Spring 2010

Weekly Climate, Water & Drought Assessment

Today's Agenda

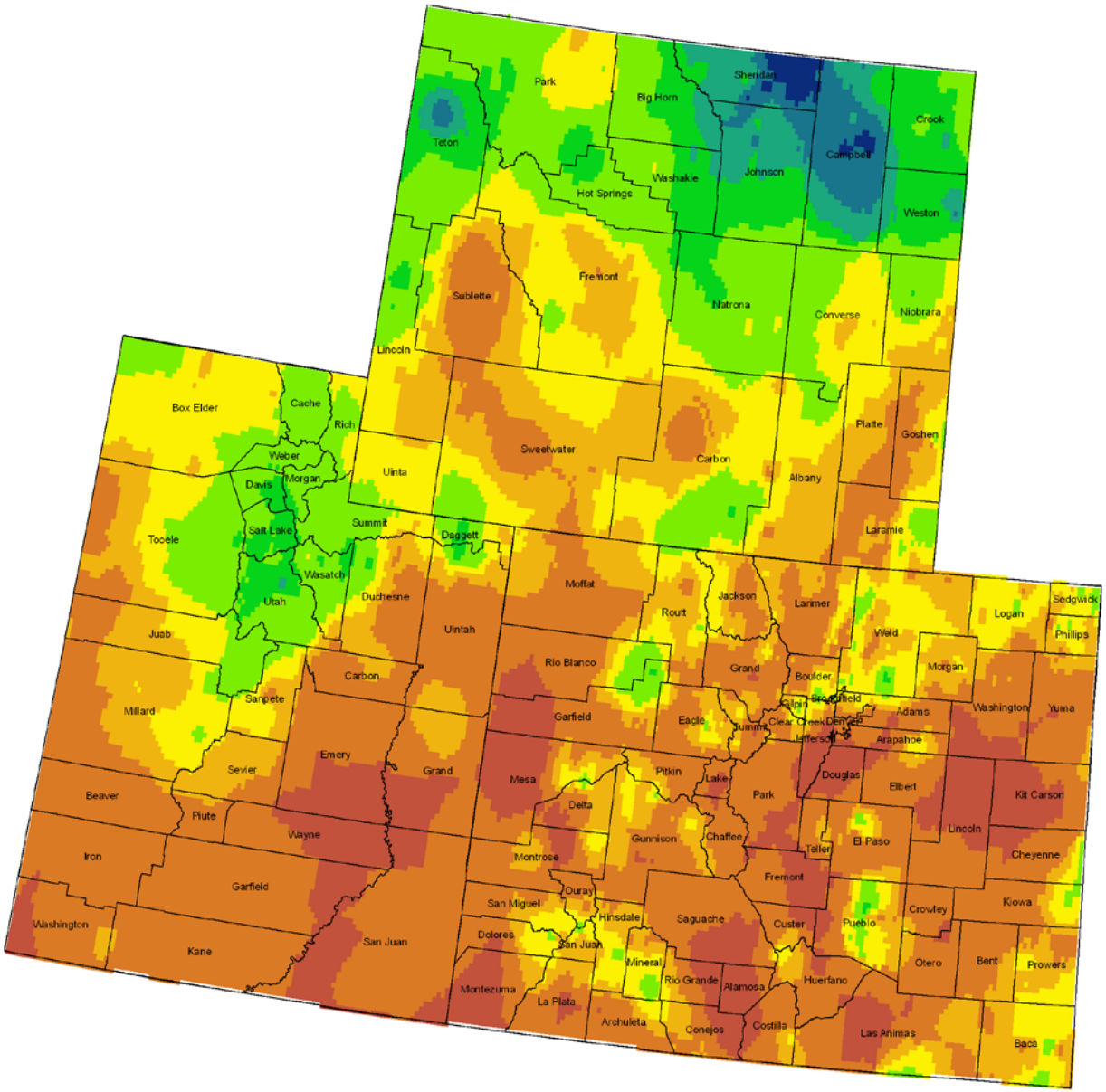
-Assessment of current water conditions

- Precipitation Forecast

- Recommendations for Drought Monitor

Precipitation/Snowpack Update

Colorado, Utah and Wyoming Precipitation
23-29 May 2010

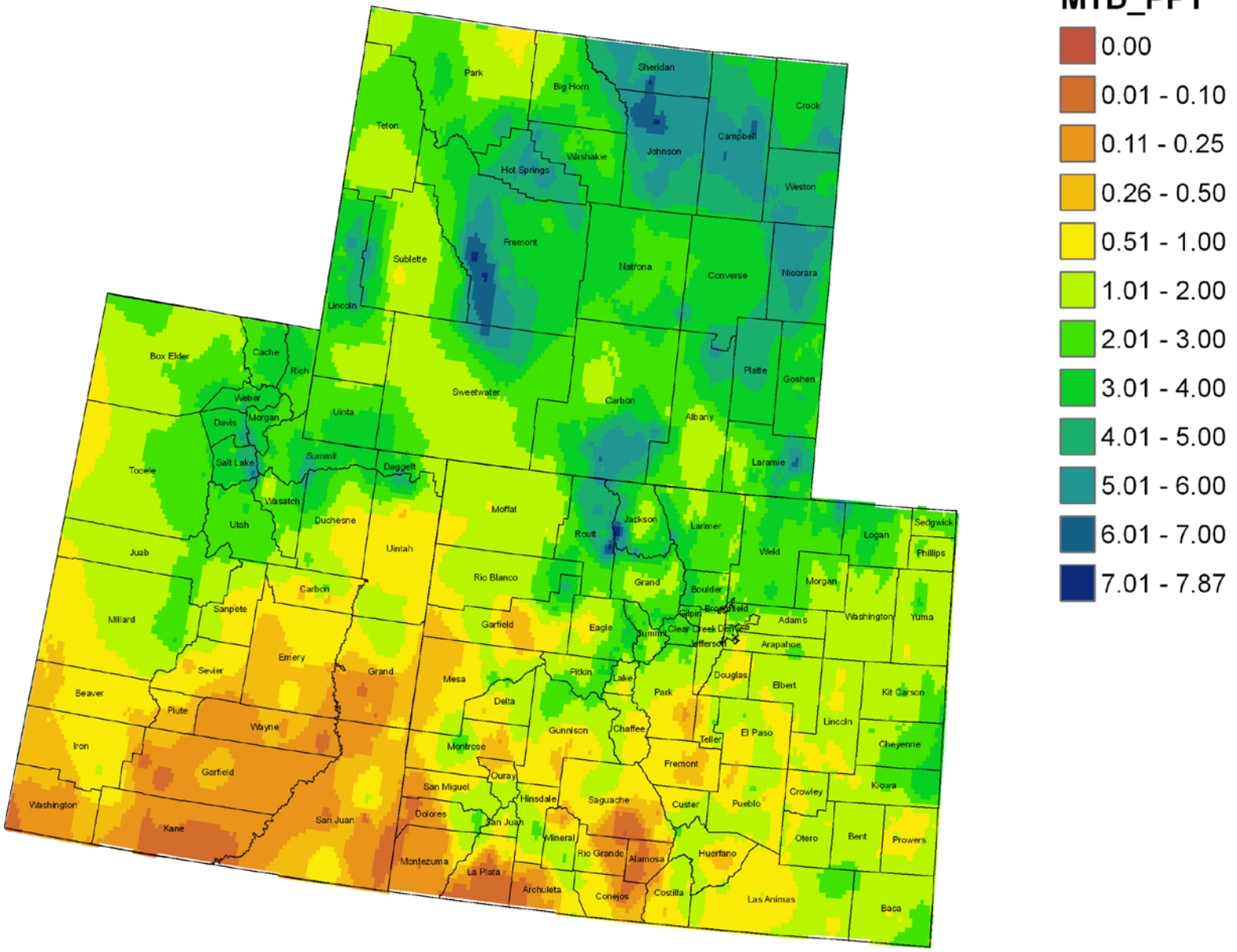


Extract_23_29

7Day_ppt

- 0.00
- 0.01 - 0.10
- 0.11 - 0.25
- 0.26 - 0.50
- 0.51 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 2.50
- 2.51 - 3.04

Colorado, Utah and Wyoming Precipitation
1-29 May 2010



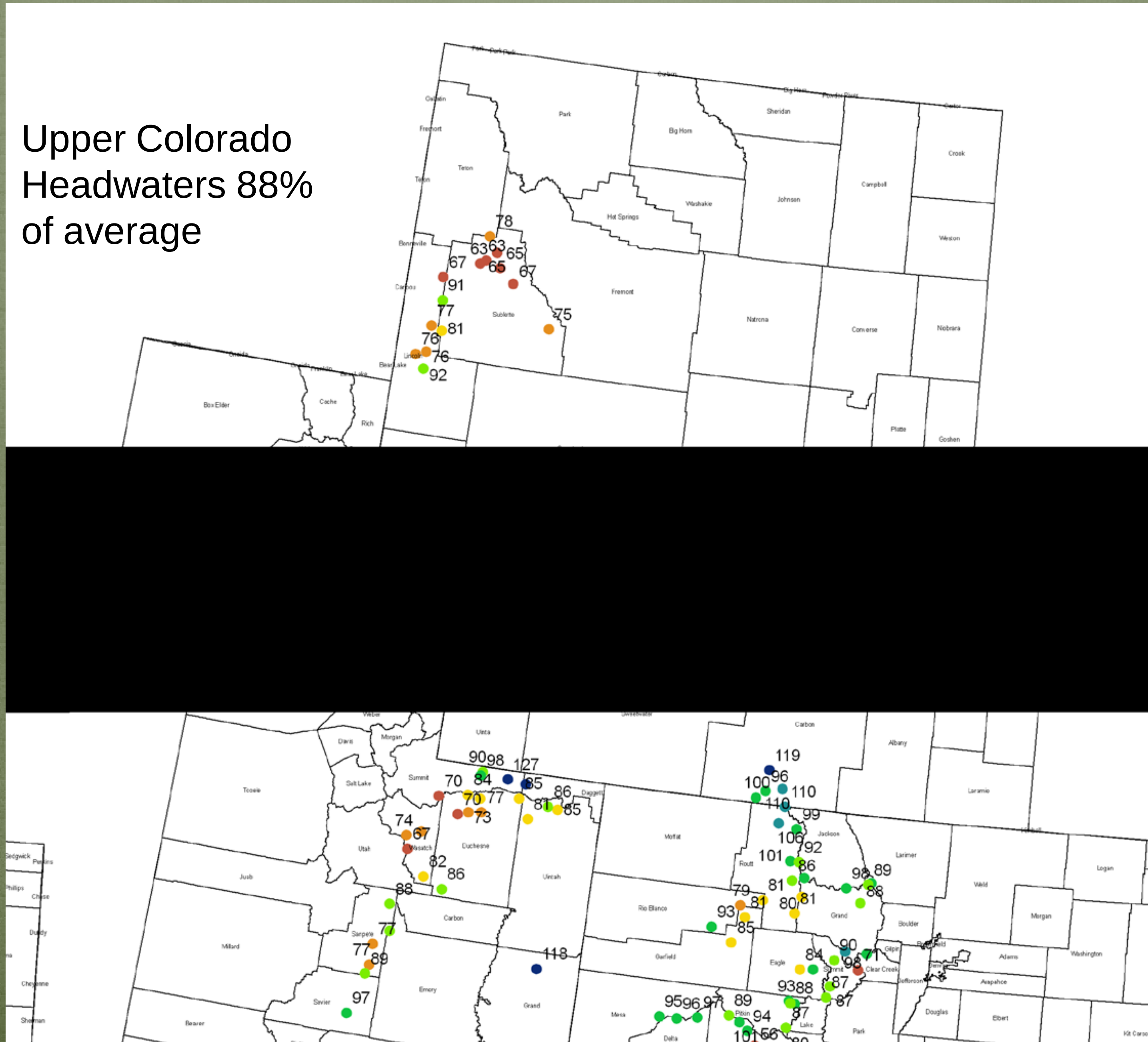
1_29may10

MTD_PPT

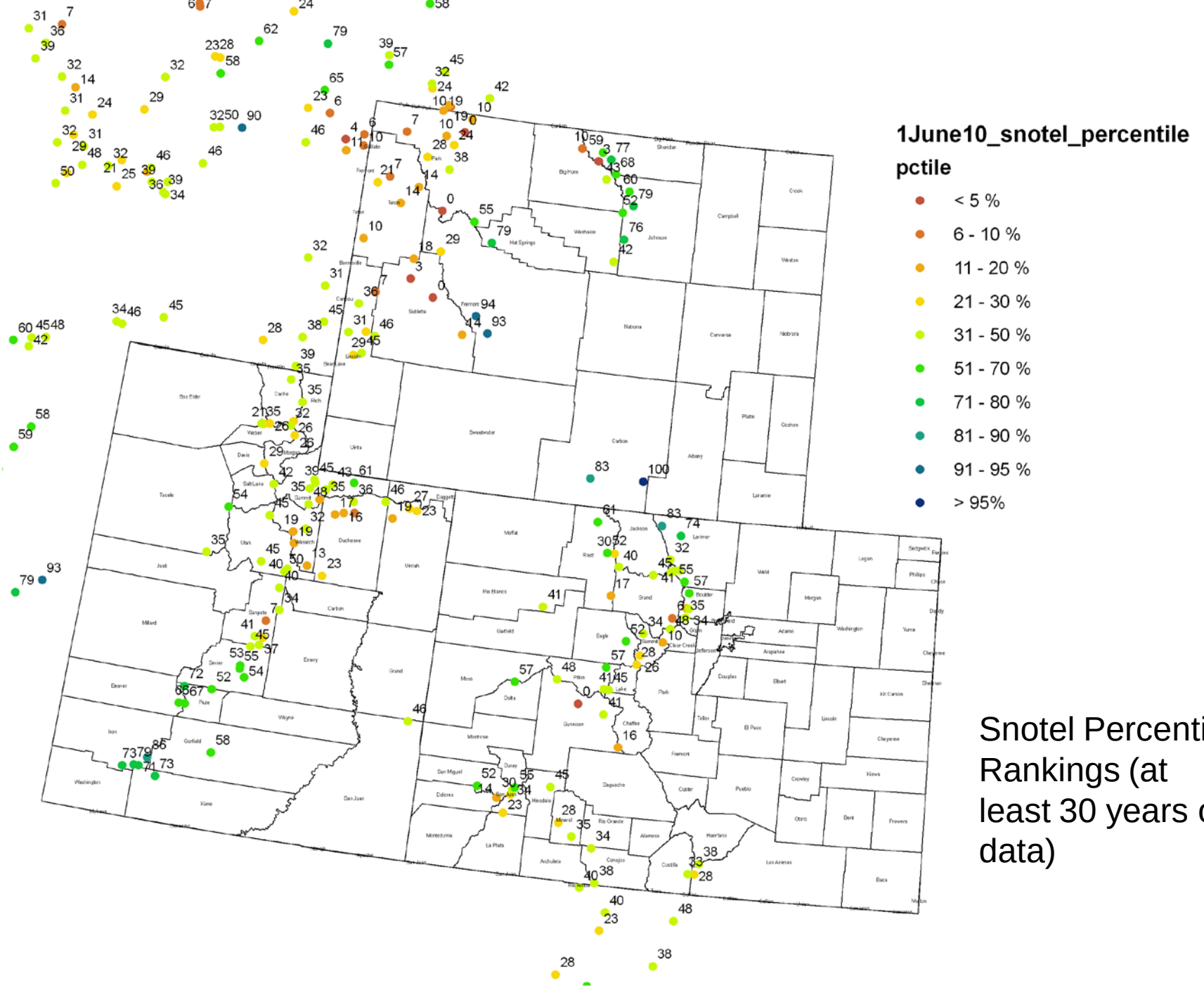
- 0.00
- 0.01 - 0.10
- 0.11 - 0.25
- 0.26 - 0.50
- 0.51 - 1.00
- 1.01 - 2.00
- 2.01 - 3.00
- 3.01 - 4.00
- 4.01 - 5.00
- 5.01 - 6.00
- 6.01 - 7.00
- 7.01 - 7.87

