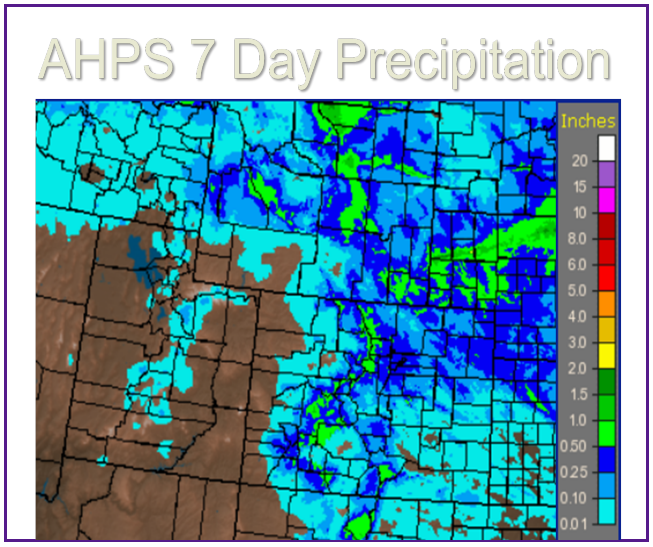
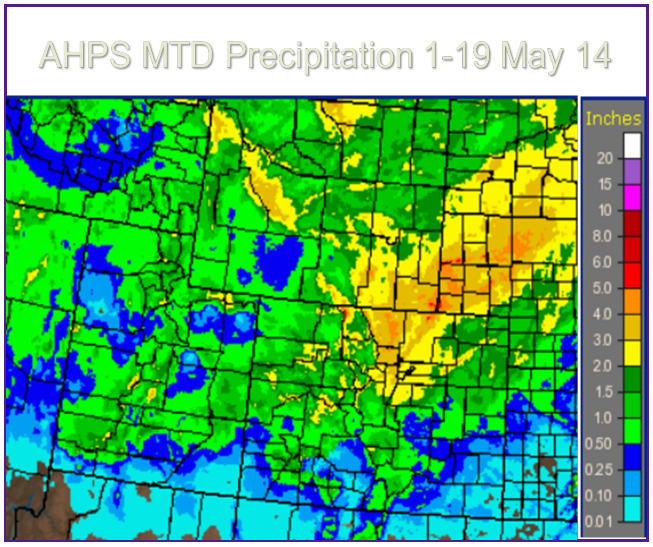
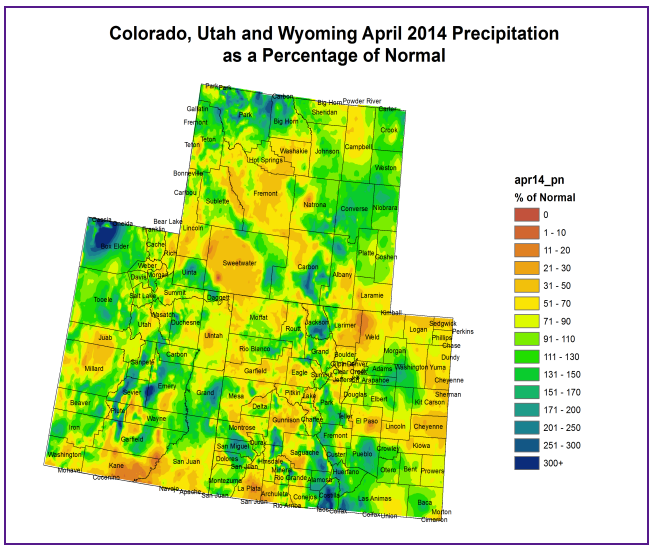
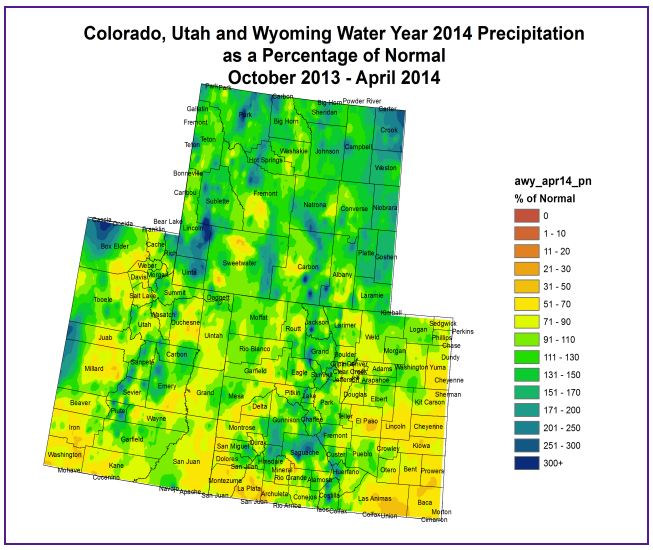
PRECIPITATION









