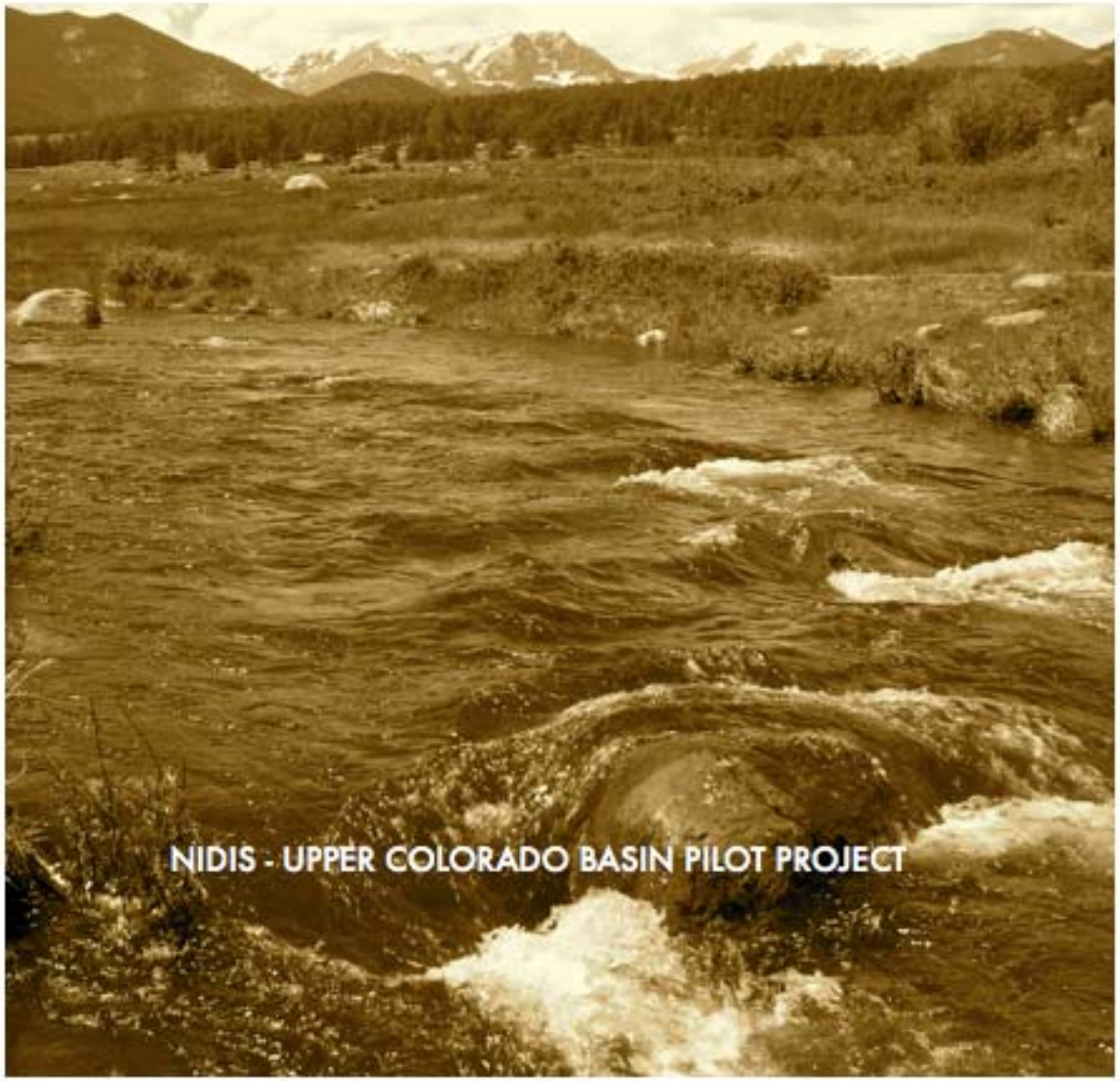
Spring 2010



Weekly Climate, Water & Drought Assessment

Today's Agenda

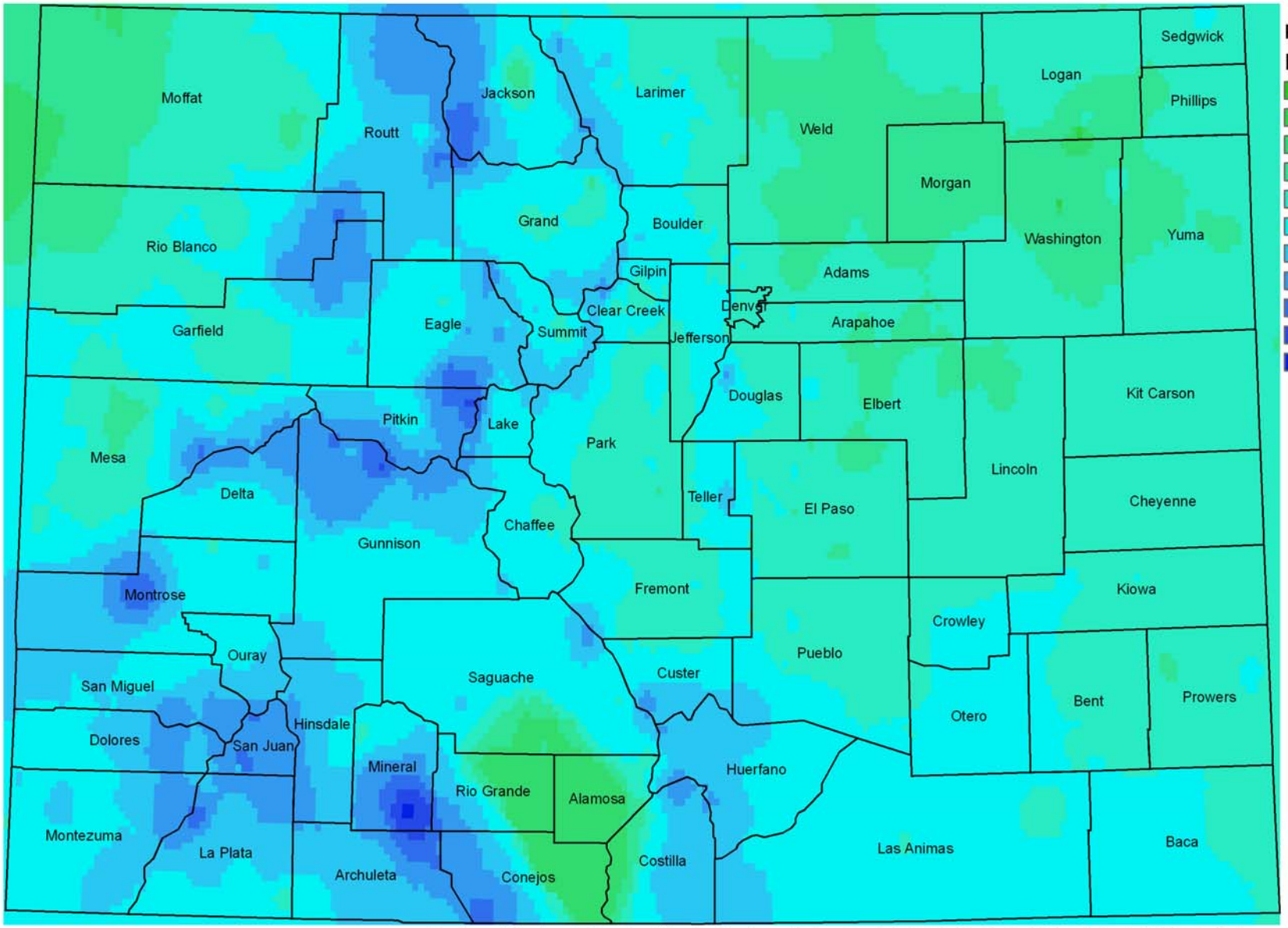
-Assessment of current water conditions

- Precipitation Forecast

- Recommendations for Drought Monitor

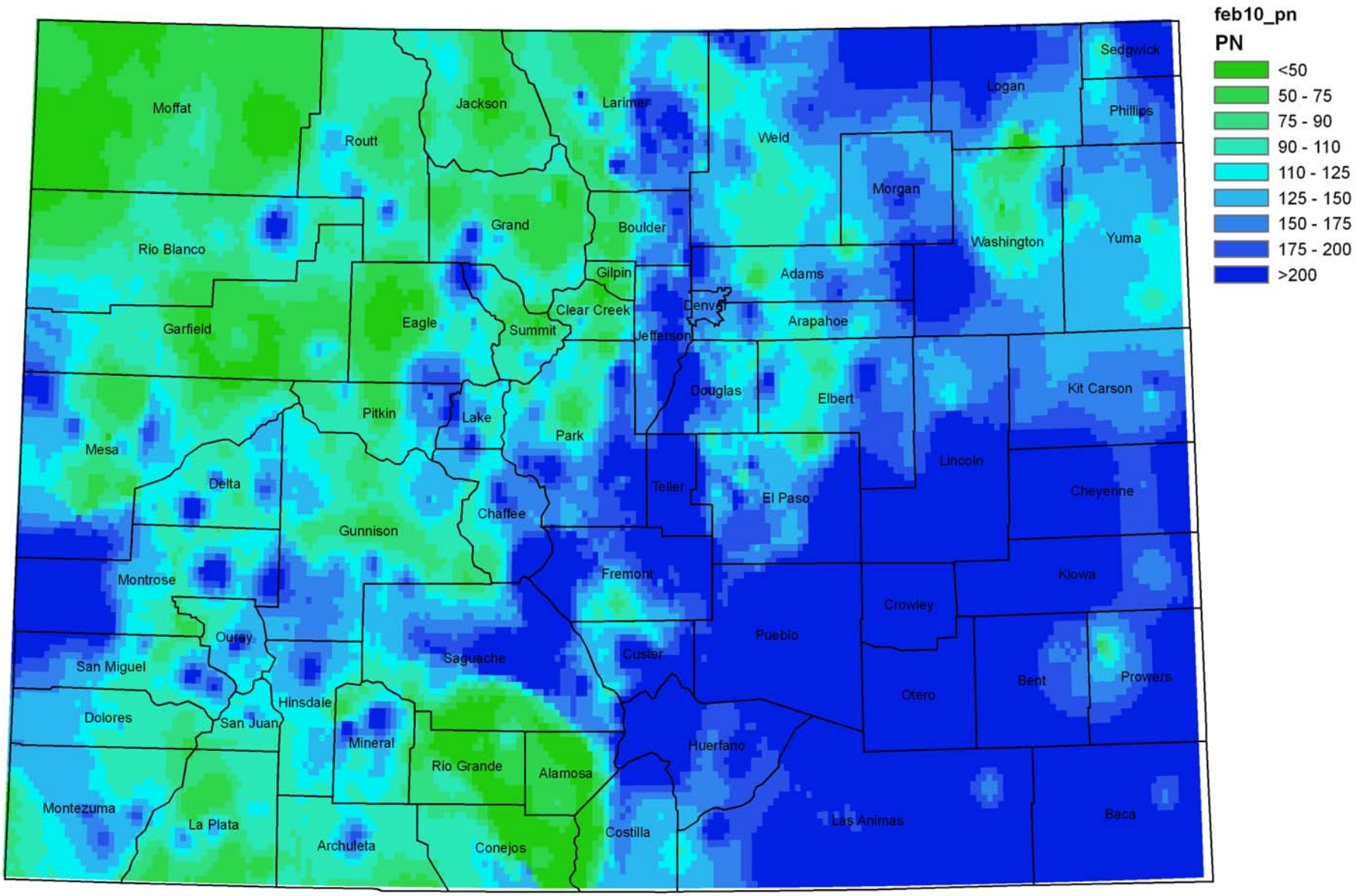
Precipitation/Snowpack Update

Colorado Precipitation (in) February 2010



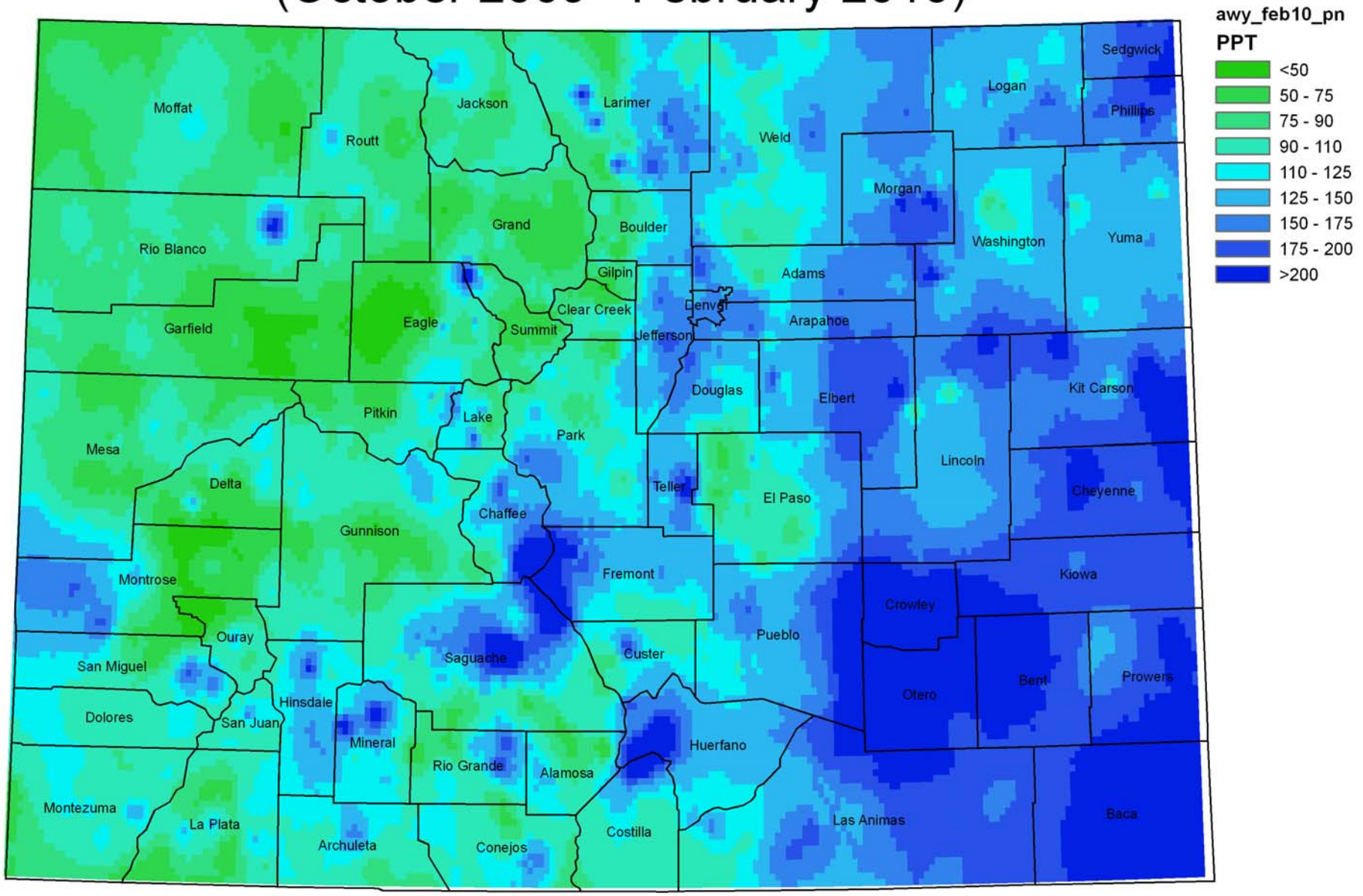
Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

February 2010 Precipitation as Percent of Normal



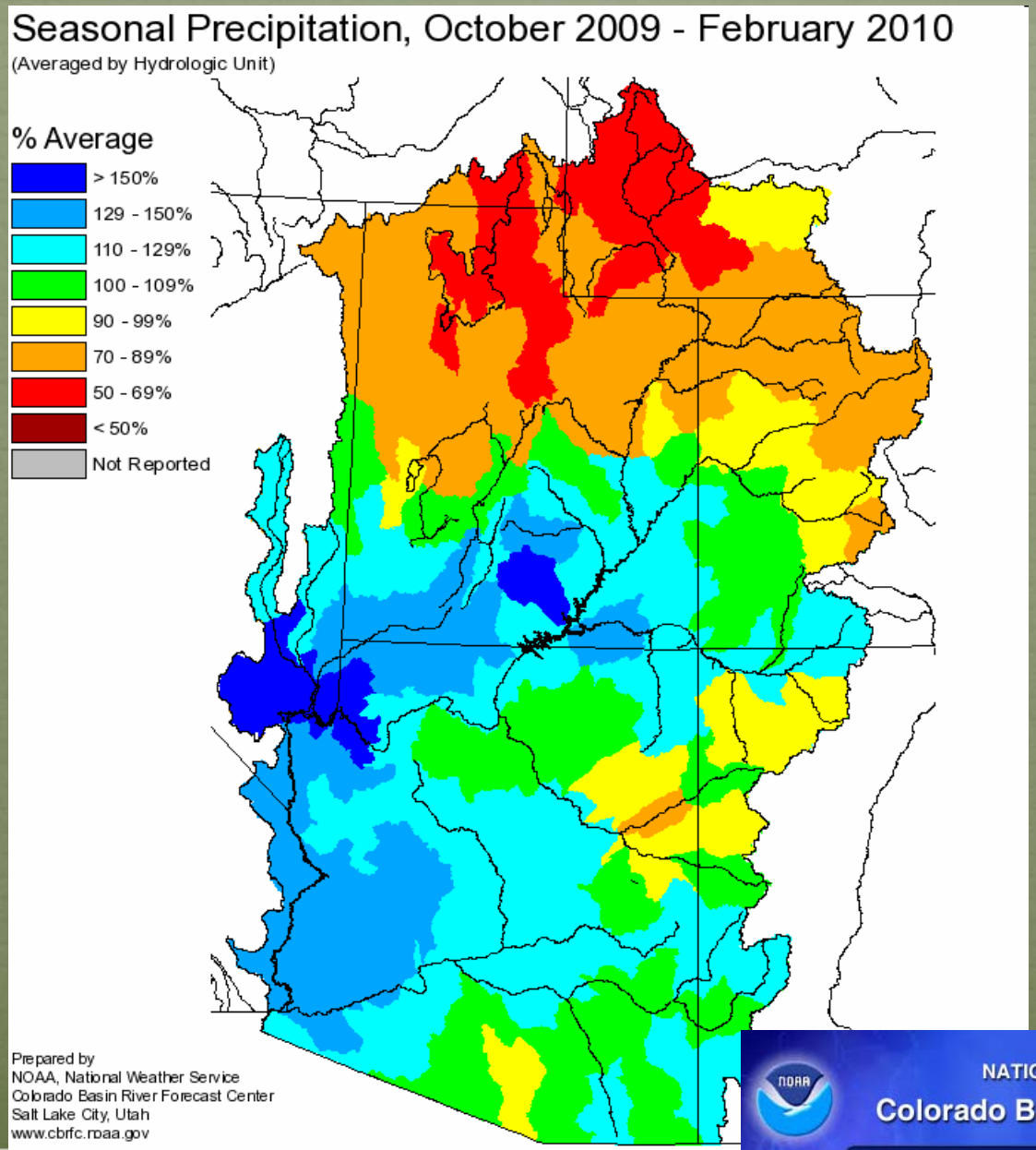
Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

