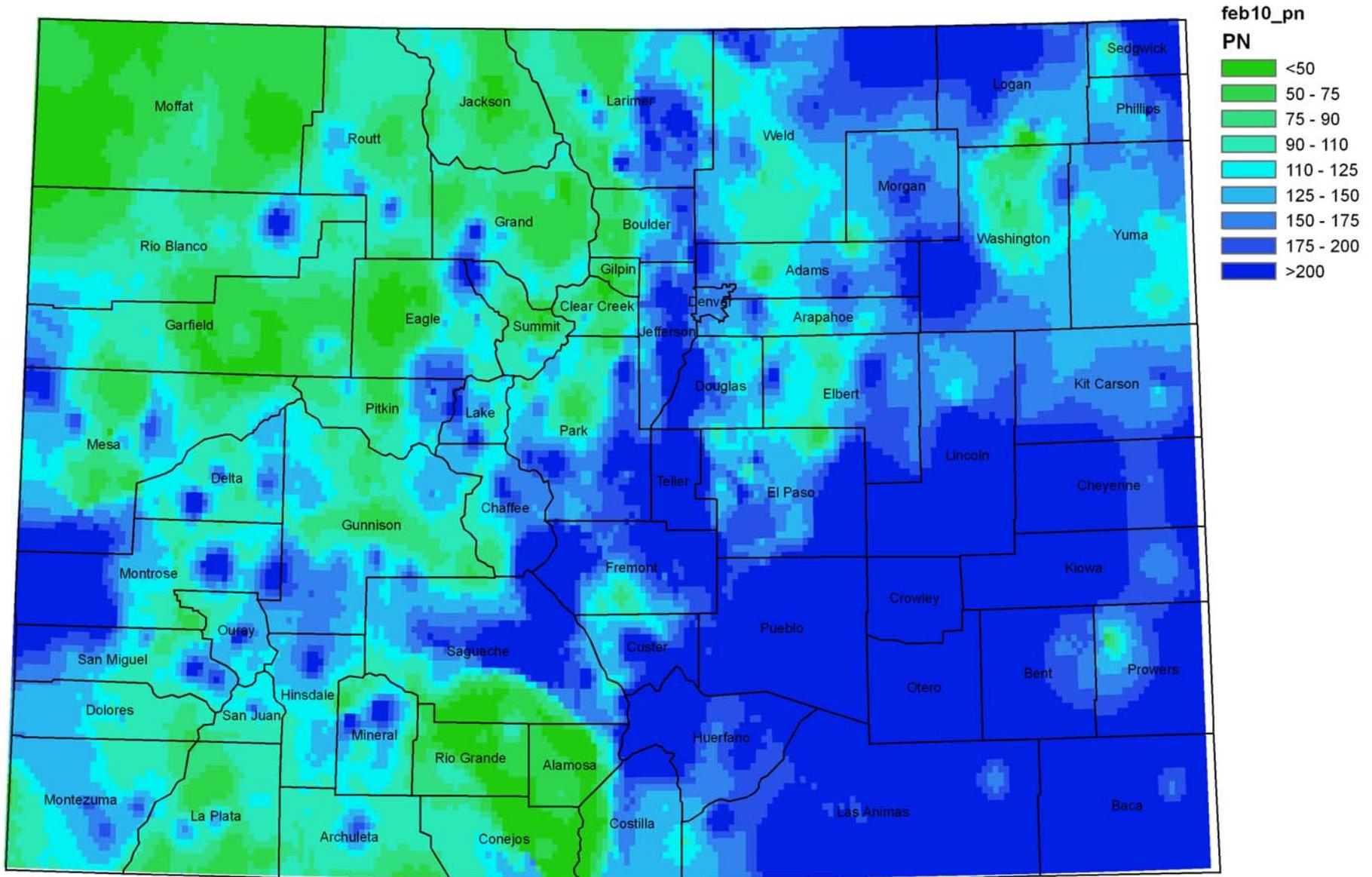
Colorado Precipitation (in) February 2010



Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data Analysis: Inverse Distance Weighting

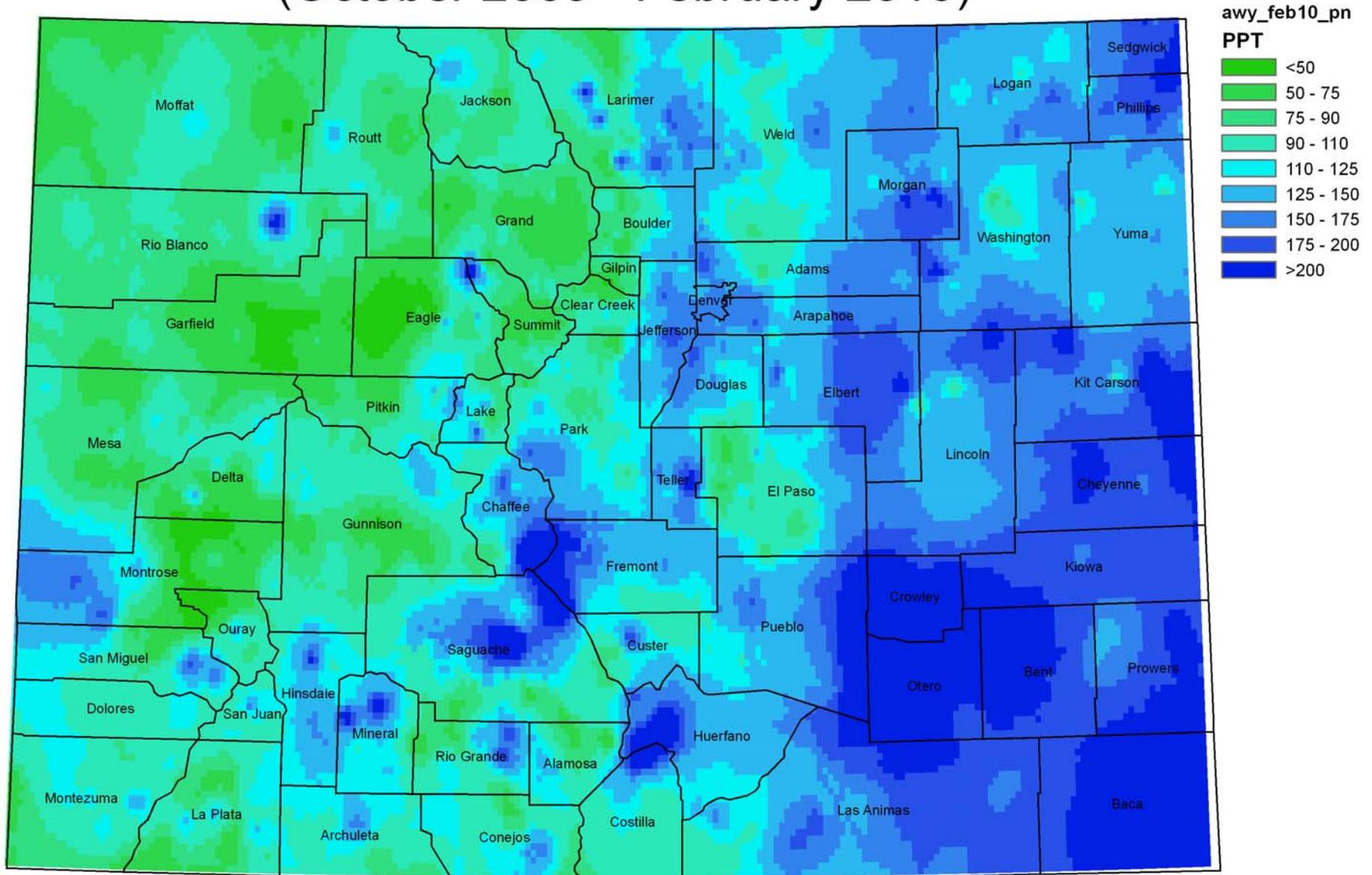
*Summer only

February 2010 Precipitation as Percent of Normal



Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

Water Year 2010 Precipitation as Percent of Normal (October 2009 - February 2010)



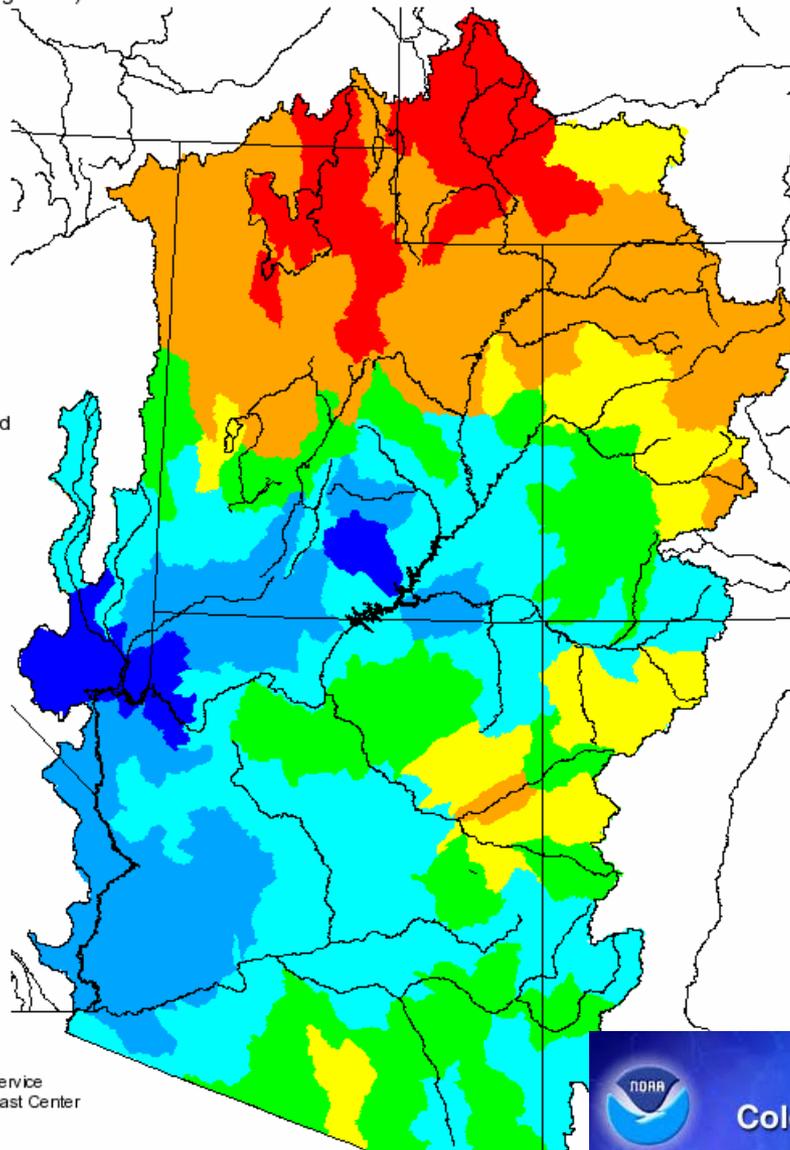
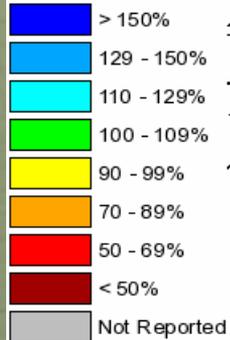
Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

WY 2010 Precipitation

Seasonal Precipitation, October 2009 - February 2010

(Averaged by Hydrologic Unit)

% Average



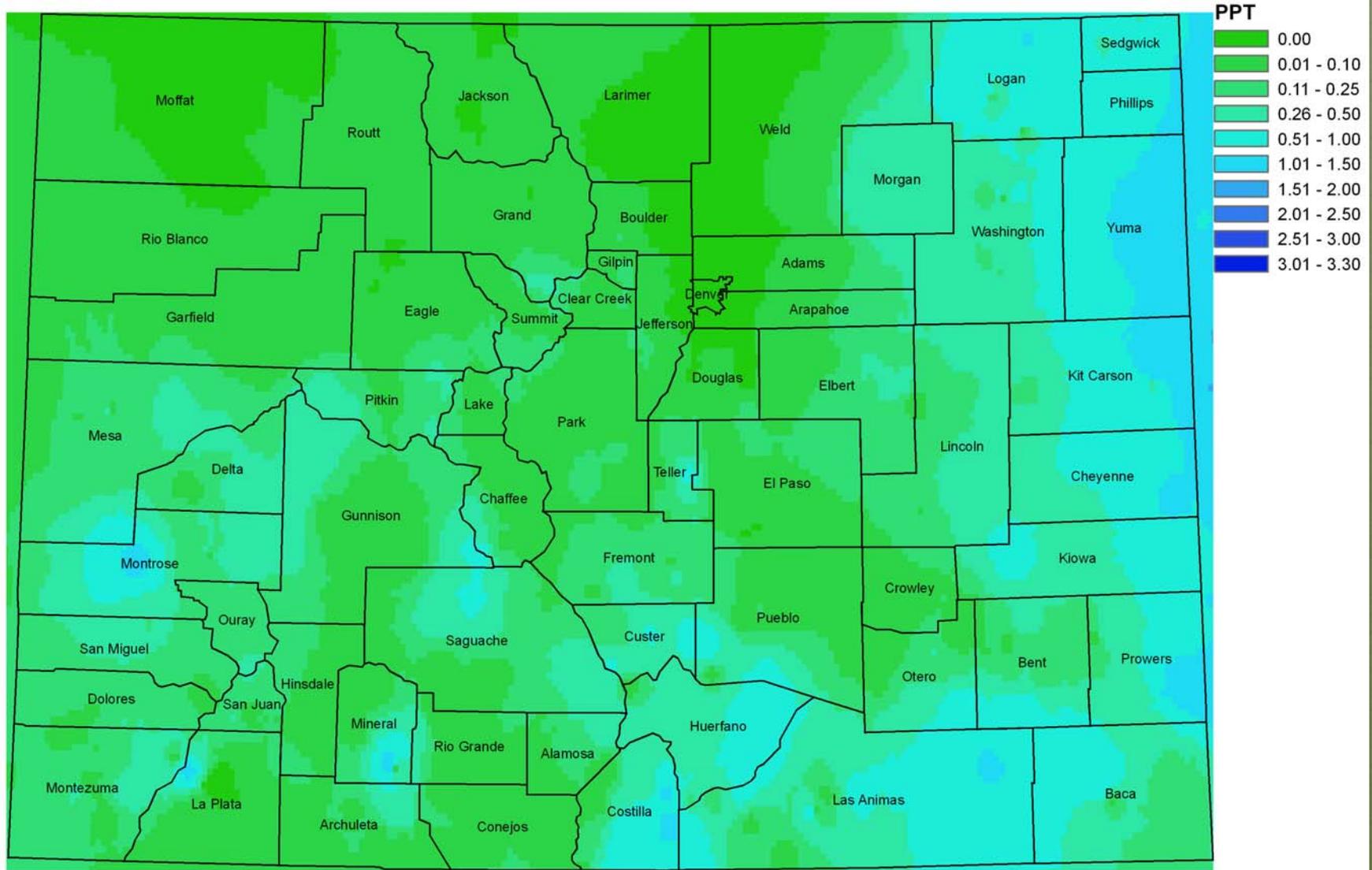
Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbifc.noaa.gov



NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

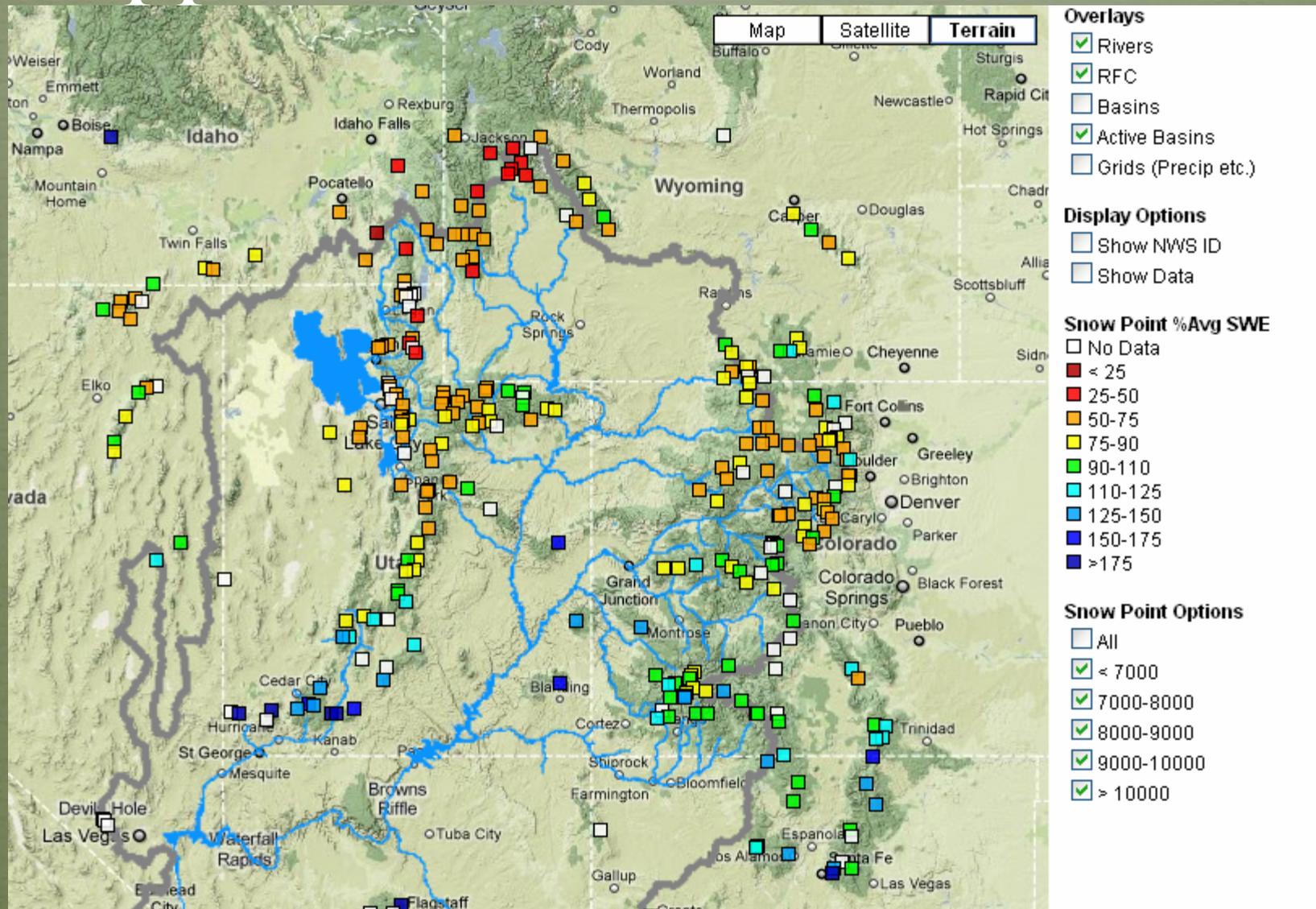
7 Day Precipitation Animation 8-14 March 2010