The images above use daily precipitation statistics from NWS COOP, CoCoRaHS, and CoAgMet stations. From top to bottom, and left to right: most recent 7-days of accumulated precipitation in inches; current month-to-date accumulated precipitation in inches; last month's precipitation as a percent of average; water-year-to-date precipitation as a percent of average.

Last Week Precipitation:

- Fairly quiet week over the UCRB will moisture mainly confined to the high country.
- The Upper Green basin in Wyoming saw precipitation in the range of 0.01-1.00"
- The headwaters of the Yampa, Colorado, Gunnison and San Juans saw 0.50-1.00" of precipitation over the past week with amounts dropping

off quickly to the west.
- East of the divide saw widespread moisture over the past week. The NE plains saw 0.10-0.50". Isolated areas (particularly in SE Wyoming) saw up to 1.00".
- The SE plains saw lower precipitation totals in the range of 0.01-0.25".

April Precipitation:

- April precipitation throughout the UCRB was mixed, ranging from 30% of average to over 170% of average
- Wetter than average areas during April include much of the Wasatch range in UT and the northern higher elevations of the basin in WY
- Drier than average areas include Sweetwater County in WY, and the lower Colorado River valley just above Lake Powell
- East of the basin, much of eastern WY received above average precipitation for the month
- The northern Front Range and far eastern plains of Colorado were drier than average, mostly between 30% and 70%
- The Sangre de Cristos were much wetter than average, receiving between 90% to 200% of average precipitation
- Parts of the Arkansas valley and parts of the central plains (around Adams and Arapahoe counties) were near average for April

Water Year Precipitation (Oct-Apr):

- Most of the northern and higher elevations of the UCRB have received near to above average precipitation for the water year
- The Four Corners region and areas around the Duchesne basin in northeast UT have been drier than average, mostly receiving less than 70% of average precipitation since October
- Most of Wyoming has received from 90% of average to 200% of average precipitation
- The Wasatch range in central UT has been mixed, receiving between 50% to 130% of average
- The northern, central, and southern CO mountains have all been above average for the water year
- East of the basin, the CO Front Range and most of northeast CO have received near to above average precipitation
- The far eastern CO plains and much of southeast CO has been drier than average, mostly receiving less than 70% of average