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

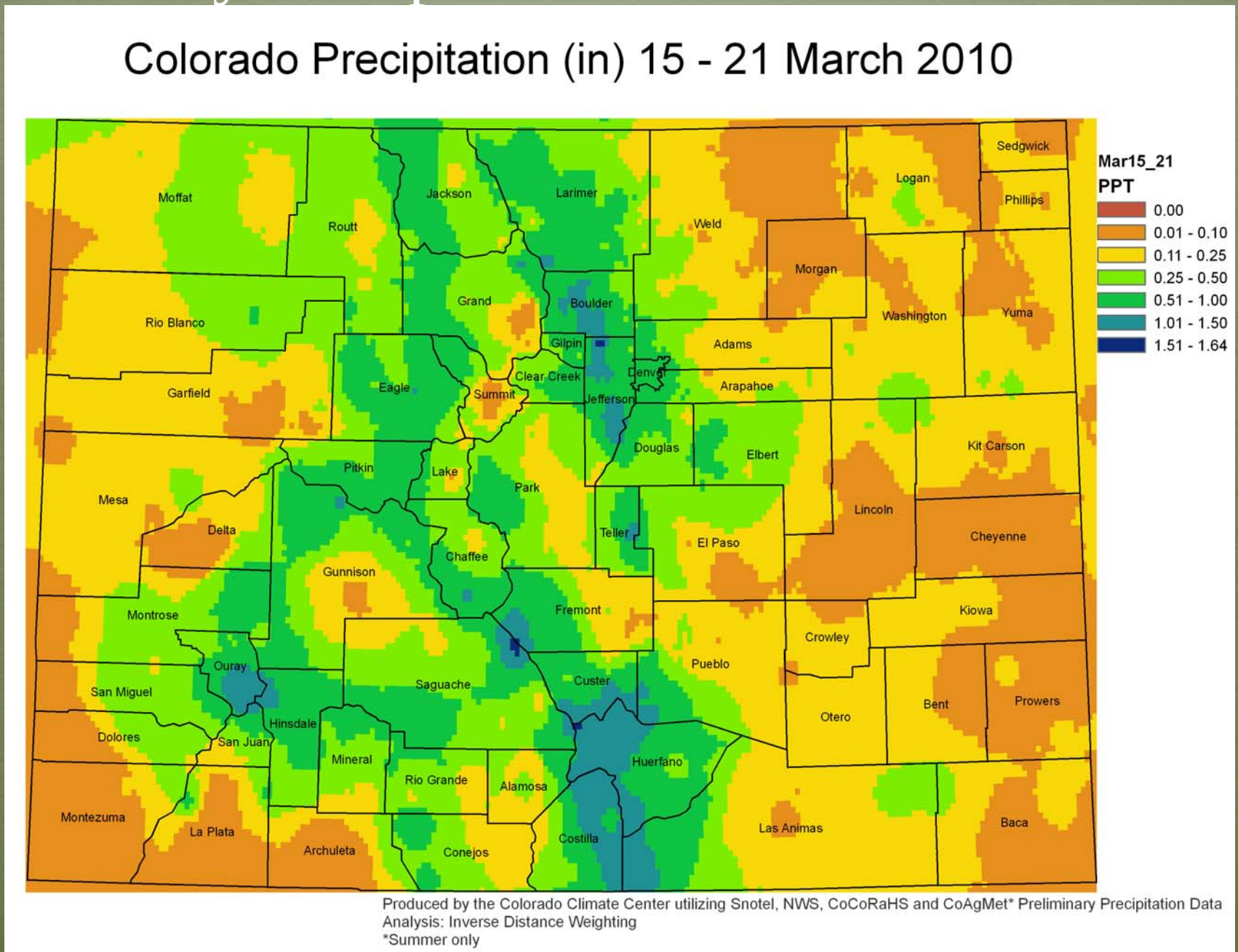


Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

WY 2010 Precipitation

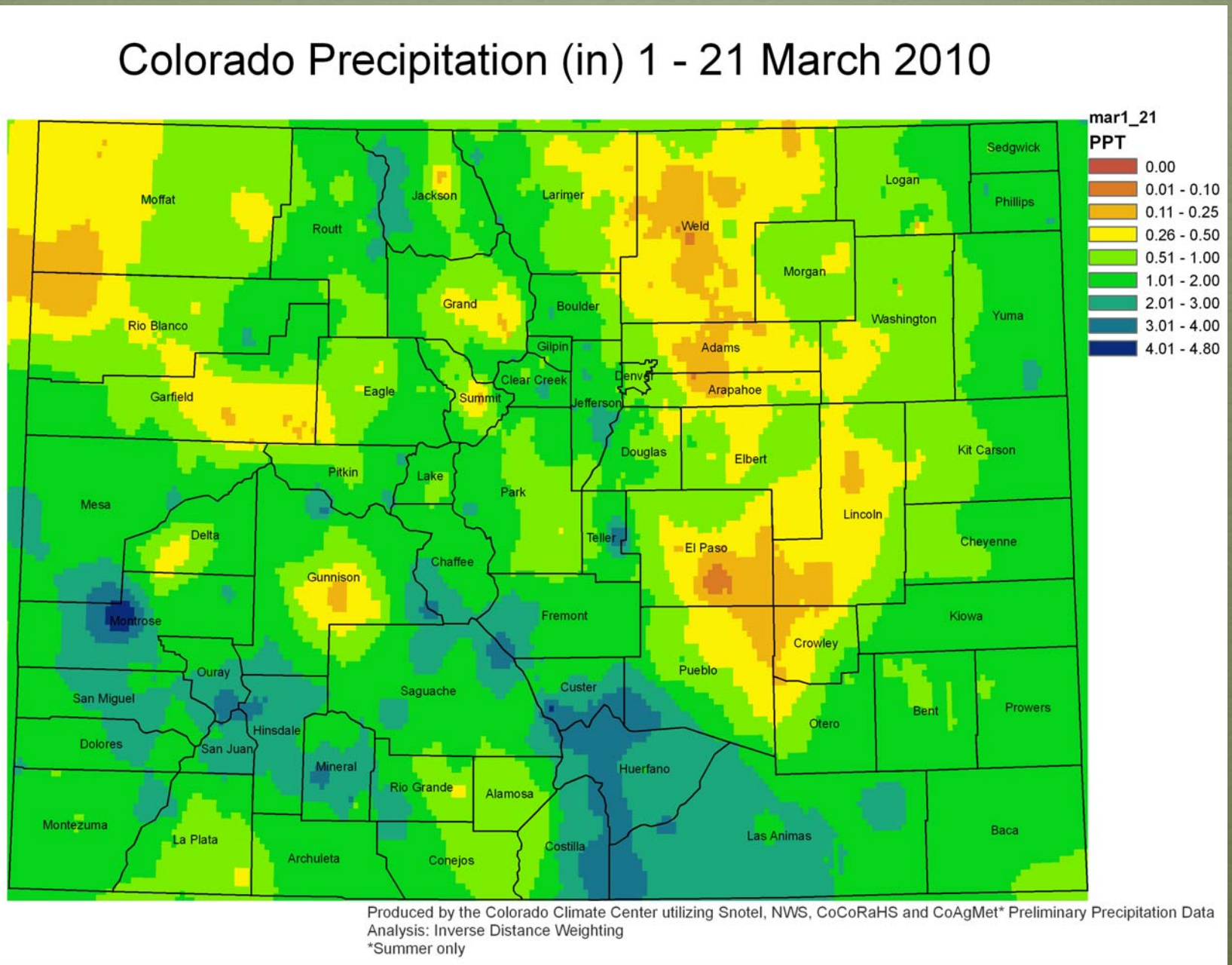


7 Day Precipitation 15-21 March 2010



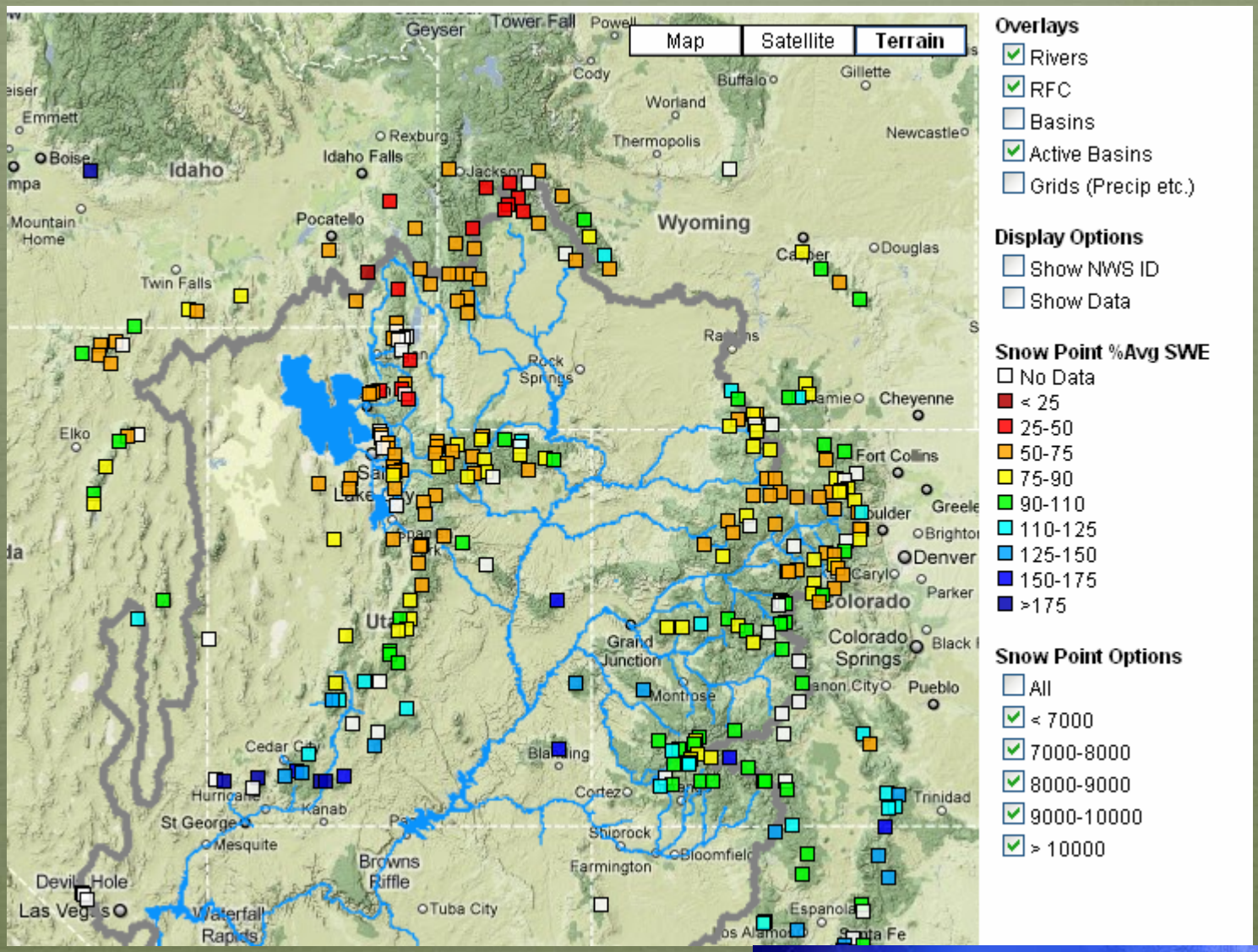
Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

Month-to-Date Precipitation 1-21 March 2010



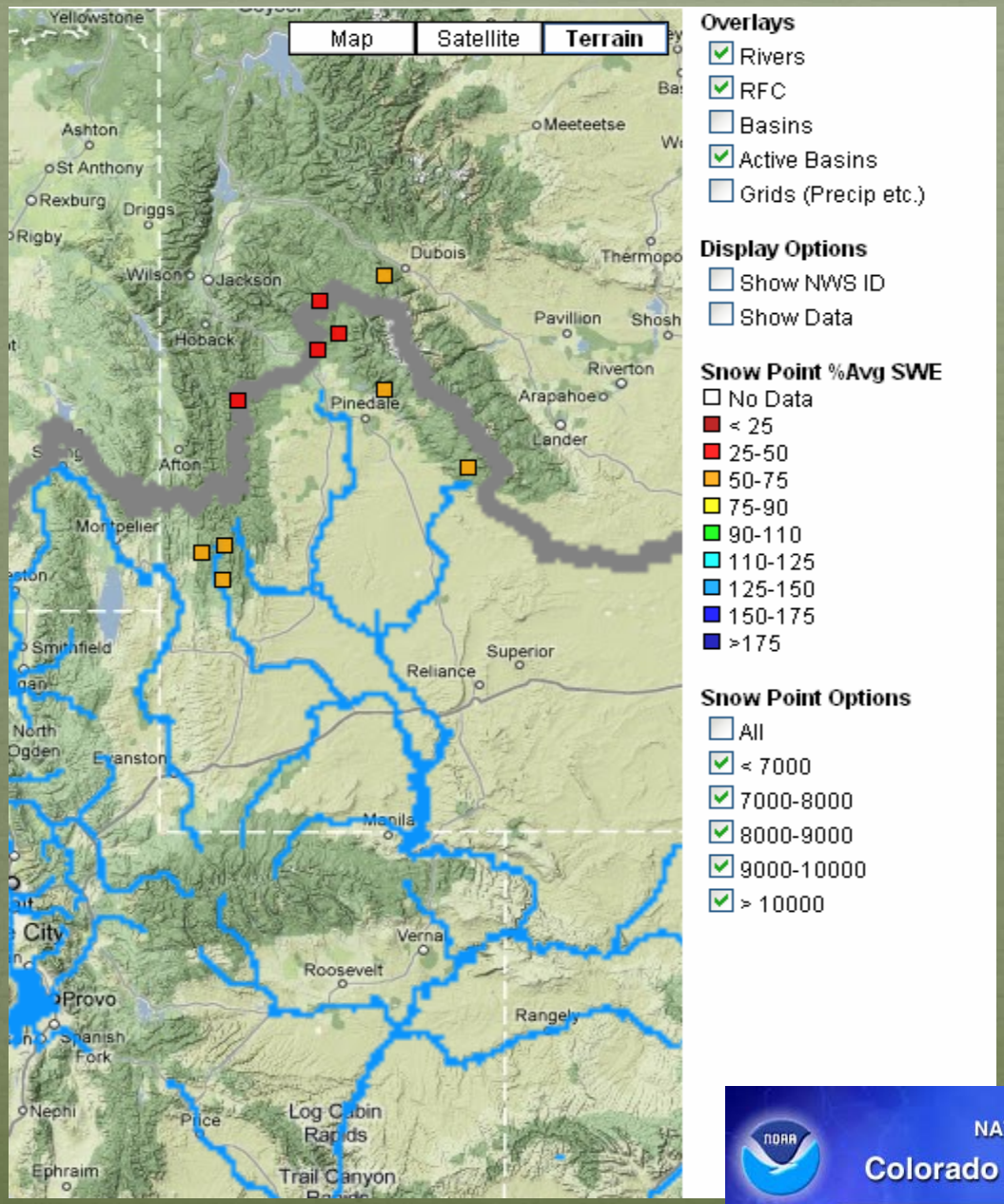
Produced by the Colorado Climate Center utilizing Snotel, NWS, CoCoRaHS and CoAgMet* Preliminary Precipitation Data
Analysis: Inverse Distance Weighting
*Summer only