Snotel WYTD Precipitation as Percentage of Average

Upper Colorado Headwaters 88% of average

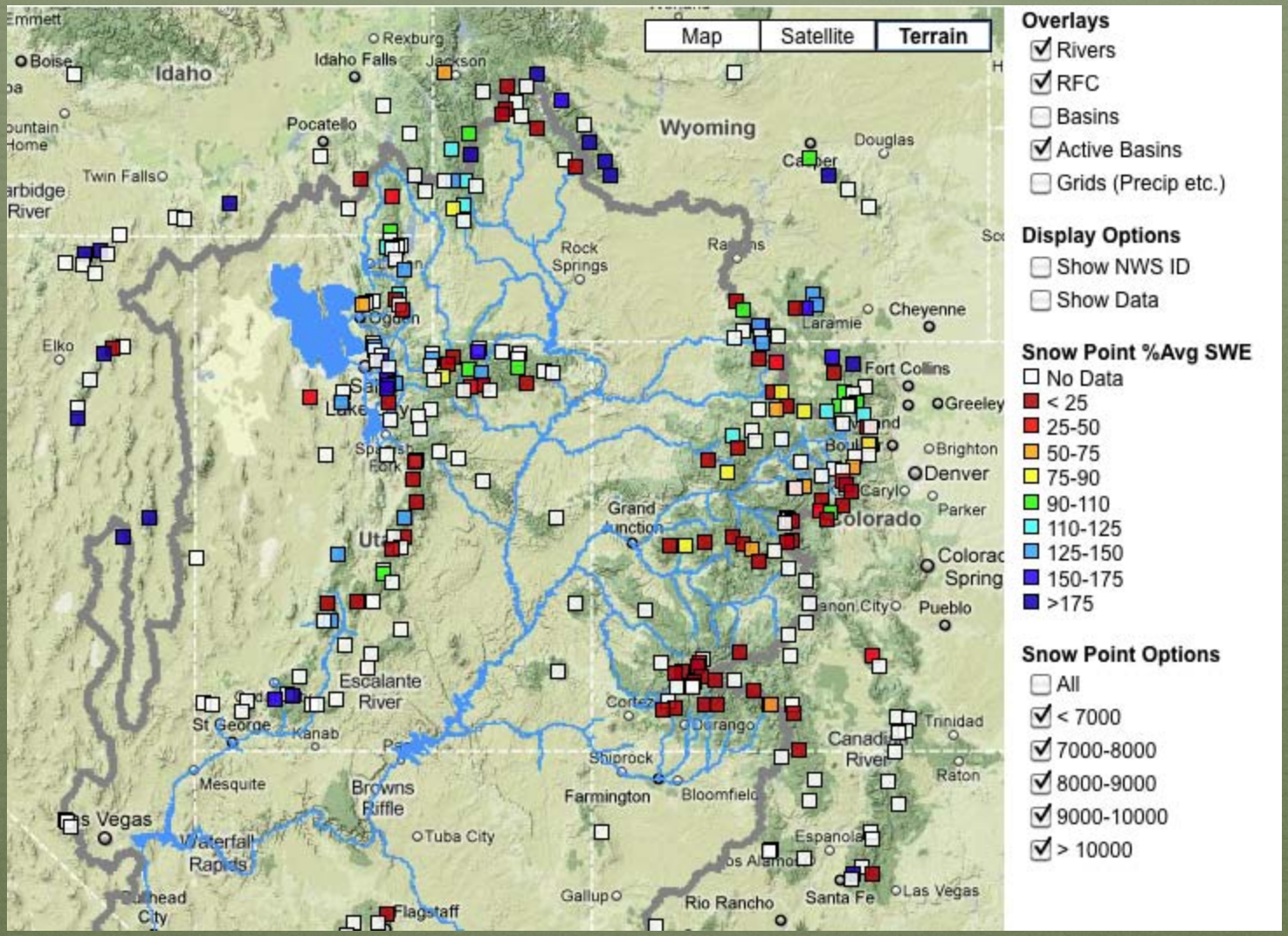


1 Week Change in Snotel WYTD Precipitation % Average



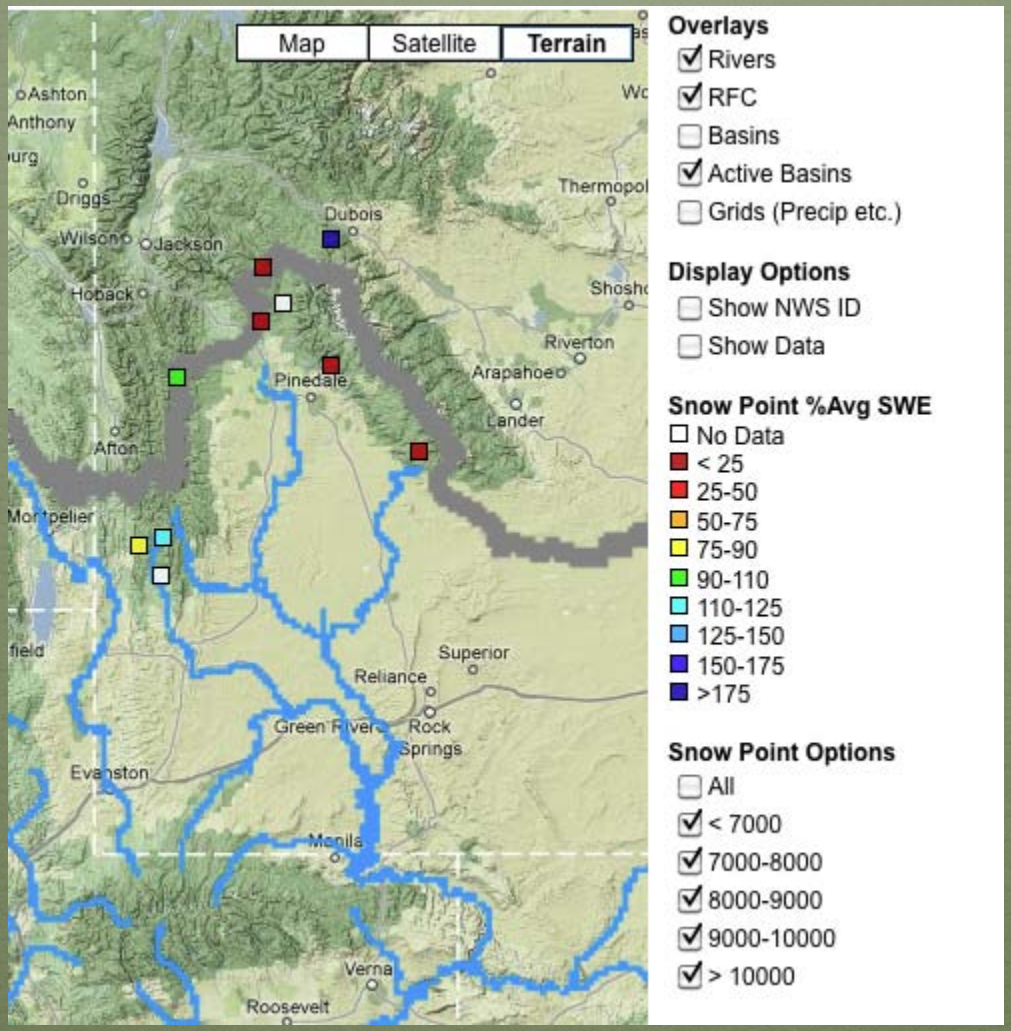
Snotel Percentile Rankings (at least 30 years of data)

Upper Colorado River Basin

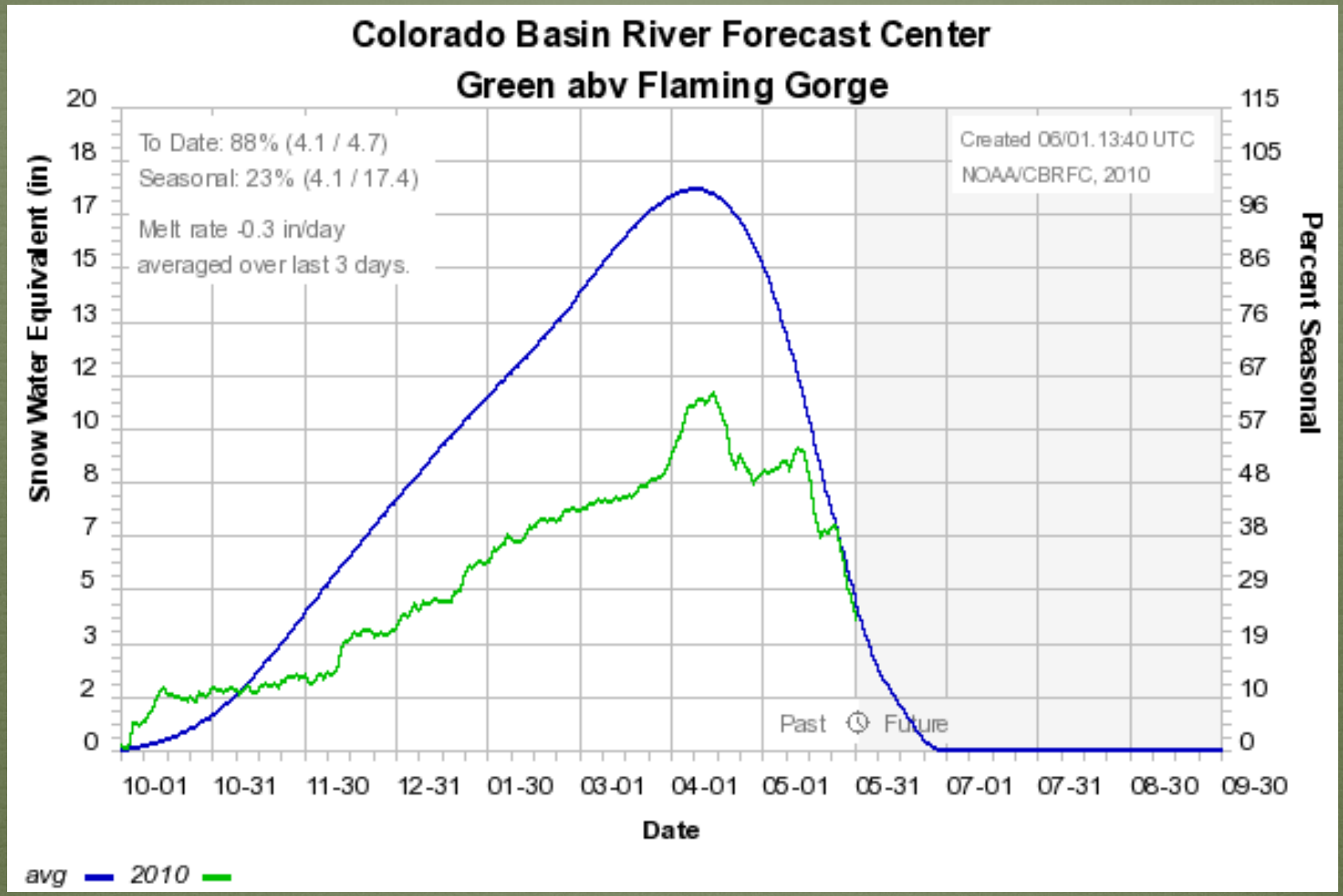


NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

Green River Basin above Flaming Gorge



NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

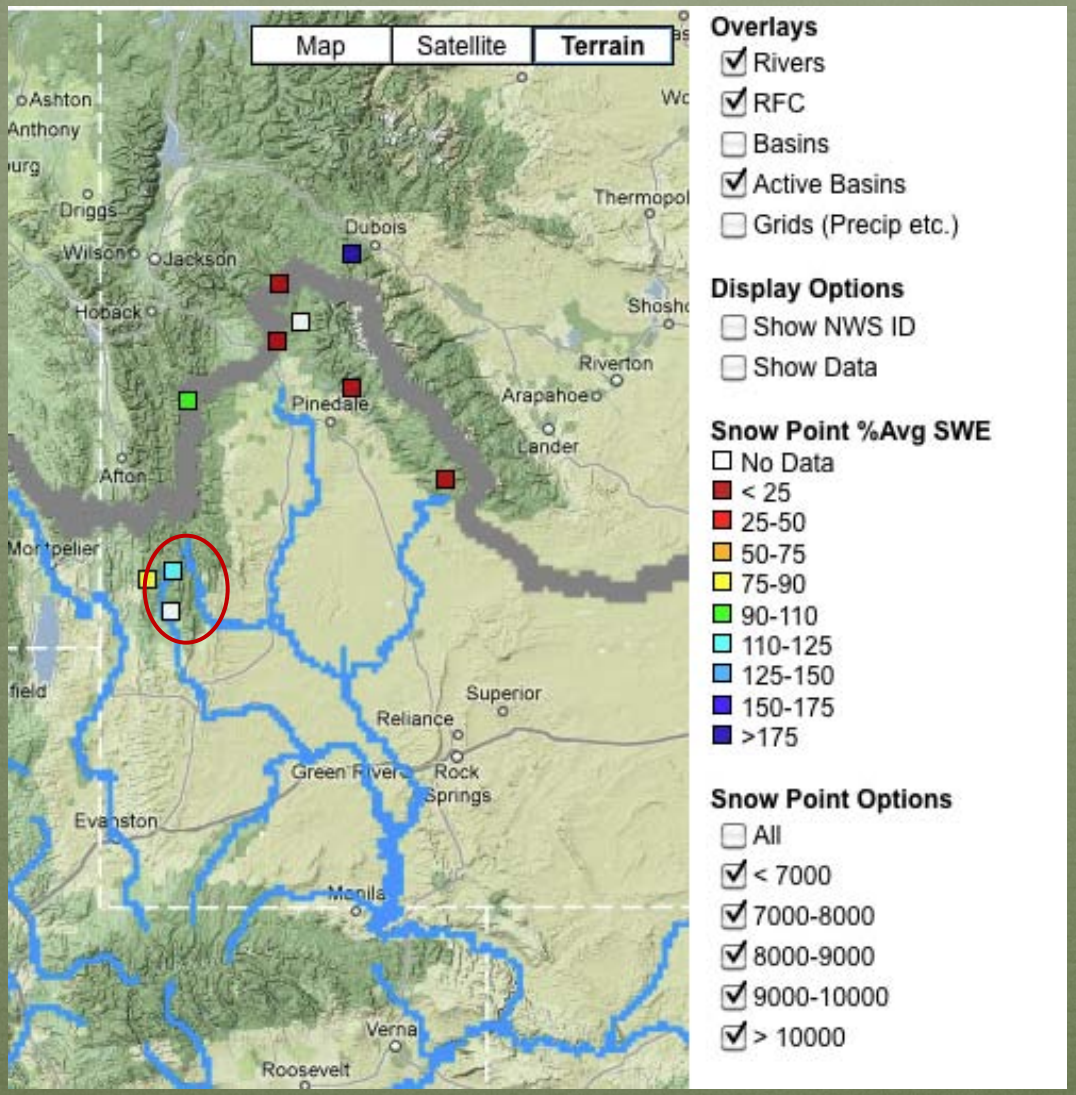


Basin Snowpack: 88%

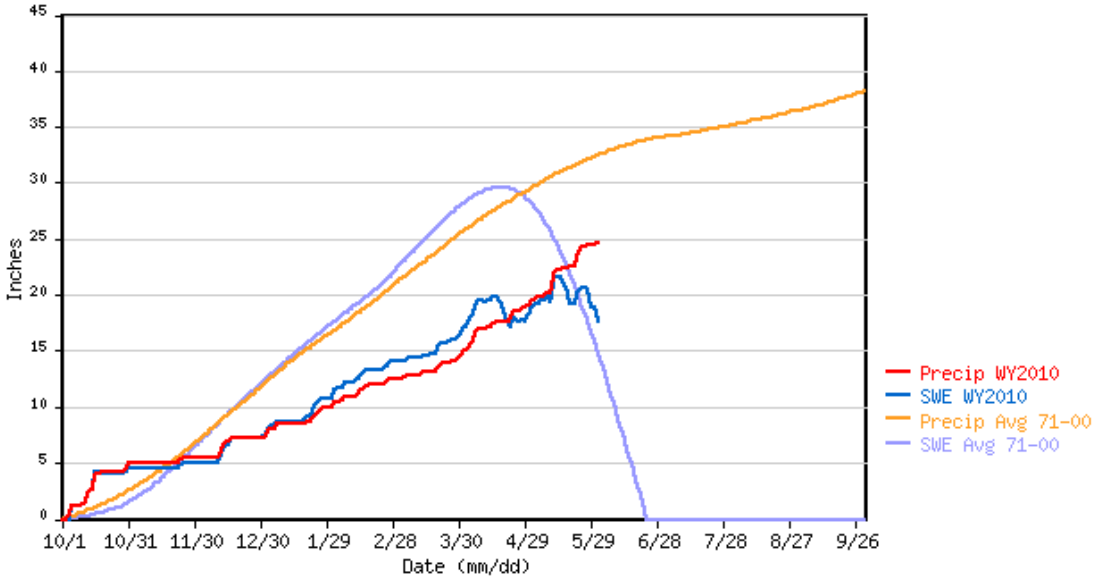
Peak snowpack: 64% of average peak

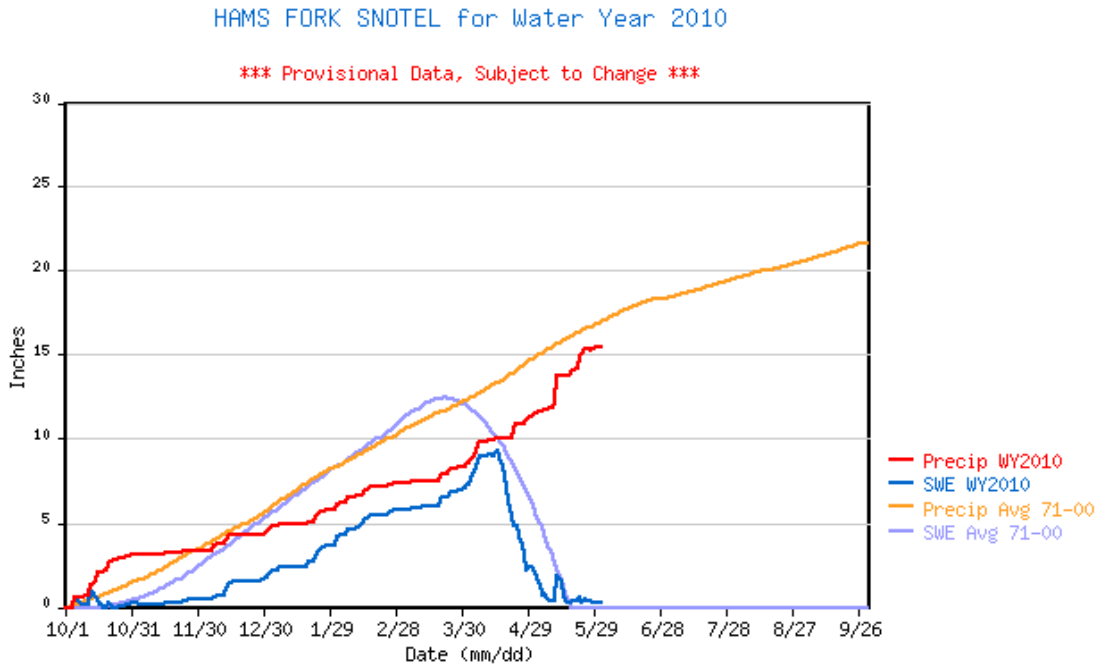
WYTD Precipitation percent of average: 73%