Colorado Precipitation (in) 8 March 2010

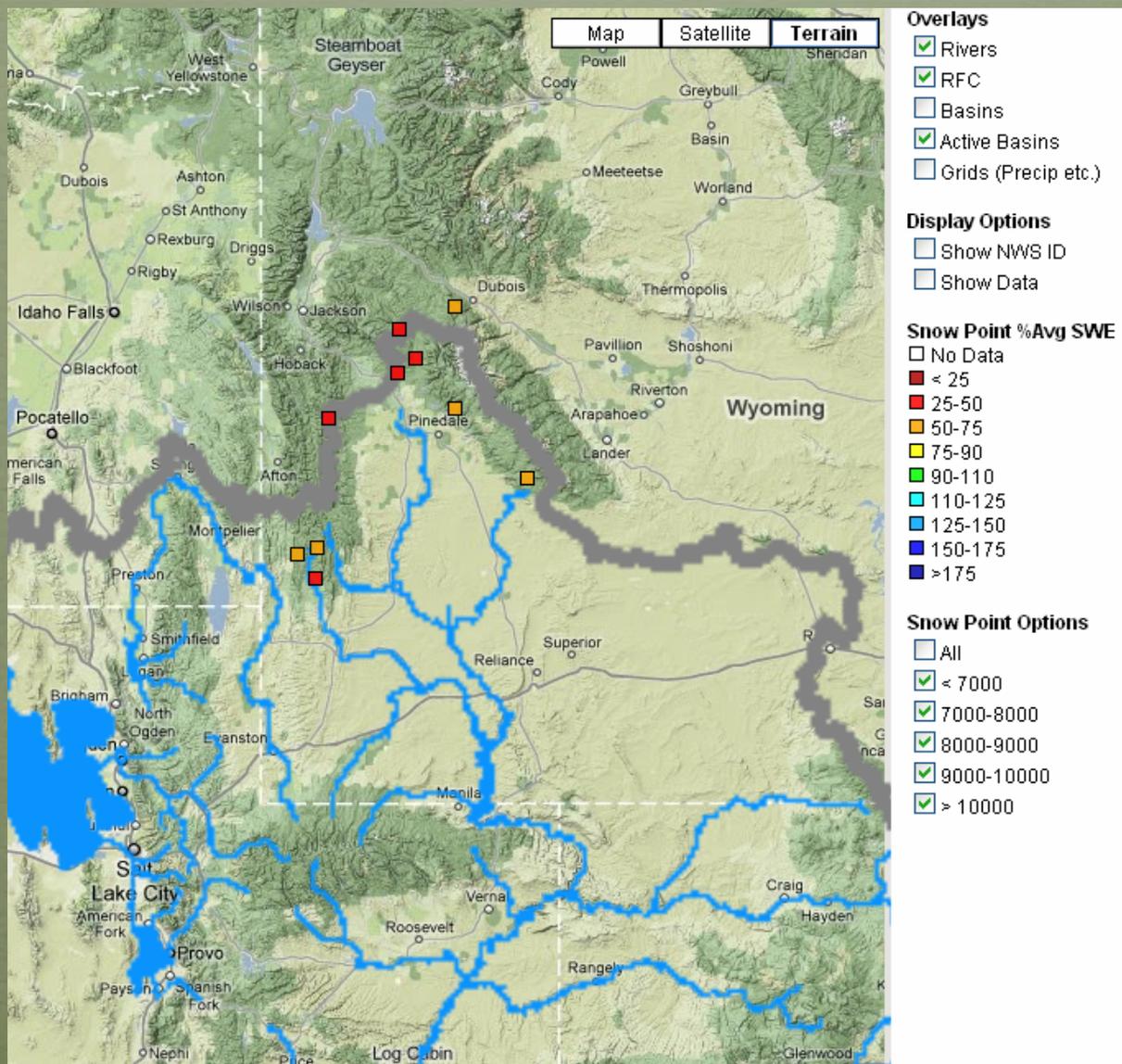


Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

Upper Colorado River Basin

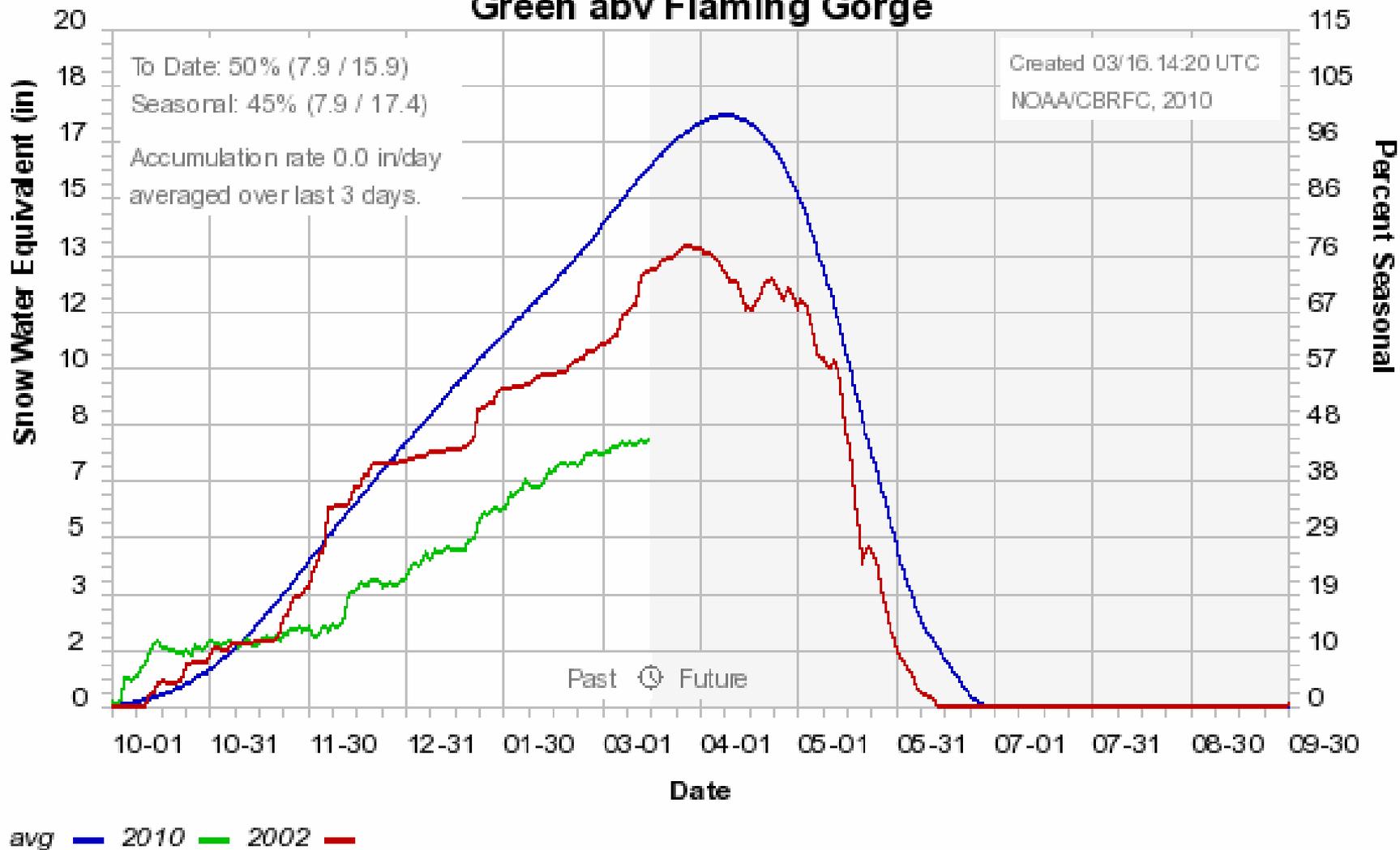


Green River Basin above Flaming Gorge



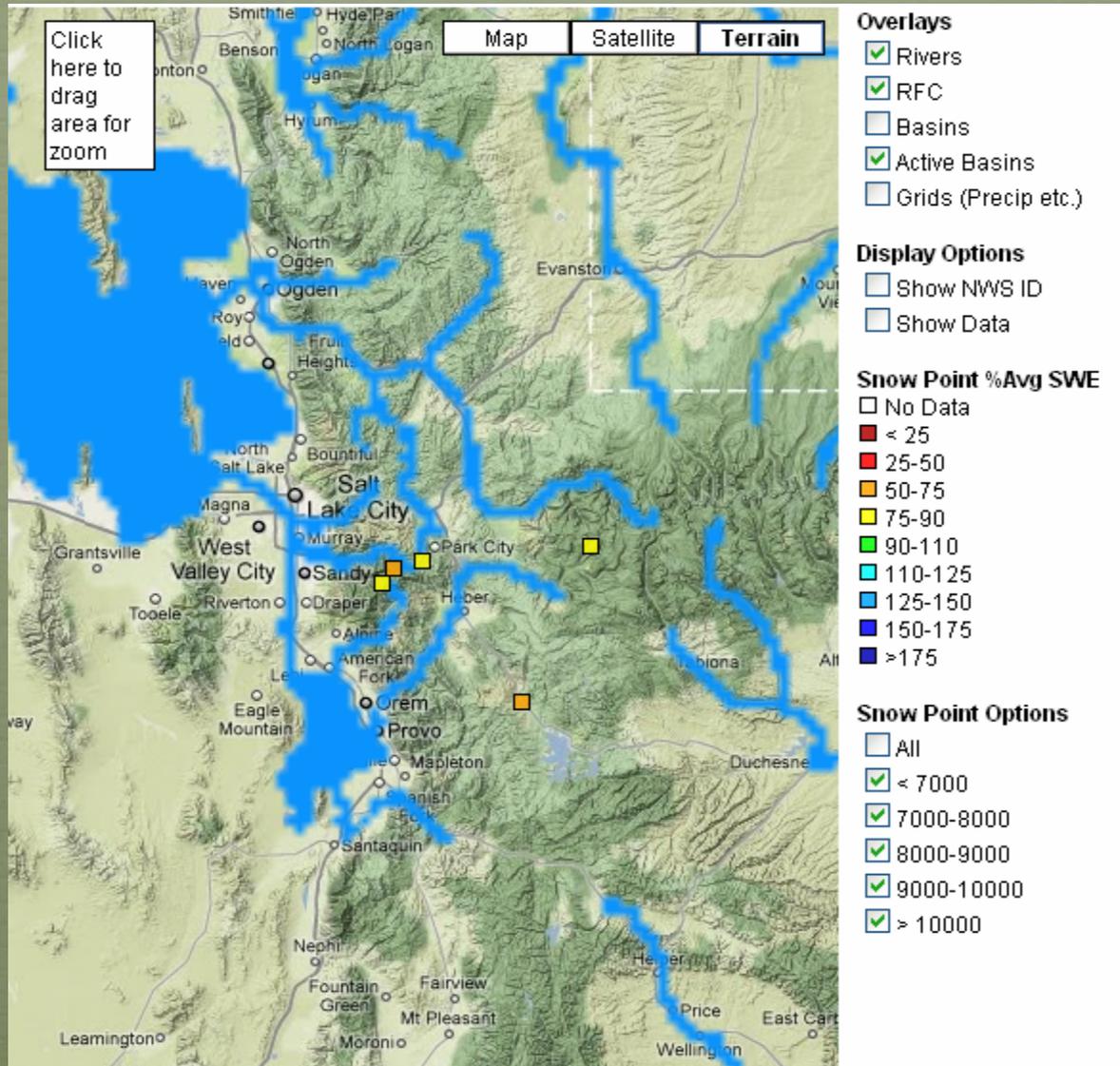
Colorado Basin River Forecast Center

Green abv Flaming Gorge



Basin Snowpack: 50%

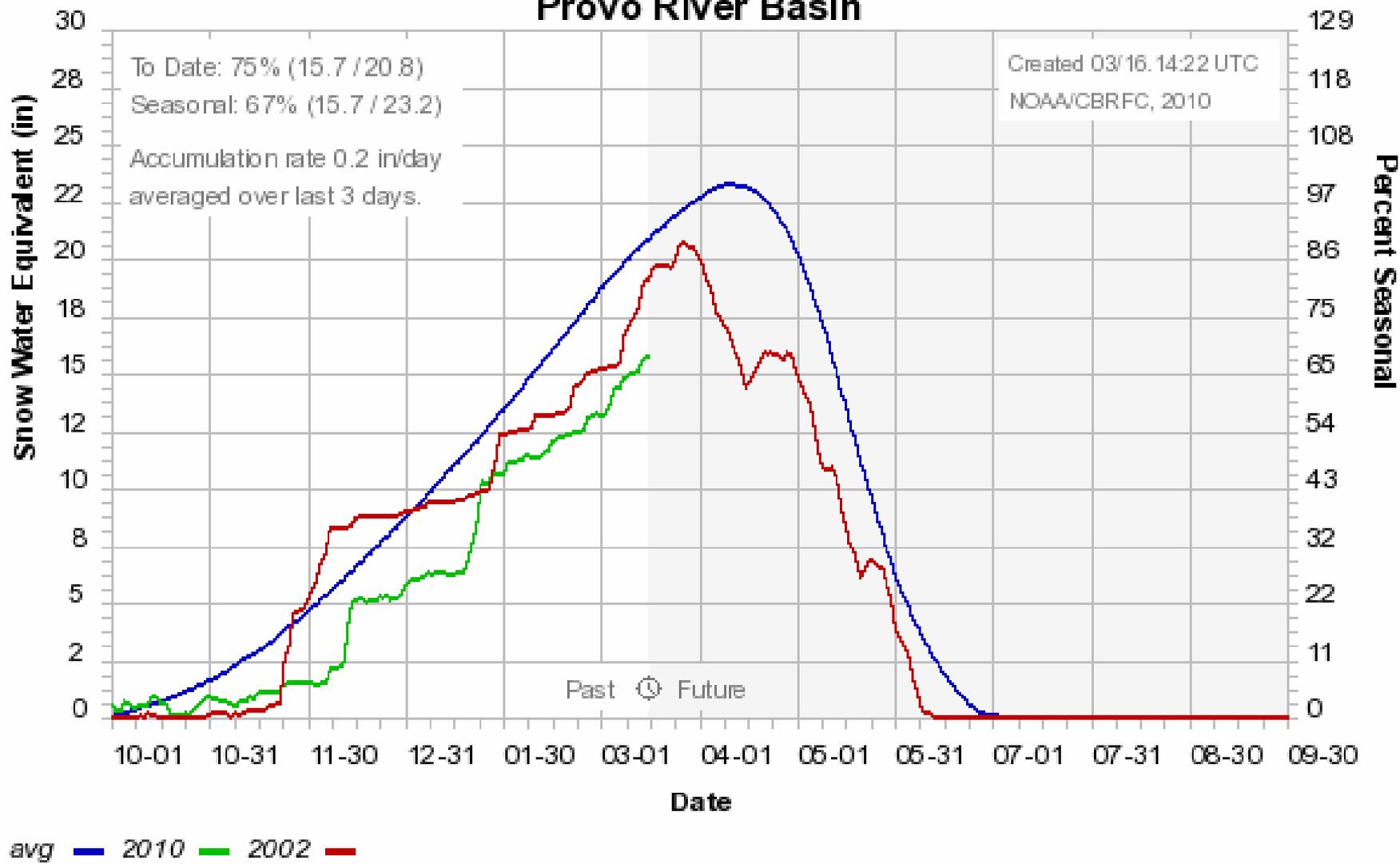
Provo River Basin



NATIONAL WEATHER SERVICE

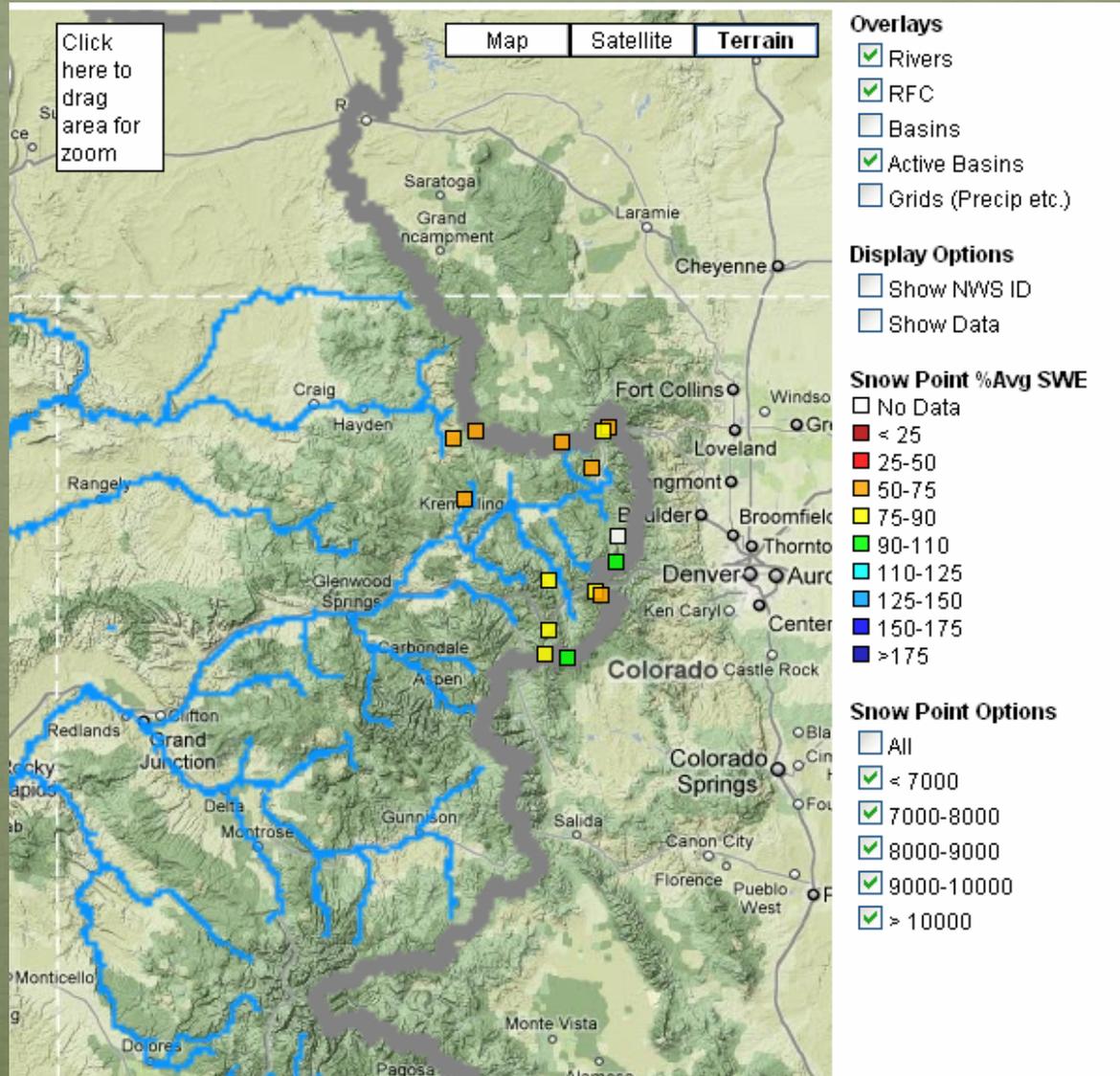
Colorado Basin River Forecast Center

Colorado Basin River Forecast Center Provo River Basin



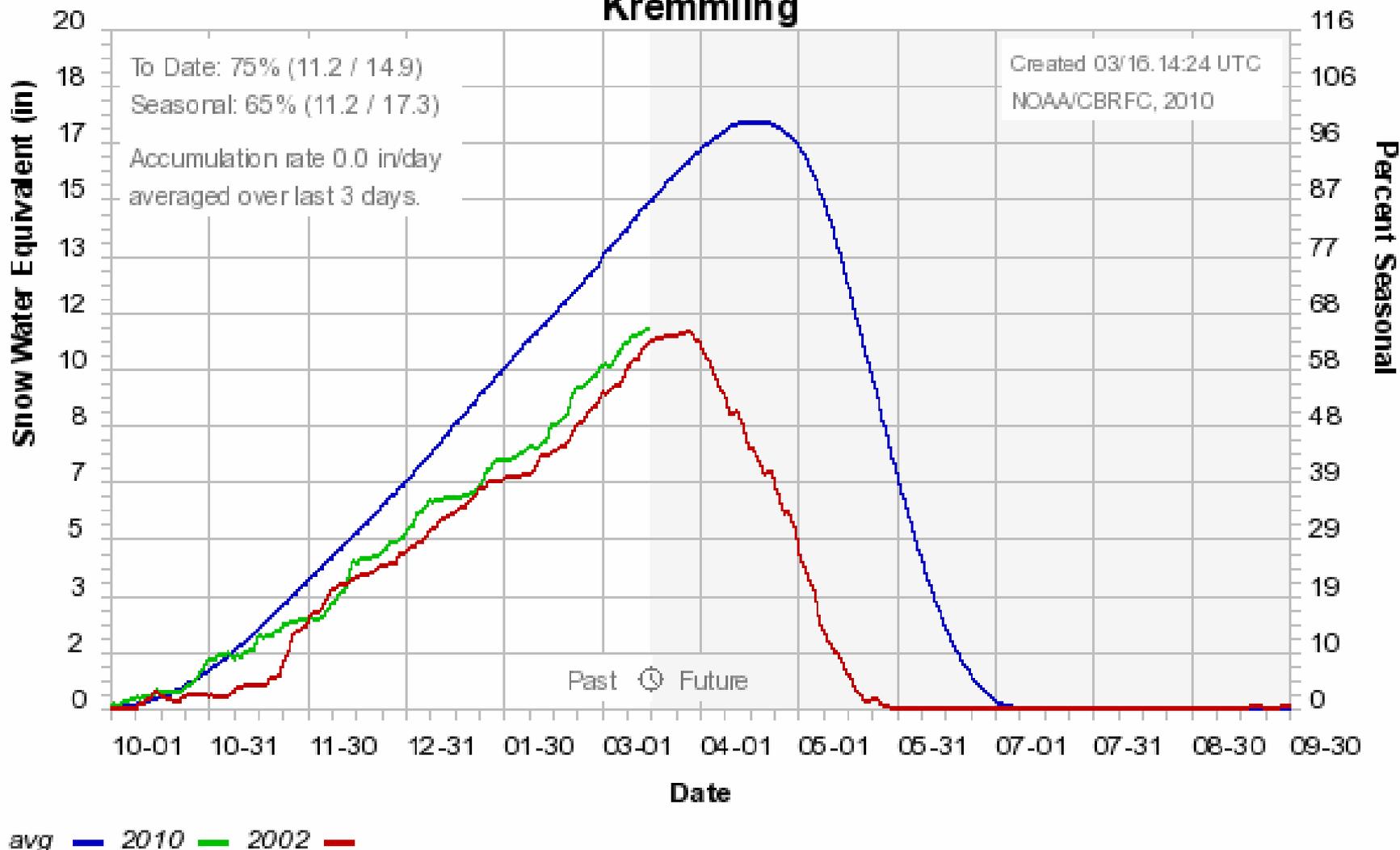
Basin snowpack: 75%

Upper Colorado above Kremmling