Upper Colorado River Basin

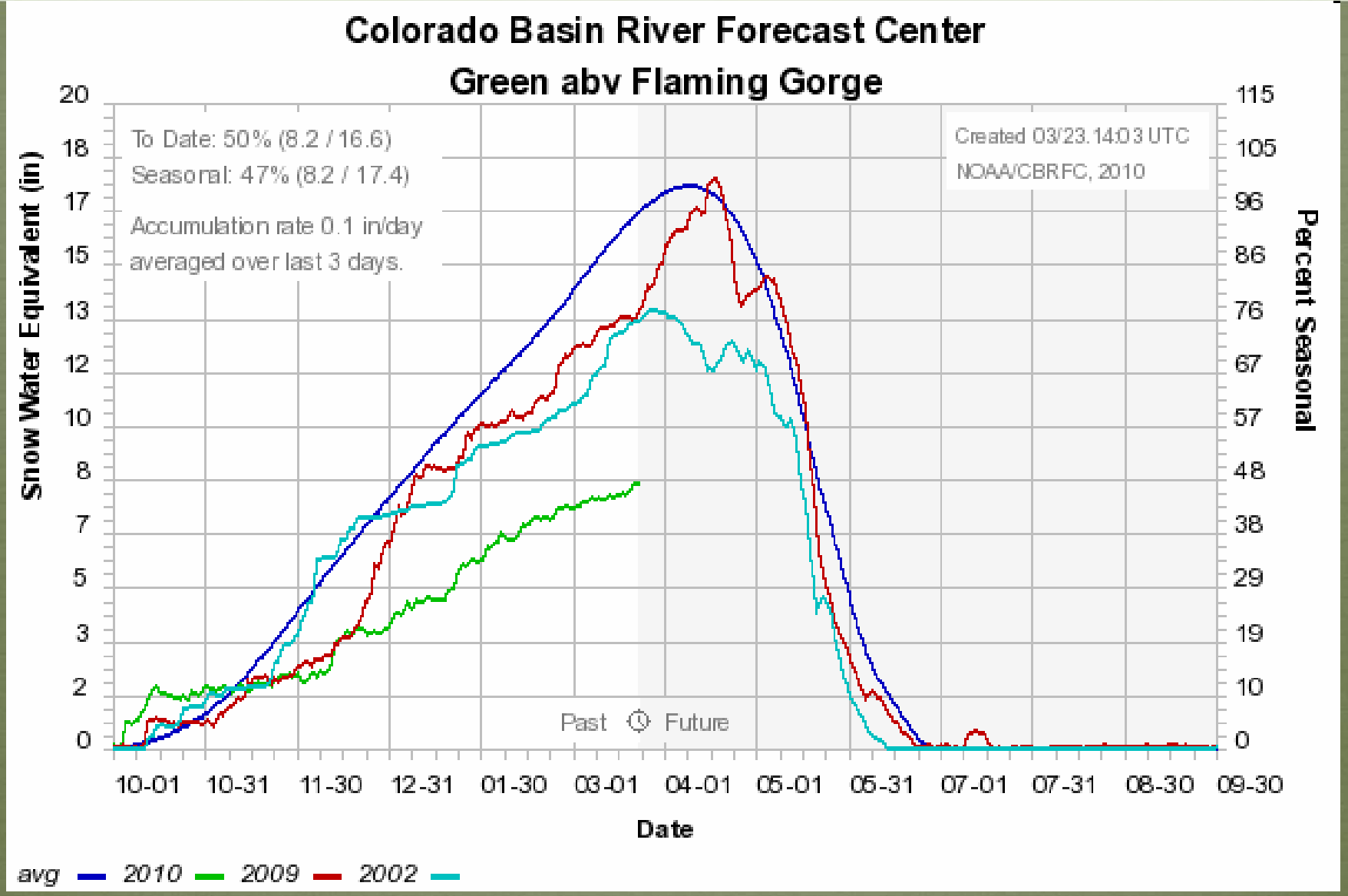


NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

Green River Basin above Flaming Gorge



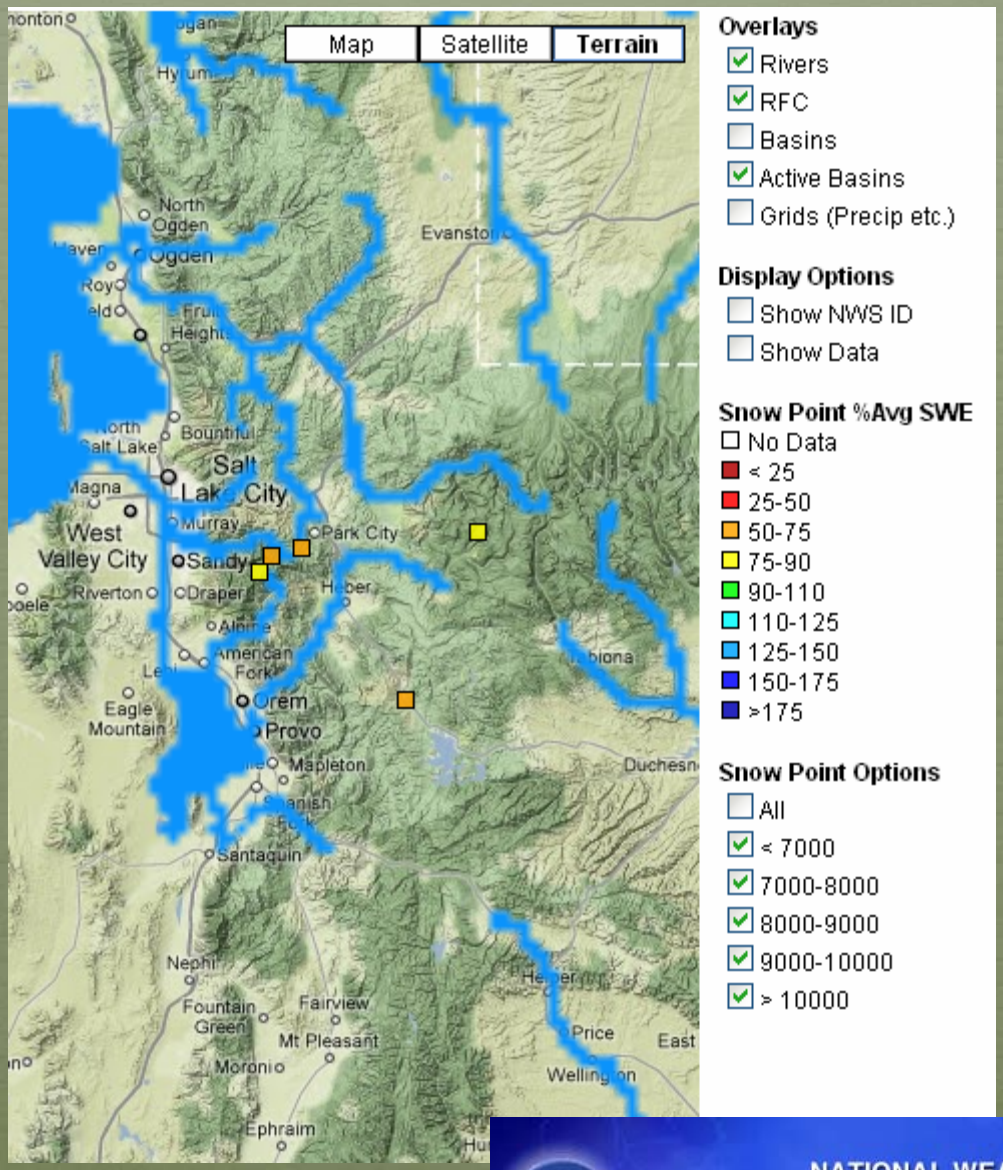
NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center



Basin Snowpack: 50%

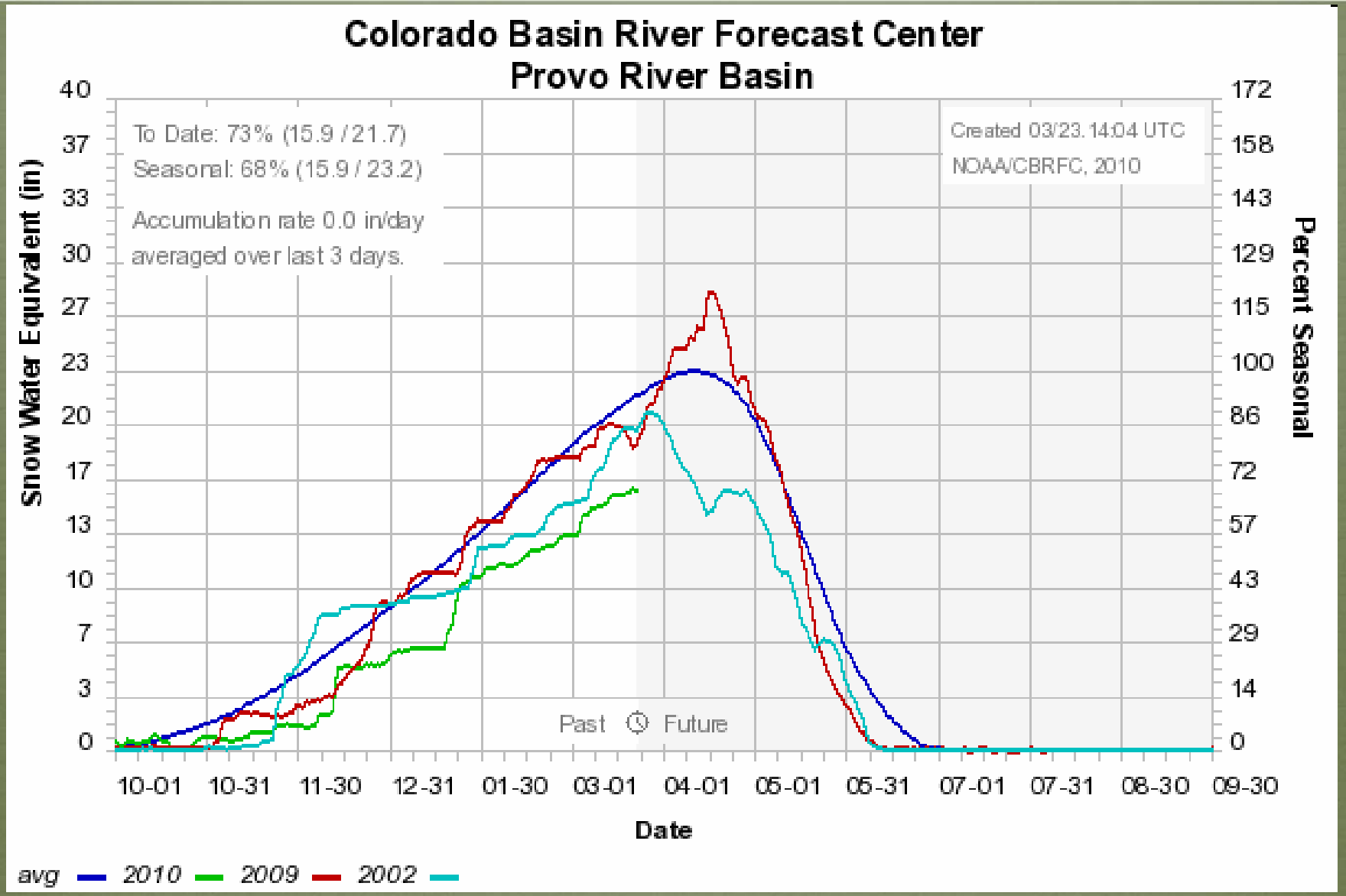
NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