Indian Creek and Hams Fork

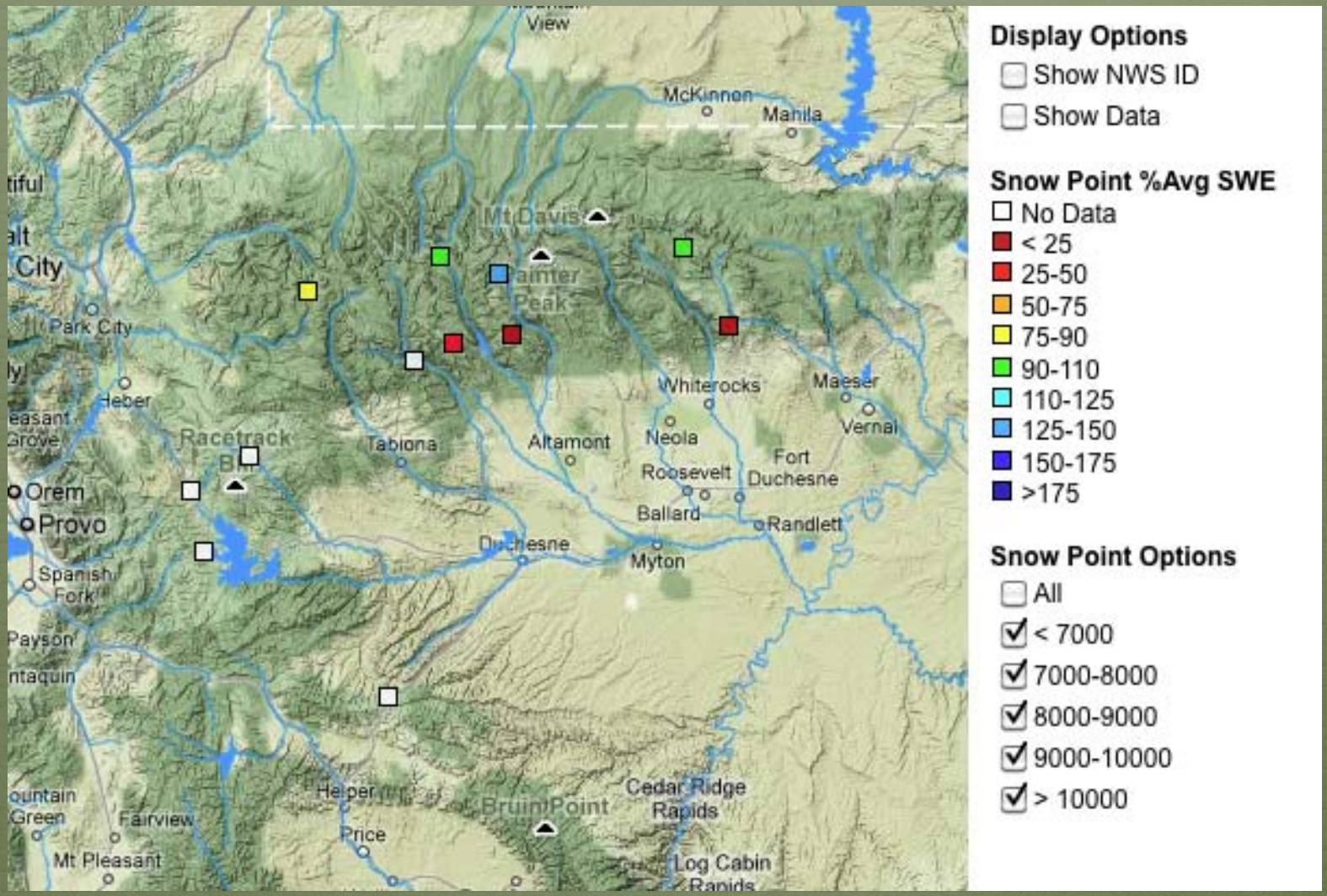


NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

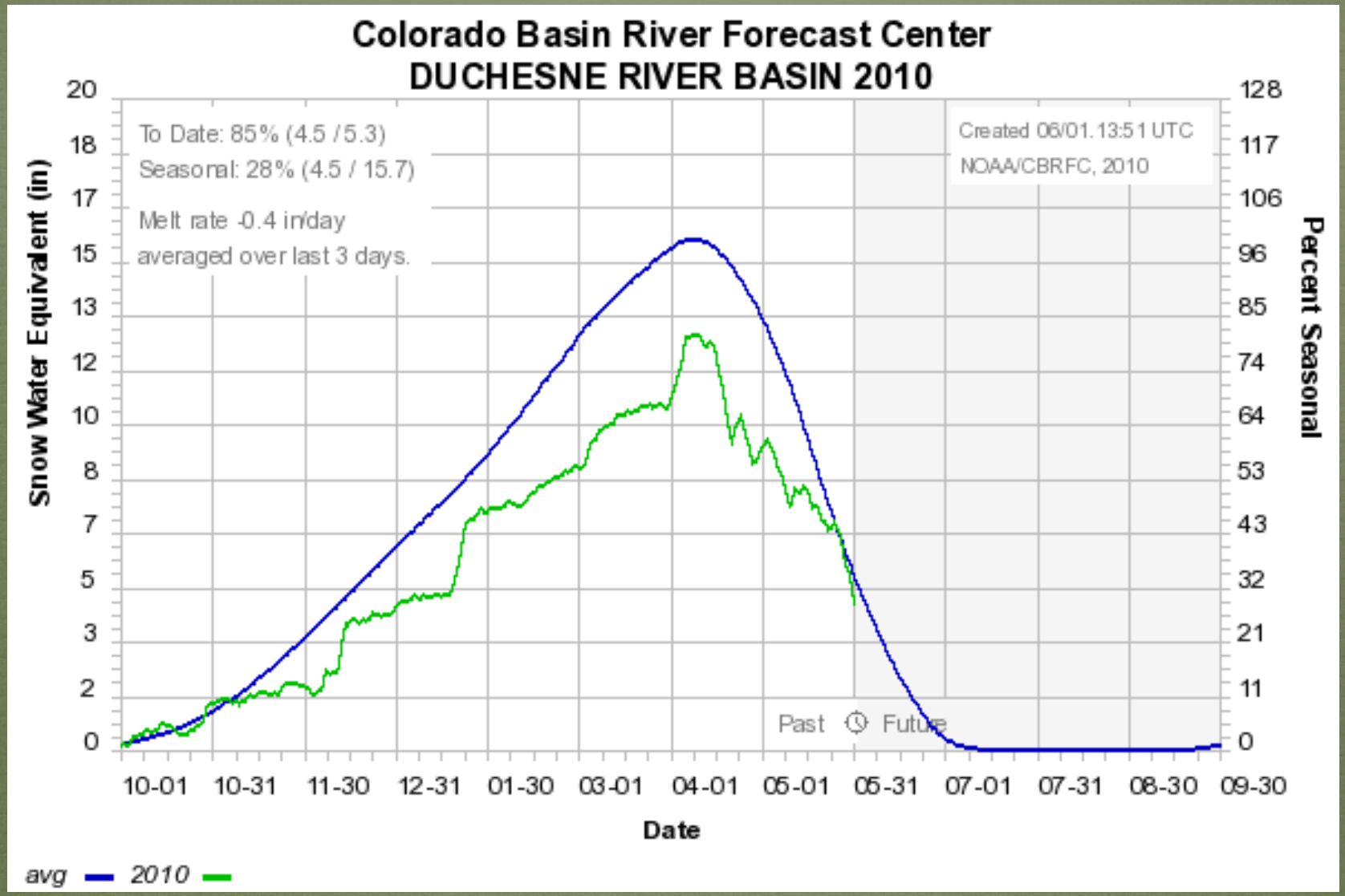

INDIAN CREEK SNOTEL for Water Year 2010
*** Provisional Data, Subject to Change ***
Inches
45
40
35
30
25
20
15
10
5
0
10/1
10/31
11/30
12/30
1/29
2/28
3/30
4/29
5/29
6/28
7/28
8/27
9/26
Date (mm/dd)
Precip WY2010
SWE WY2010
Precip Avg 71-00
SWE Avg 71-00


HAMS FORK SNOTEL for Water Year 2010
*** Provisional Data, Subject to Change ***
Inches
30
25
20
15
10
5
0
10/1
10/31
11/30
12/30
1/29
2/28
3/30
4/29
5/29
6/28
7/28
8/27
9/26
Date (mm/dd)
Precip WY2010
SWE WY2010
Precip Avg 71-00
SWE Avg 71-00

Duchesne River Basin

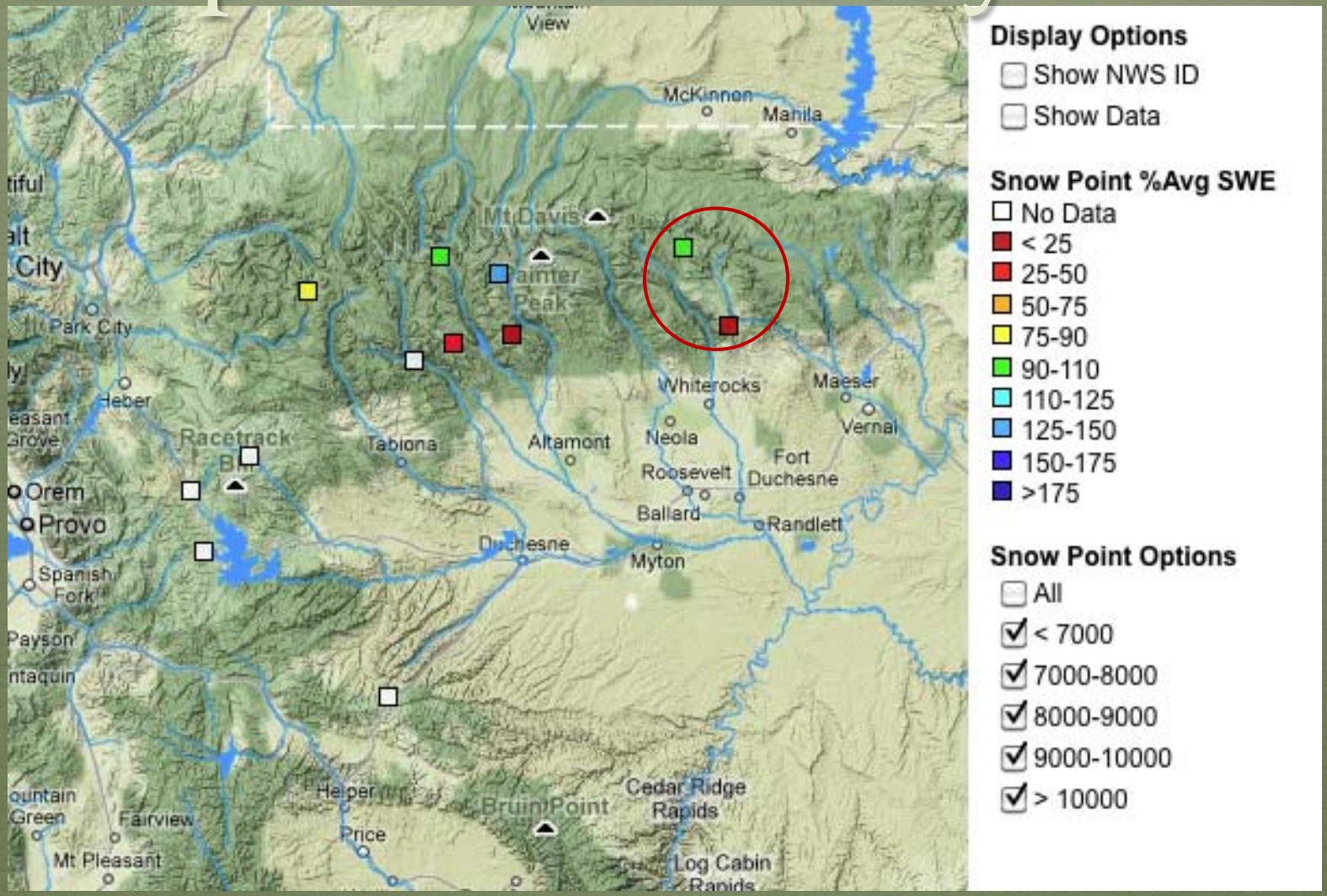


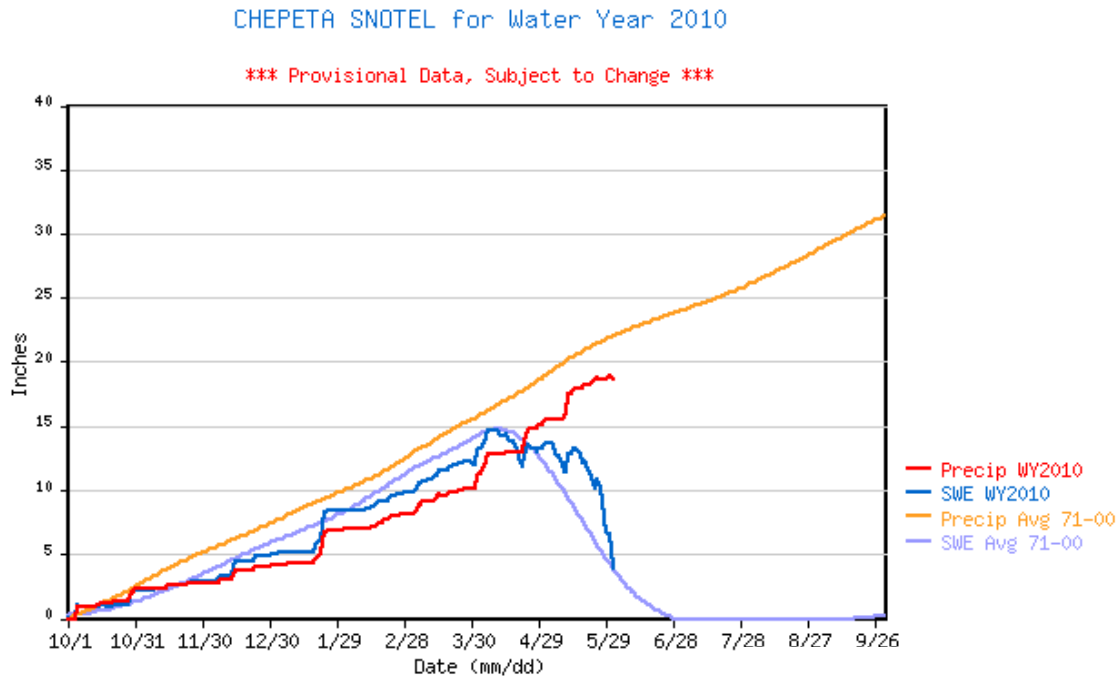
NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

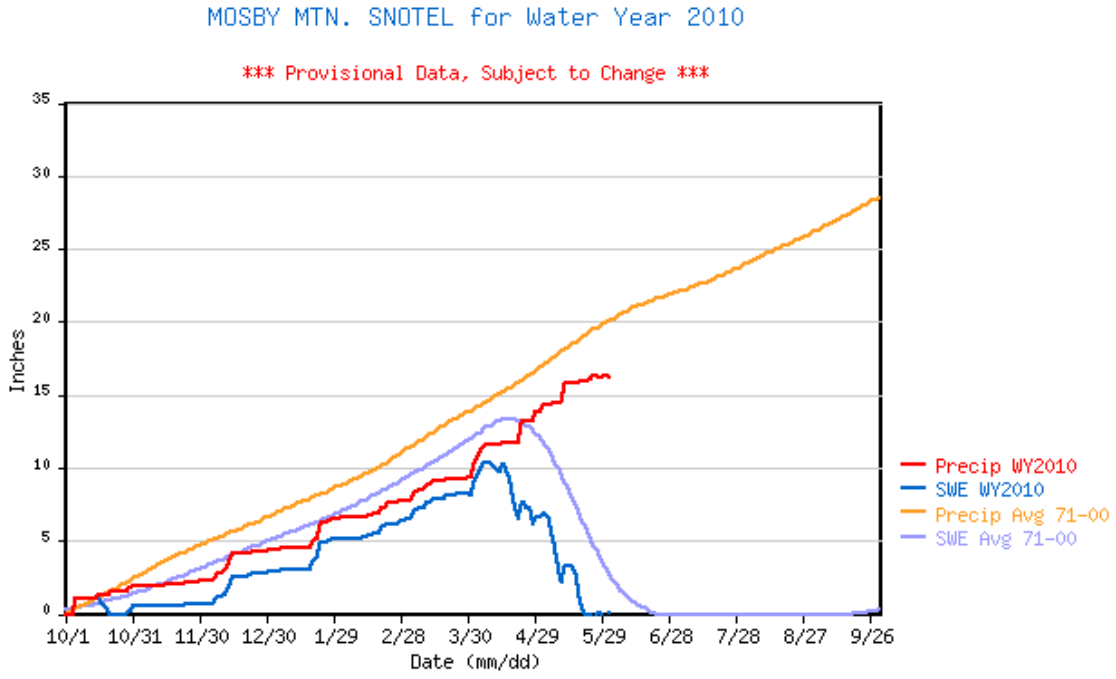


Basin snowpack: 85%
Peak snowpack: 81% of average peak
WYTD Precipitation percent of average: 78%