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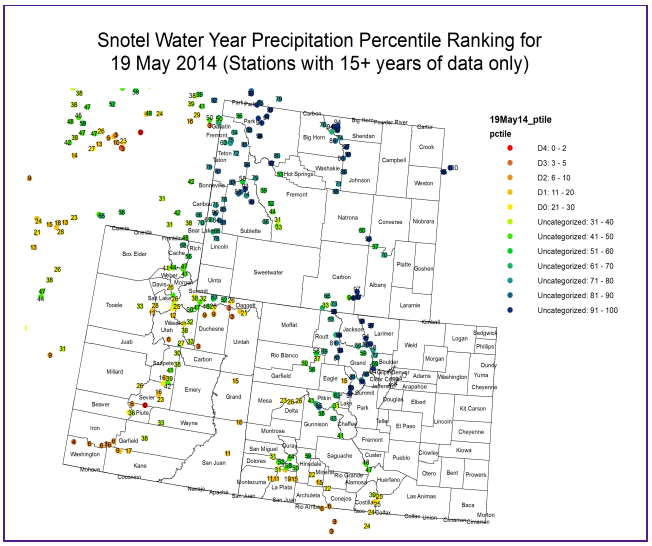
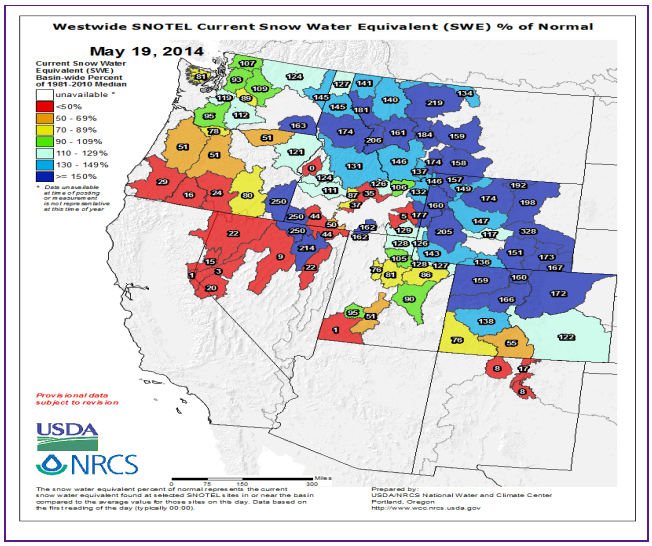
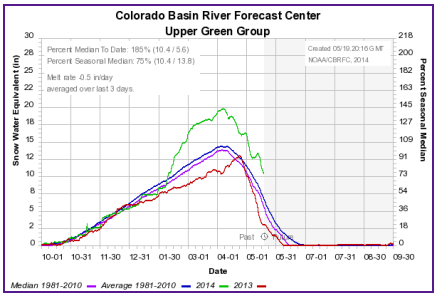
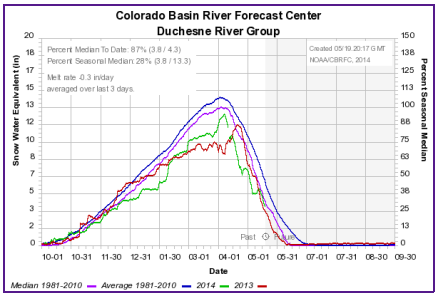
SNOTEL AND SNOWPACK

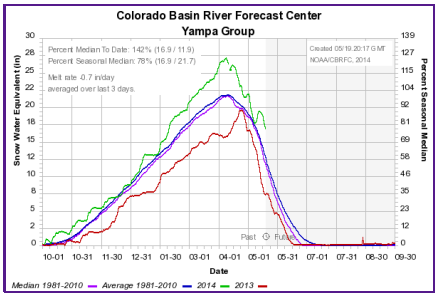


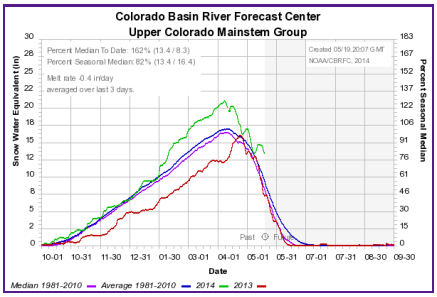


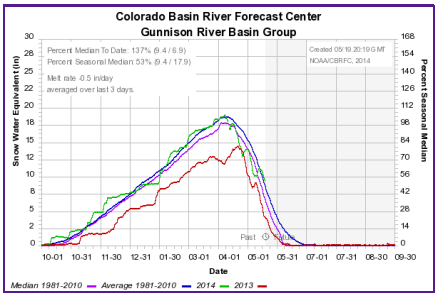
The top left image shows the Natural Resources Conservation Service's SNOTEL water-year-to-date precipitation percentile rankings. The top right image shows sub-basin averaged snow water equivalent accumulations as a percent of average. The images below show accumulated snow water equivalent in inches (green) compared to average (blue) and last year (red) for several different sub-basins across the UCRB (and were created by the Colorado Basin River Forecast Center).