Provo River Basin



NATIONAL WEATHER SERVICE

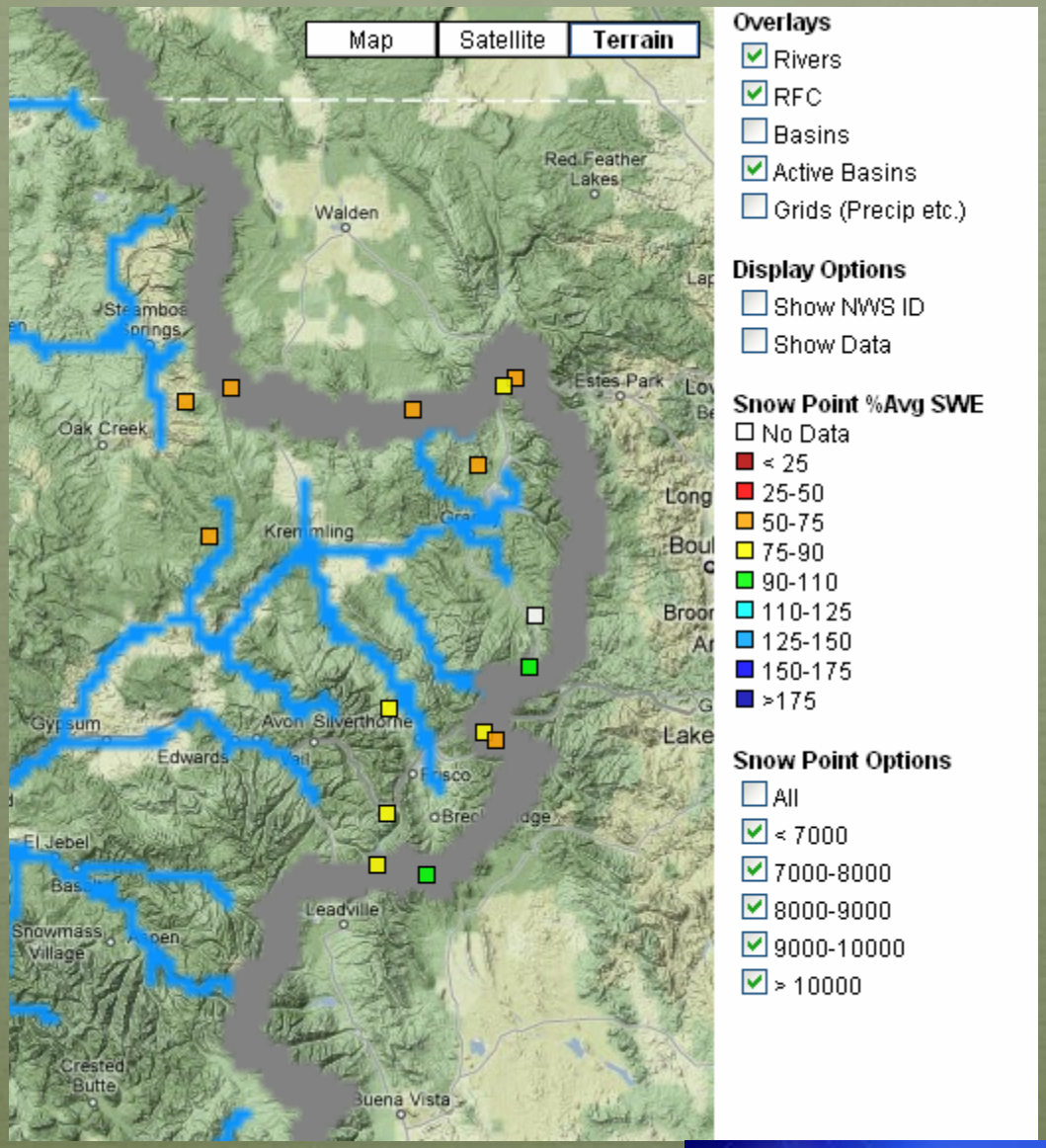
Colorado Basin River Forecast Center



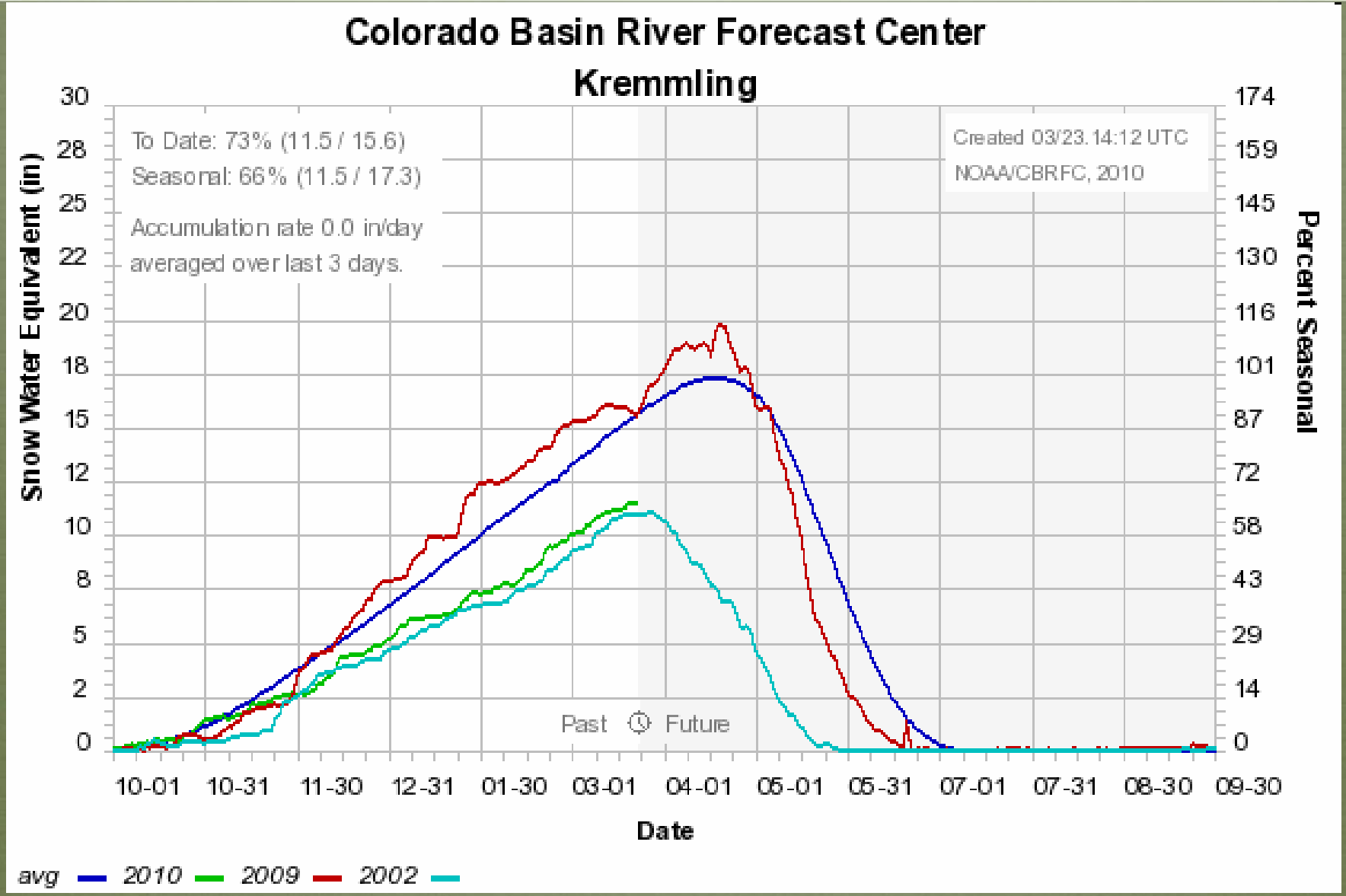
Basin snowpack: 73%

NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

Upper Colorado above Kremmling



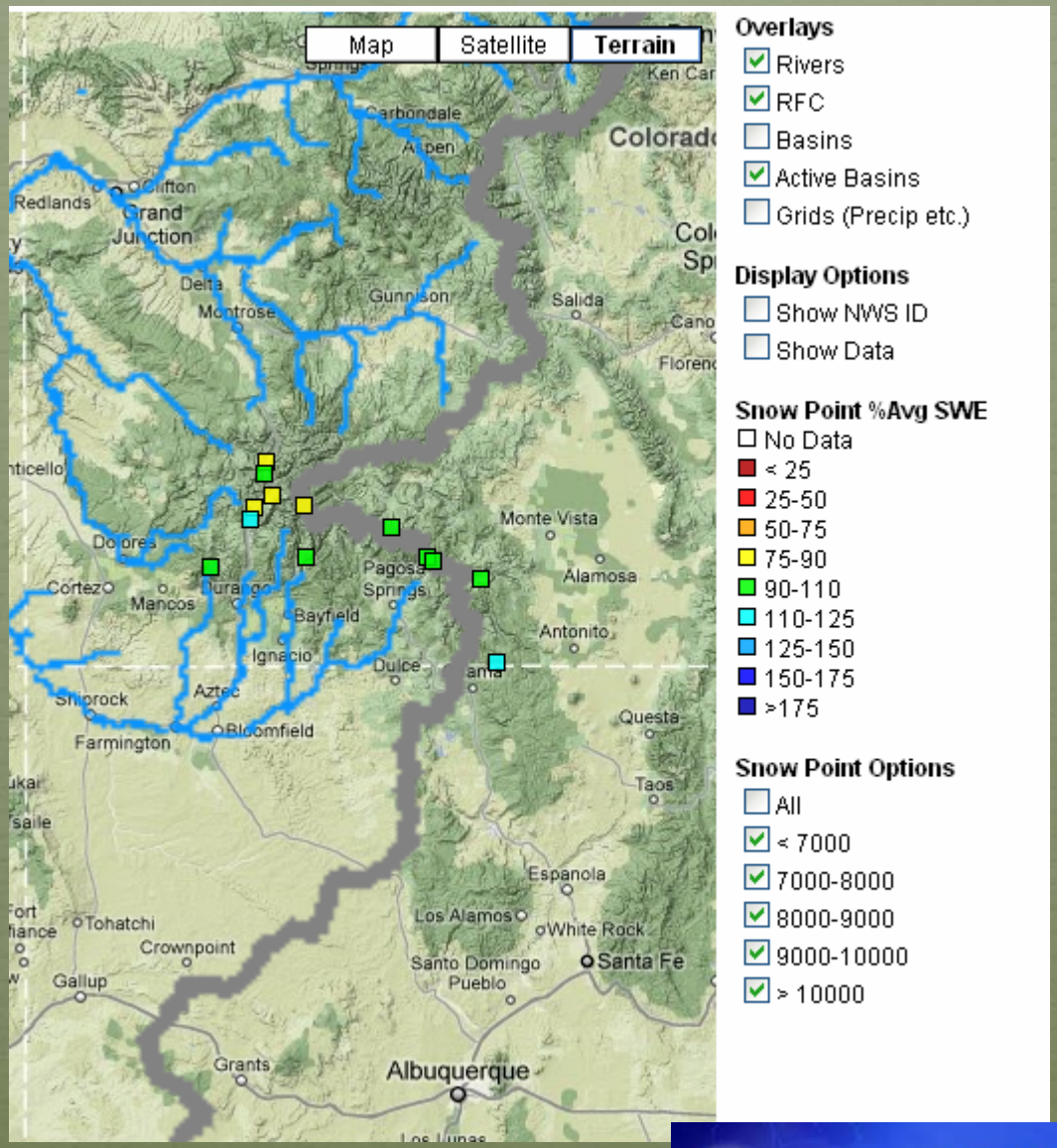
NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center



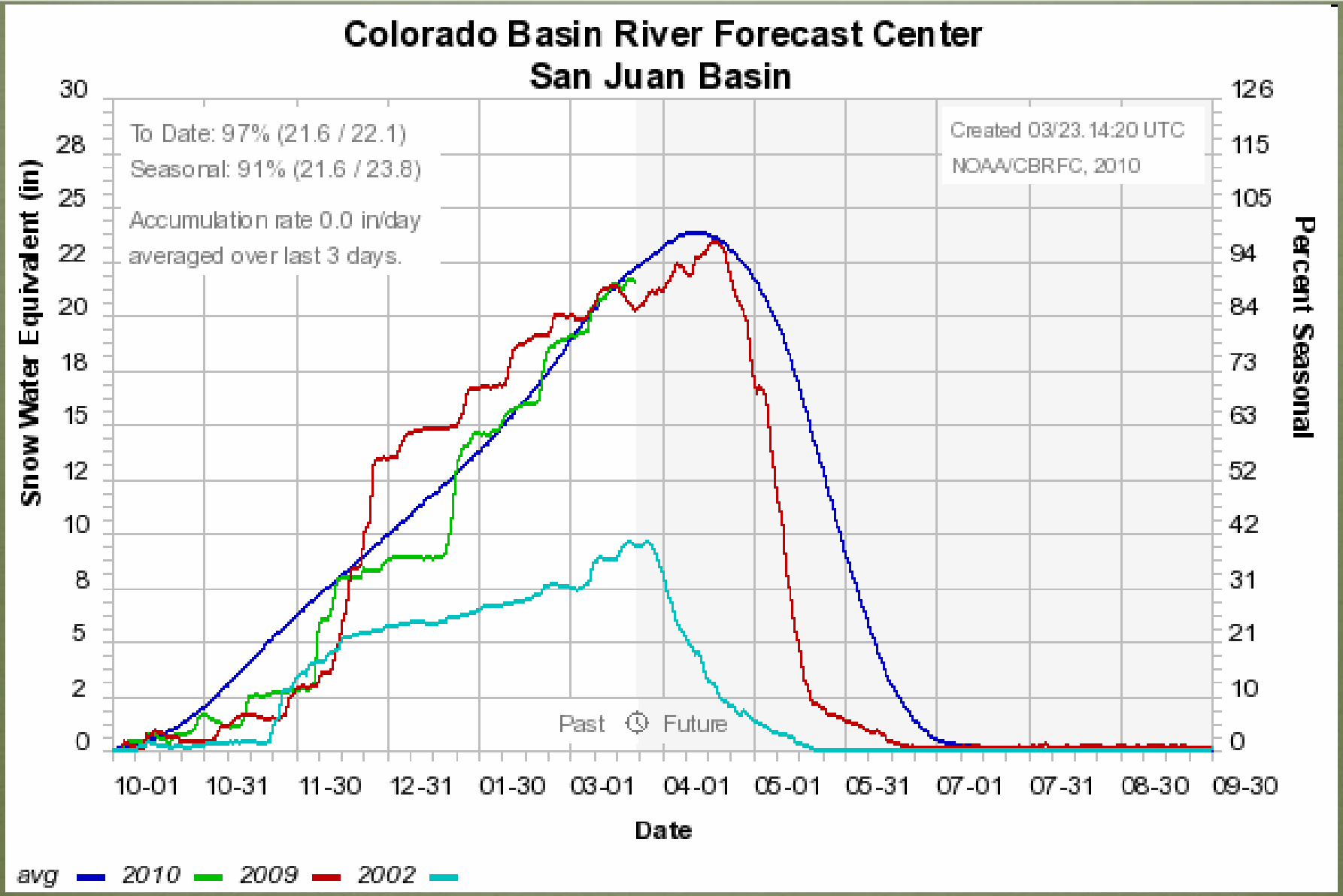
Basin Snowpack: 73%

NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

San Juan Basin



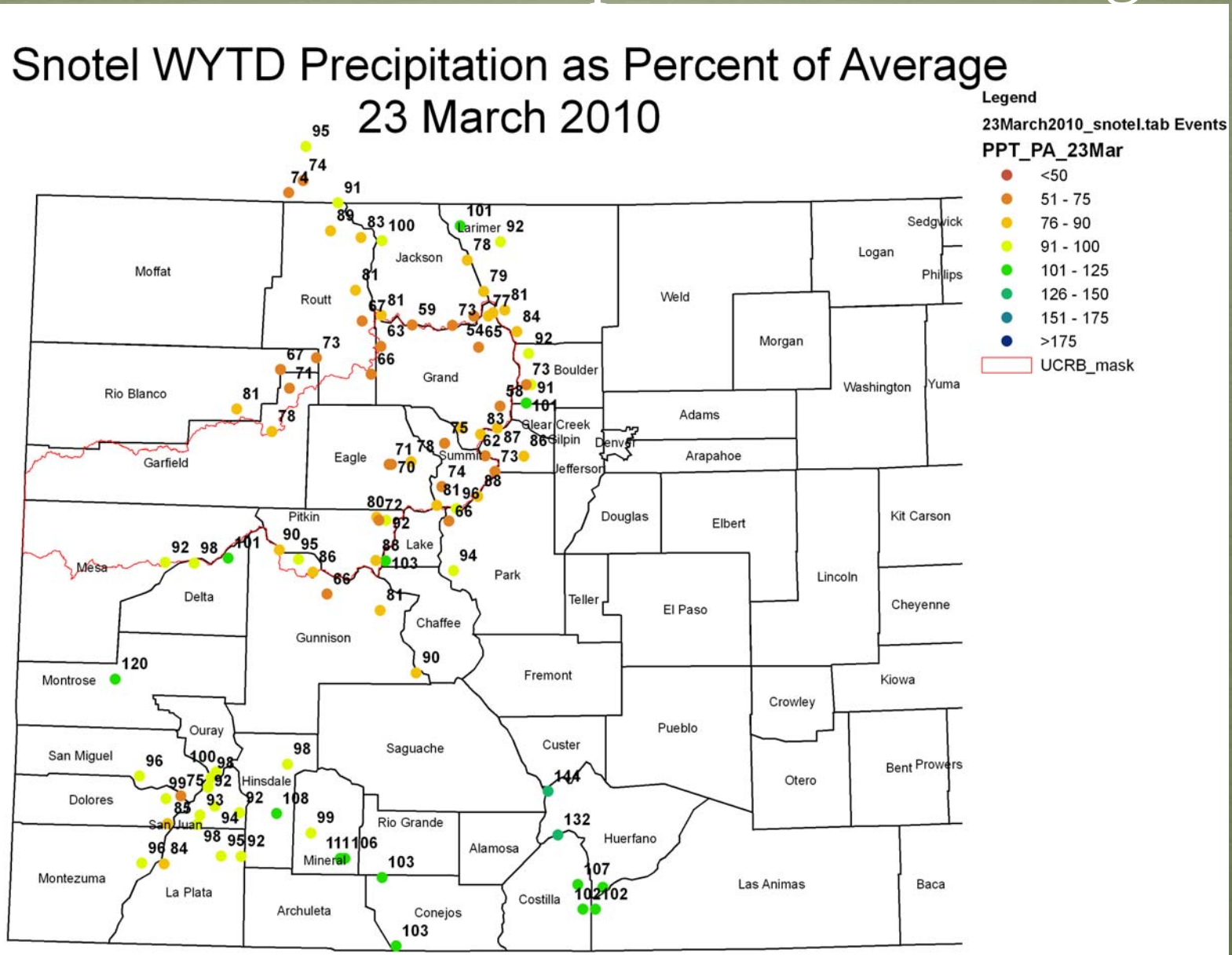
NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center