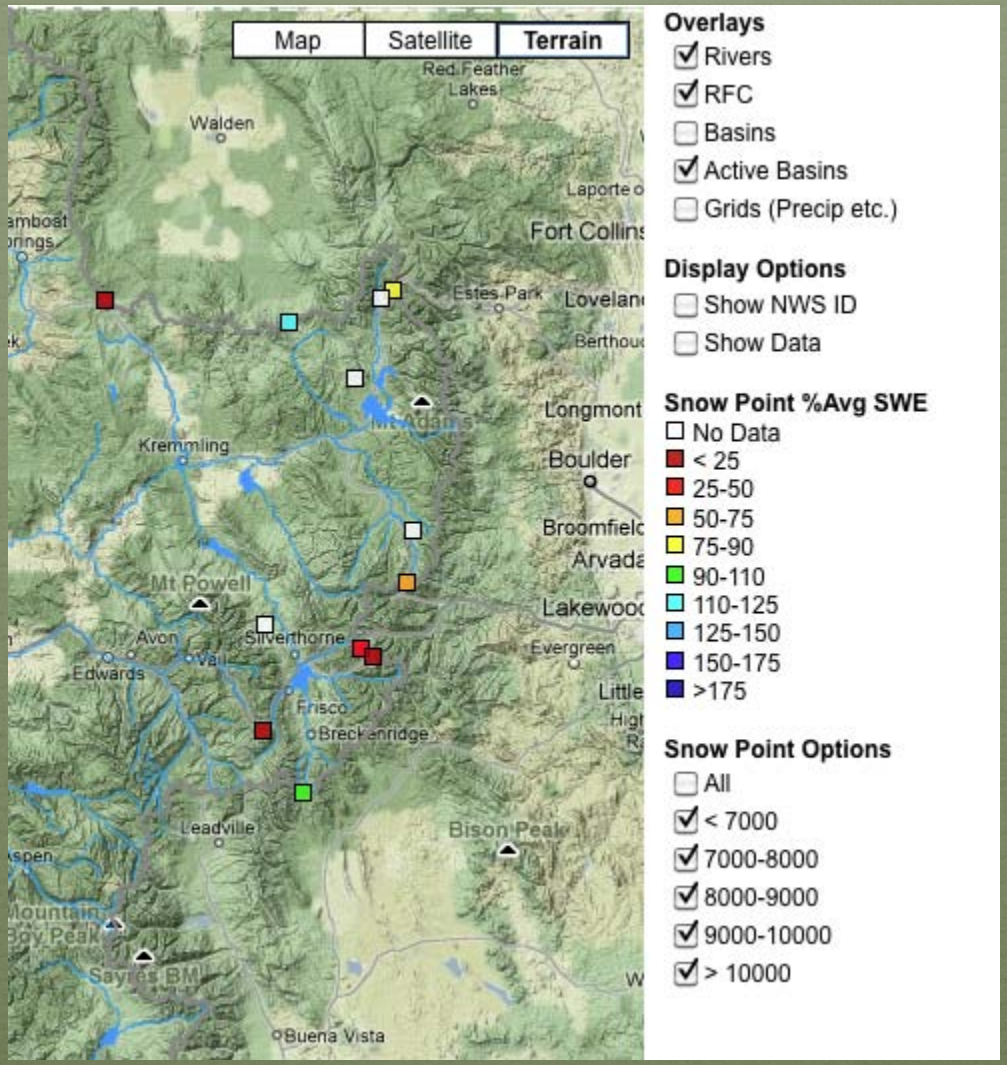
Chepeta and Mosby Mtn.



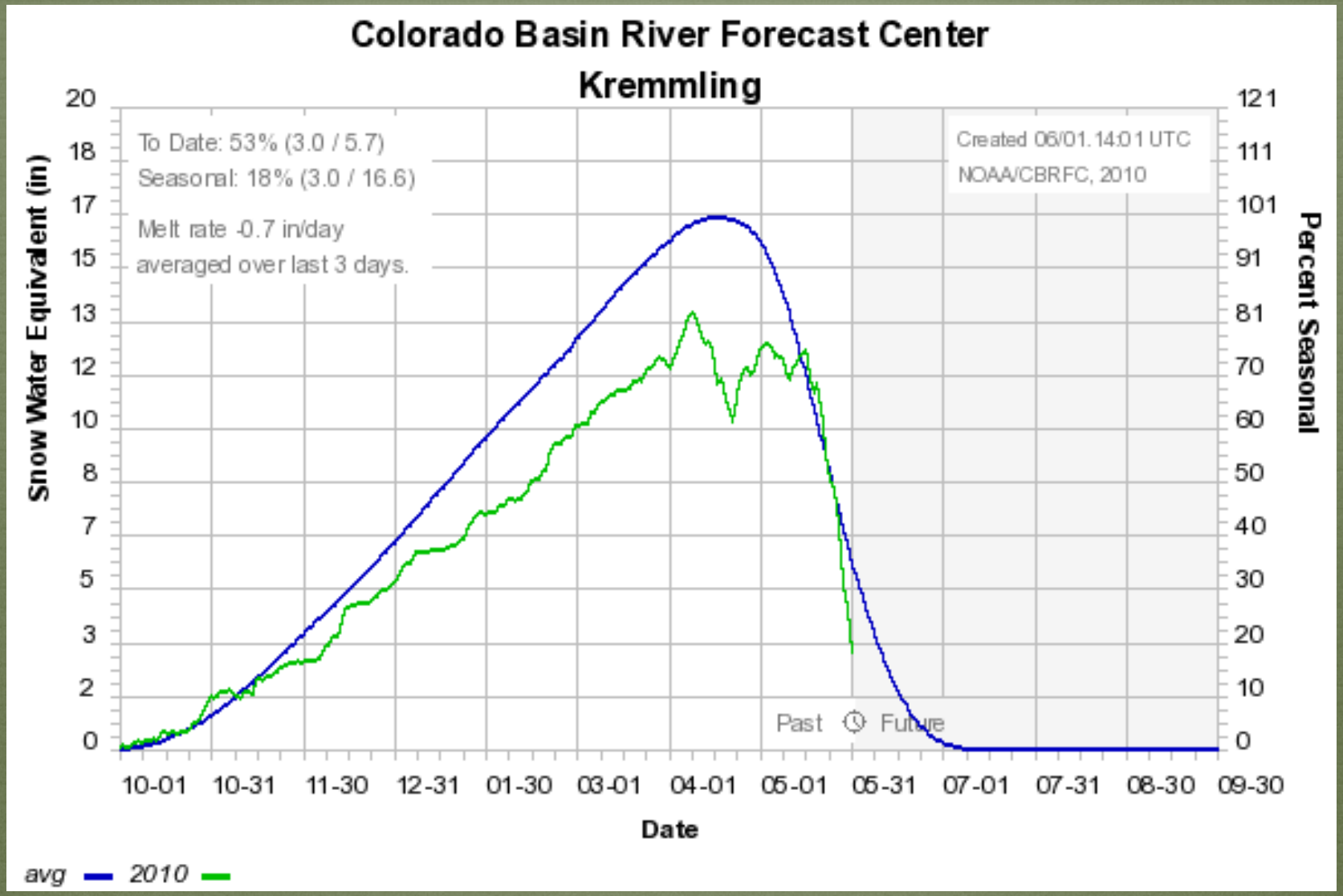

CHEPETA SNOTEL for Water Year 2010
*** Provisional Data, Subject to Change ***
Inches
40
35
30
25
20
15
10
5
0
10/1 10/31 11/30 12/30 1/29 2/28 3/30 4/29 5/29 6/28 7/28 8/27 9/26
Date (mm/dd)
Precip WY2010
SWE WY2010
Precip Avg 71-00
SWE Avg 71-00


MOSBY MTN. SNOTEL for Water Year 2010
*** Provisional Data, Subject to Change ***
Inches
35
30
25
20
15
10
5
0
10/1 10/31 11/30 12/30 1/29 2/28 3/30 4/29 5/29 6/28 7/28 8/27 9/26
Date (mm/dd)
Precip WY2010
SWE WY2010
Precip Avg 71-00
SWE Avg 71-00

Upper Colorado above Kremmling

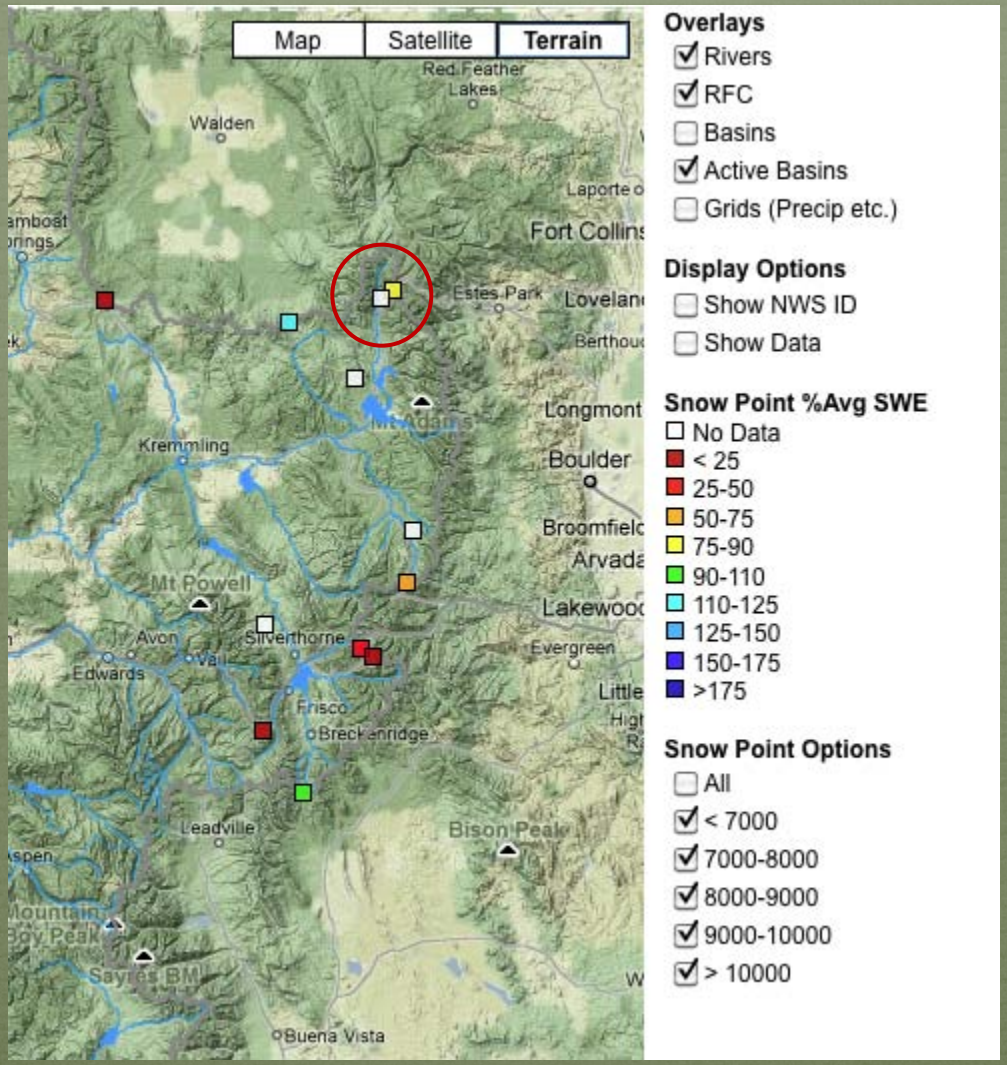


NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center



Basin Snowpack: 53%
Peak snowpack: 79% of average peak
WYTD Precipitation percent of average: 88%

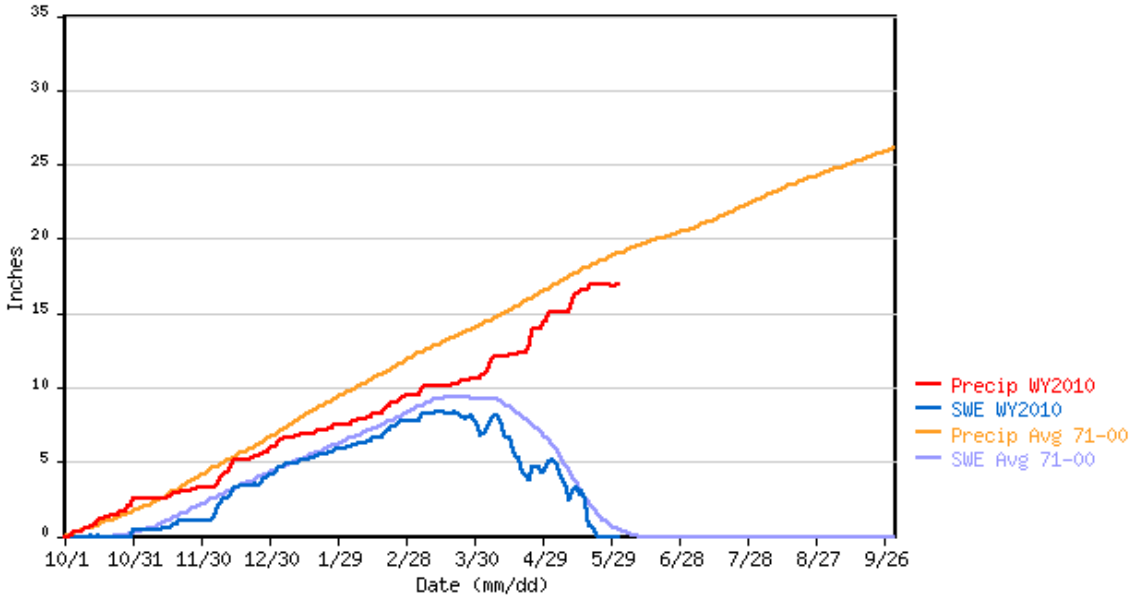
Lake Irene and Phantom Valley



NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center

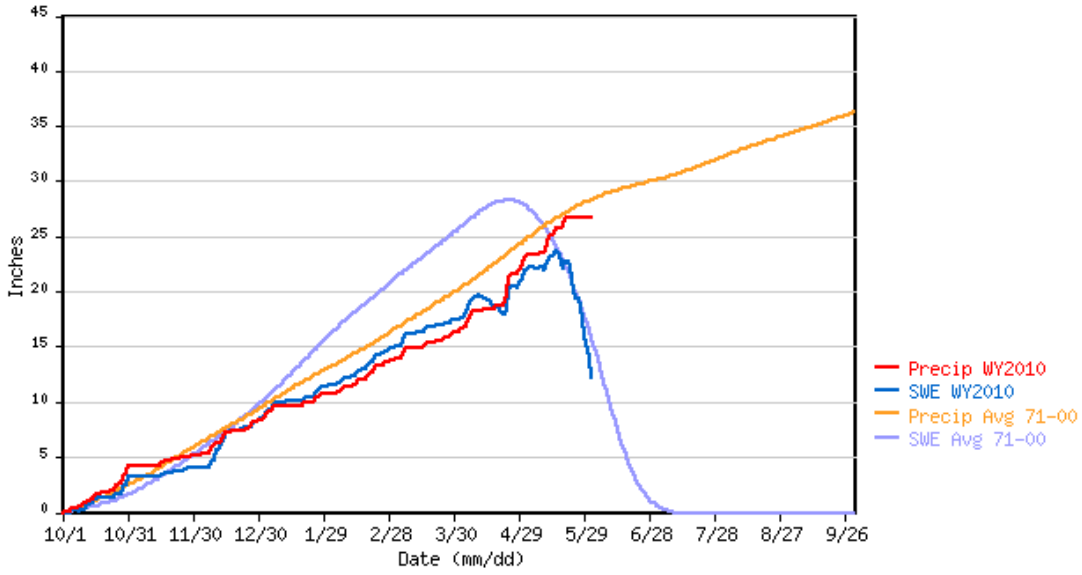
PHANTOM VALLEY SNOTEL for Water Year 2010