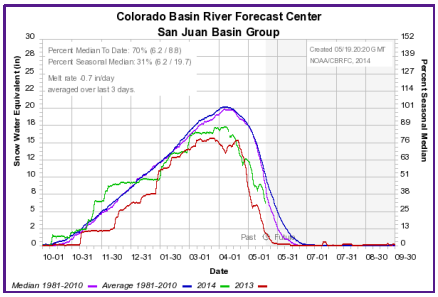












SNOTEL Precipitation Percentiles:

- SNOTEL precipitation is at or above the median (50th percentile) for the northern and eastern part of the UCRB with drier percentiles along the western and southern portions of the basin.
- Percentiles in the Upper Green region are mainly above the 60th percentile.
- In the northern and central CO mountains percentiles are at or well above the median. Most SNOTEL sites along the Continental Divide are reporting precipitation above the 70th percentile.
- The Wasatch range in northern Utah is near the median. The Uintah range in northeast UT is slightly drier with percentiles ranging from 3rd to 63rd. The lowest values are being reported on the southern and

eastern portions of the range.
- Percentiles in the San Juans range from teens in the lower elevations on the SW side of the range to near median on the NE side of the range.
- In the Rio Grande Basin, percentiles are mainly below the 25th percentile.
- While the headwaters of the Arkansas basin are reporting above the median, the southern basins (Custer, Huerfano, Costilla counties) are reporting mainly below the median. The southern basins are below the 40th percentile.

Basin-wide Snow Water Equivalent (SWE) Percent of Normal:

- In the UCRB, the CO and WY sub-basins show above normal snowpack, while the UT sub-basins show below normal snowpack
- The southern sub-basins in UT range between 1% to 90% of normal, while the northern sub-basins range between 76% to 128% of normal
- The northwest CO and southwest WY sub-basins range between 126% to 205% of normal, and the San Juan basin in southeast CO is 76% of average.
- East of the basin, all of the WY sub-basins and the northern CO sub-basins are above normal. The Rio Grande basin in southern CO is much below average at 55% of normal

SWE Timeseries Graphs:

- All sub-basins peaked in snowpack around the second week of April and have seen large amounts of snowmelt since.
- The Upper Green, Yampa-White, and Upper Colorado sub-basins peaked well above normal and remain above normal
- The Gunnison sub-basin peaked just above the median seasonal peak and remains near the median
- The Duchesne and San Juan sub-basins peaked below their normal seasonal peaks with 96% and 87% of the median peak, respectively