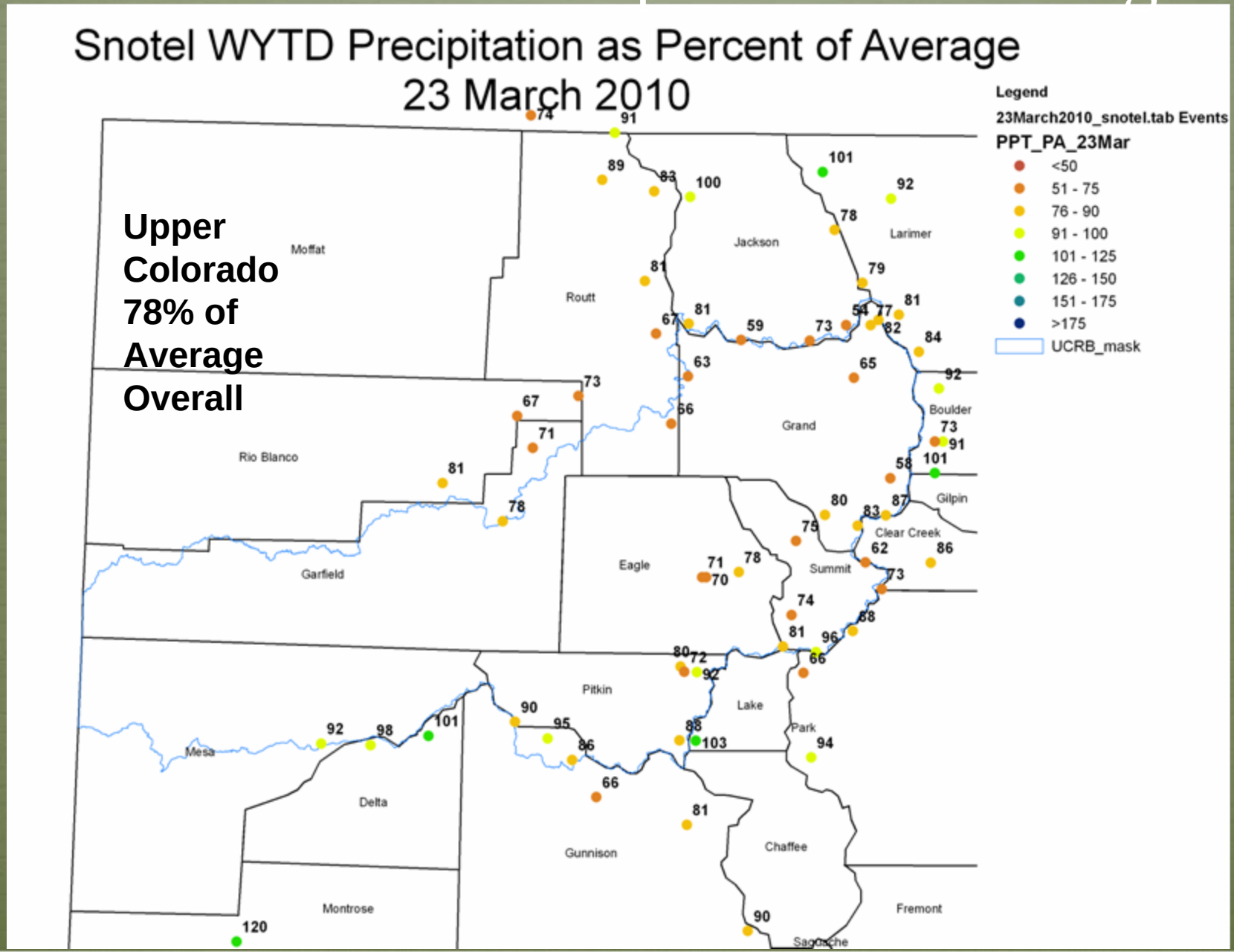
Basin Snowpack: 97%

NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

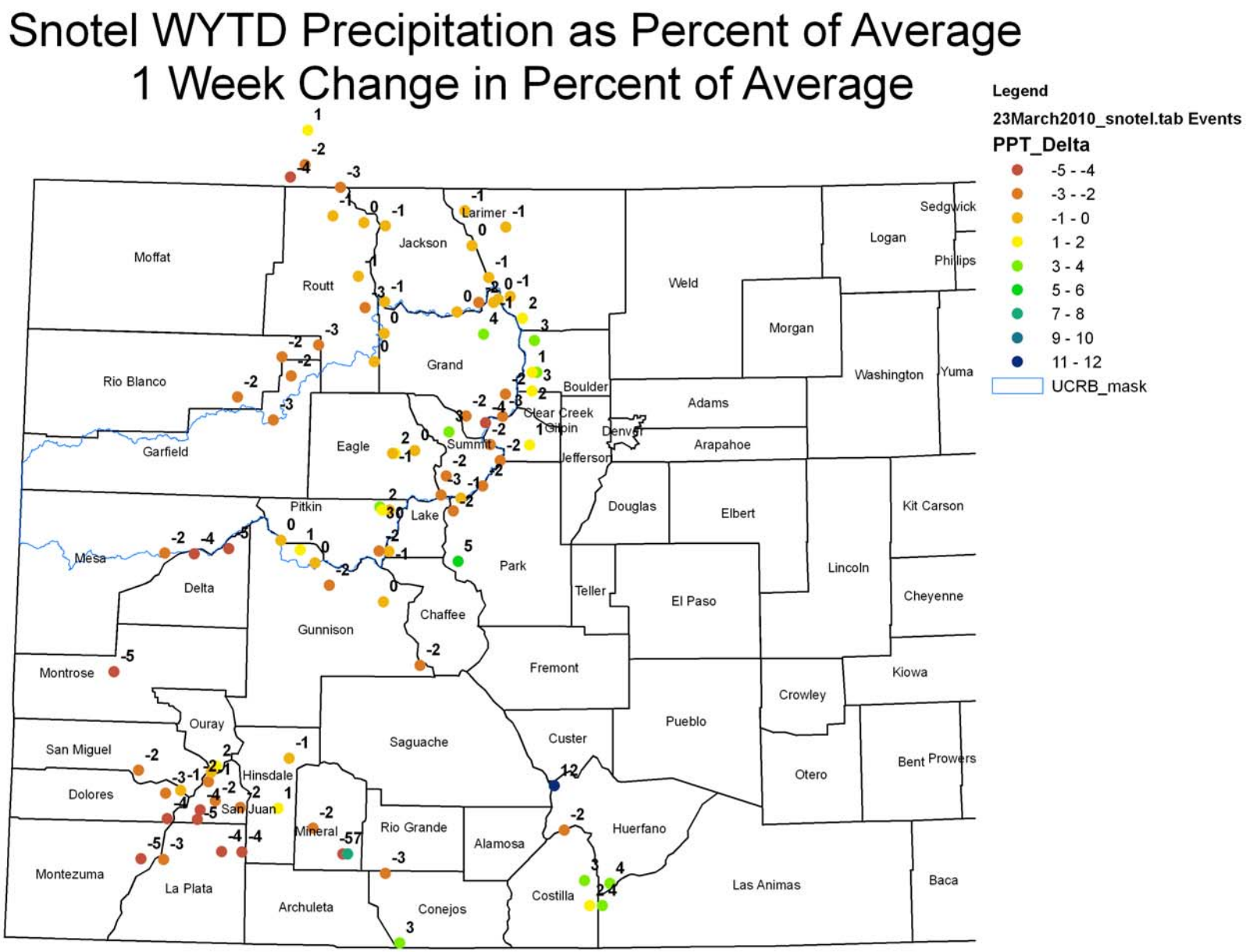
Snotel WYTD Precipitation % Average



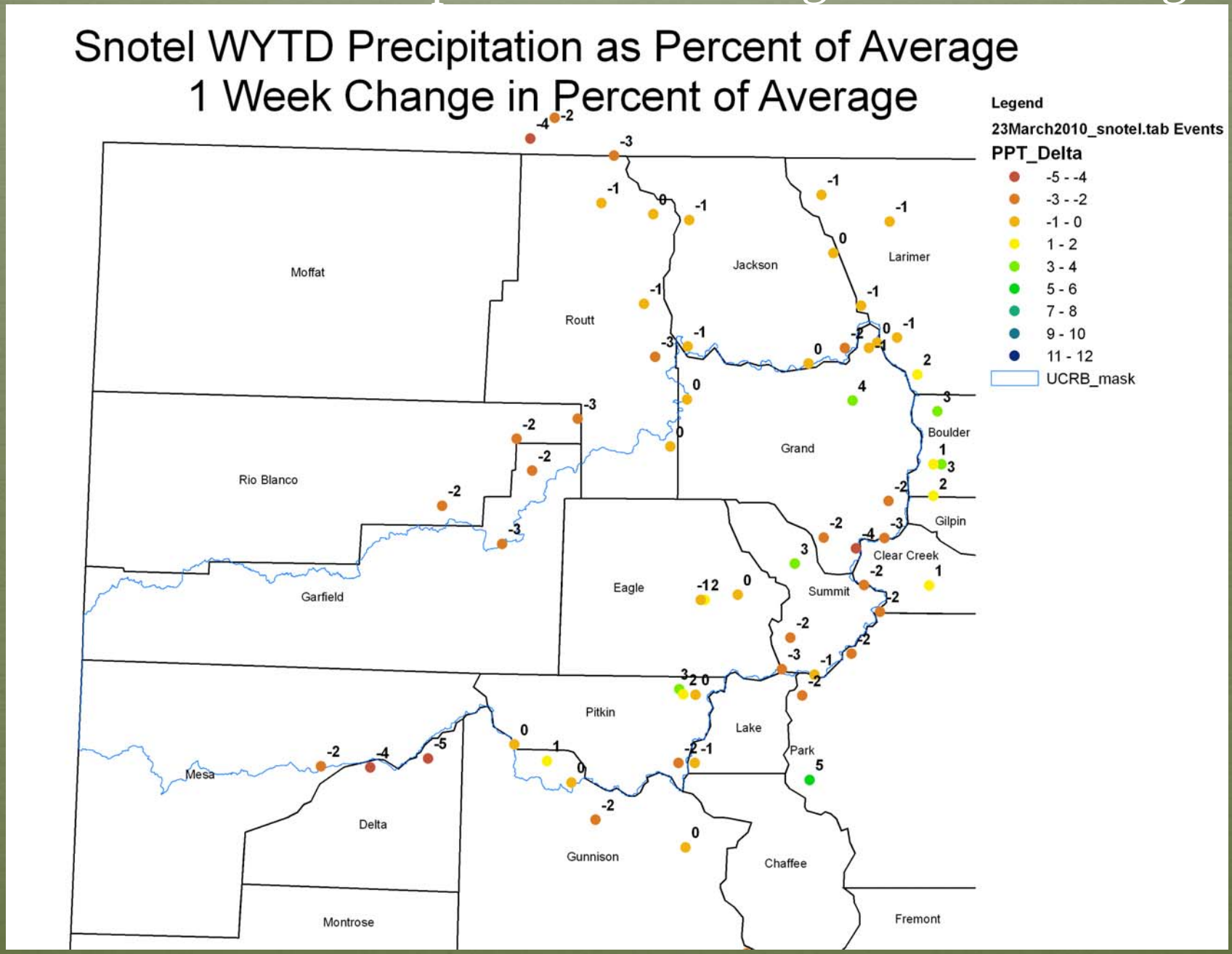
Snotel WYTD Precipitation % Average



Snotel WYTD Precipitation % Average 1 Week Change

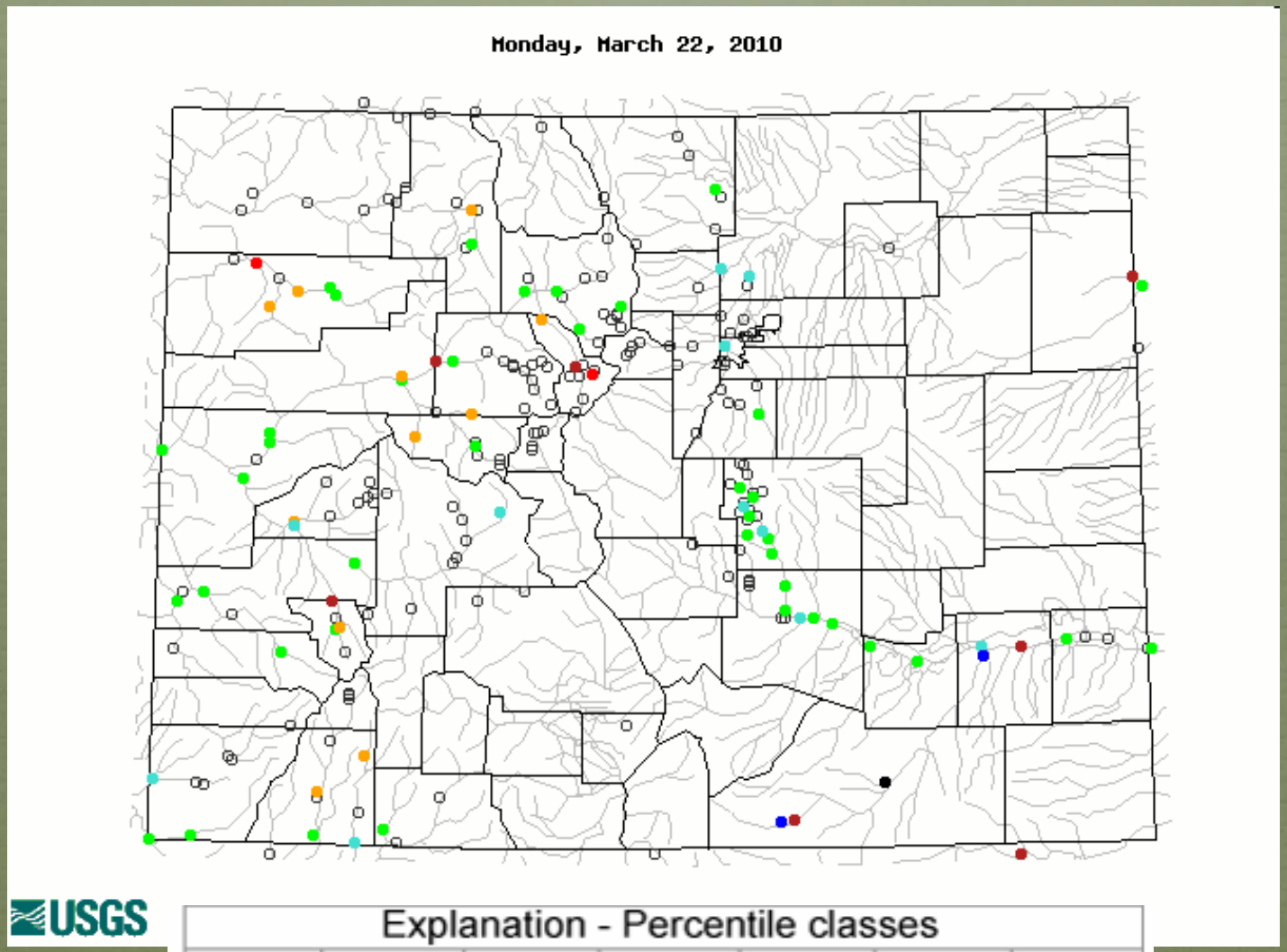


Snotel WYTD Precipitation % Average 1 Week Change



Streamflow Update

28 Day Average Streamflow Compared to Historical Average for the Day

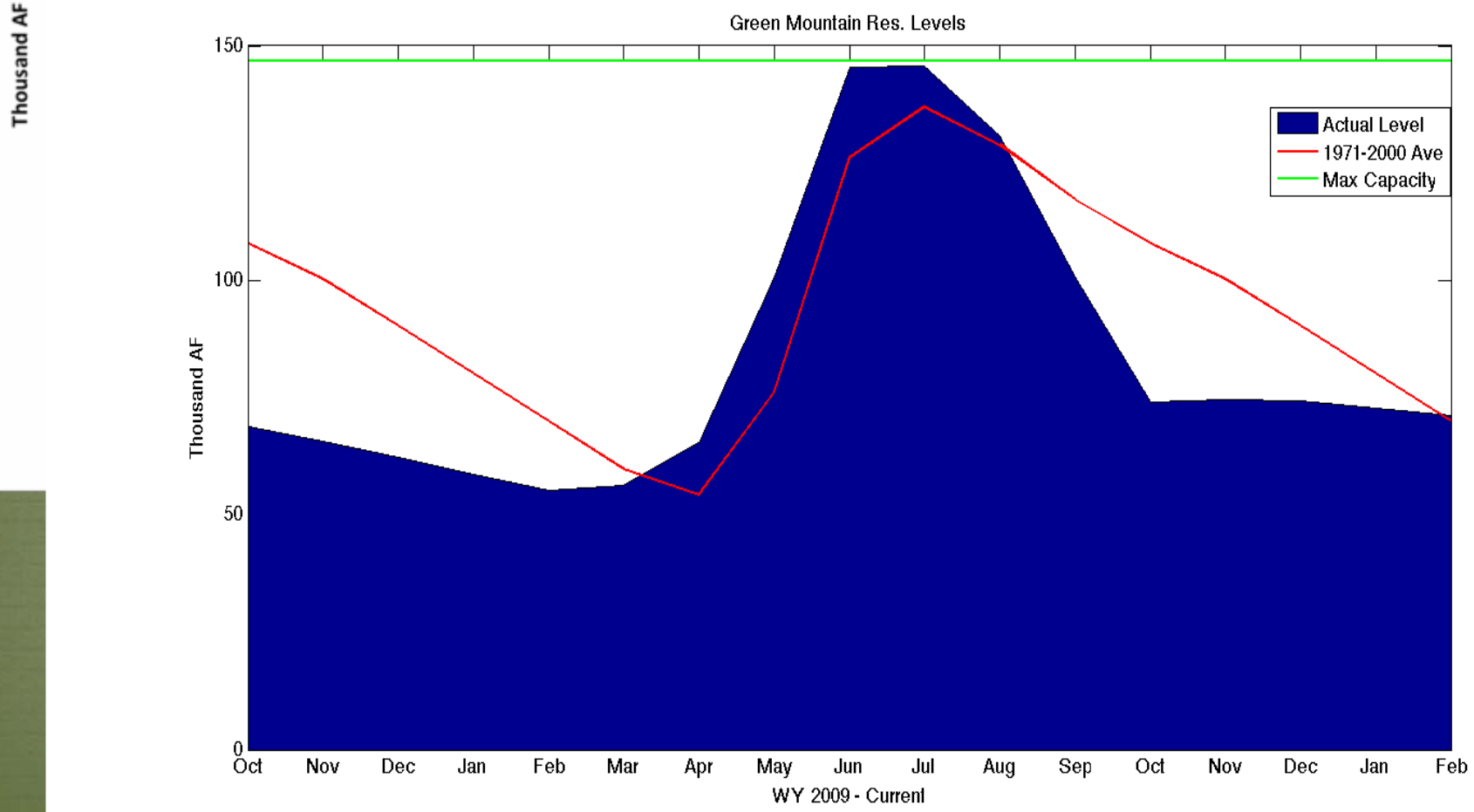