Colorado Basin River Forecast Center

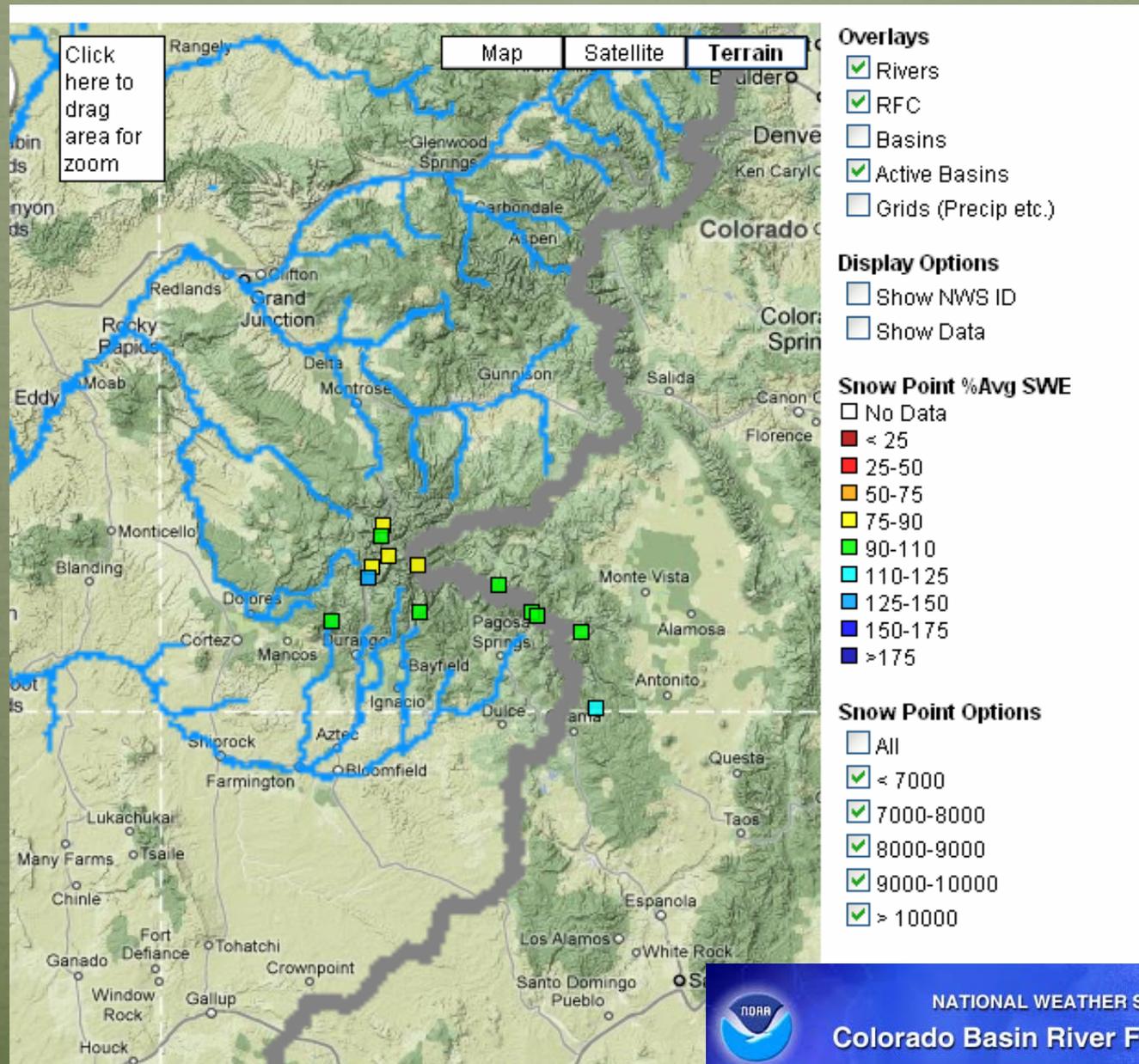
Kremmling



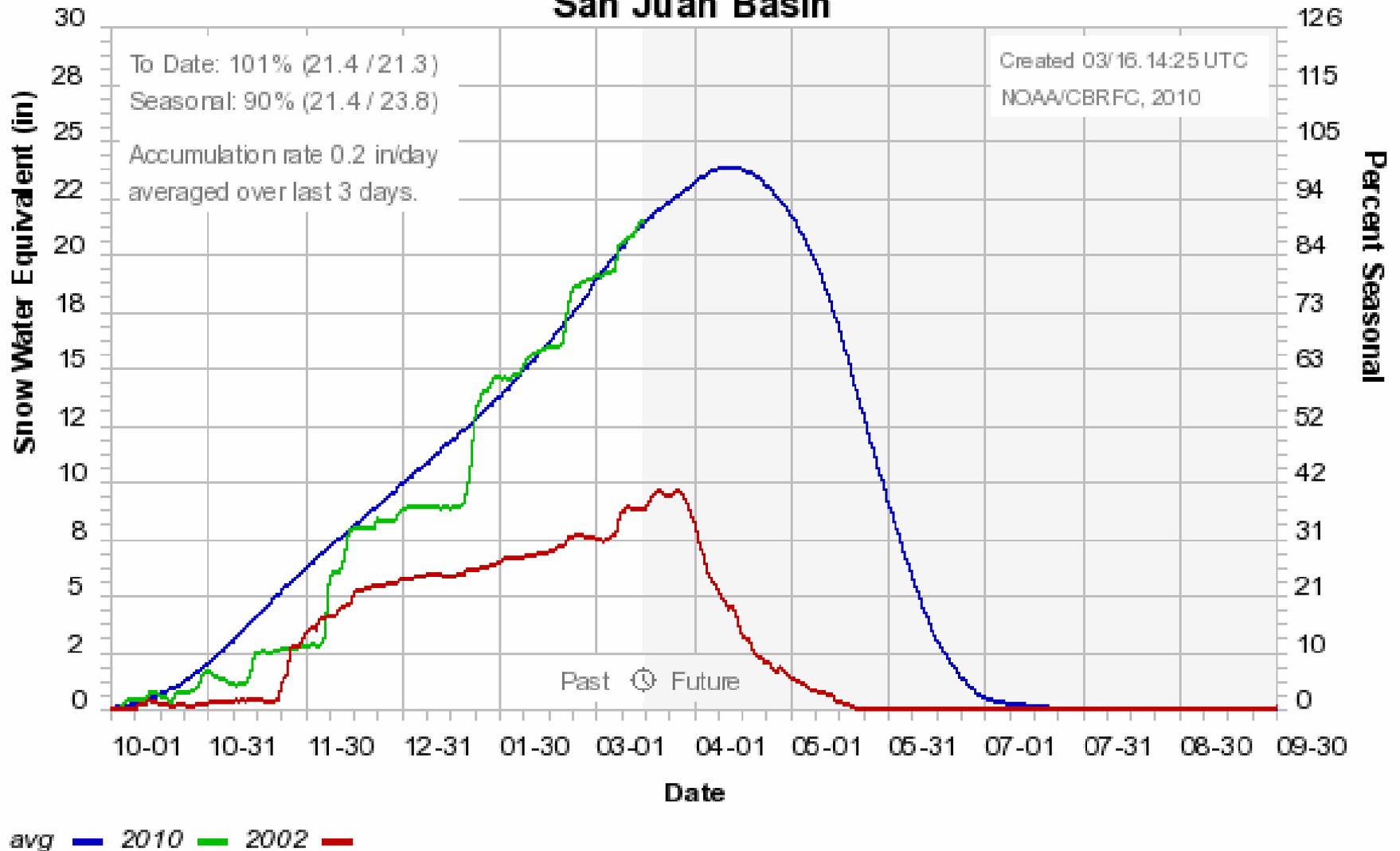
Basin Snowpack: 75%



San Juan Basin



Colorado Basin River Forecast Center San Juan Basin

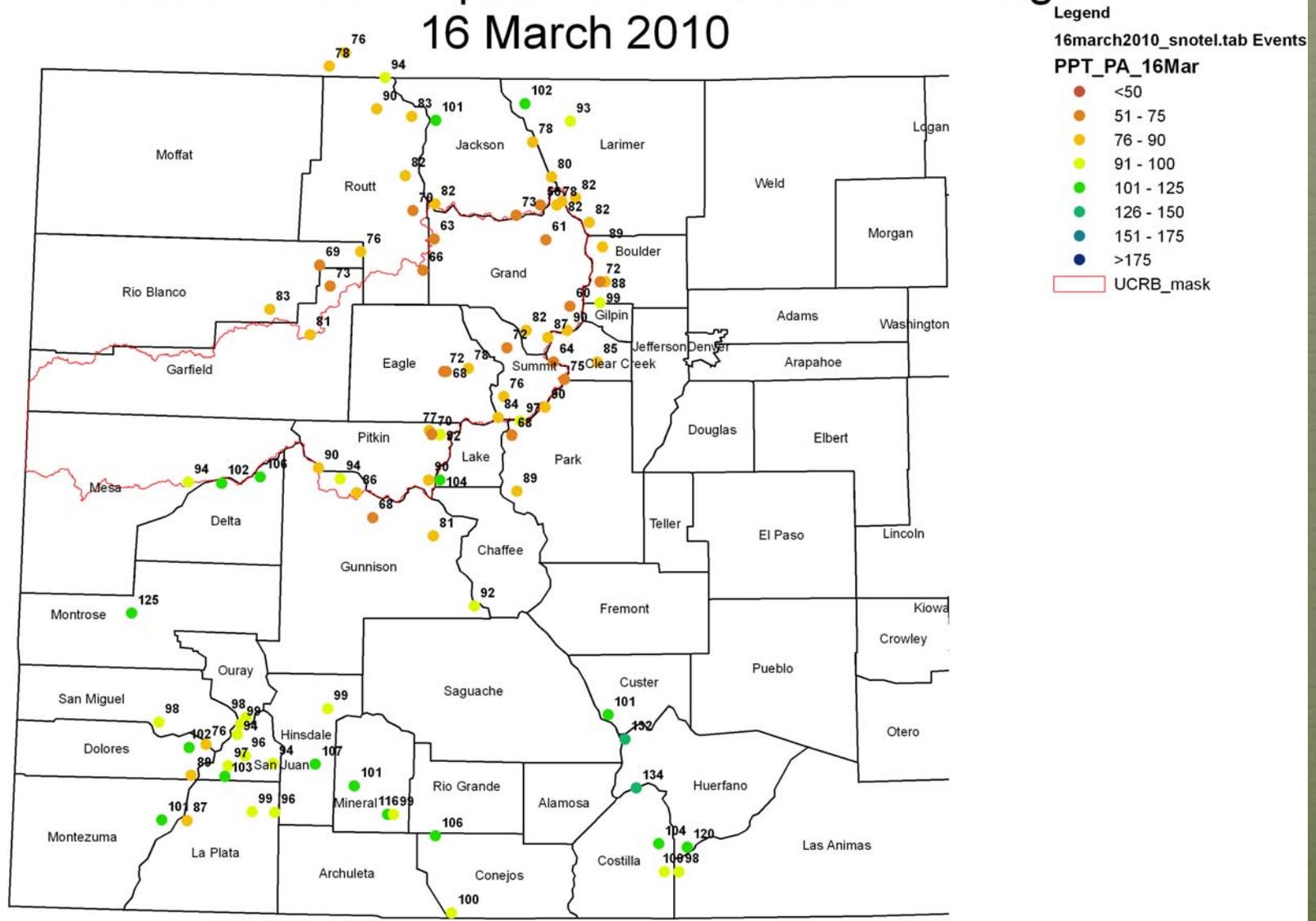


Basin Snowpack: 101%



Snotel WYTD Precipitation % Average

Snotel WYTD Precipitation as Percent of Average 16 March 2010

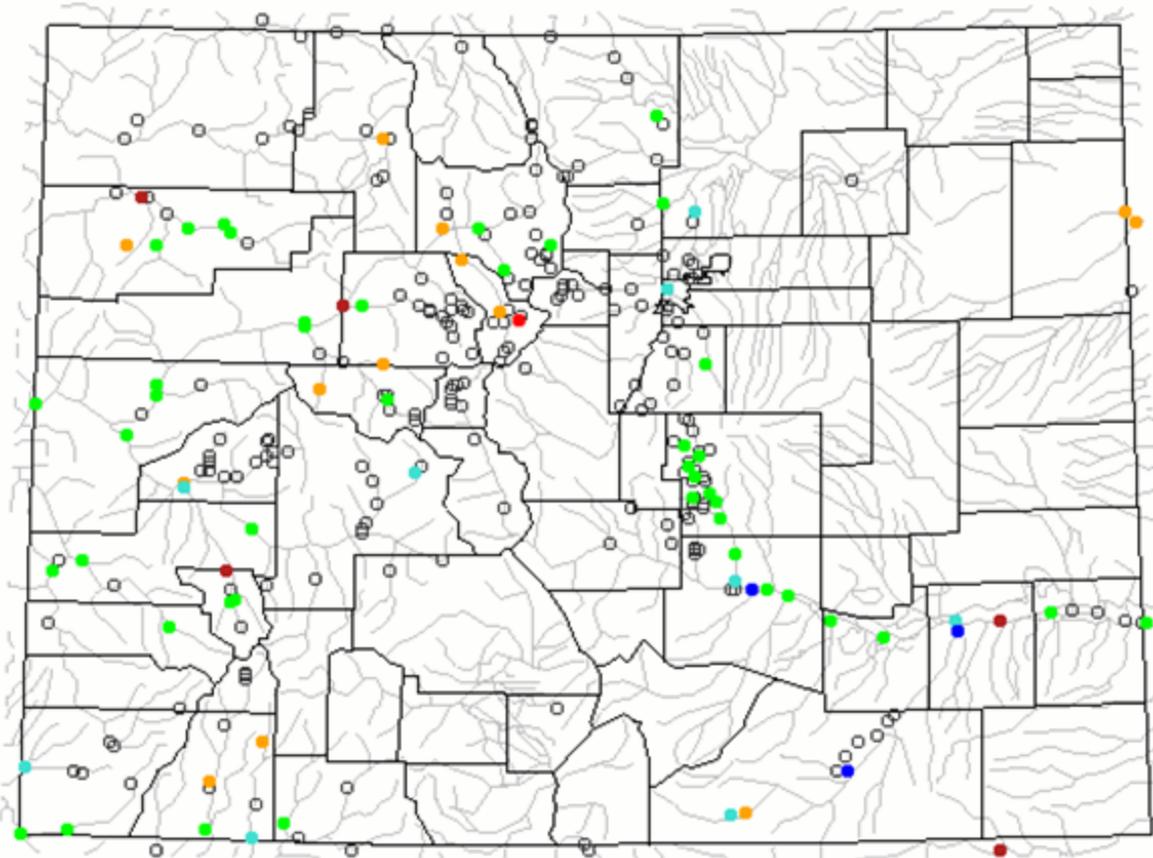


Streamflow Update



Streamflow 16 March 2010

Tuesday, March 16, 2010 09:30ET



Explanation - Percentile classes

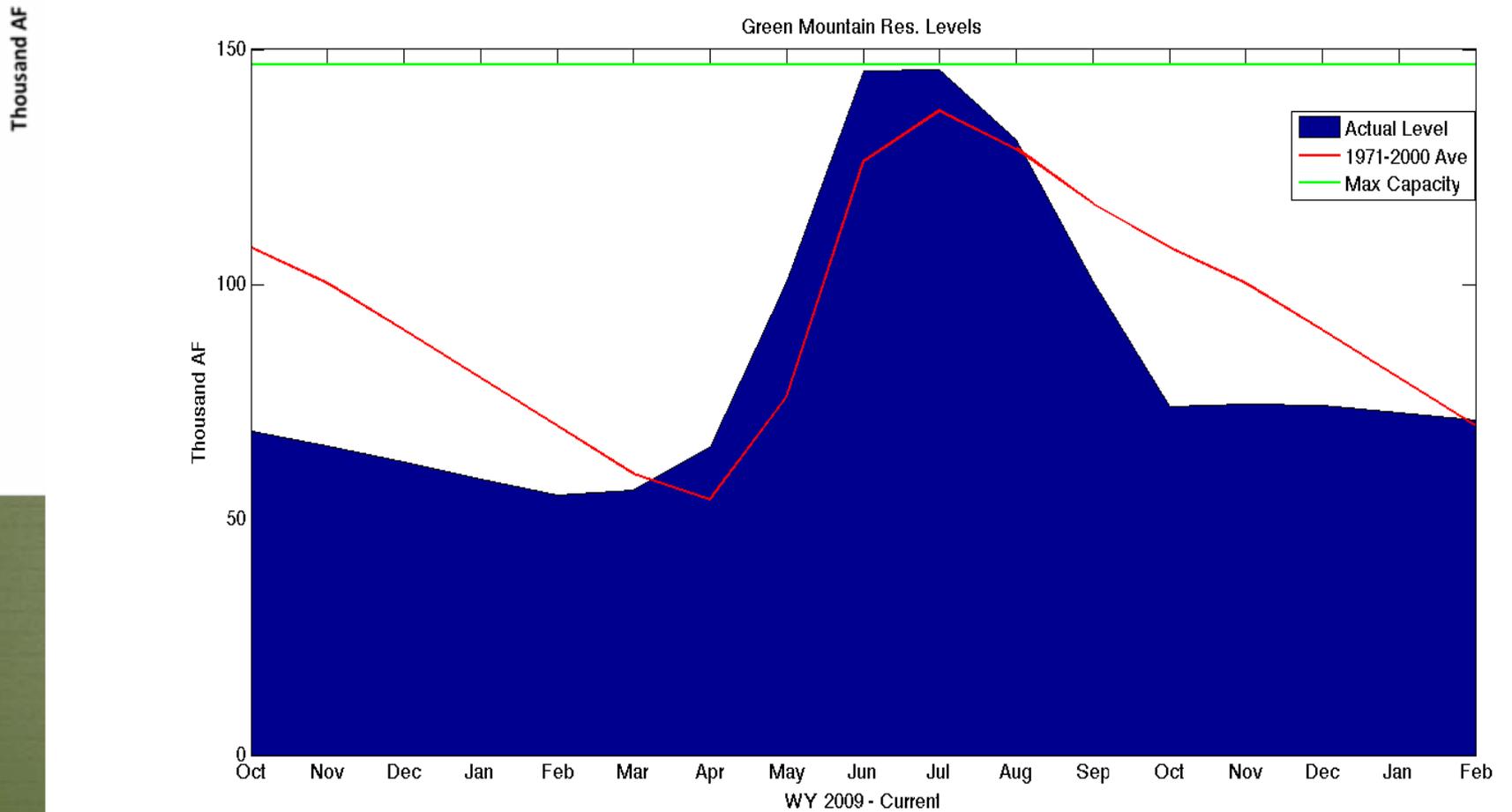
							
Low	<10	10-24	25-75	76-90	>90	High	
	Much below normal	Below normal	Normal	Above normal	Much above normal		