*** Provisional Data, Subject to Change ***

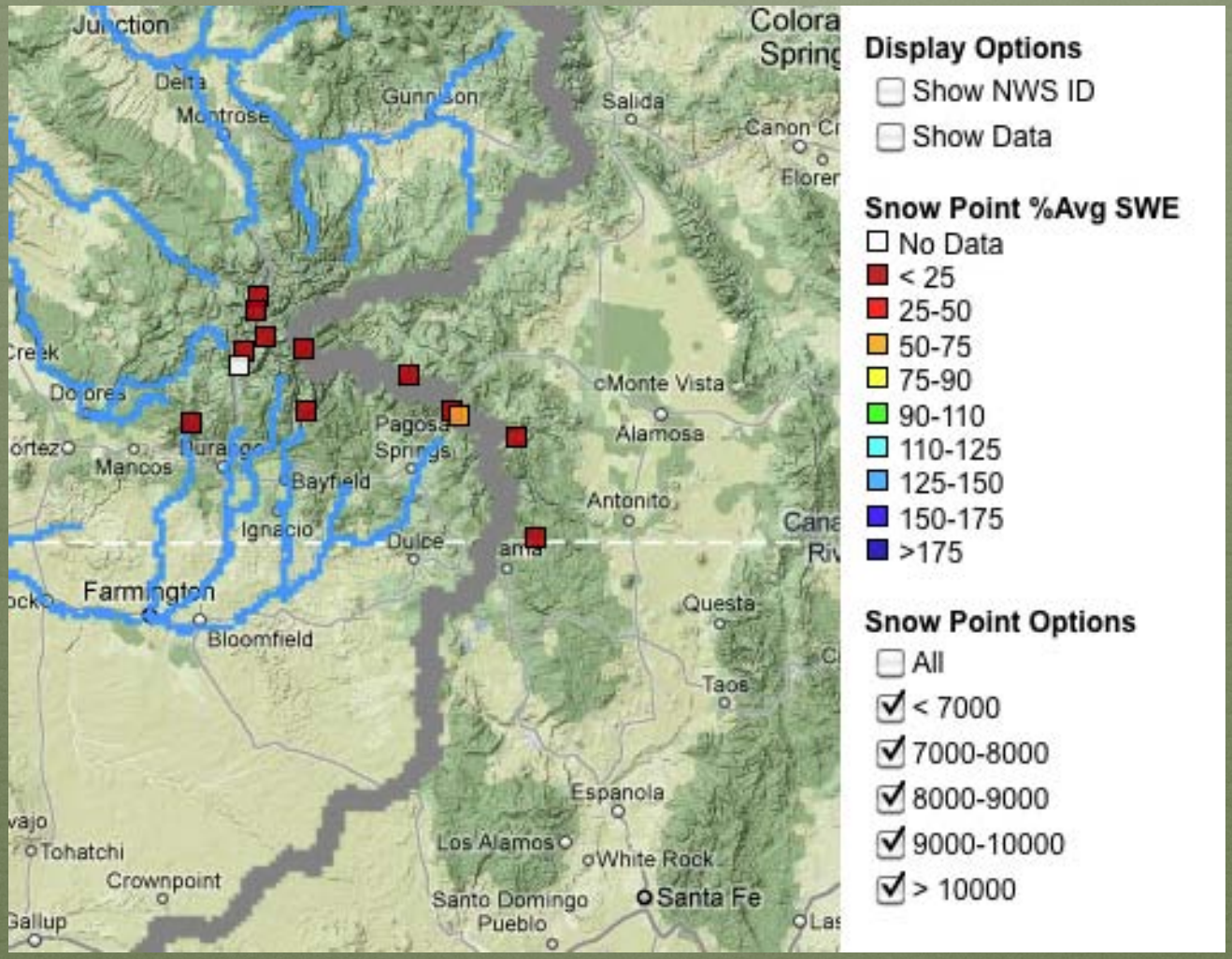


LAKE IRENE SNOTEL for Water Year 2010

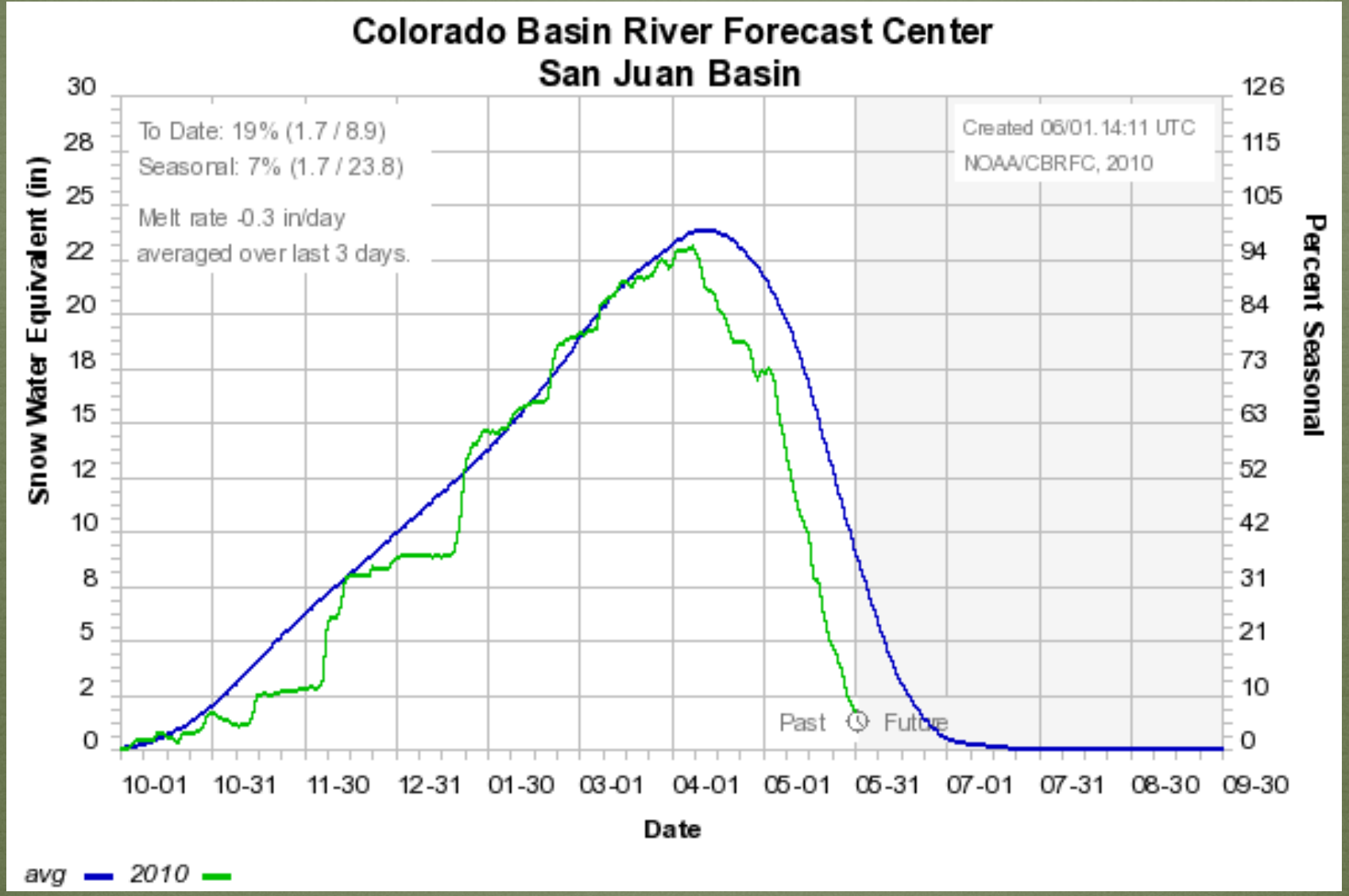
*** Provisional Data, Subject to Change ***



San Juan Basin



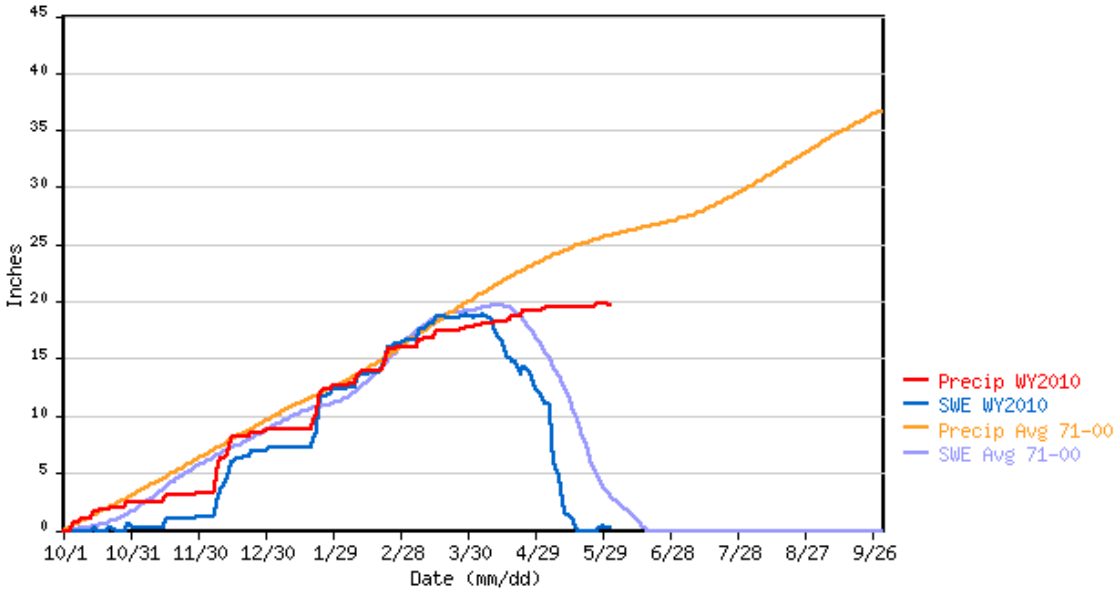
NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center



Basin Snowpack: 19%
Peak snowpack: 97% of average peak
WYTD Precipitation percent of average: 89%

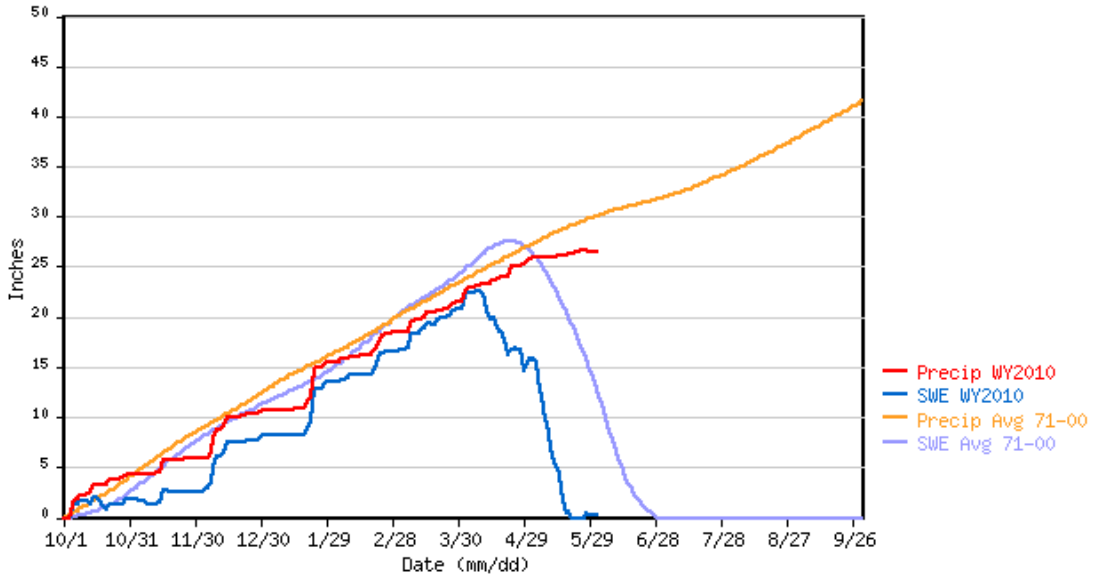
VALLECITO SNOTEL for Water Year 2010

*** Provisional Data, Subject to Change ***



BEARTOWN SNOTEL for Water Year 2010

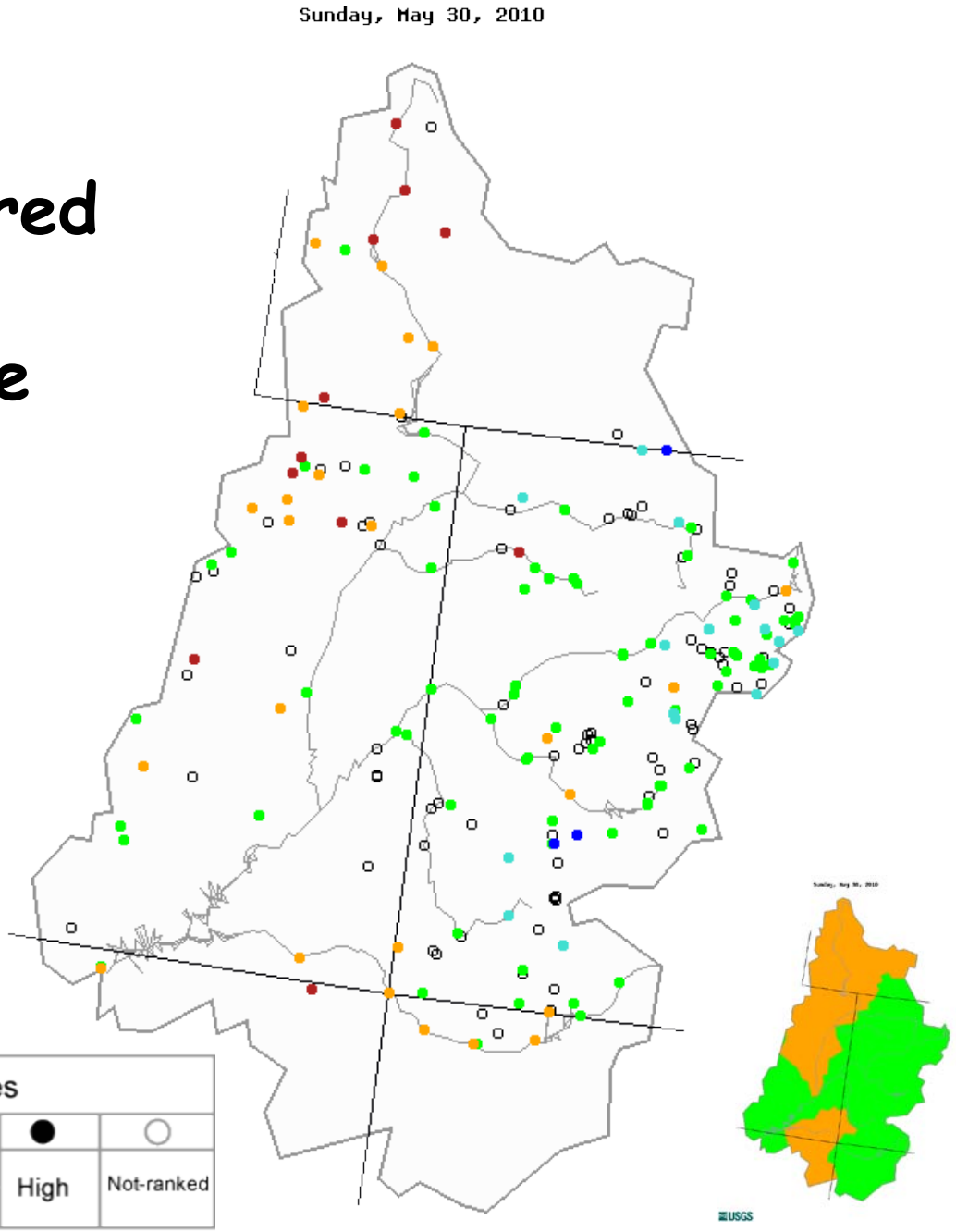
*** Provisional Data, Subject to Change ***