USGS science for a changing world

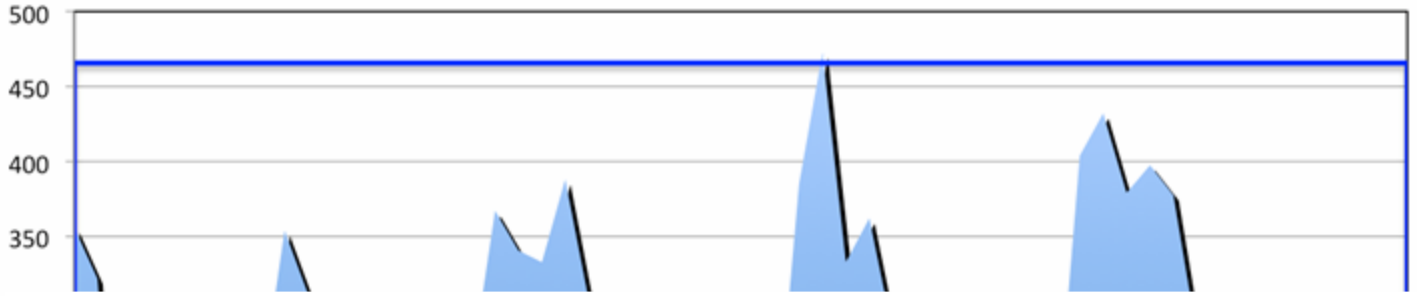
Reservoir Update

Green Mountain February Reservoir Storage

Max Capacity

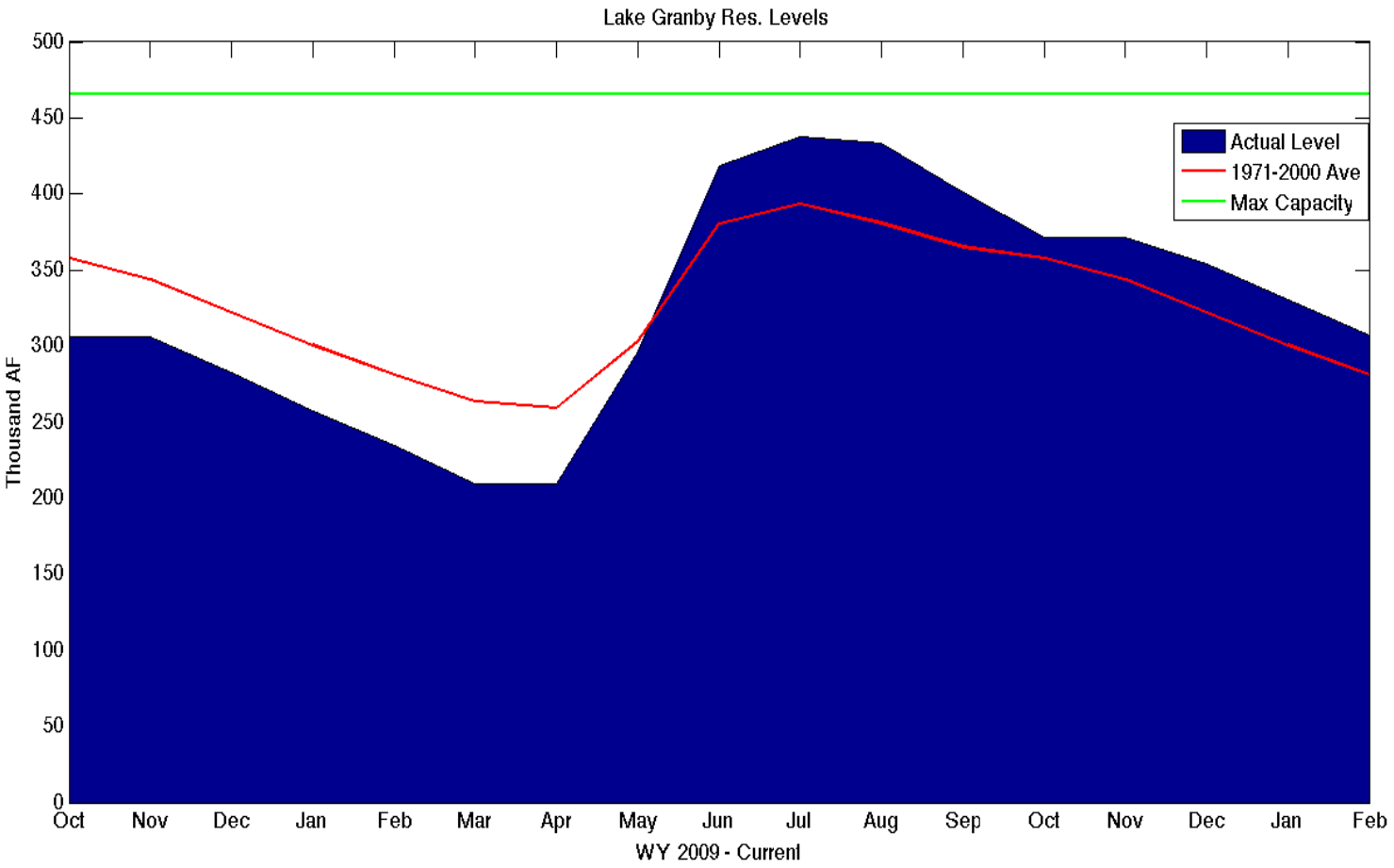


Lake Granby February Reservoir Storage

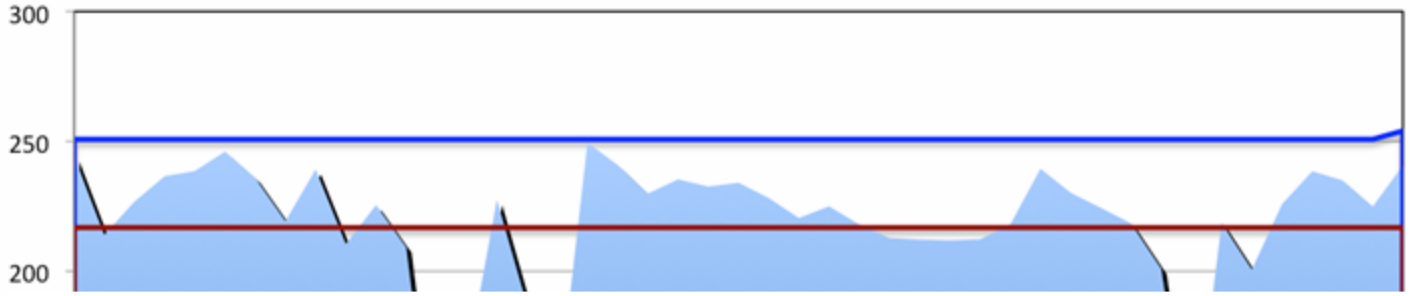


Max Capacity

Thousand AF

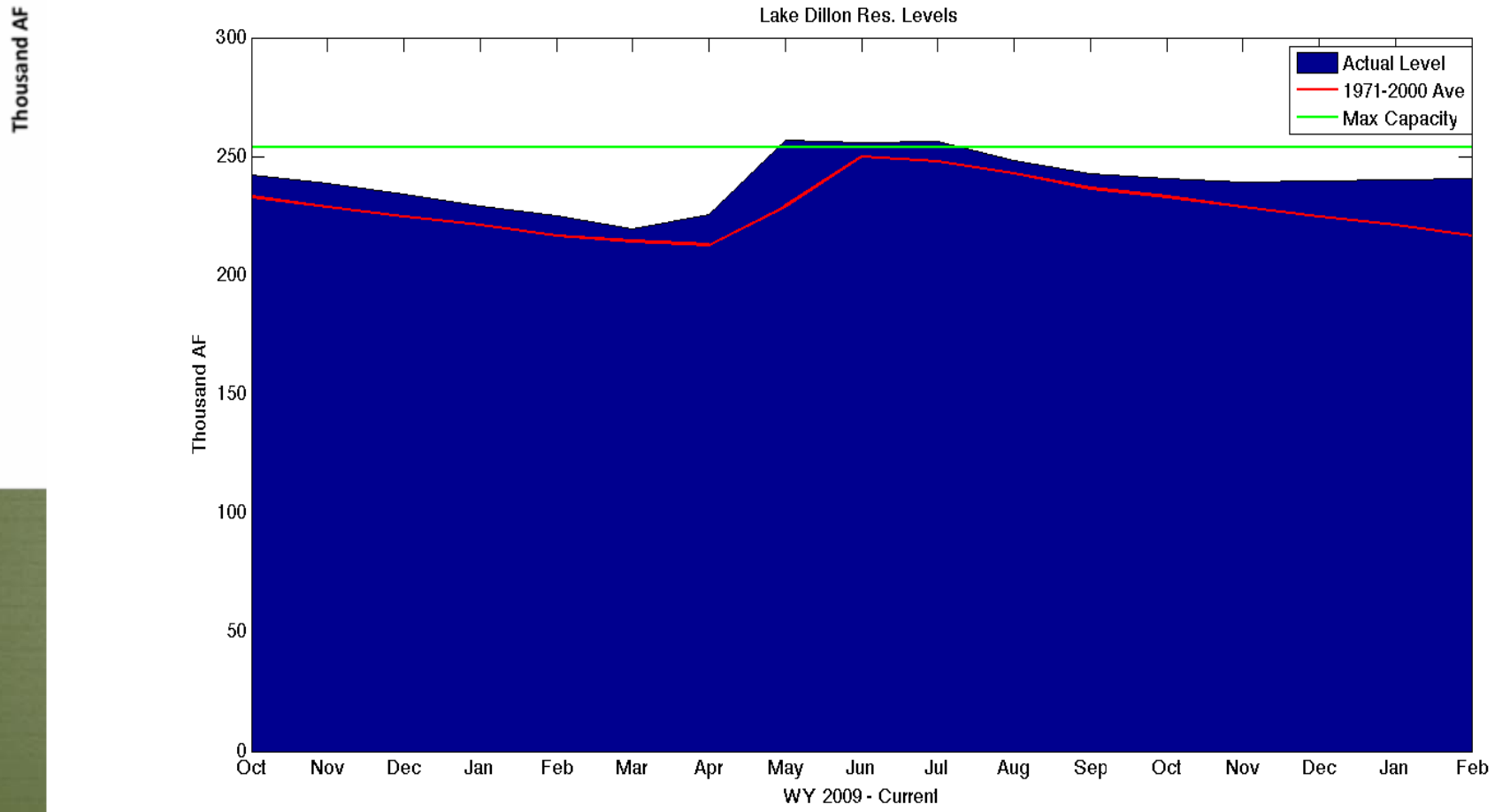


Lake Dillon February Reservoir Storage

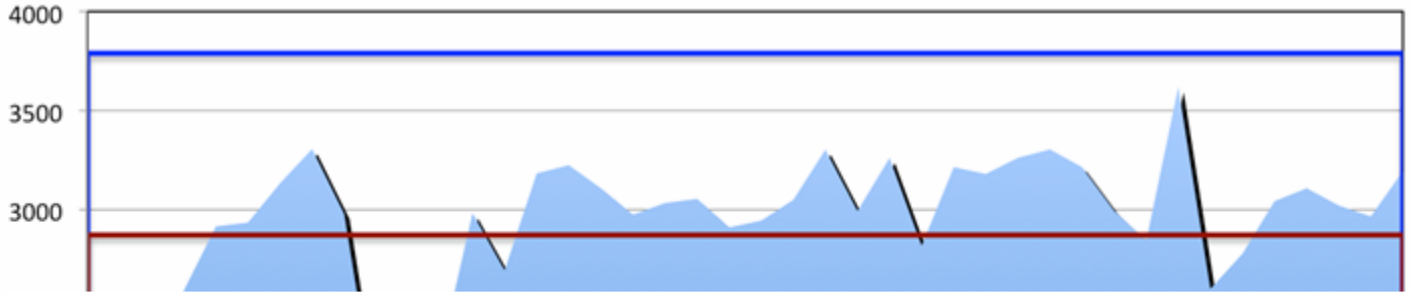


Max Capacity

1971-2000 Average



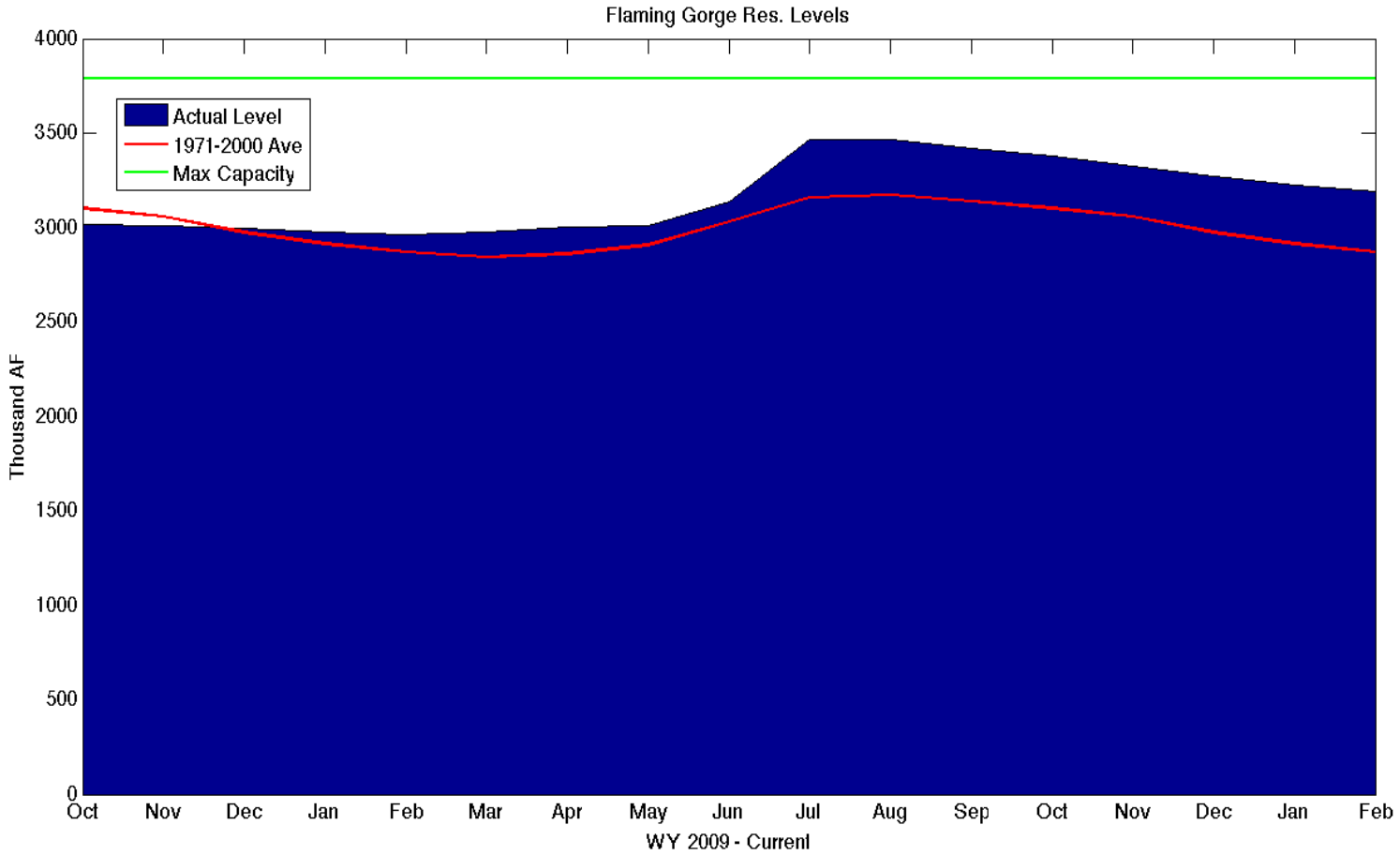
Flaming Gorge February Reservoir Storage