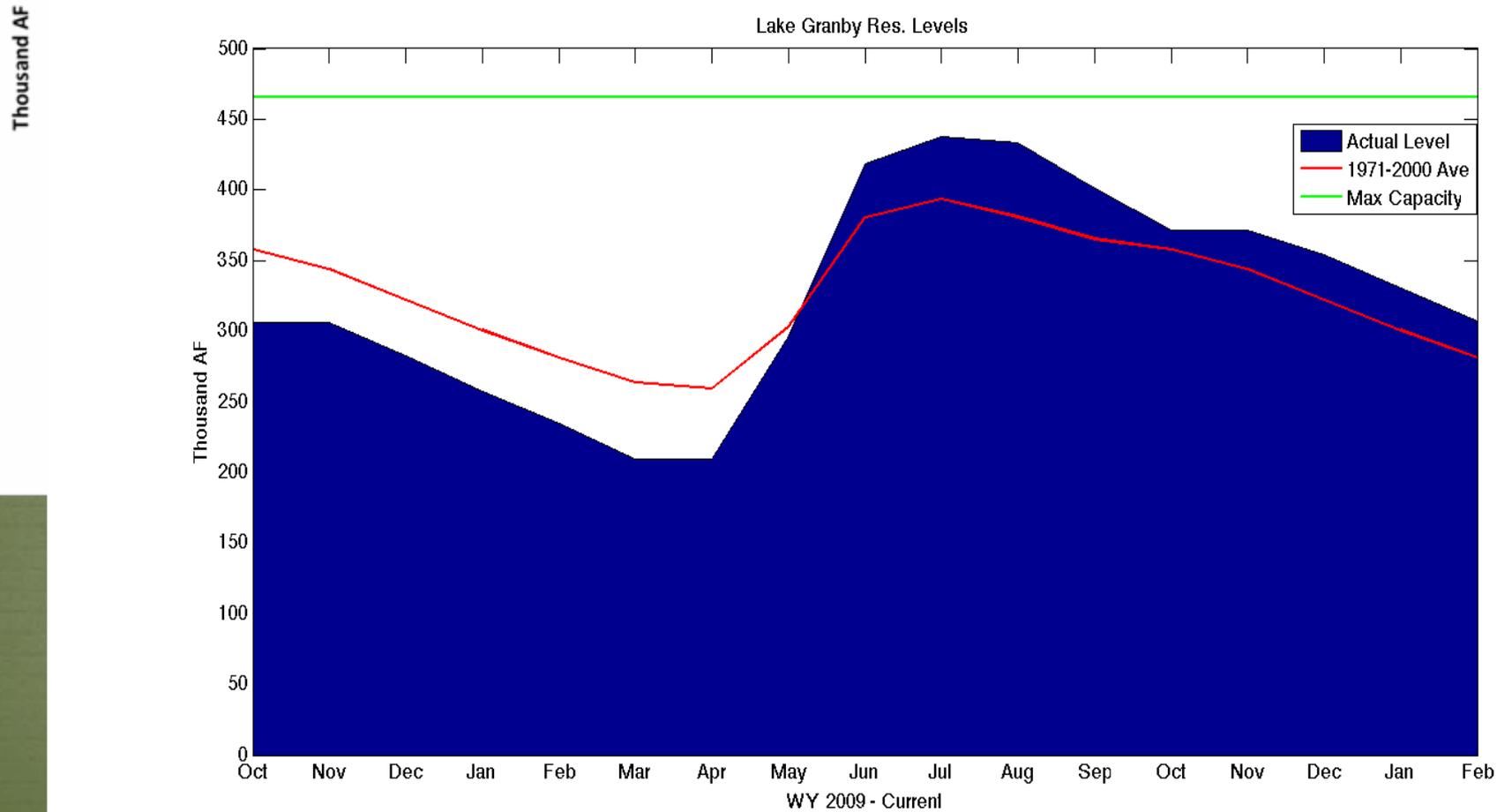
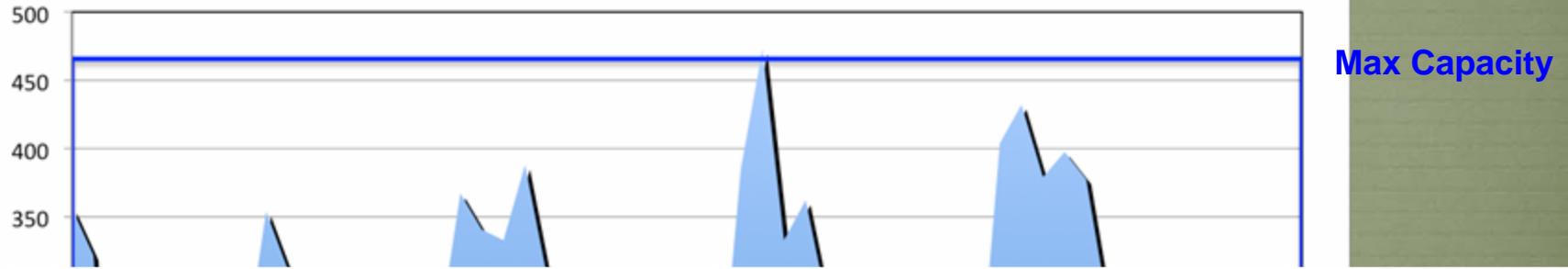
Reservoir Update



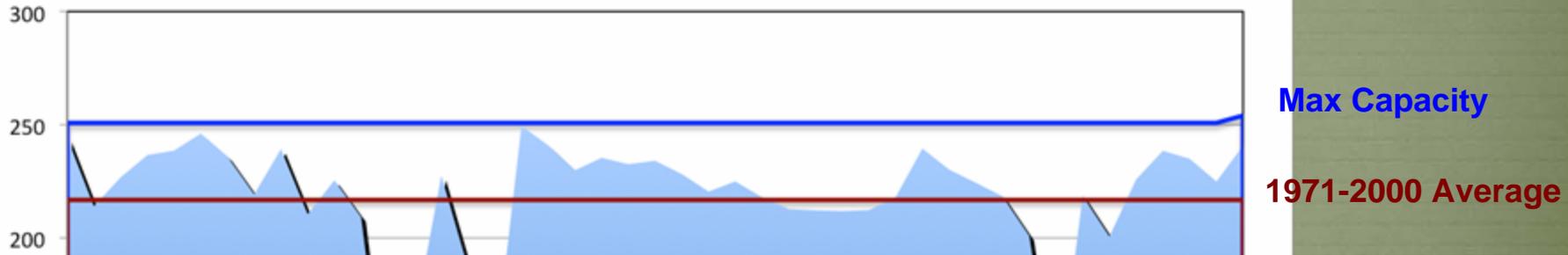
Green Mountain February Reservoir Storage