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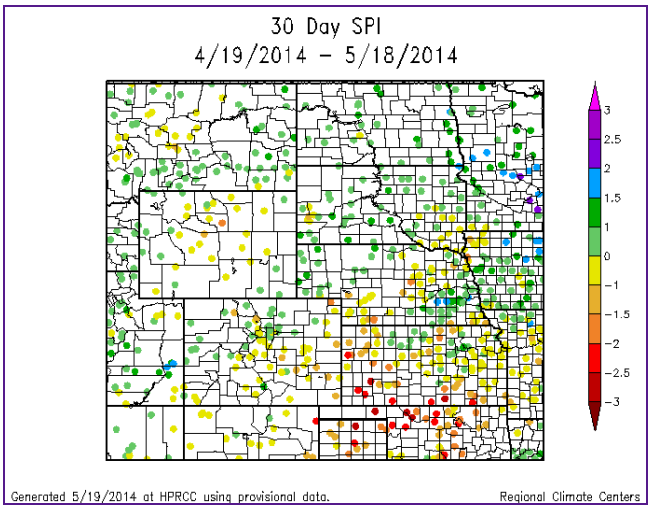
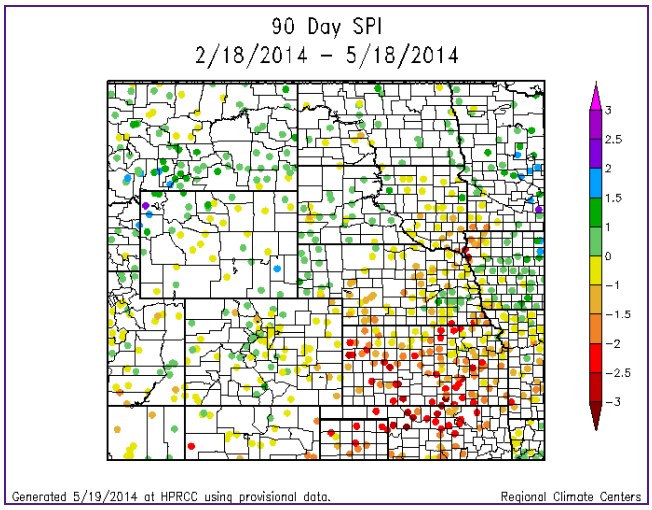
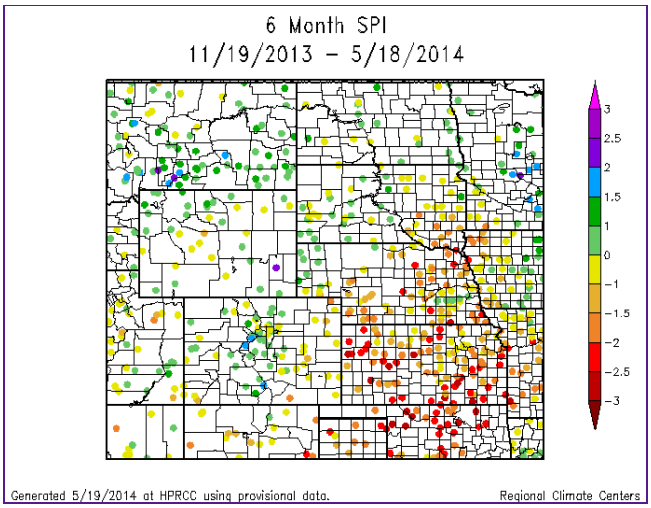
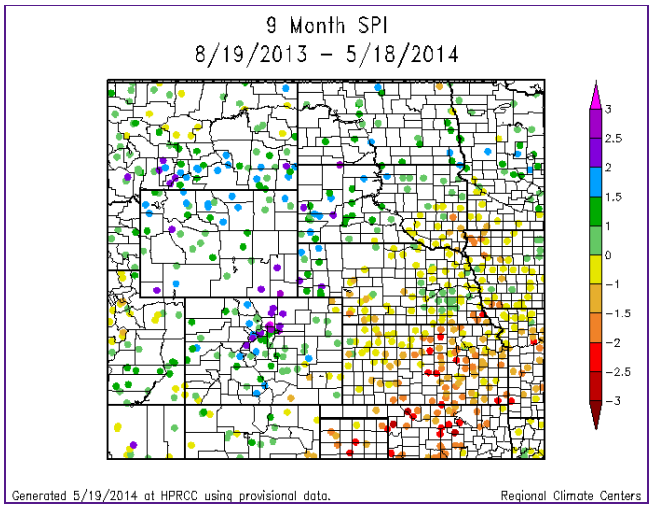
STANDARDIZED PRECIPITATION INDEX









Standardized Precipitation Index standardizes precipitation accumulations for a specified time period into percentile rankings. -1.0 to -1.5 is equivalent to a D1 to D2. -1.5 to -2.0 is equivalent to a D2 to D3. -2.0 and worse is equivalent to a D3 to D4. 30- and 60-day SPIs focus on short-term conditions while 6- and 9-month SPIs focus on long-term conditions. SPI data provided by High Plains Regional Climate Center.

Short Term (30-day):

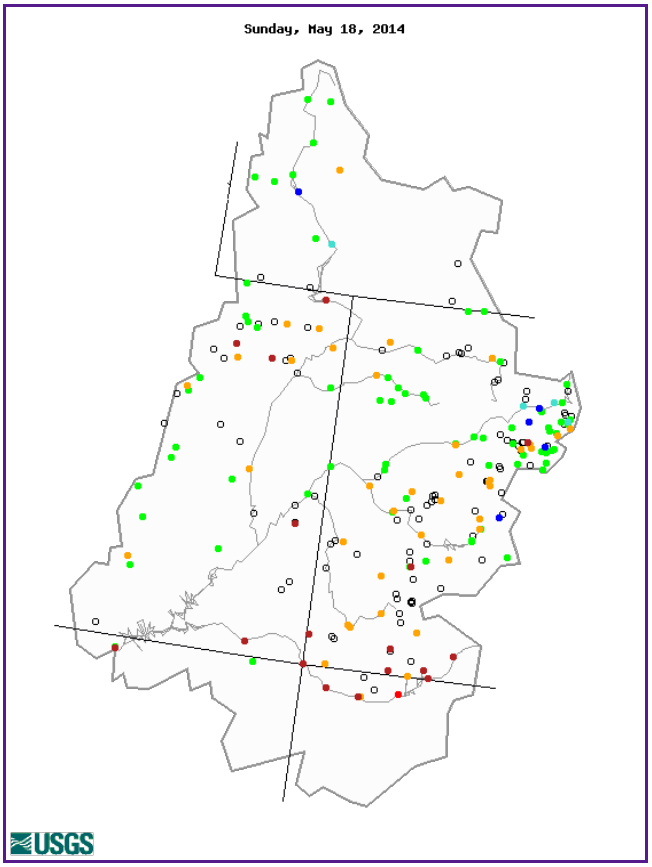
- Much of the UCRB is indicating wet conditions on the shorter time scale. Slighly dry SPI values (0 to -1) are present in SW Wyoming, NE Utah and around the four corners south of Dolores county.
- East of the basin, the NE plains are indicating wet conditions with the exception of extreme northeast CO which is reporting SPI values in the 0 to -2 range in Phillips, Sedgwick and Yuma counties.
- The SE plains remain dry on the short term with SPI's ranging from 0 to -1.5 with the driest areas to the east along the KS border.