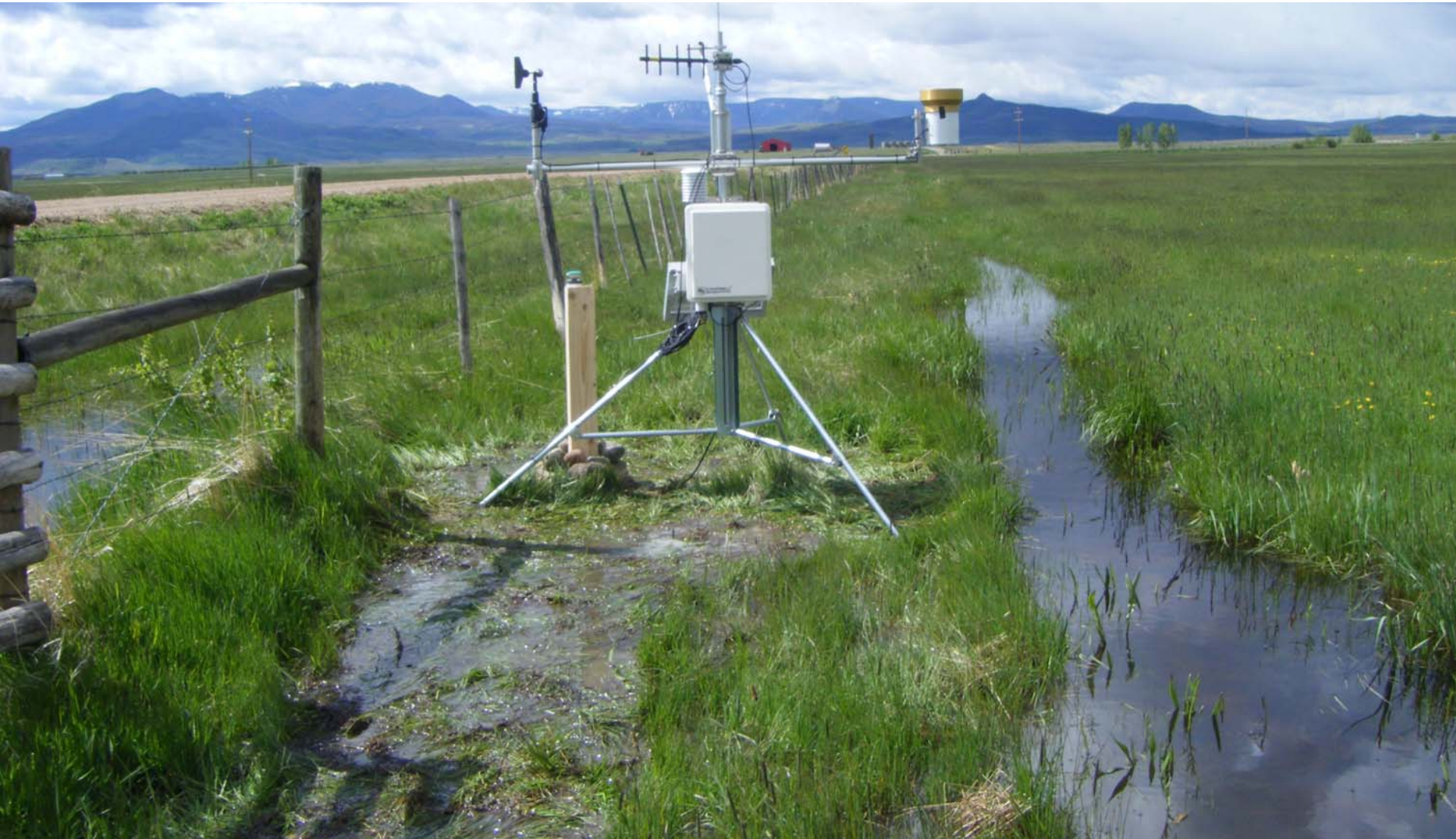
Max Capacity

1971-2000 Average

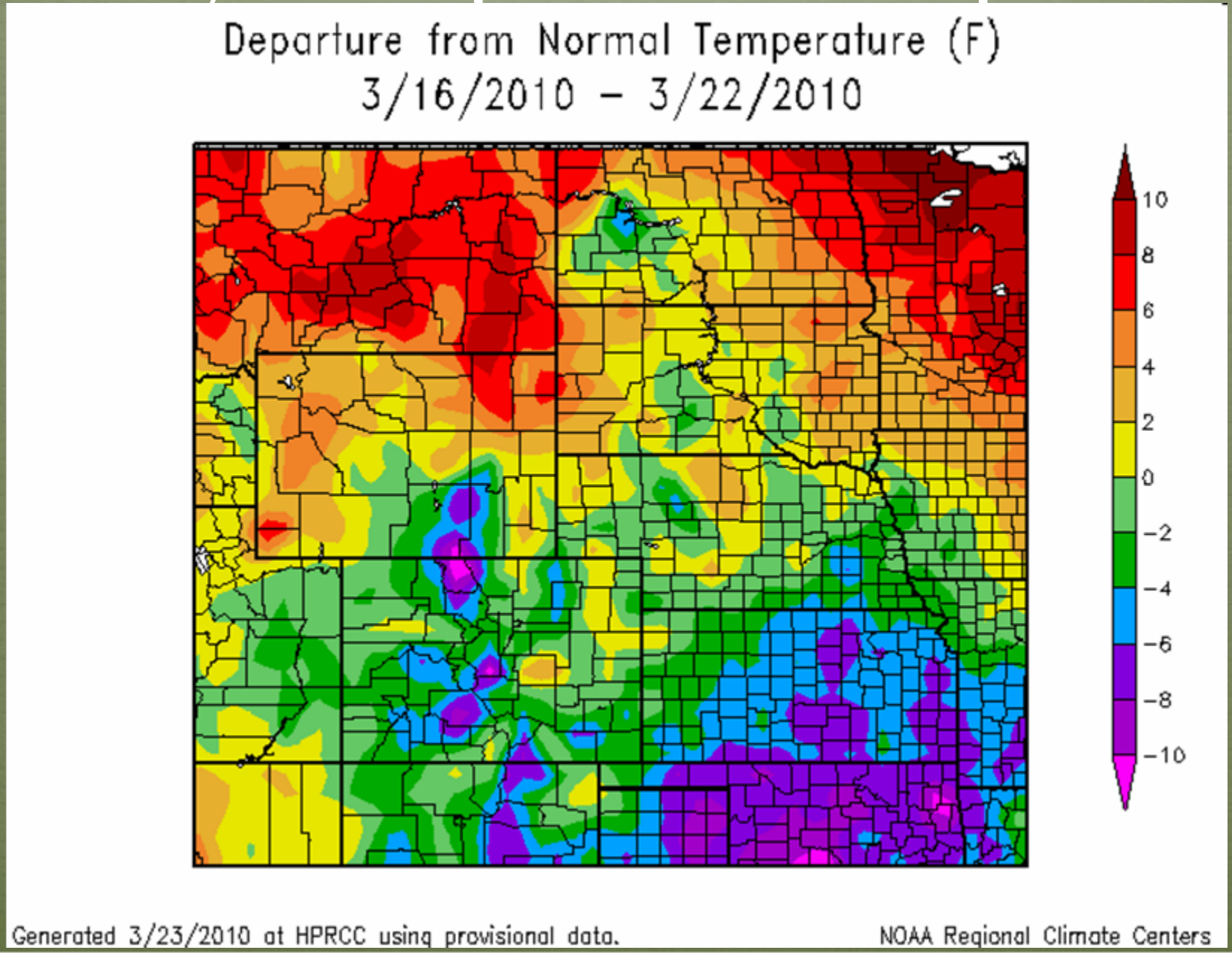
Thousand AF



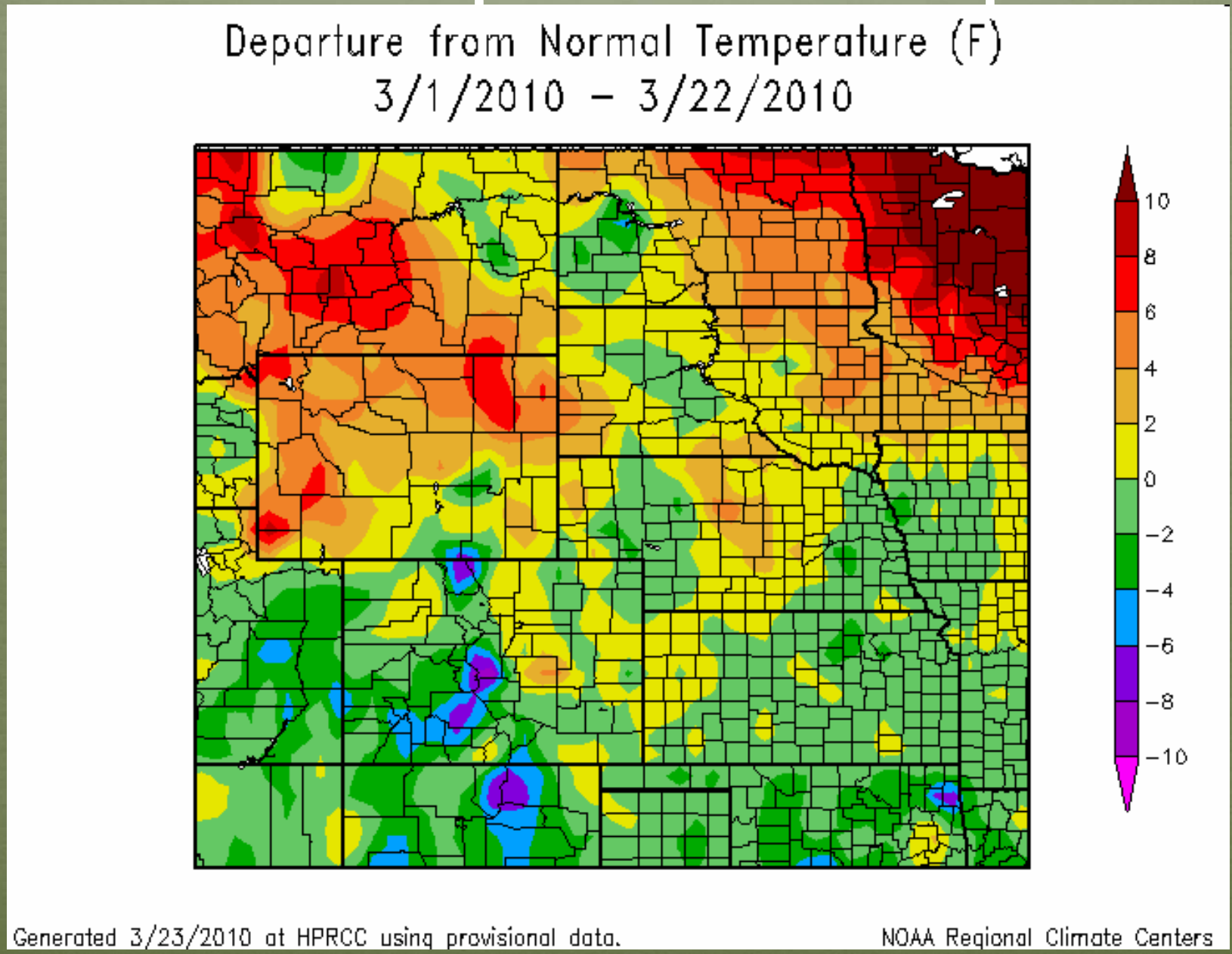
Water Demand

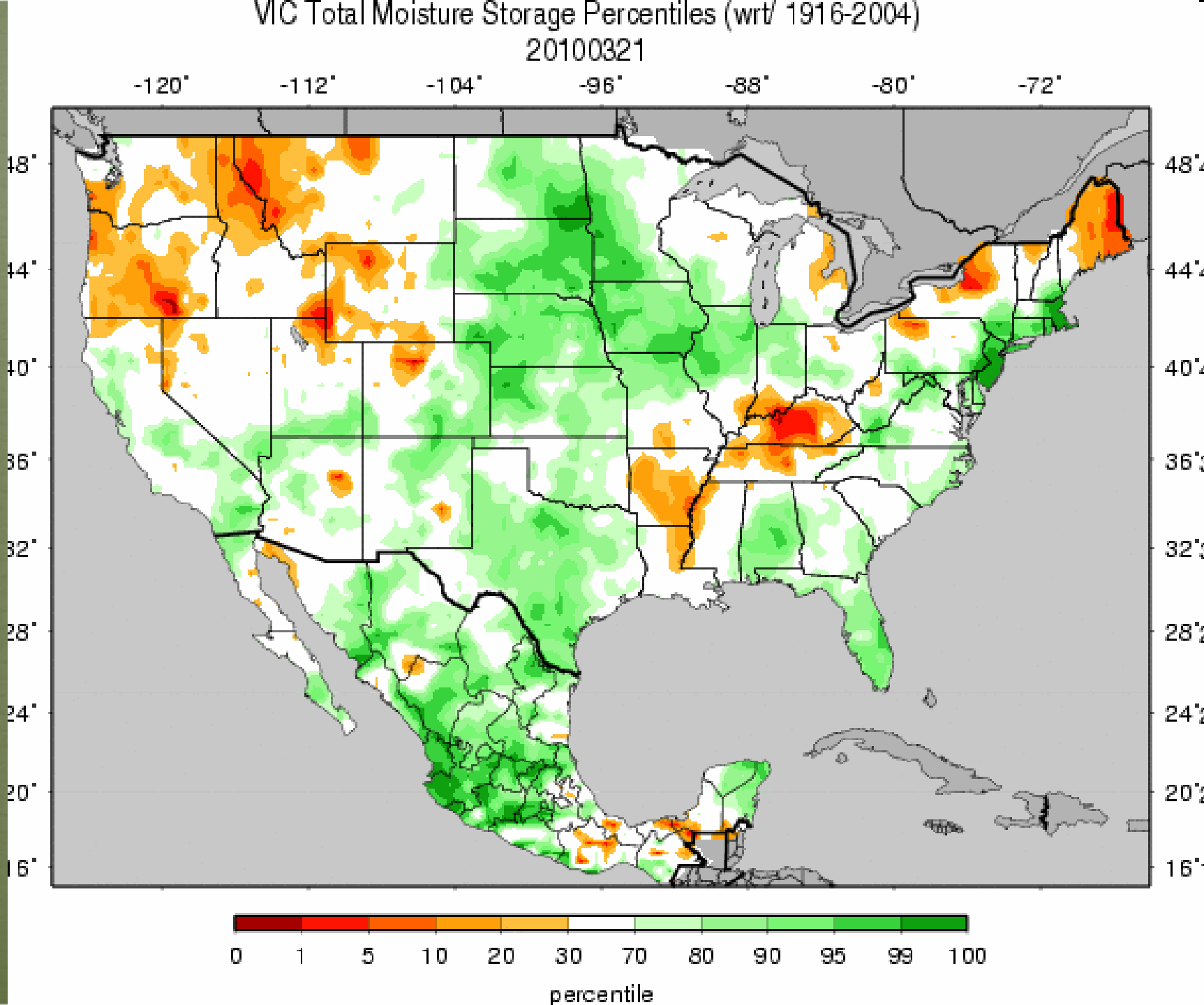


7 Day Temperature Departure



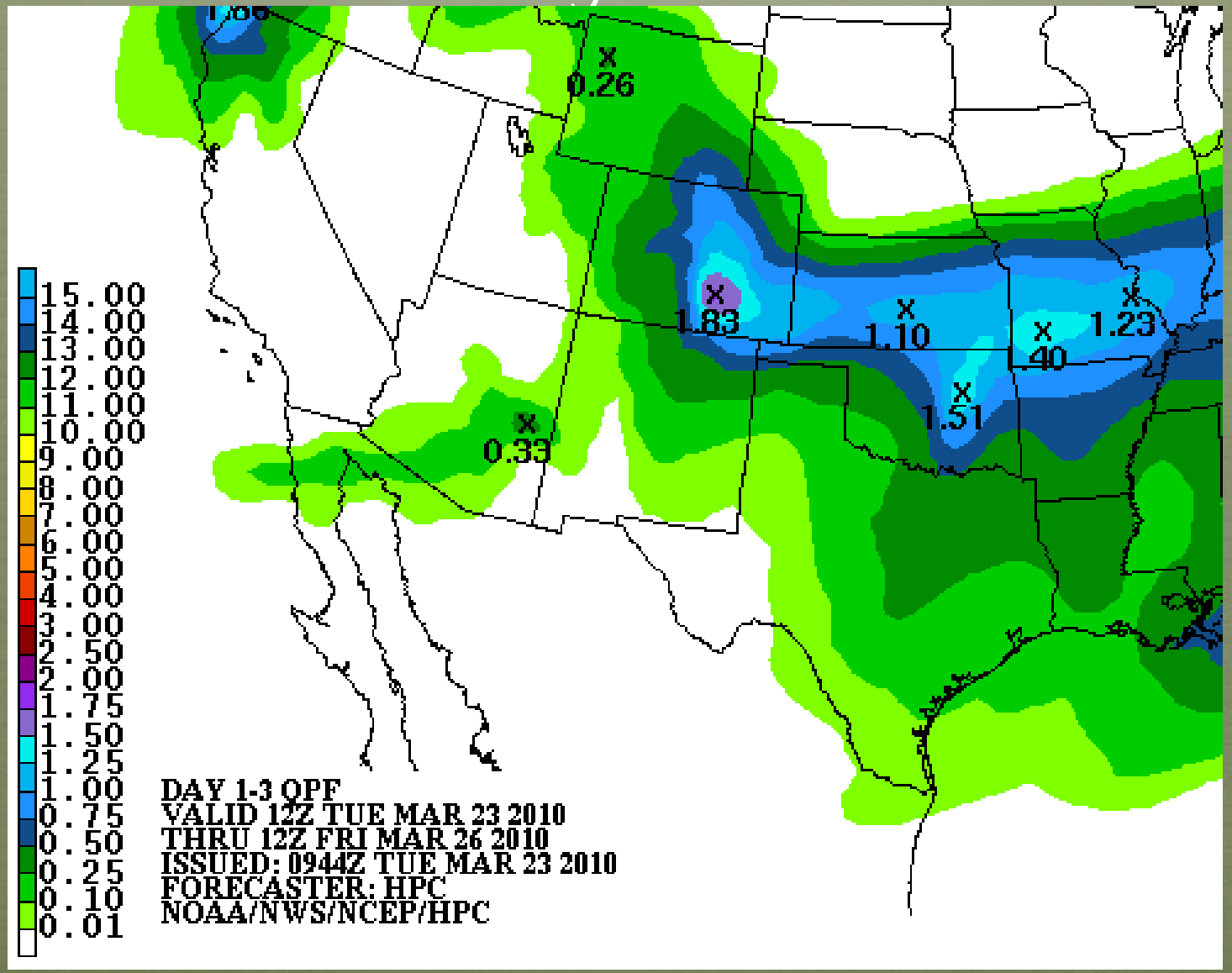
March Temperature Departure




VIC Total Moisture Storage Percentiles (wrt/ 1916-2004)
20100321
-120°
-112°
-104°
-96°
-88°
-80°
-72°
48°
44°
40°
36°
32°
28°
24°
20°
16°
0
1
5
10
20
30
70
80
90
95
99
100
percentile