Lake Granby February Reservoir Storage

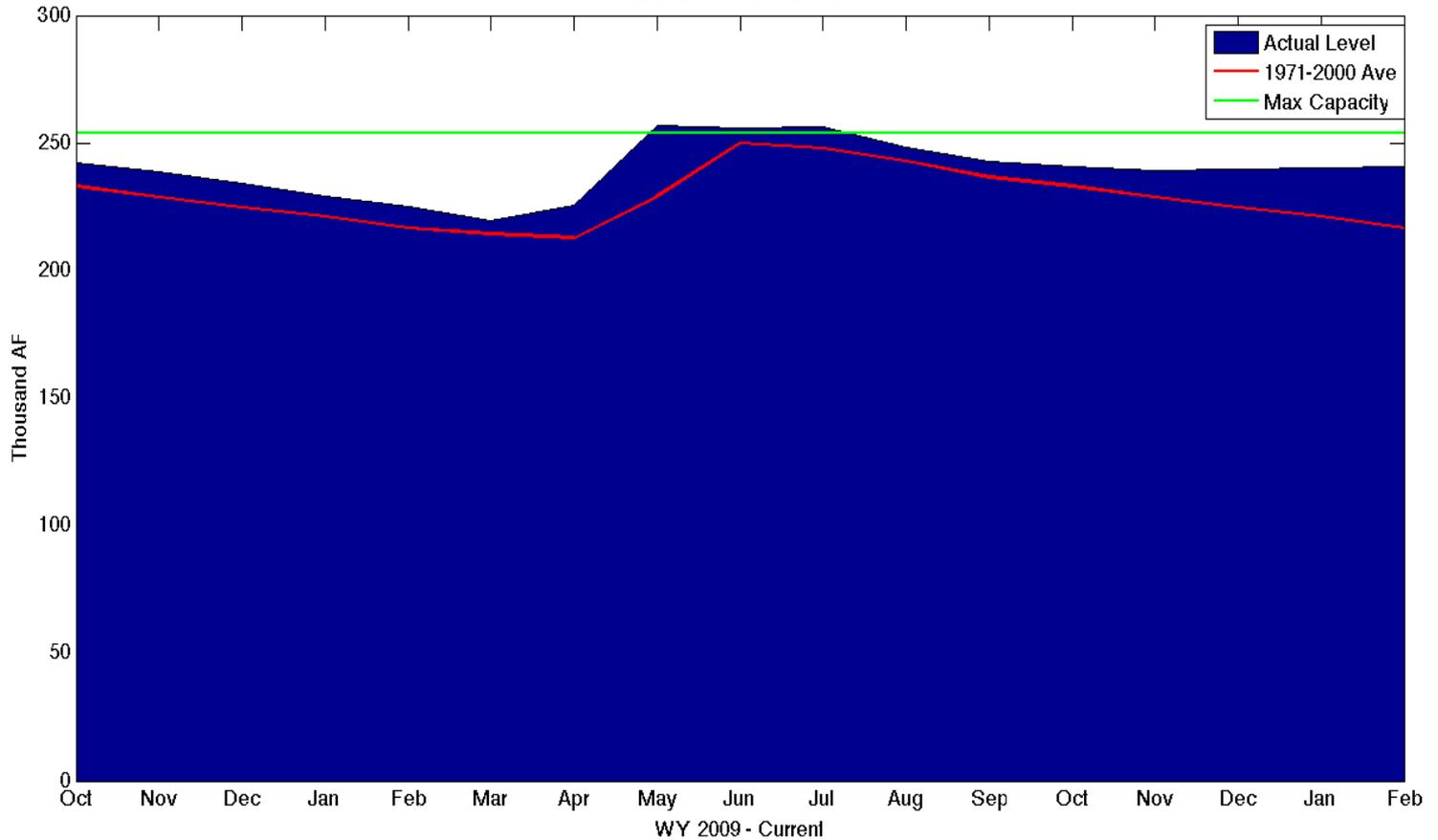


Lake Dillon February Reservoir Storage

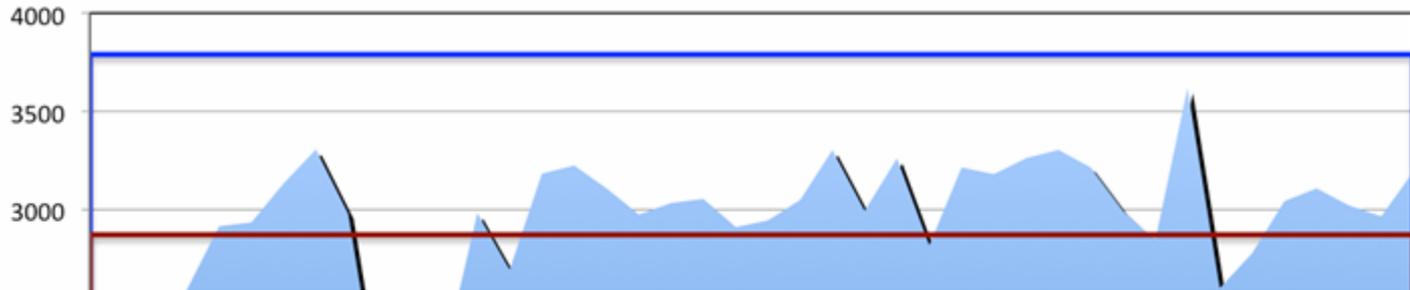


Thousand AF

Lake Dillon Res. Levels



Flaming Gorge February Reservoir Storage

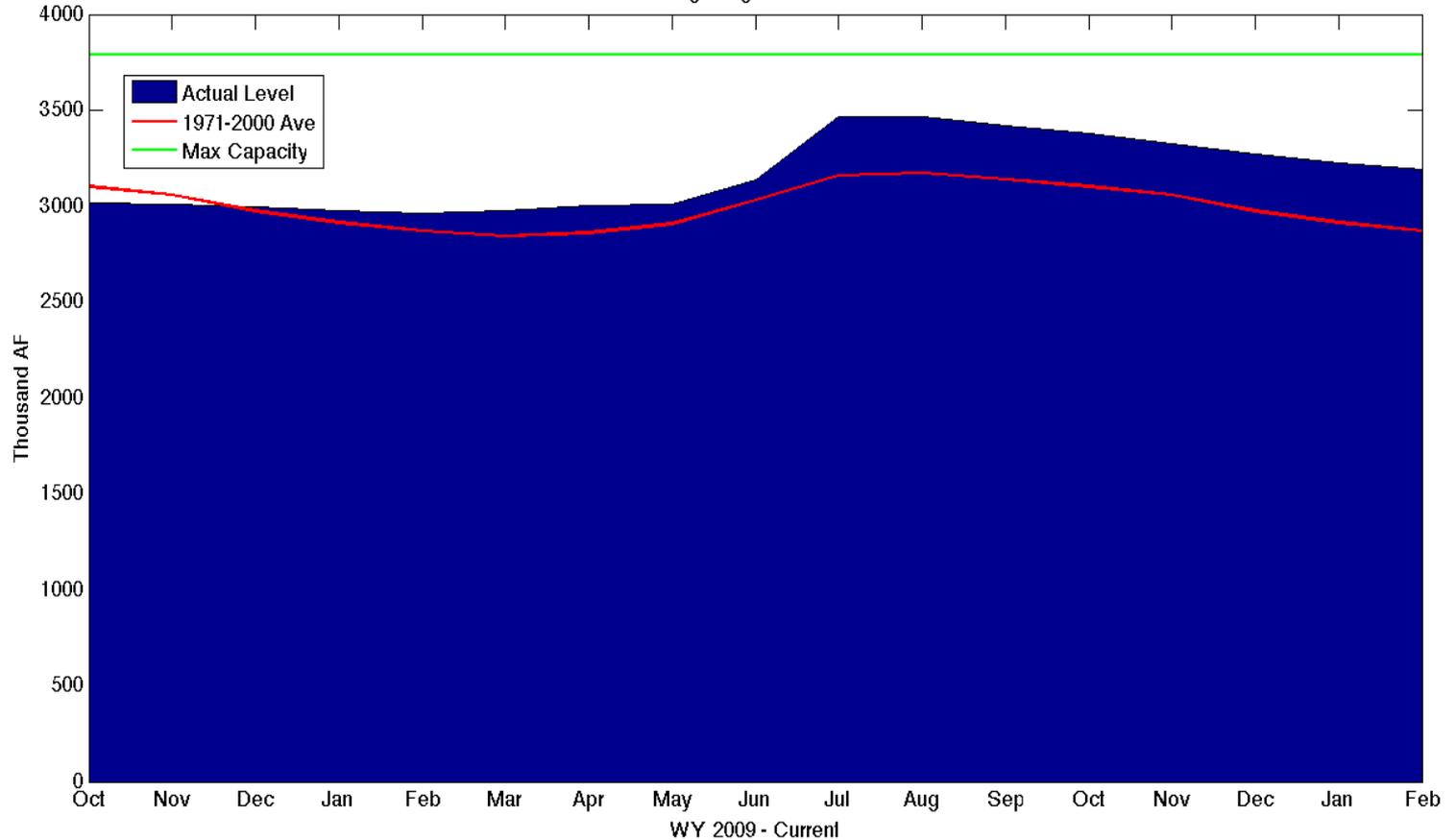


Max Capacity

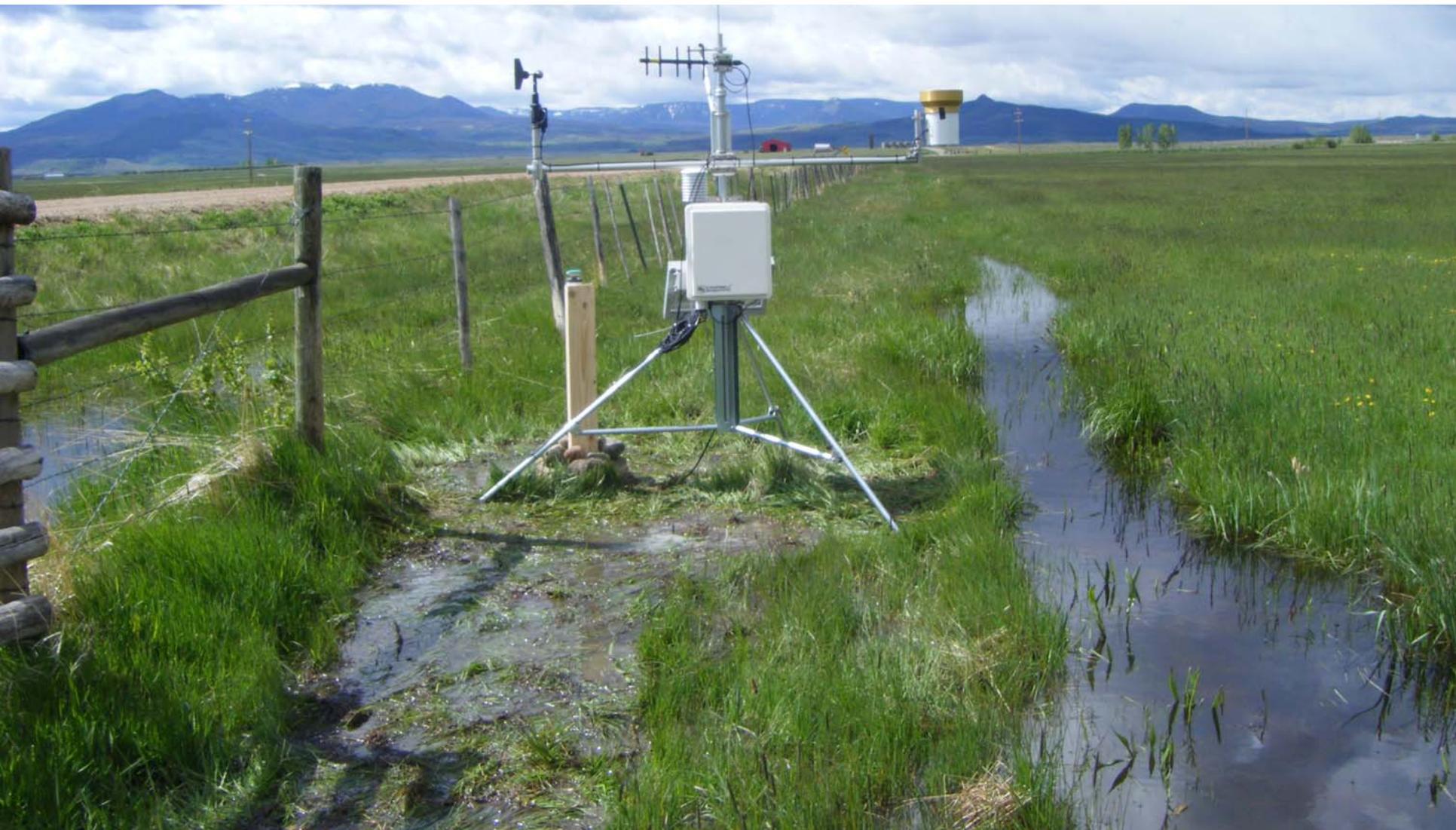
1971-2000 Average

Flaming Gorge Res. Levels

Thousand AF

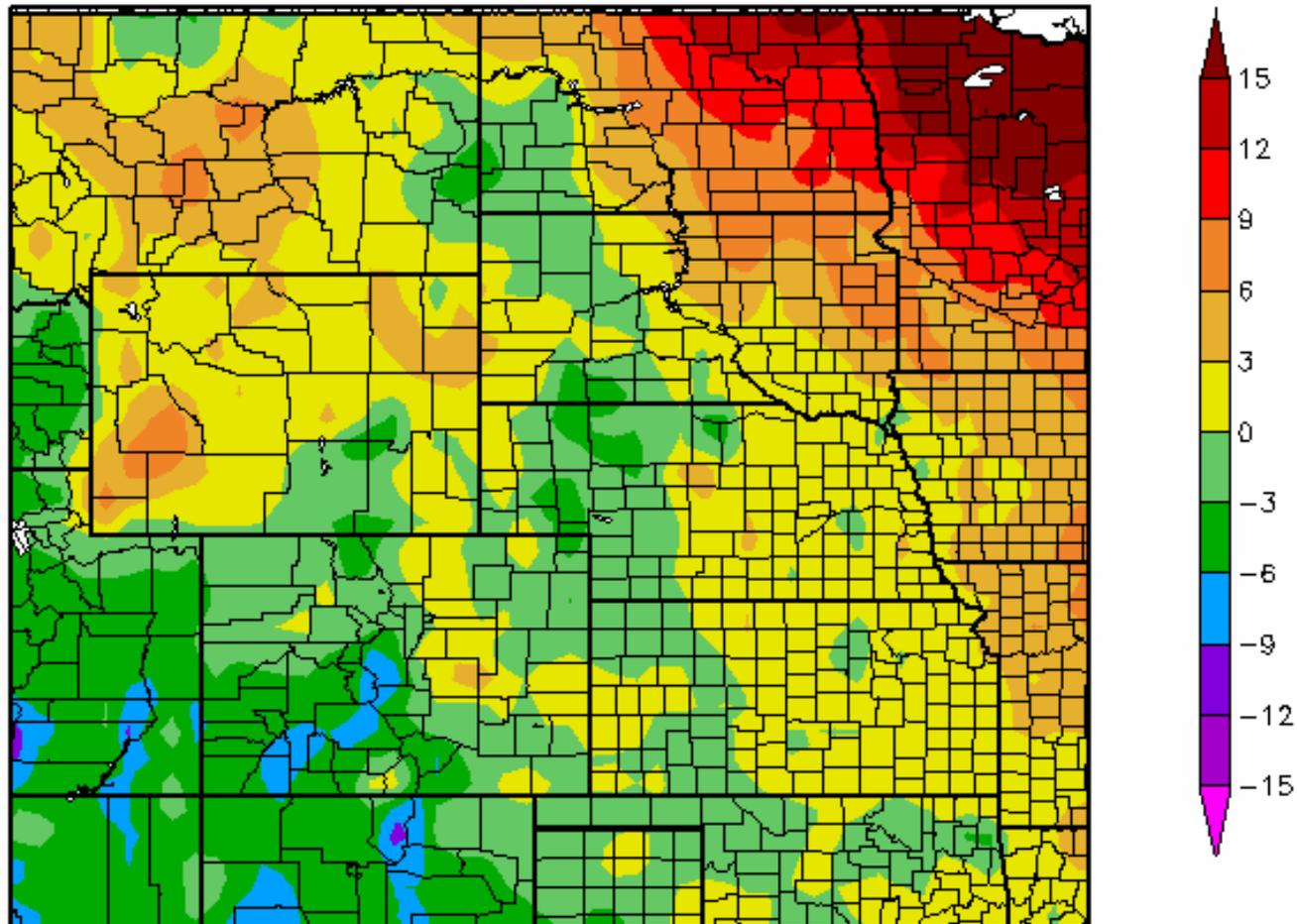


Water Demand



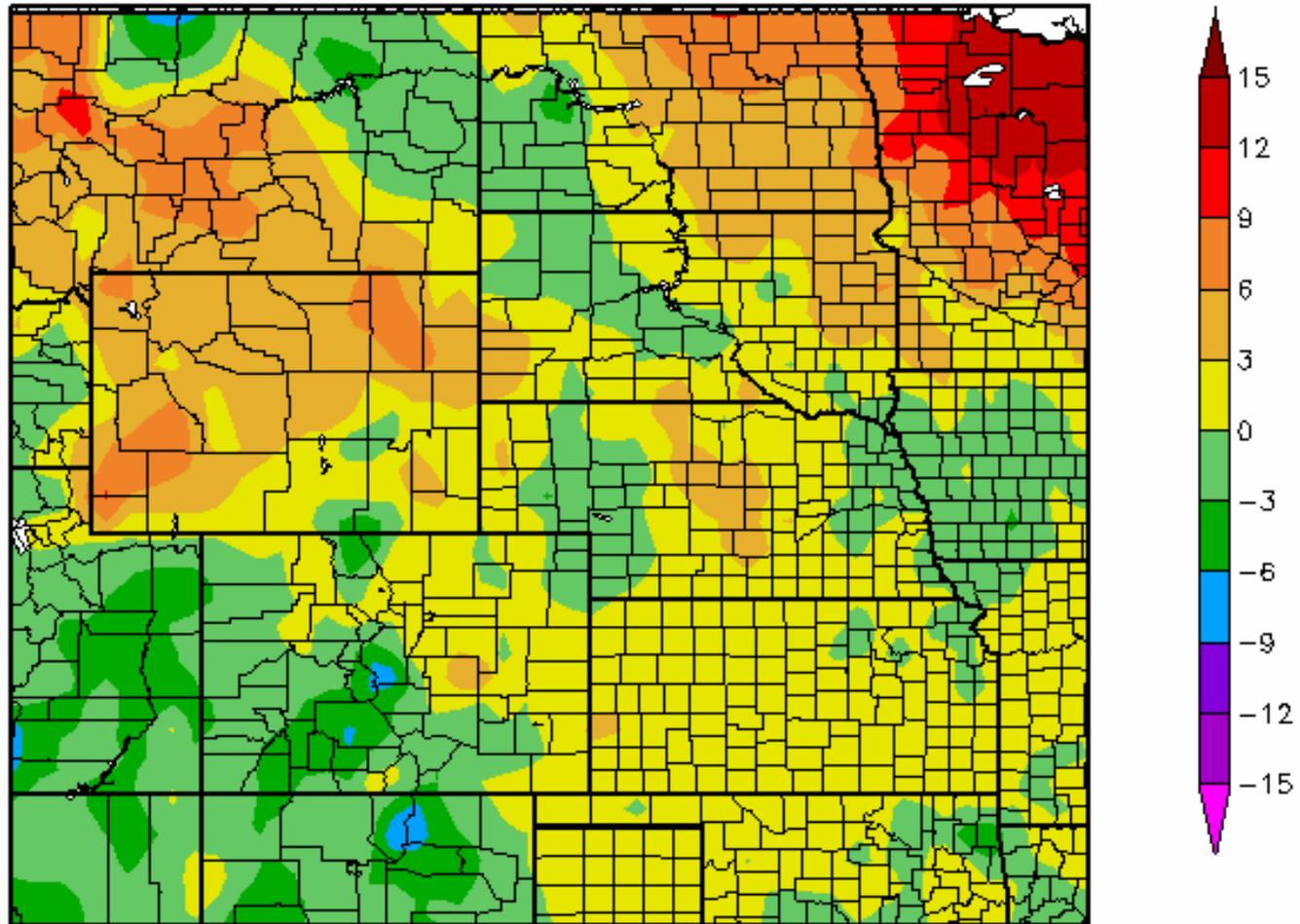
7 Day Temperature Departure

Departure from Normal Temperature (F)
3/9/2010 - 3/15/2010



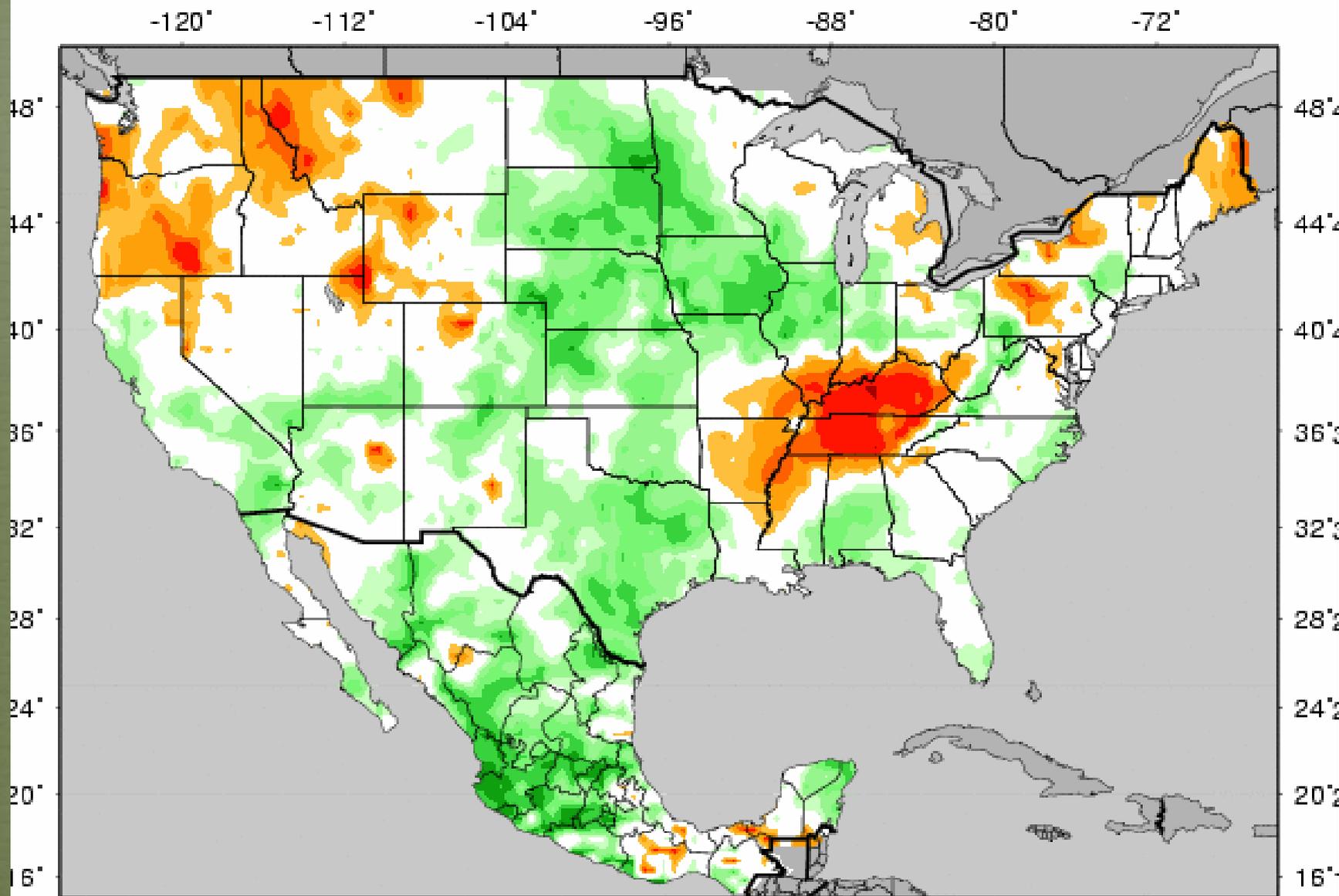
March Temperature Departure

Departure from Normal Temperature (F)
3/1/2010 - 3/15/2010



VIC Total Moisture Storage Percentiles (wrt/ 1916-2004)