Streamflow Update

Kirk Miller USGS - Wyoming

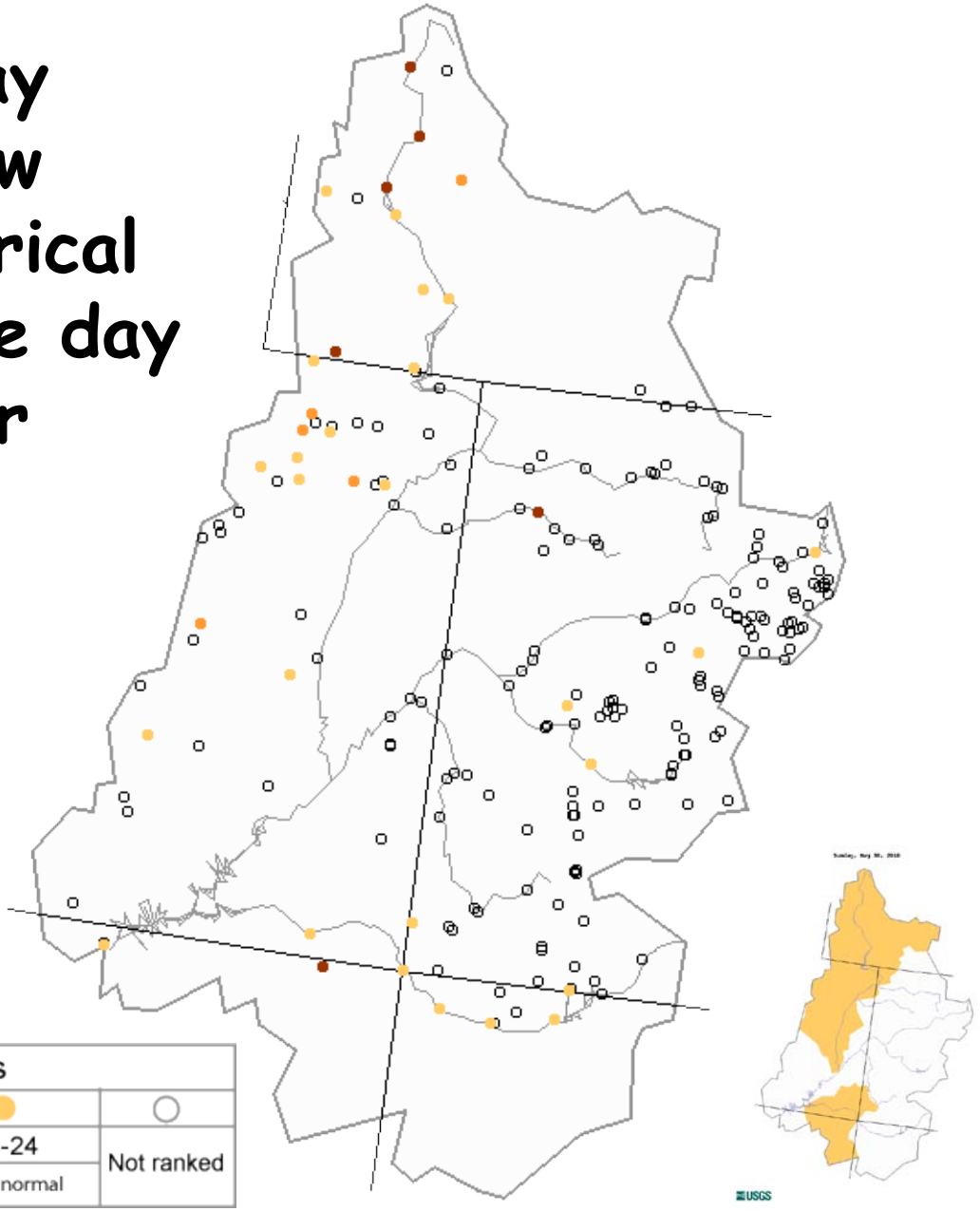
7-day average streamflow compared to historical streamflow for the day of the year (Upper Colorado)



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

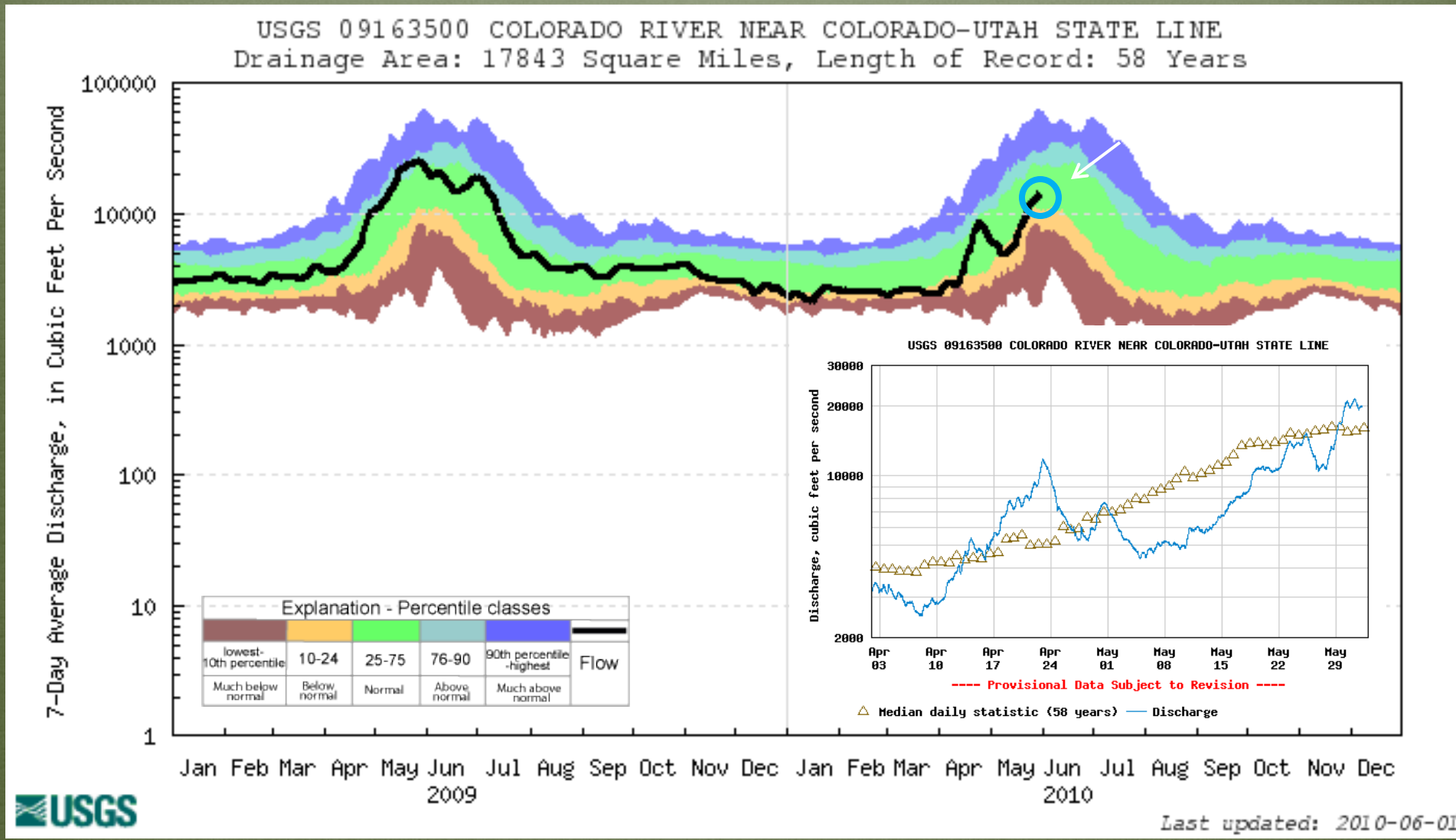
USGS

Below normal 7-day average streamflow compared to historical streamflow for the day of the year (Upper Colorado)



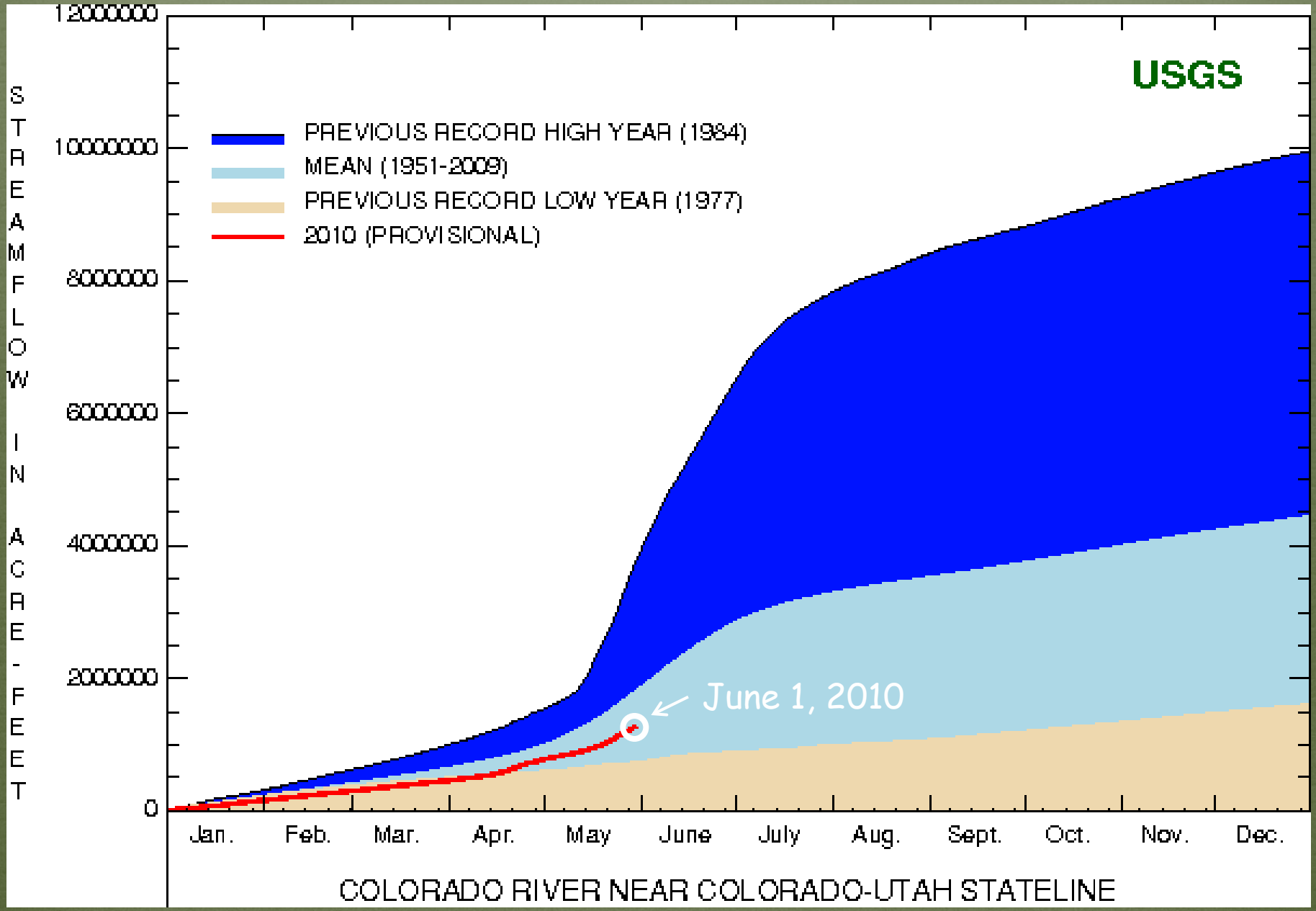
Explanation - Percentile classes				
New low	<=5	6-9	10-24	Not ranked
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

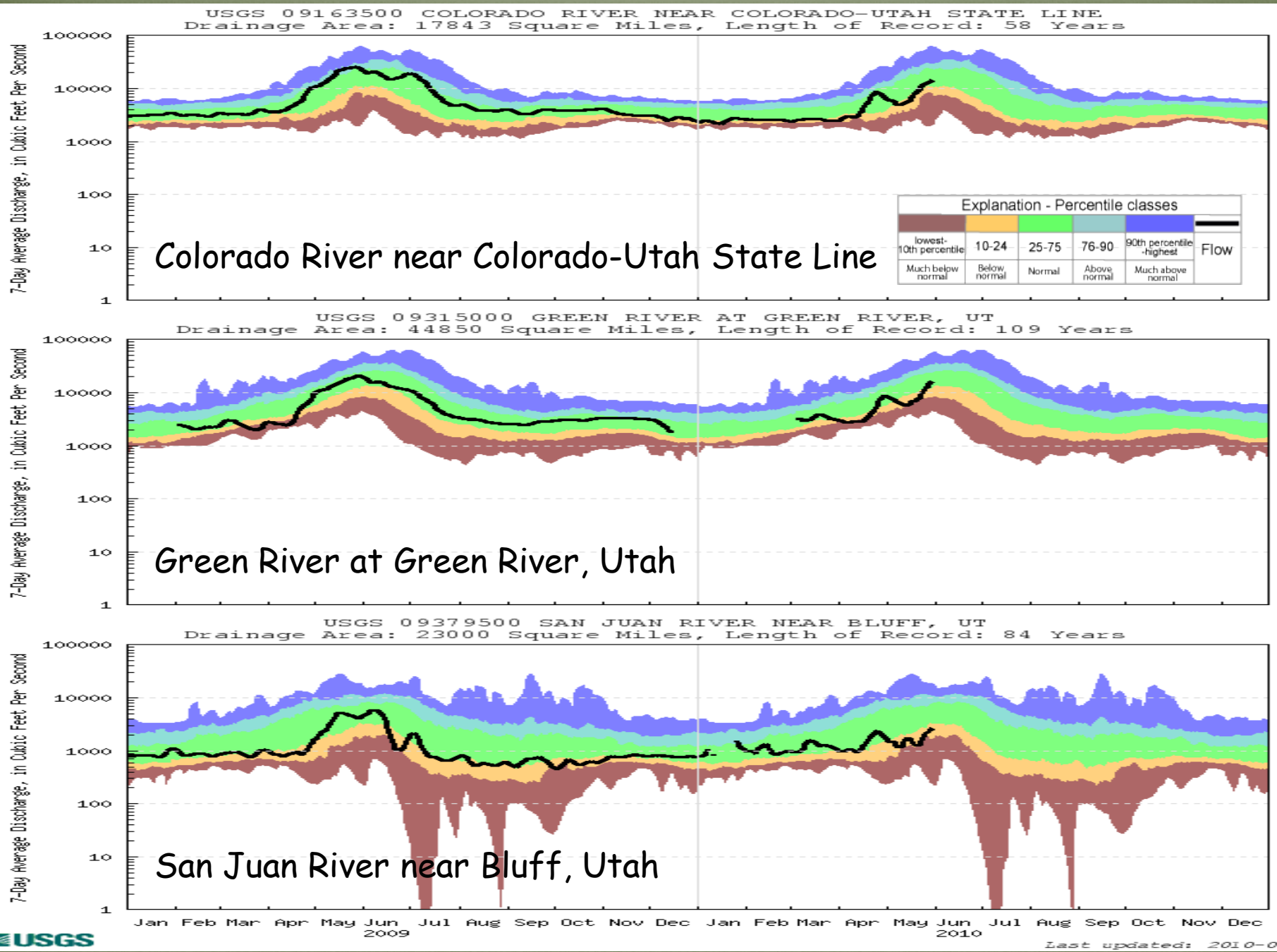
USGS



USGS

Last updated: 2010-06-01

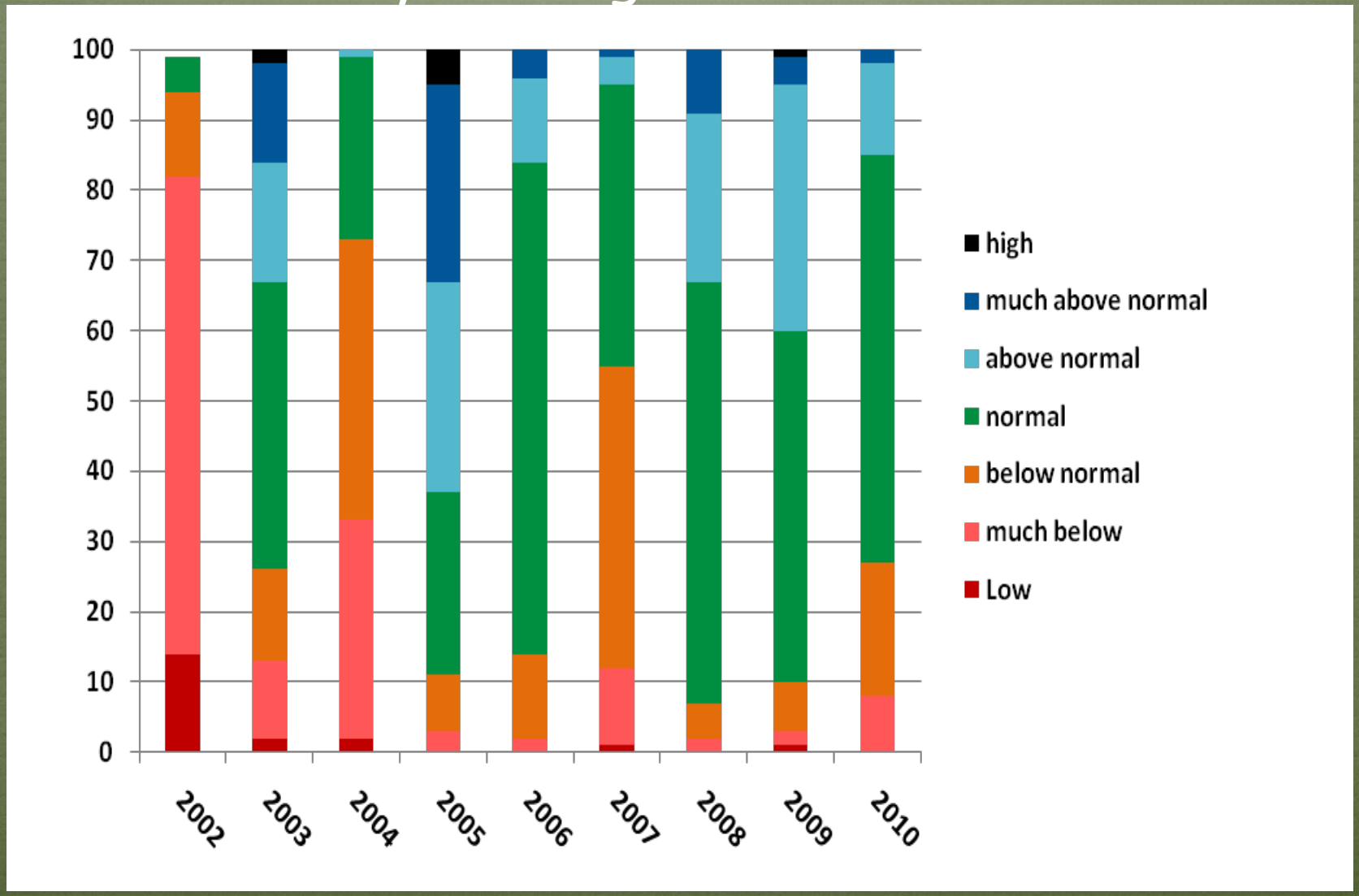

USGS
PREVIOUS RECORD HIGH YEAR (1984)
MEAN (1951-2009)
PREVIOUS RECORD LOW YEAR (1977)
2010 (PROVISIONAL)
June 1, 2010
STREAMFLOW IN ACRE-FEET
12000000
10000000
8000000
6000000
4000000
2000000
0
Jan.
Feb.
Mar.
Apr.
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.
COLORADO RIVER NEAR COLORADO-UTAH STATELINE