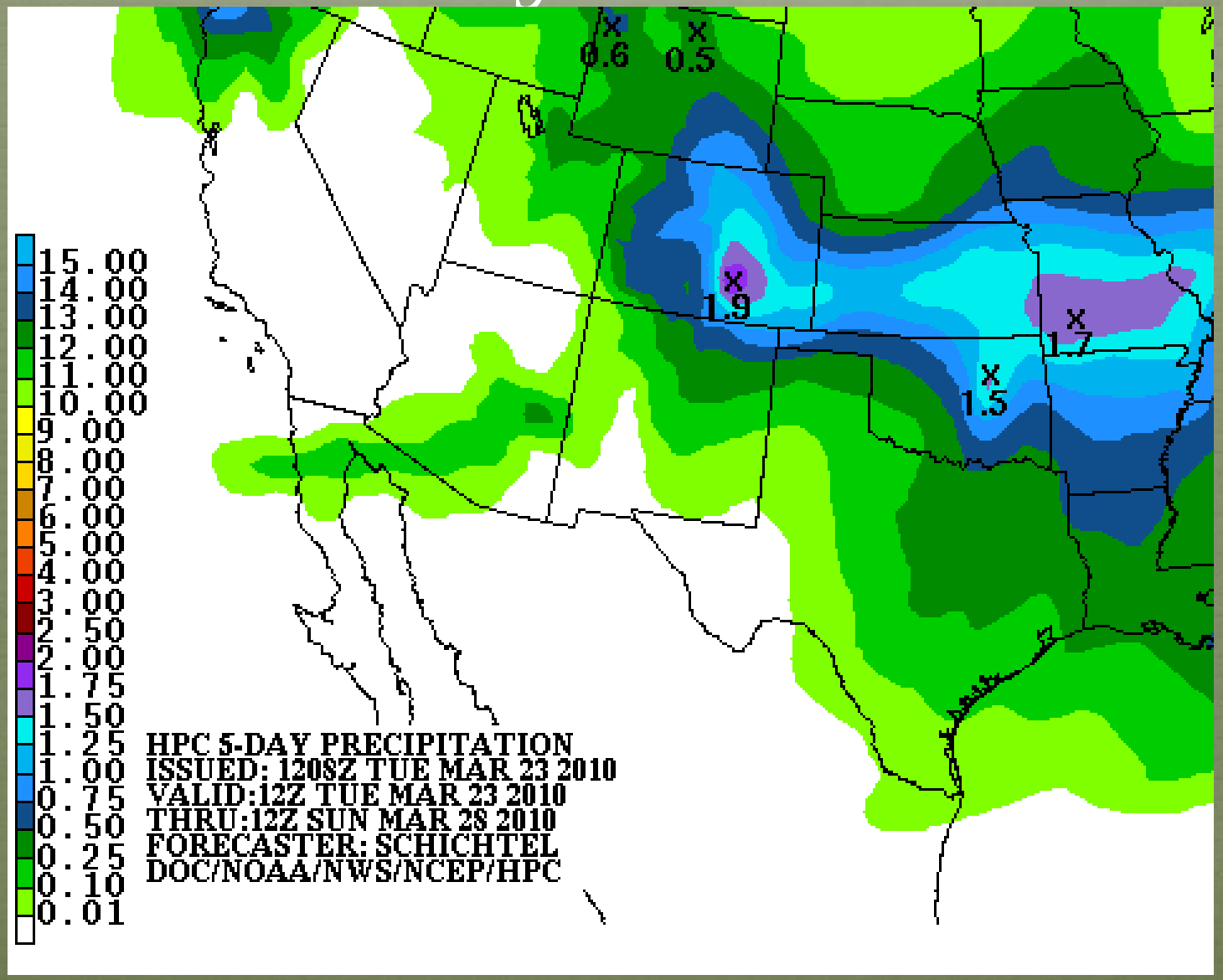
Precipitation Forecast

1-3 Day Outlook



http://www.hpc.ncep.noaa.gov/

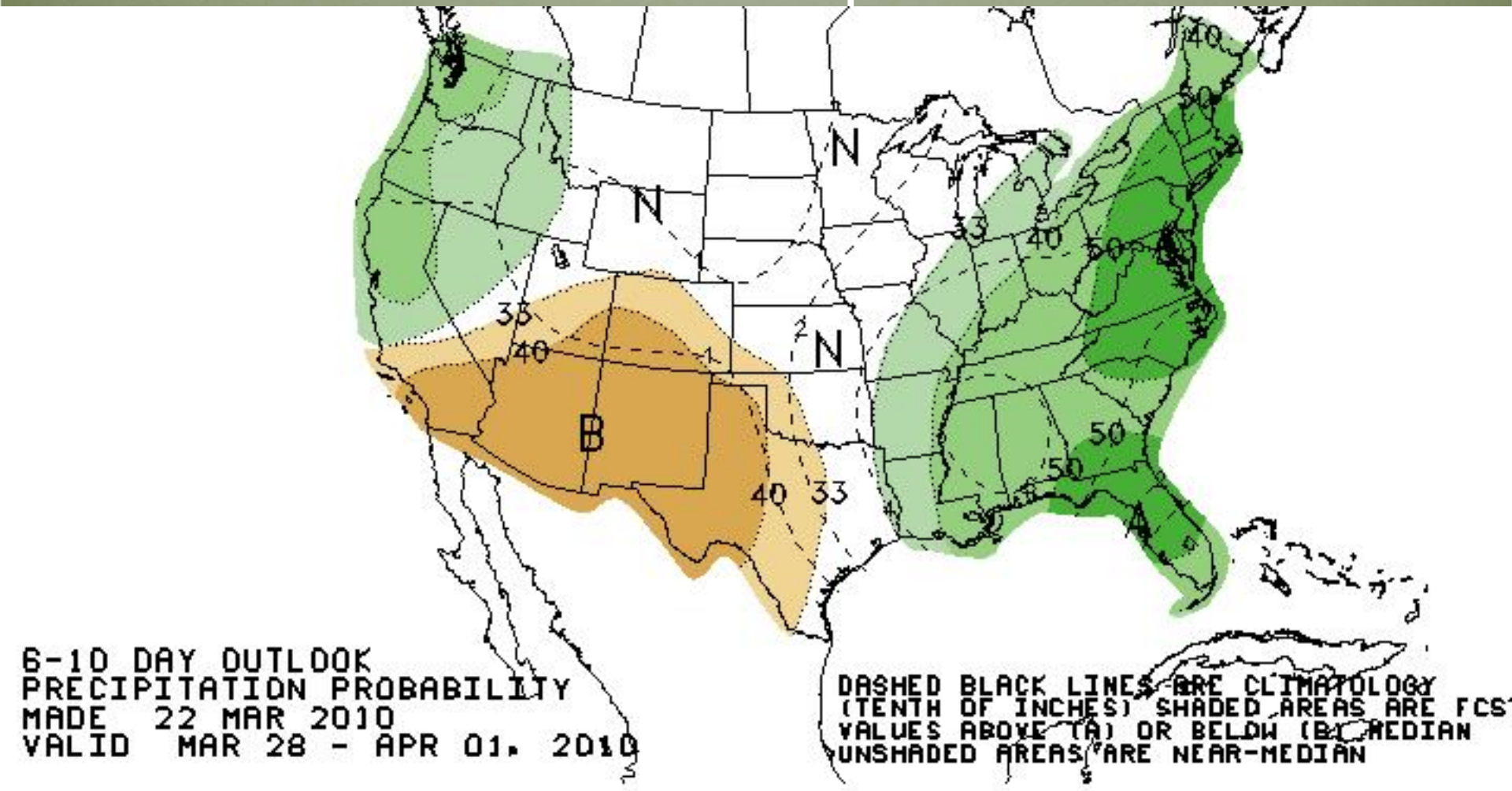
5 Day Outlook



http://www.hpc.ncep.noaa.gov/

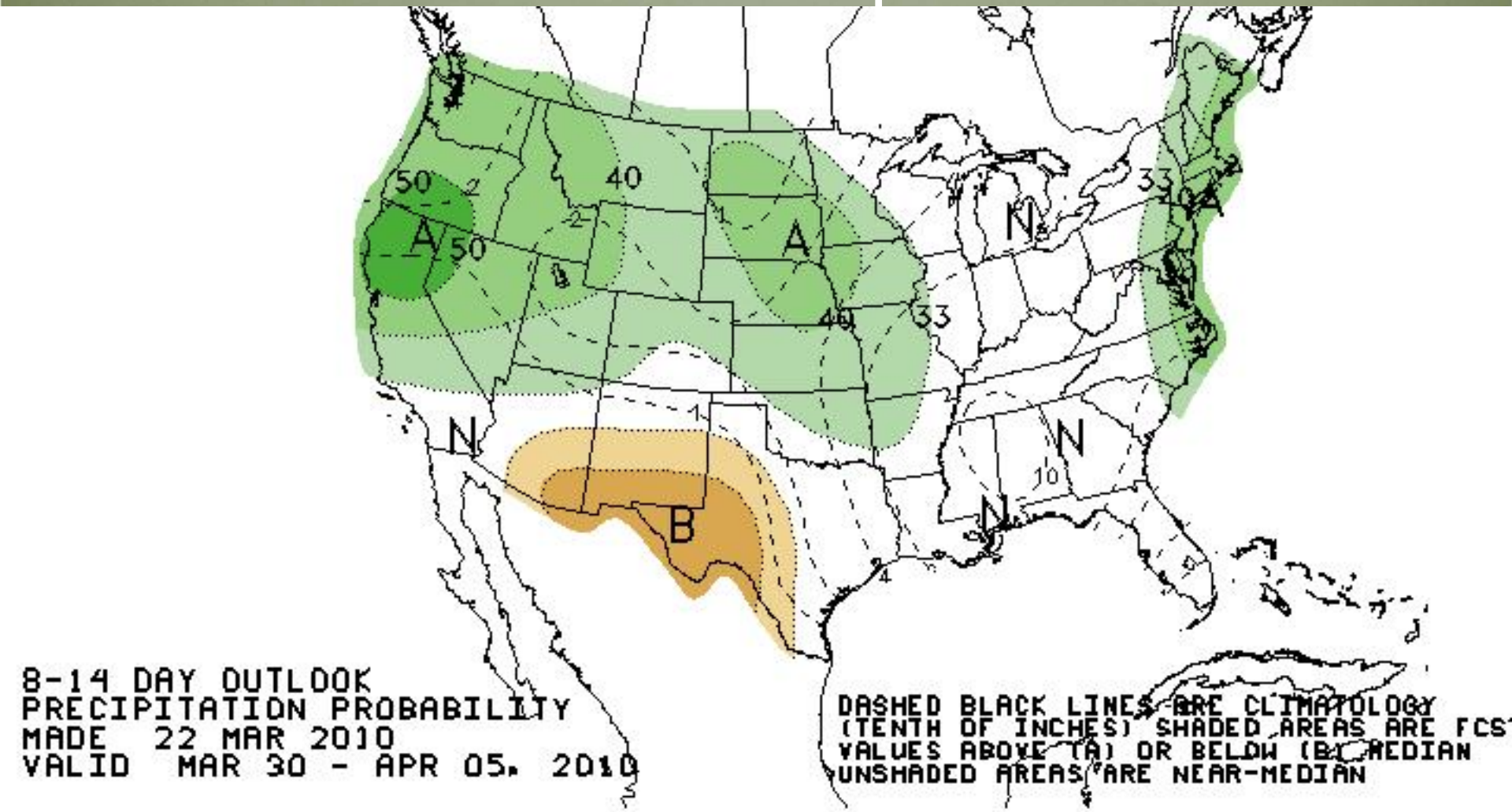
6-10 Day Outlook

28 March- 1 April 2010



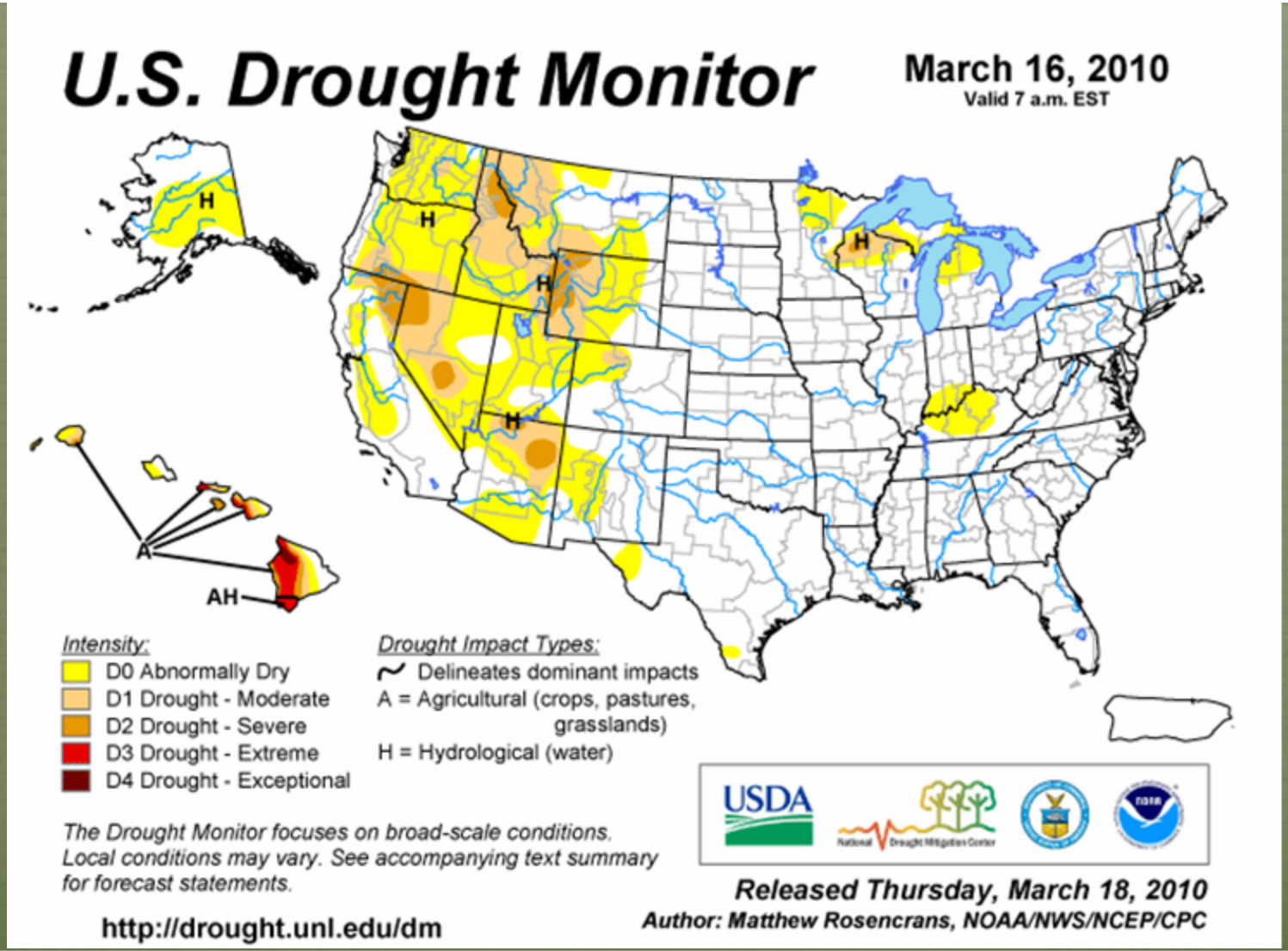
http://www.cpc.ncep.noaa.gov/

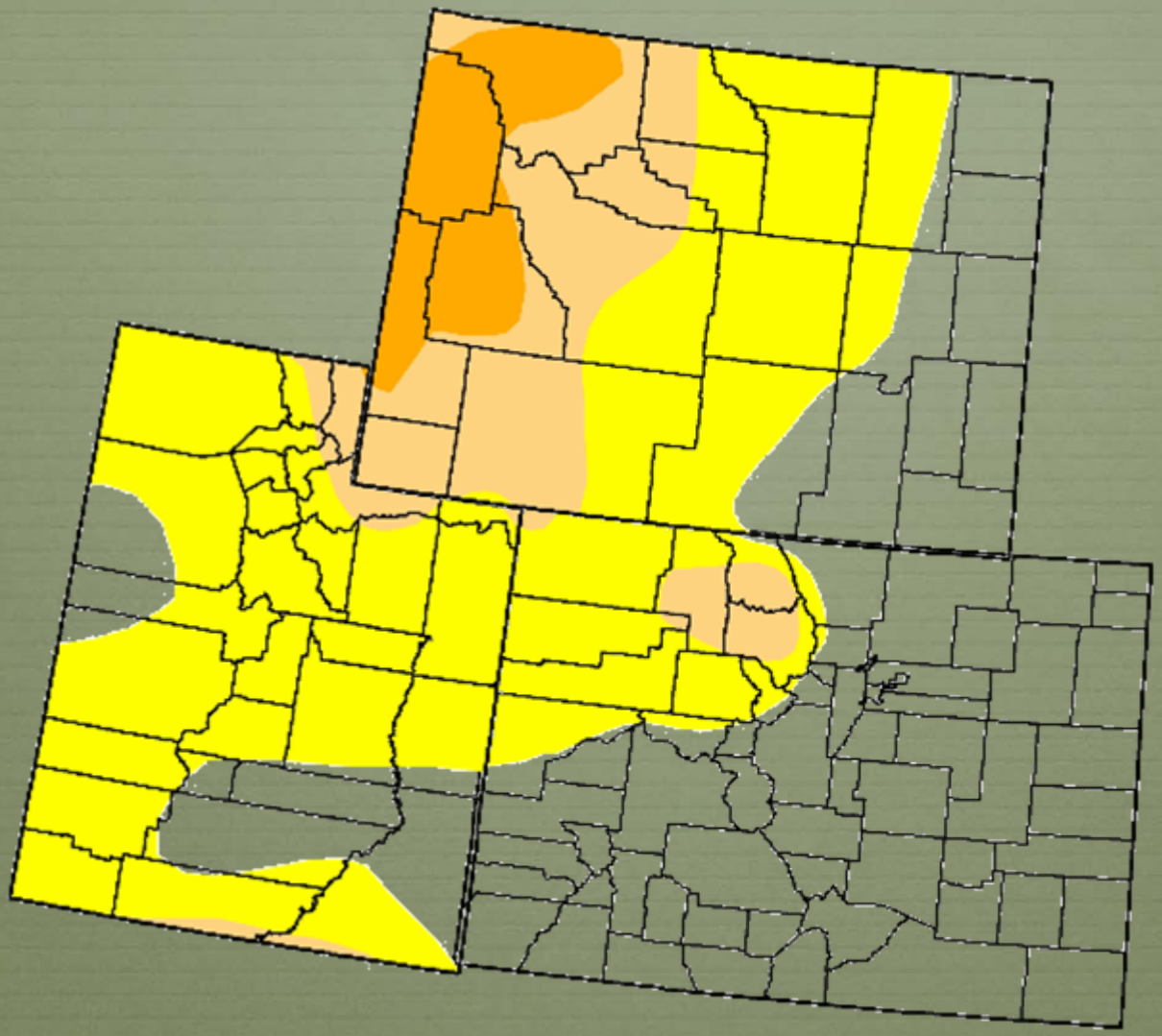
8-14 Day Outlook
30 March – 5 April 2010



http://www.cpc.ncep.noaa.gov/

Recommendations





INFO

For more information

Summary

- One large storm moved through Colorado last week, bringing the heaviest precipitation to the Front Range and the Sangre de Cristo mountains. Though beneficial snow accumulated in the Colorado's northern mountains, it had relatively little impact on the seasonal snow water equivalent observed at NRCS SNOTEL station in the Upper Colorado basin. The northern mountains continue to see decreases in their water-year-to-date percent of average precipitation, with 1-2% decreases from last week. Temperatures remain near or below average for most of Colorado thanks to a very cold weekend. Soil moisture conditions remain good east of the mountains, so early demand for irrigation water should be minimal as we officially move into spring. Western Wyoming is a different story, where temperatures were above normal last week and Green River basin snowpack continues to track about 50% of average as we rapidly approach the timing of normal peak snow water equivalent.. Fortunately, reservoir storage continues to be at or above average for this time of year with good prospects of filling reservoirs in the upper Colorado even with below average snowpack.

  Looking ahead, the next storm system is moving into the area right now. Similar to last week's storm, it is forecast to bring wet snow to the eastern slope of the Rockies, with less accumulations west of the divide. The models show another system that could bring more moisture to the tri-state area on Friday. There is the possibility for the remainder of March and first week of April to be warm and dry. As we move further into April, longer range forecast suggest we could see a shift to a more classic late El Nino winter pattern with more favorable conditions for heavy, wet snows from the mountains of central and northern Colorado northward into western Wyoming.

  Last week, after much consideration following the webinar call, the Drought Monitor author chose to introduce D1 into the Upper Colorado River basin in Grand, Routt, and Jackson Counties. This week, reports from the lower elevations of the Upper Colorado River mainstem indicate that the recent storm brought only light precipitation and the thin snowpack is melting with grass showing. There was agreement that the D1 over that area is a good representation of current conditions. Status quo is recommended for the next week over the area. D1 and D2 conditions over western Wyoming will also remain -- status quo.