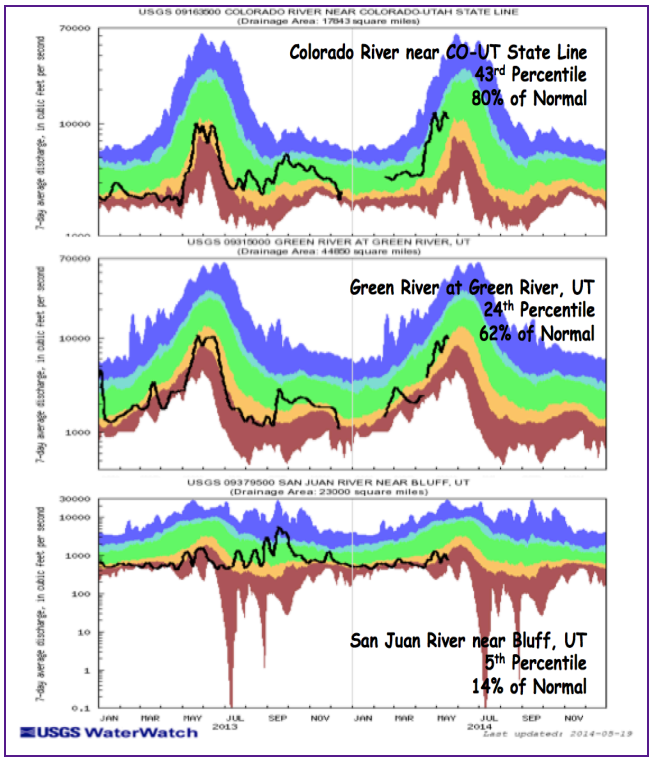
Long Term (6-month):

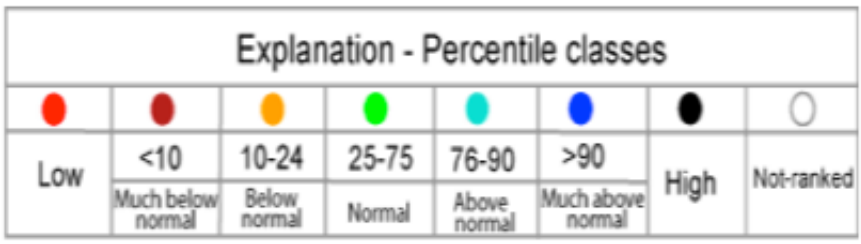
- The Upper Green is reporting dry SPIs in the 0 to -1 range with southern Sweetwater and Uinta Counties reporting wetter at 0 to +1.
- Eastern and northern UT are mostly drier, with SPIs ranging between 0 and -2, with a few wetter SPIs up to 1.5 along the northern and western San Juan county border in the Colorado river valley.
- The driest areas are the Duchesne basin and the Four Corners area with SPIs between 0 and -2 in both areas.
- Most of the higher elevations of CO are showing wet SPIs above zero however the western valleys are slightly dry with SPI's between +1 and -1
- East of the basin, the Foothills are showing near normal SPIs between -1 and +1
- Eastern CO shows long-term dryness, with SPIs in NE Colorado reporting 0 to -2, the driest SPI's are in Sedgwick and Yuma counties.

- Farther to the south in the lower Arkansas basin, SPIs range from 0 to -2, with the driest SPIs in Lincoln and Las Animas counties.