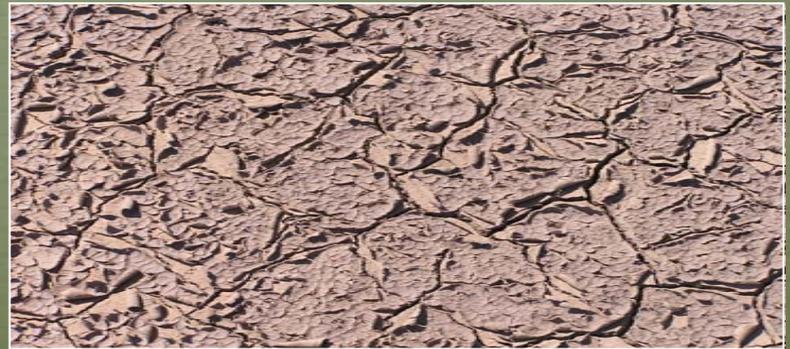
20100314



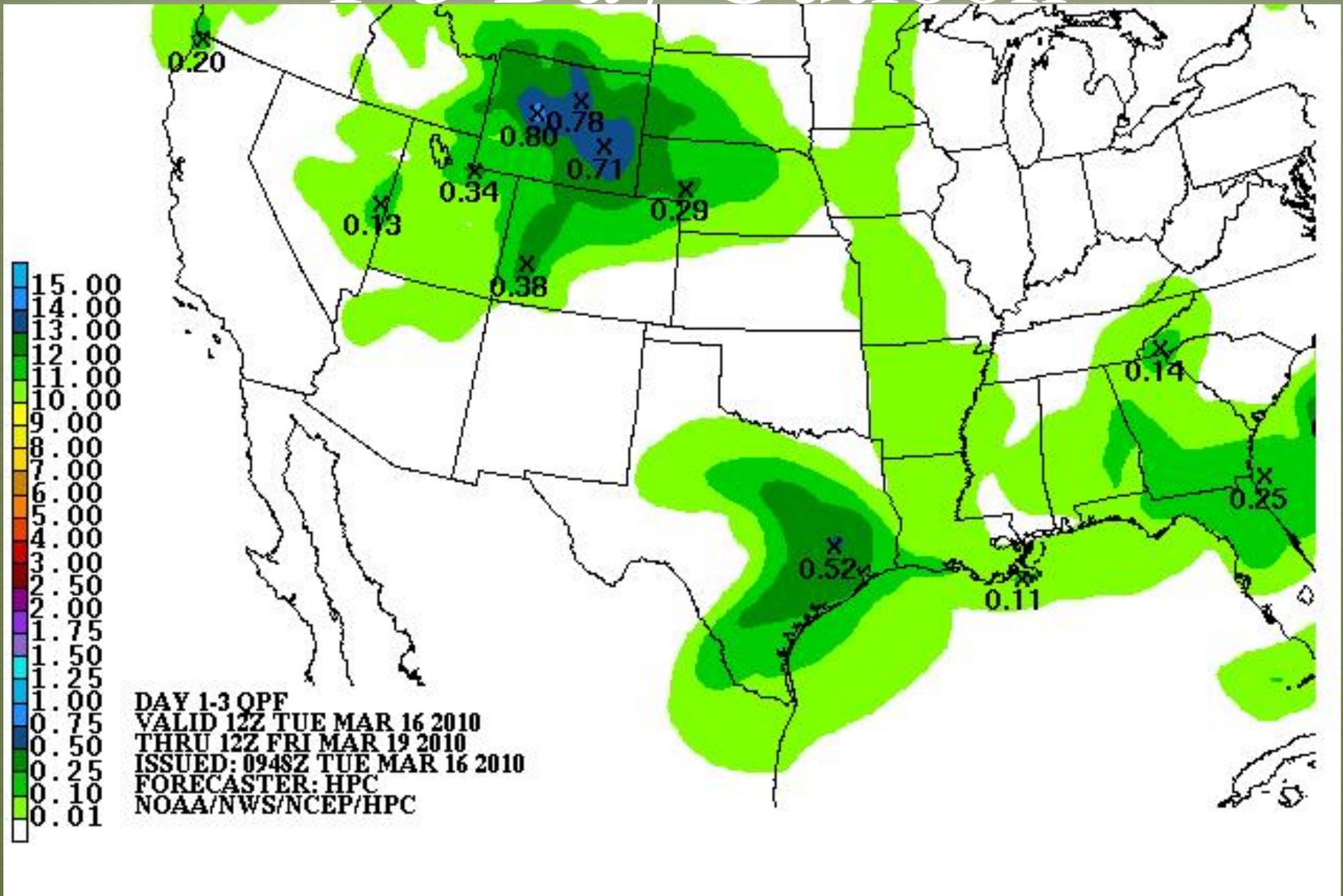
0 1 5 10 20 30 70 80 90 95 99 100

percentile

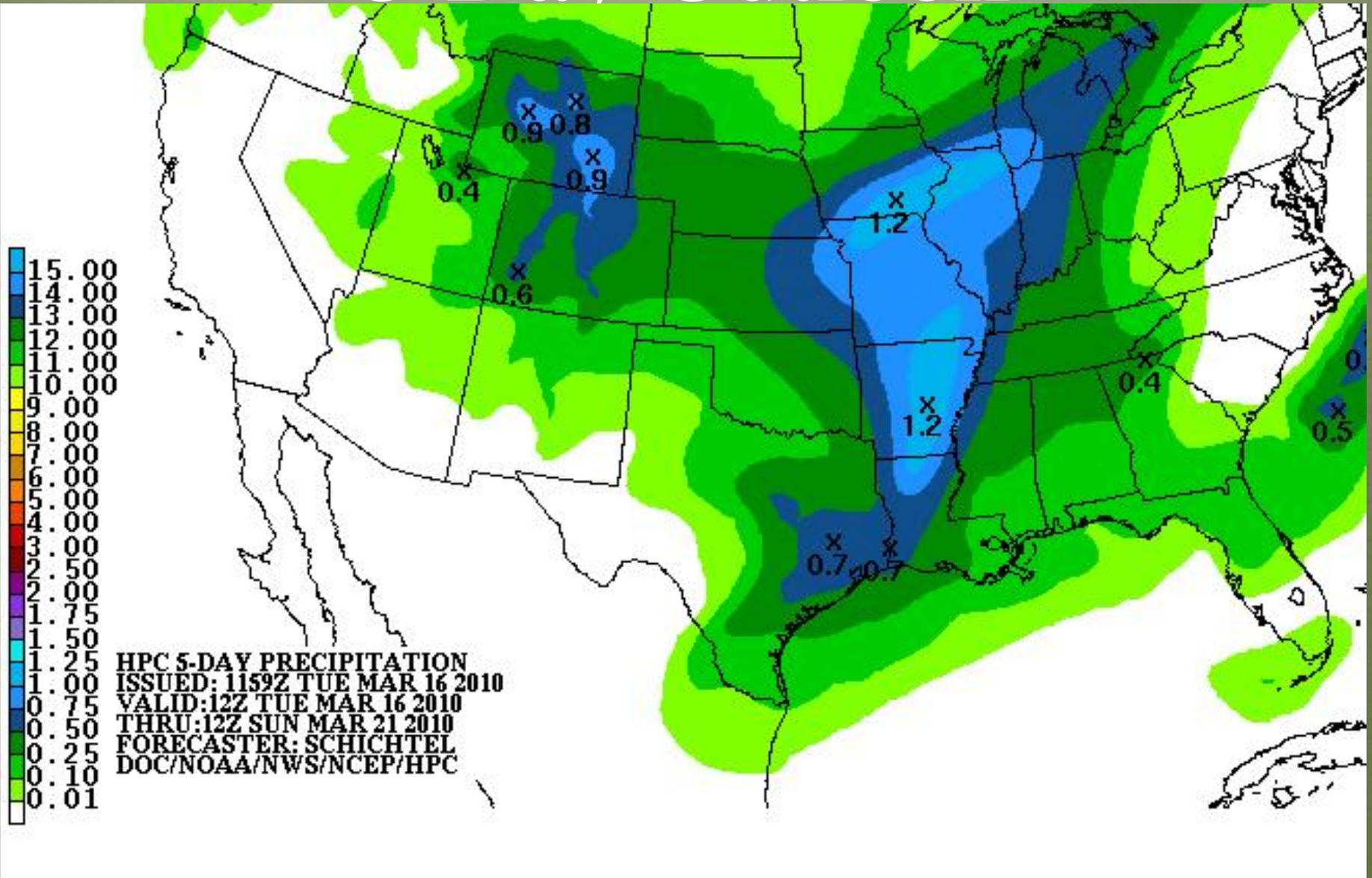
Precipitation Forecast



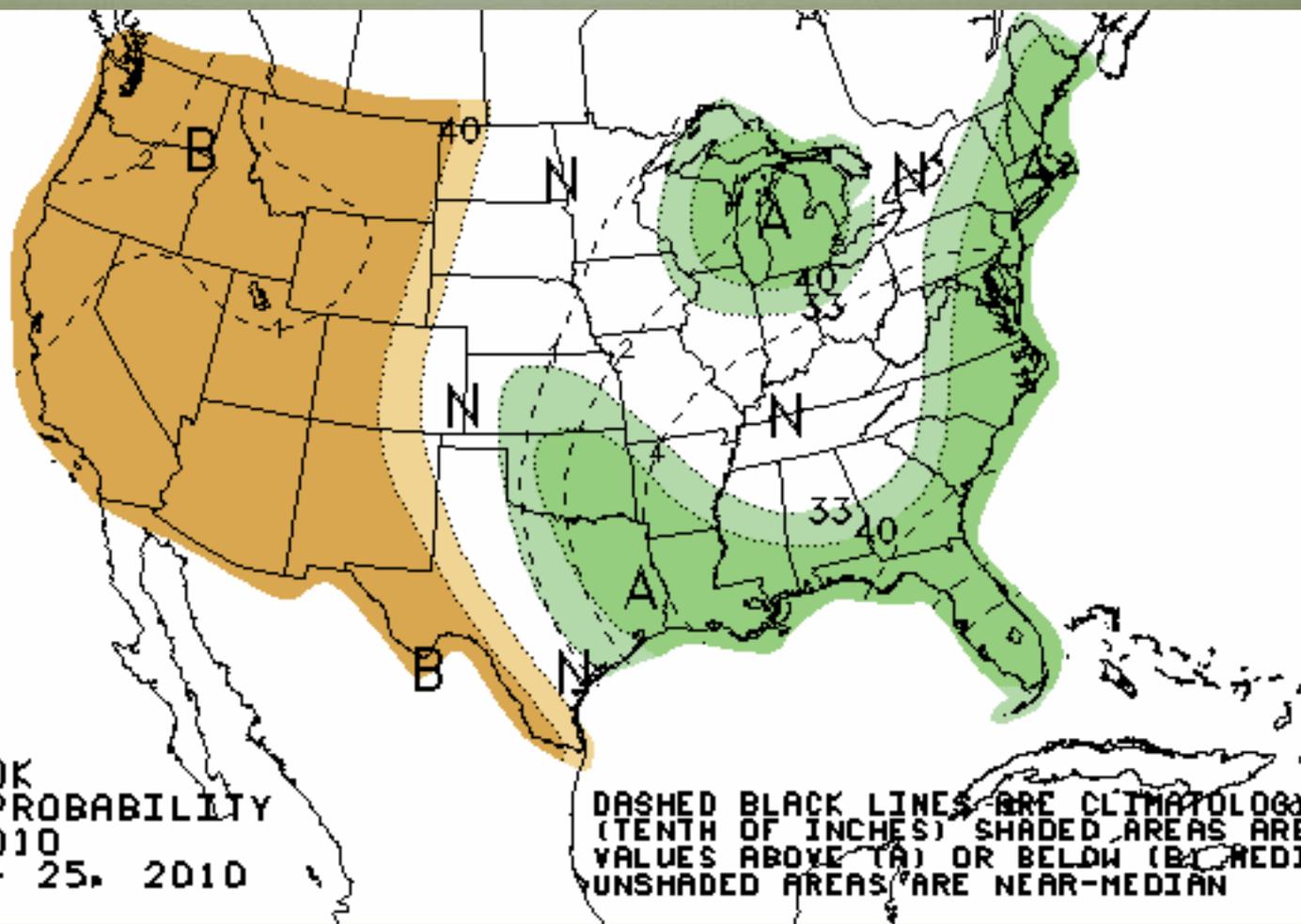
1-3 Day Outlook



5 Day Outlook



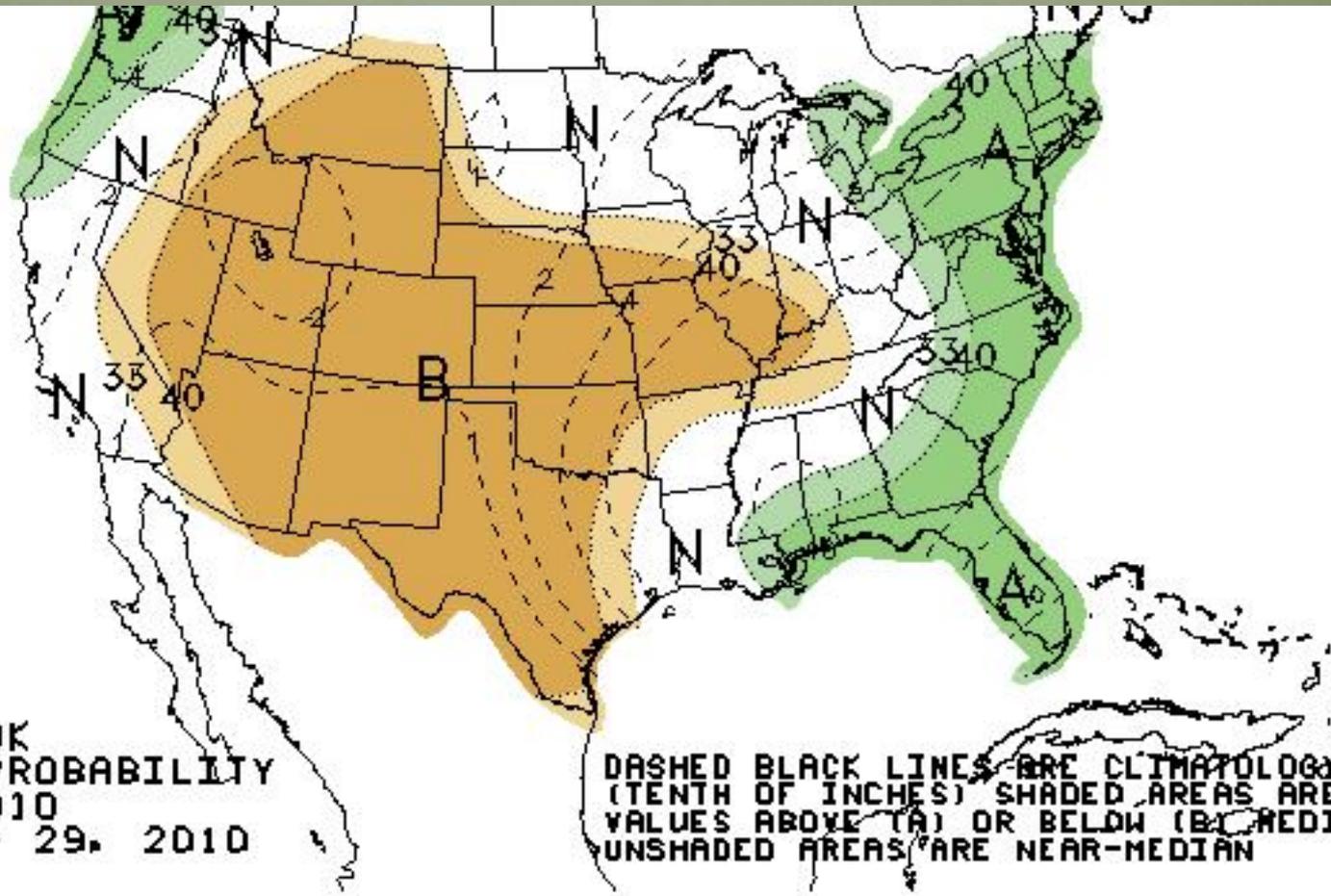
6-14 Day Outlook Colorado 21-25 March 2010