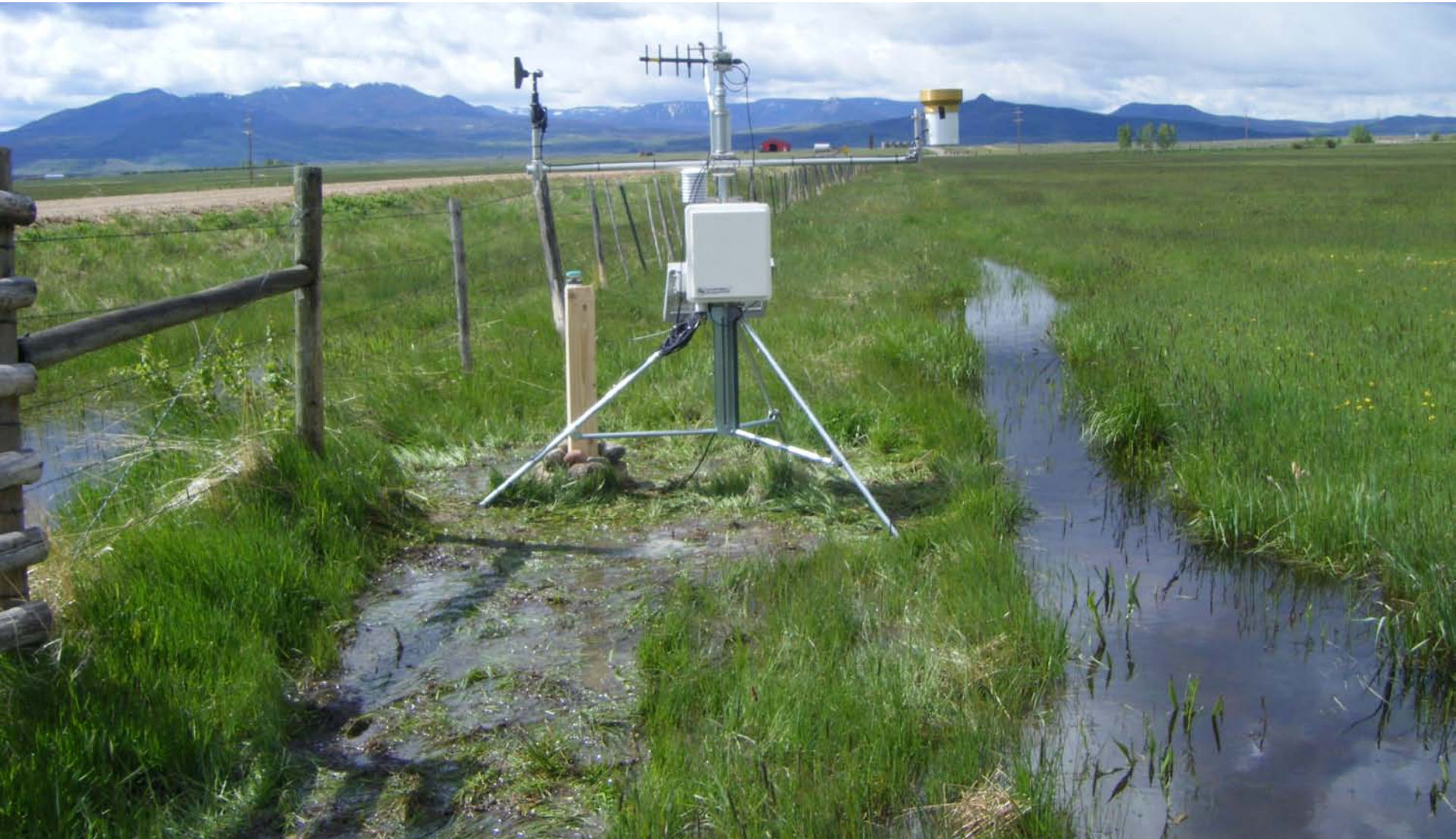
USGS

Last updated: 2010-06-01

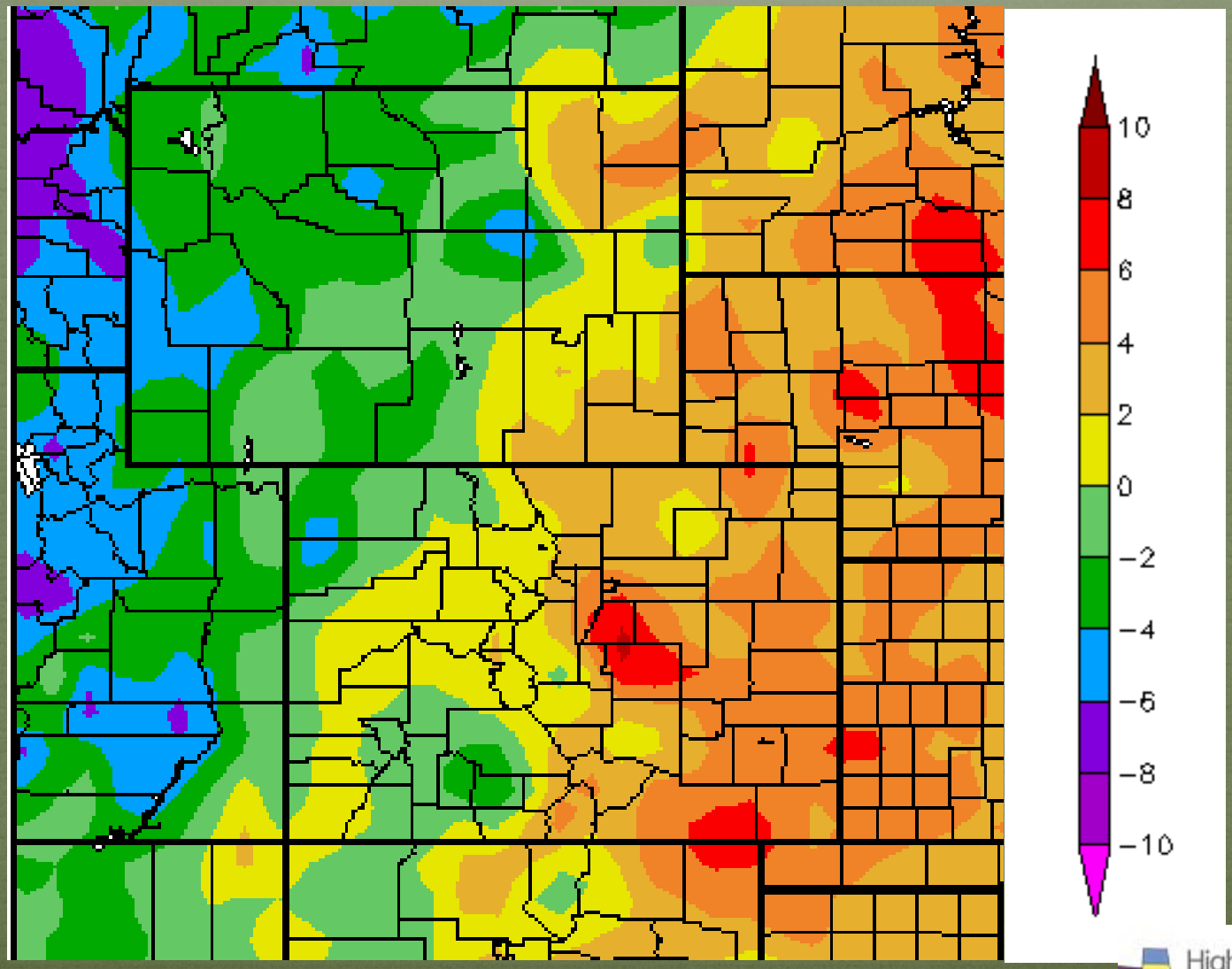
May 30
Percentage of Streamgages per Percentile Class
7-day Average Streamflow