STREAMFLOW







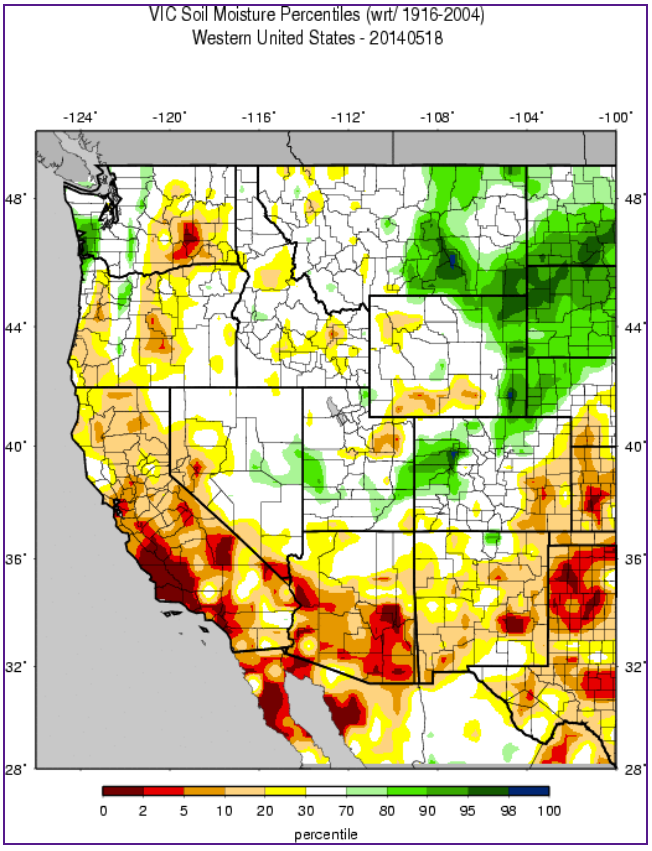
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff, UT. All streamflow data provided by United States Geological Survey.

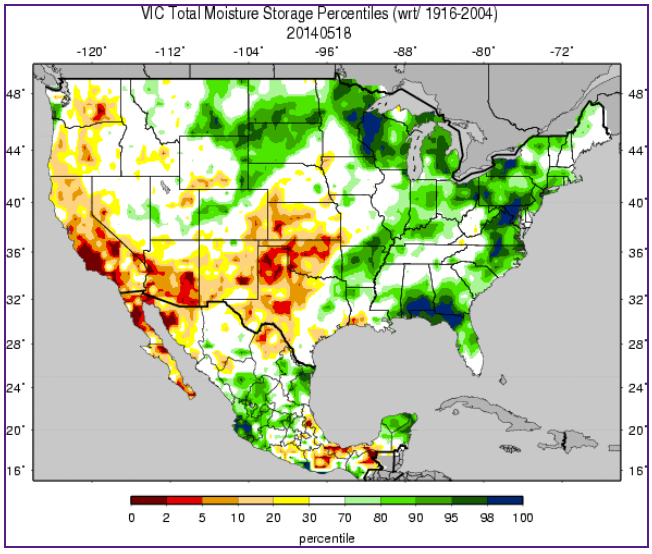
Streamflow Statistics:

- 59% of the gages in the UCRB are reporting above the 25th percentile (normal and above) for 7-day average streamflow. 4% of gages are