6-10 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 15 MAR 2010
VALID MAR 21 - 25, 2010

DASHED BLACK LINES ARE CLIMATOLOGY
(TENTH OF INCHES) SHADED AREAS ARE FC
VALUES ABOVE (A) OR BELOW (B) MEDIAN
UNSHADED AREAS ARE NEAR-MEDIAN

6-14 Day Outlook Colorado 23- 29 March 2010



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 15 MAR 2010
VALID MAR 23 - 29, 2010

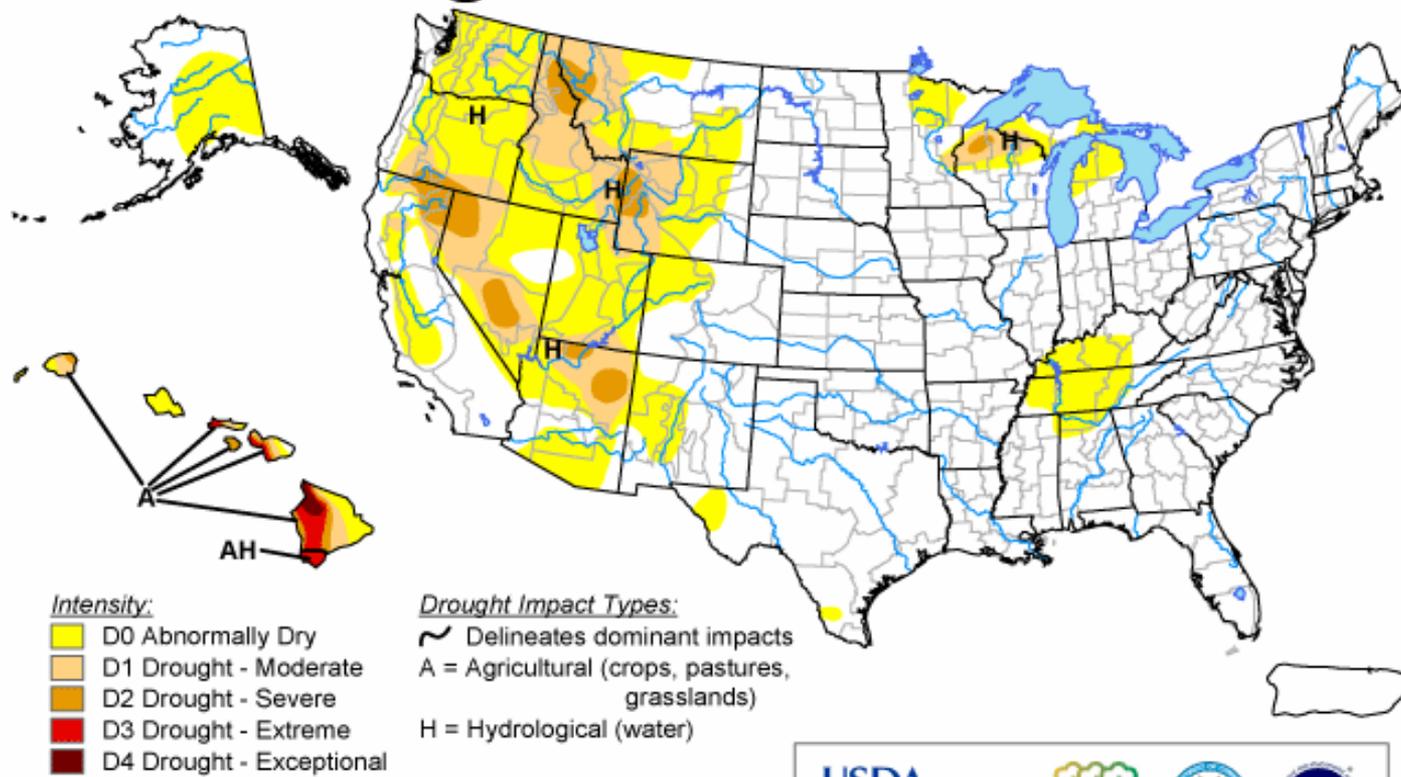
DASHED BLACK LINES ARE CLIMATOLOGY
(TENTH OF INCHES) SHADED AREAS ARE FCS
VALUES ABOVE (A) OR BELOW (B) MEDIAN
UNSHADED AREAS ARE NEAR-MEDIAN

Recommendations

U.S. Drought Monitor

March 9, 2010

Valid 7 a.m. EST



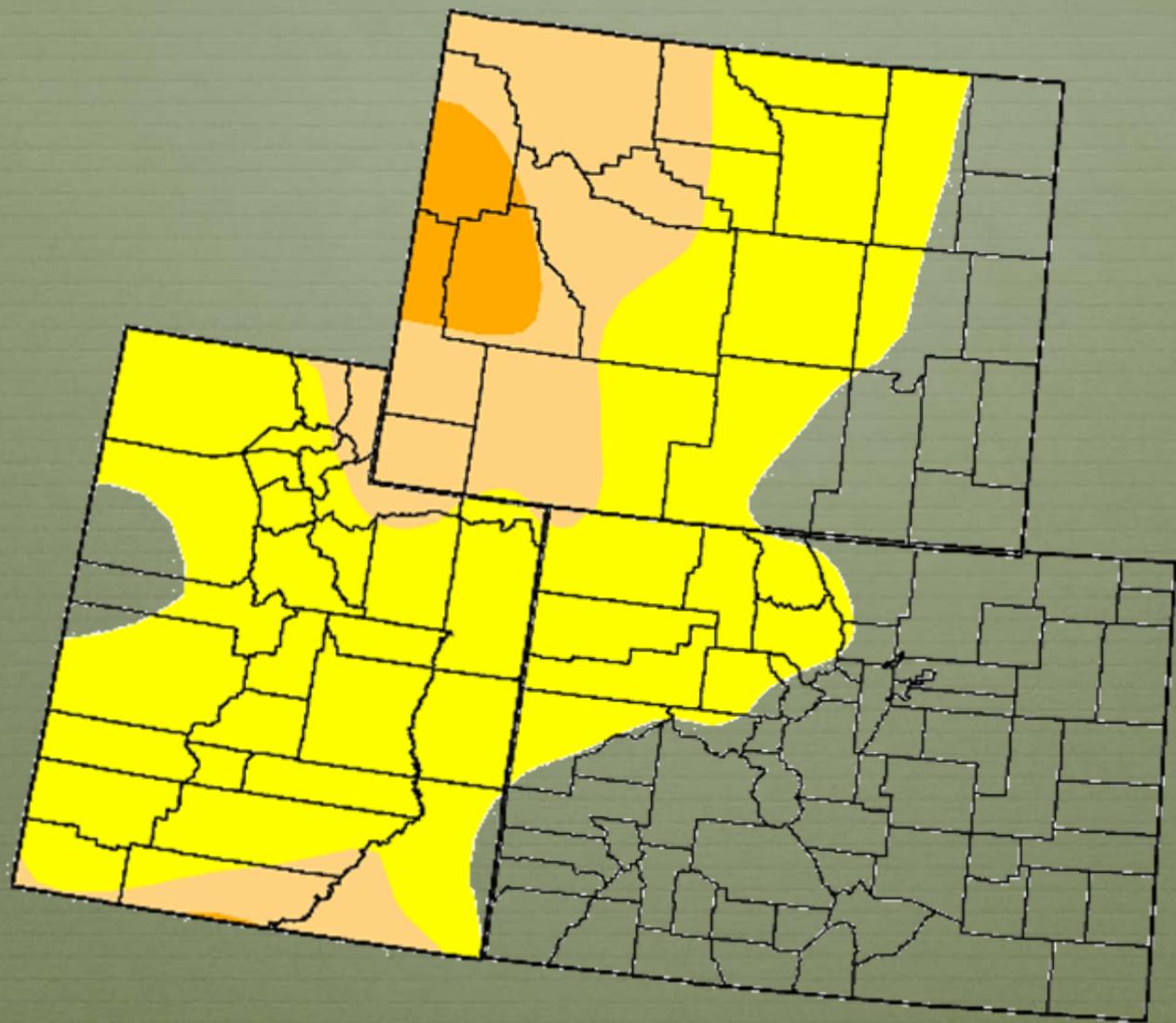
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>

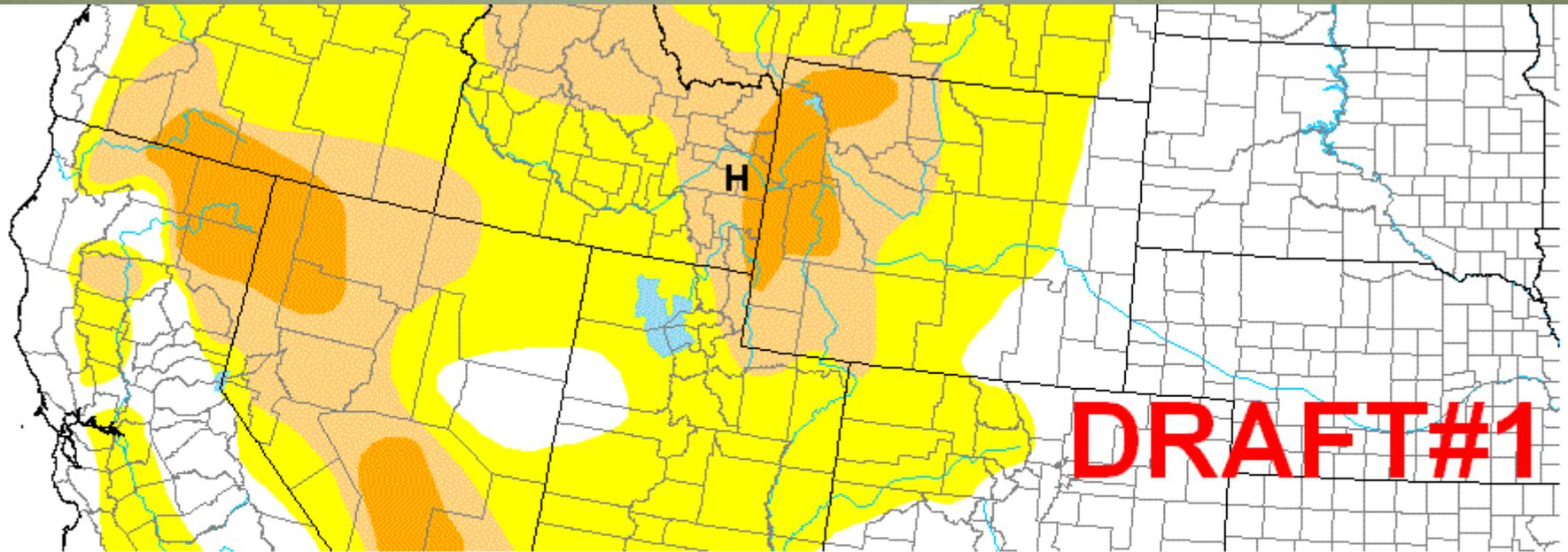


Released Thursday, March 11, 2010

Author: Rich Tinker, NOAA/NWS/NCEP/CPC



Current DM Draft



Intensity:

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

Drought Impact Types:

-  Delineates dominant impacts
- A = Agricultural (crops, pastures, grasslands)
- H = Hydrological (water)
- (No type = Both impacts)



**O
F
N
I**



CONTACT:

COLORADO CLIMATE CENTER

COLORADO STATE UNIVERSITY

FORT COLLINS, CO 80523

970 - 491 - 8545

NIDIS - UPPER COLORADO BASIN PILOT PROJECT

For more information

Summary

- ❖ The largest amounts of precipitation for the last week were concentrated over southern and far eastern Colorado. Dry conditions persisted over the Colorado and Yampa-White basins. Snowpack continues to lag far below average in the Green River Basin in Wyoming. Snowpack near the headwaters of the Colorado mainstem is also well below average but has stayed fairly consistent (as a percent of average) over the past week with slight improvements in the percent of average water-year precipitation. Reservoir levels remain steady, with good amounts of storage. With below average temperatures across the state and good soil moisture on the plains, there is still not yet any early season demand for irrigation water (usually doesn't start until April) so reservoir levels should stay in good condition.

Forecasts suggest a significant storm moving down from the NW across Wyoming and into Colorado on Friday. This system could bring modest precipitation amounts primarily from central Colorado northward. This is a different storm track than previous storms but may favor eastern slopes. After this, there is some discrepancy between the CPC long term forecasts (which show drier than normal conditions out to 14 days) and the other forecast models (which show the possibility of more storms moving through the area next week).

Summary (cont.)

- ❖ Discussion among webinar participants suggested that we maintain status quo on the U.S. drought monitor map this week for Colorado. Expansion of D1 and D2 have already been suggested for western Wyoming, which includes much of western Colorado. However, it was discussed that for the Colorado mainstem headwaters that current snowpack is only slightly better than at this time in 2002 and D1 could possibly be introduced in a Grand County. There was agreement that perhaps more of Summit County should be in the D0 category (after most of the county was taken out of D0 last week), but that we should not introduce D1 quite yet. Mike Gillespie with the NRCS Snow Survey program provided March 1 updated Surface Water Supply Index values and the Yampa-White was at -3.2 also suggesting D1 may be justified for parts of the Yampa and perhaps White River Basin. This is a very important time for the Upper Colorado--March into May is normally a wet time of year in this area with relatively frequent and sometimes large storms. There are only a few more weeks for the basin to build up more snow before the snow melt begins. If substantial moisture does not fall in the area in the next few weeks, degradation will need to be introduced on the drought monitor map.

Nolan Doesken, Becky Smith, Wendy Ryan and the rest of the Colorado Climate Center staff and students