Water Demand

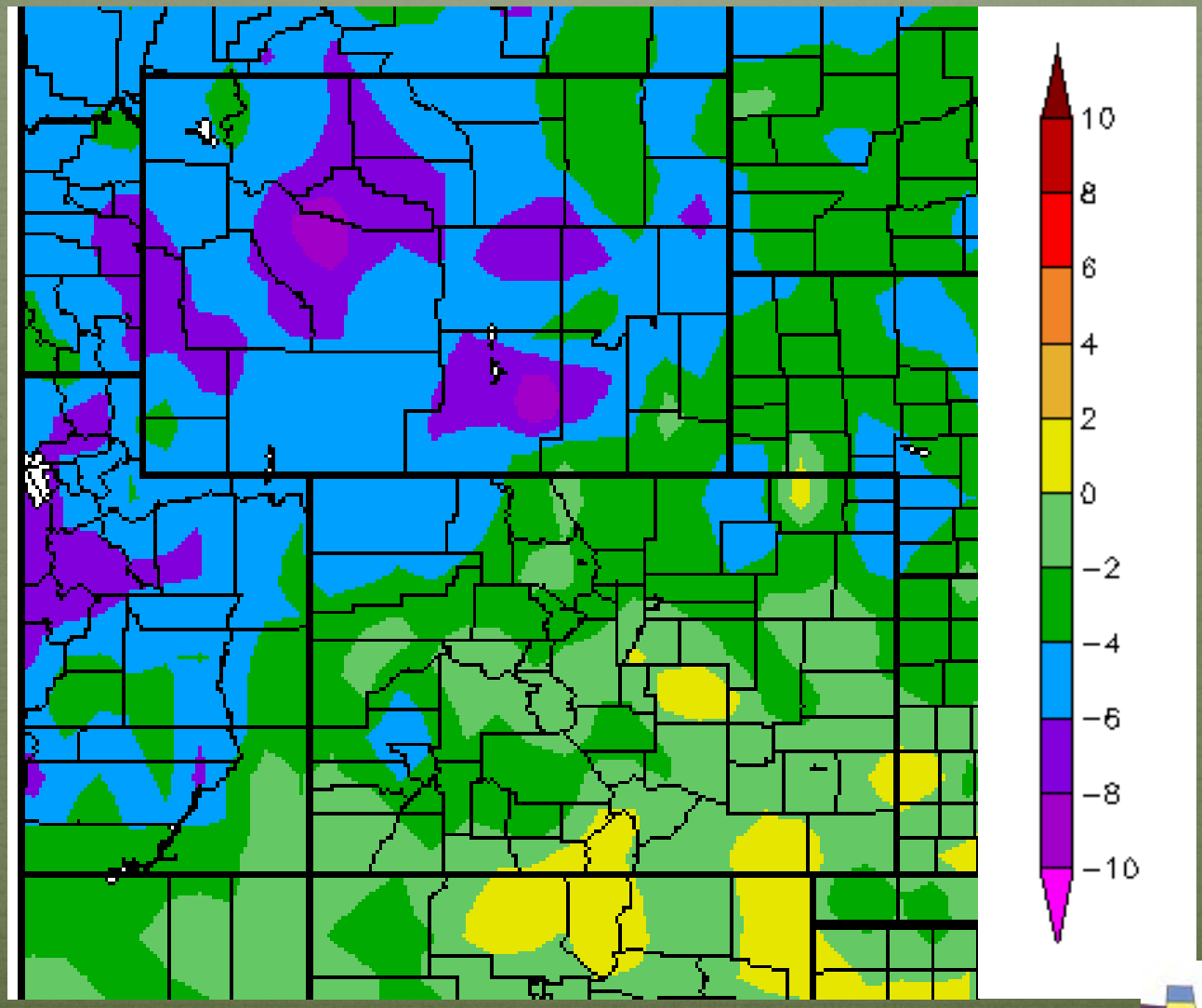


Temperature Departure from Normal
5/25/2010 – 5/31/2010

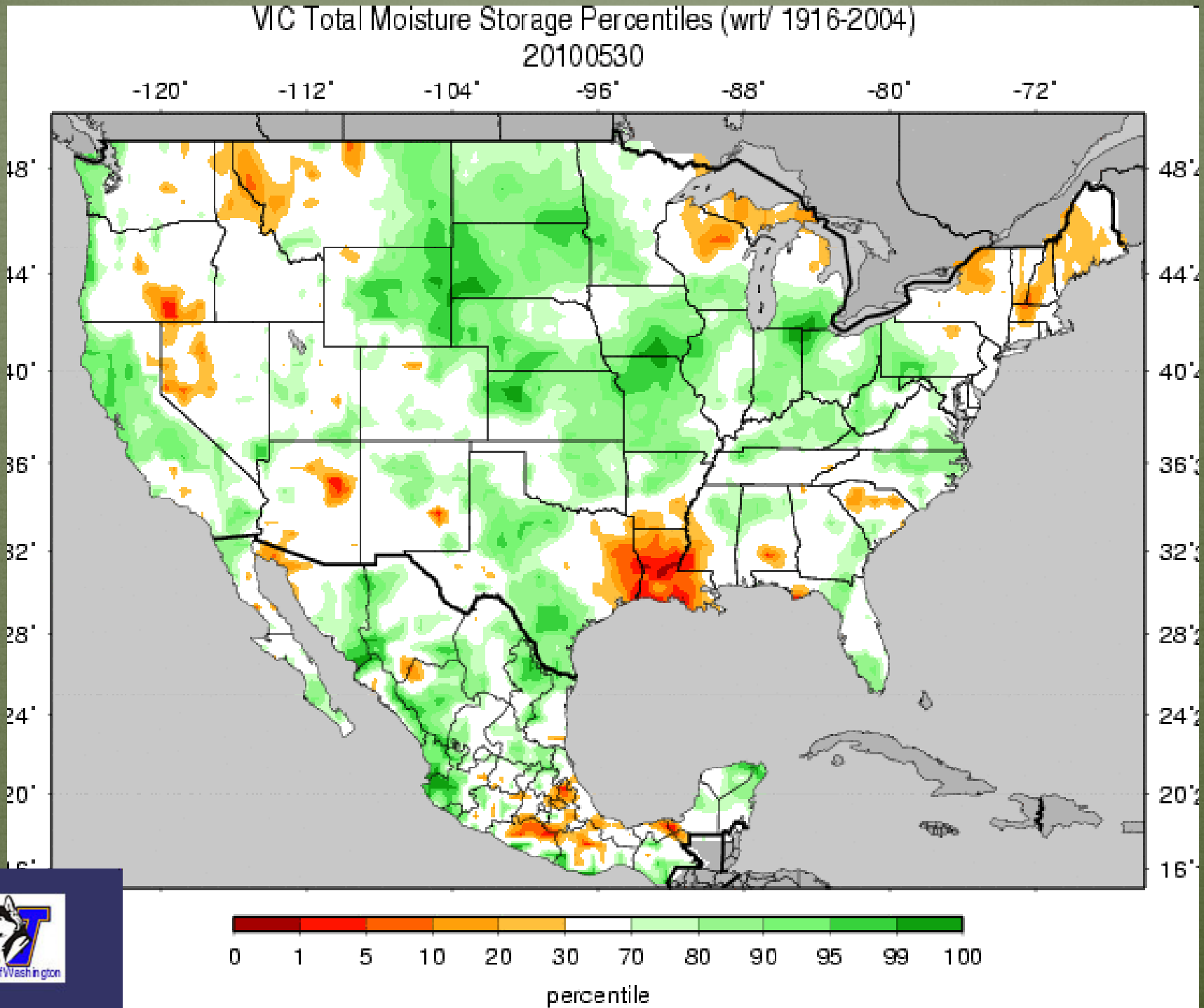


High Plains Regional Climate Center

Month To Date Temperature Departure from Normal
5/1/2010 – 5/31/2010



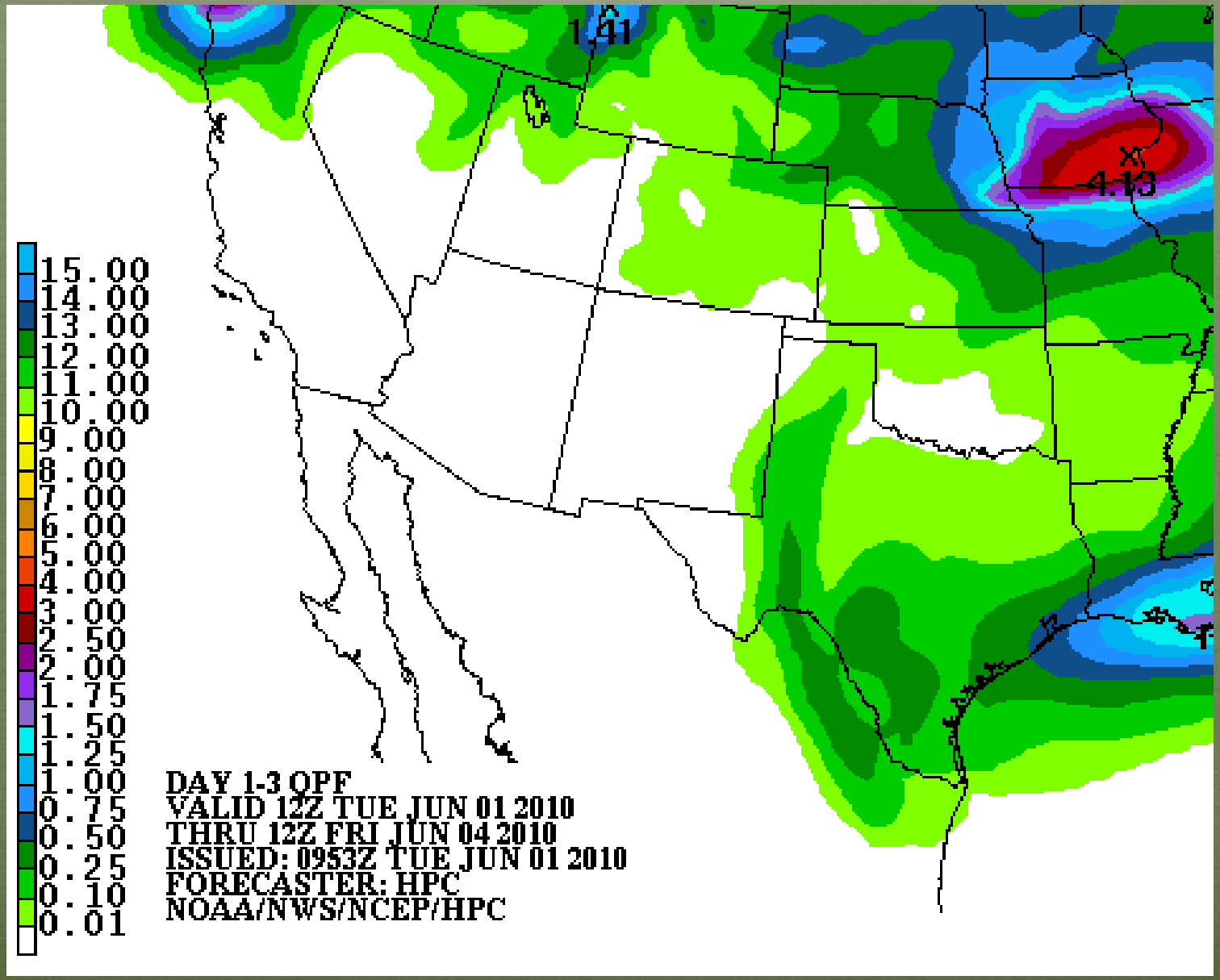
High Plains Regional Climate Center



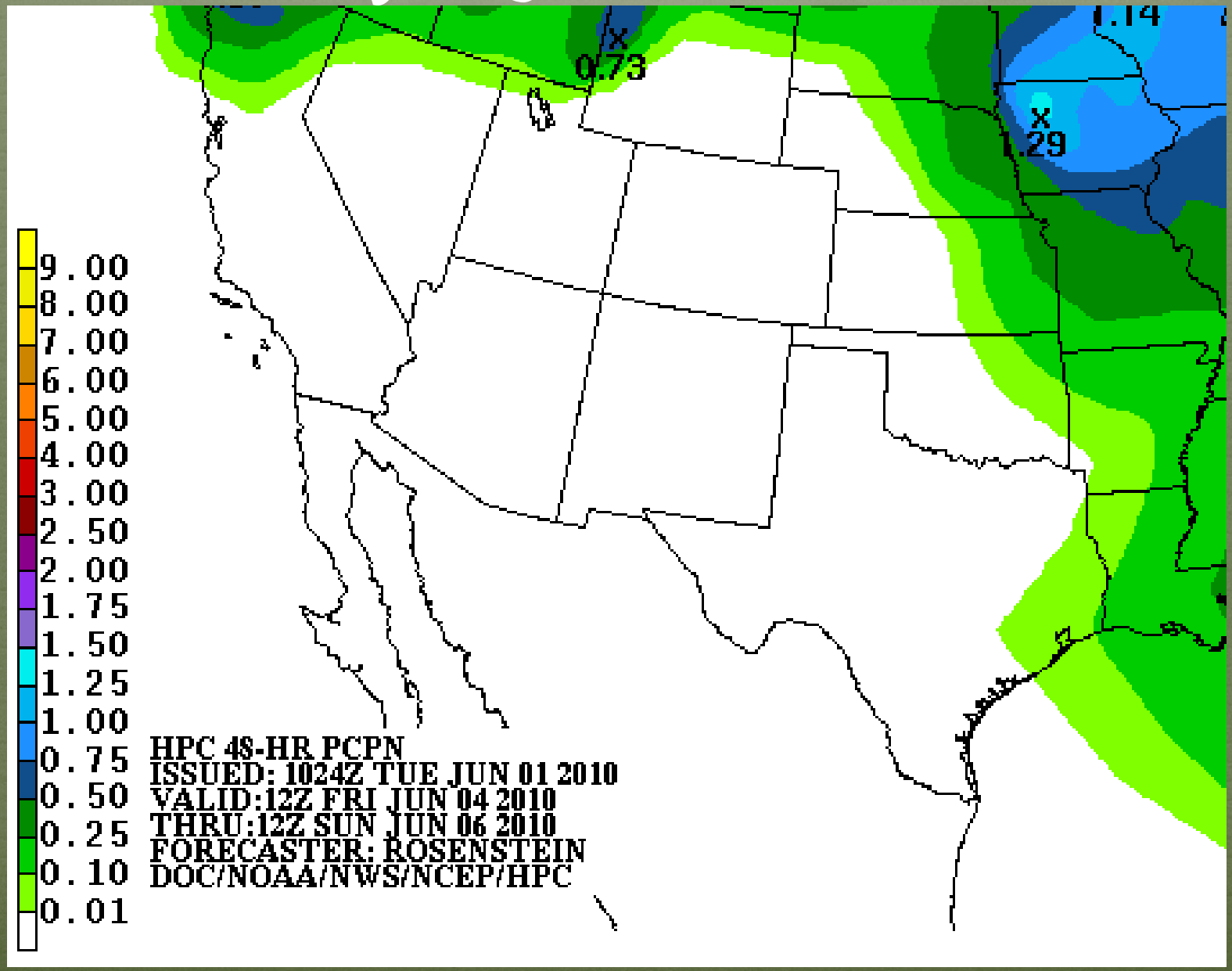
University of Washington

Precipitation Forecast

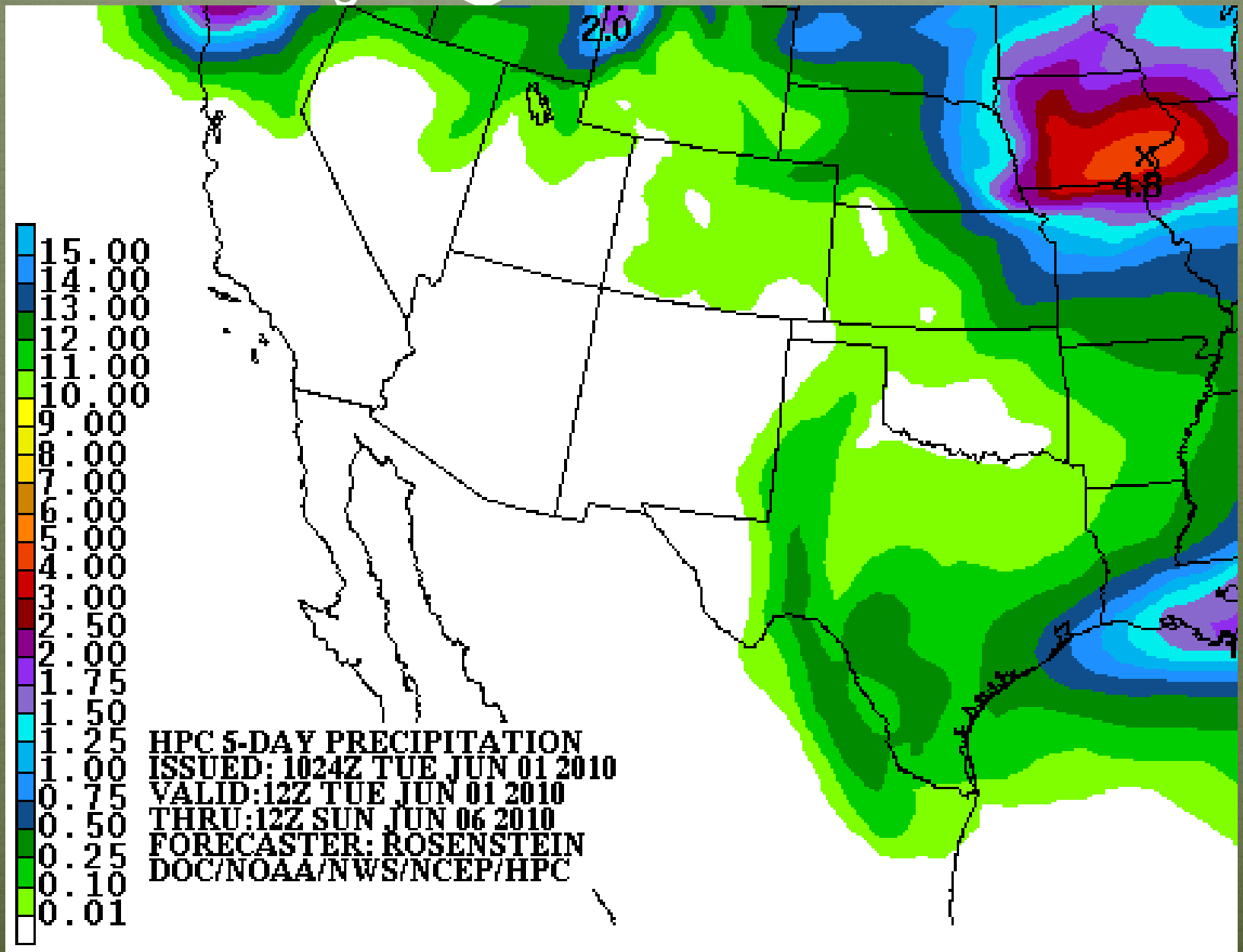
1-3 Day QPF 1 – 4 June



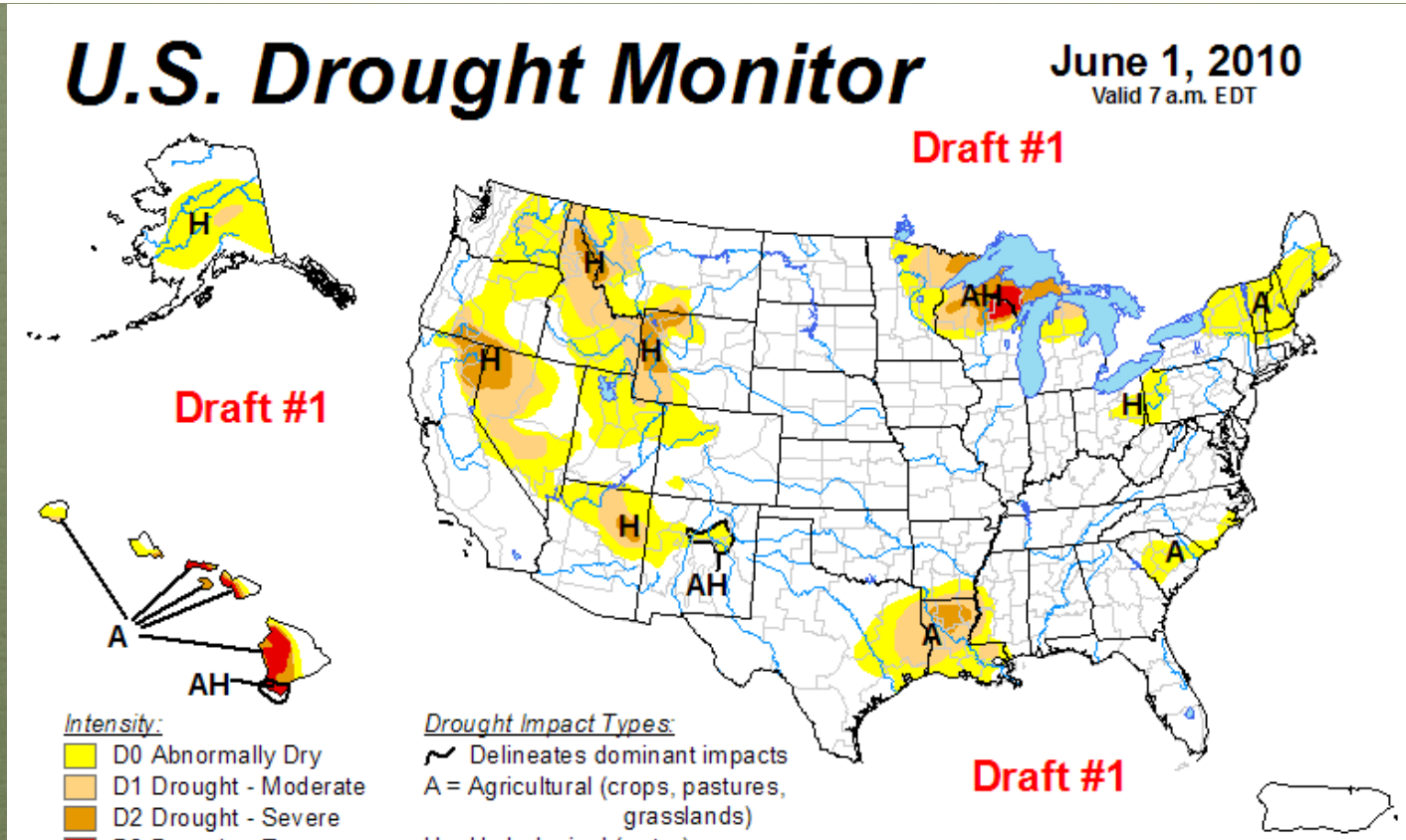
4-5 Day QPF 4 – 6 June



5 Day QPF 1 – 6 June



Recommendations



INFO

For more information

Summary

Much of the Upper Colorado River Basin received very little moisture last week, with only spotty areas of precipitation in the Yampa-White and Green River basins and northern Utah. For the month of May, the majority of precipitation was focused over the northern region of Colorado and along the Utah-Wyoming border. After a wet start to the water year, the south has quickly begun drying out. Small decreases were seen in the water-year-to-date precipitation percent of averages from last week with the driest areas showing up in northeastern Utah and western Wyoming. Temperatures for the last week were near average to slightly cooler than average for most of the UCRB. However, since the average temperature this time of year is quickly warming up, much of the snowpack is melting and stream flows are again picking up. Less than 30% of the stream gages in the area are reporting below normal (below the 25th percentile) 7-day flows, compared to nearly 50% last week. Much below normal flows are mainly seen in Wyoming, where even though much of the snowpack has melted out, the very low peak snowpack values resulted in only minor increases in stream flow. Minor improvements in northeastern Utah stream flows were primarily the result of drainage from the south slopes of the Uinta mountain range, but are not expected to have any long term impacts, and stream flows will probably deteriorate again in the coming weeks. Reservoir levels continue to rise with the melt-off. Reservoir operators in the Colorado basin have coordinated their releases to match the natural peak flows in order to boost stream flows and mobilize sediment, as there is now extra water and no more concern that the reservoirs will not fill for the high demand season.

The forecast for the region is pretty quiet with some chance of precipitation in the next 1 to 3 days. The next weather system to move through looks to drop most of the moisture over western Wyoming with some chance in the plains of northeastern Colorado. After this, conditions will dry up as the area will be dominated by zonal flow with a building ridge to the west.

After looking at percentile rankings of snotel precipitation across the basin, one of the areas of biggest concern is northeastern Utah, which has been in D0 for quite some time. The percentiles suggest that some of the region could possibly be in D1, though it was recommended to defer to the U.S. Drought Monitor author (and other experts in the region who were not on the call) on any possible changes that should be made to the region. Due to continued poor conditions in the Green River basin (and feedback from local irrigators), Wyoming experts on the call wish to remain status quo for the D2 in the region, with the possibility of adjusting the D1 in extreme southwestern WY to better reflect conditions there, though they also defer to the Drought Monitor author on that particular change. Due to the persistent drying occurring in the four-corners region, the suggestion by the Drought Monitor author to expand and connect the D0 in Arizona, New Mexico, and Colorado, was met with no arguments. The author did suggest though that most of these changes would be focused on NM, so it's possible that the expansion in southwestern Colorado will not happen for this week's map.