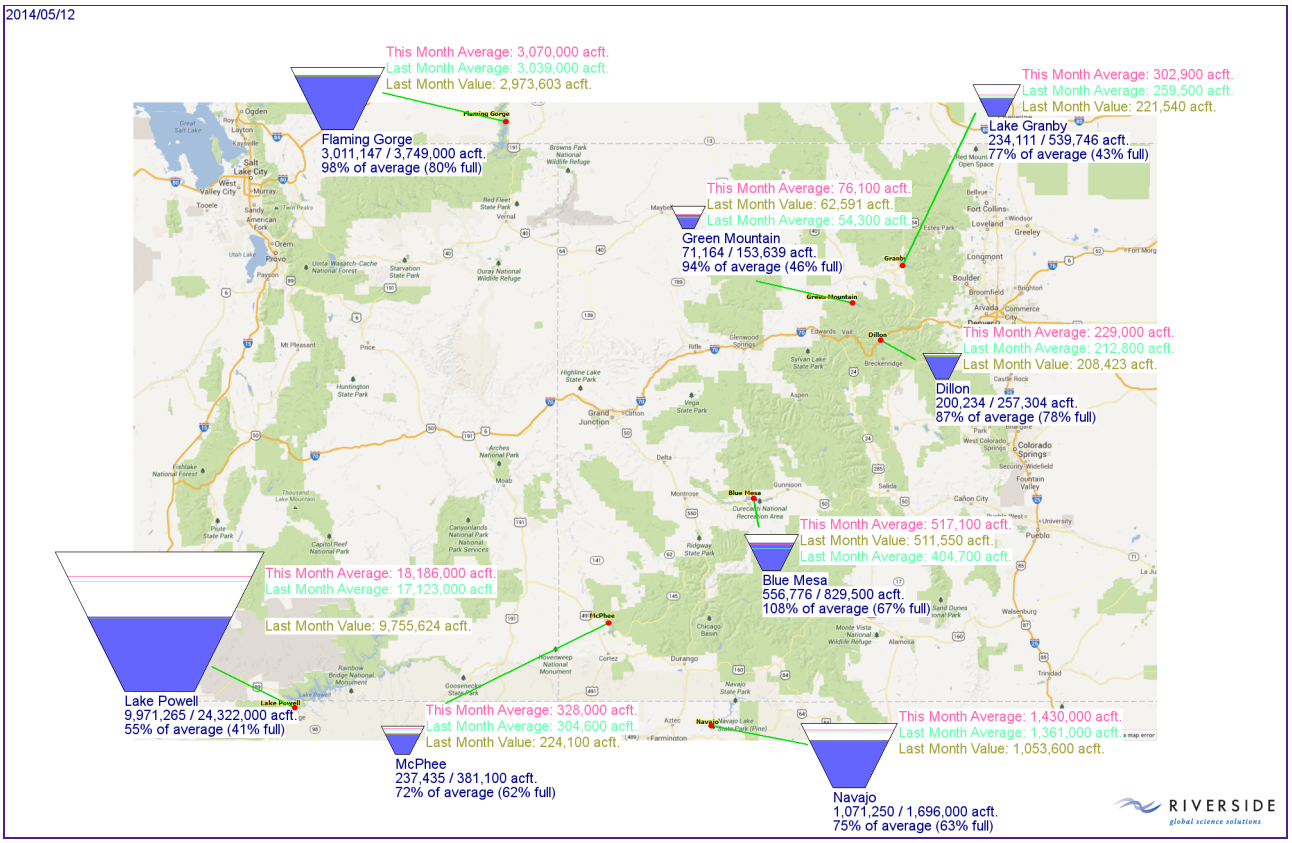
reporting much above normal or high flows for the 7 day average.
- 42% of the gages are recording below the 25th percentile (below normal) for 7-day average streamflows
- Streamflow over the past week has dropped slightly at the three key gages with cooler than average temperatures.
- The lowest streamflows are the San Juan river in SW Colorado and the Duchesne River in NE Utah, while streamflows are highest in the Colorado River headwaters.
- Flows on the Colorado River near the CO-UT state line are in the near normal range, currently at the 43rd percentile
- Flows on the Green River at Green River, UT are just in the near normal range, at the 24th percentile.
- The San Juan River near Bluff, UT is currently reporting in the much below normal range, at the 5th percentile.

SURFACE WATER





The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).



The above image shows last month's and this month's current volumes of the major reservoirs in the UCRB, with percent of average and percent of capacity.

VIC:

- The UCRB is showing a mix of wetter and drier soil moisture conditions
- Soil moisture throughout northeast UT and southwest WY are between the 2nd and 30th percentiles with the driest area in the Duchesne basin just south of the Uintah mountains and through Sweetwater and Carbon counties.
- The Four Corners region is showing drying soil moisture, with much of the region between the 10th and 30th percentiles.
- Western CO continues to show wetter soil moisture conditions, above the 70th percentile
- East of the basin, most of northern WY shows near normal to wet soil moisture conditions.
- Soil moisture is near normal along the Continental Divide and across most of the Front Range
- Soil on the SE plains continues to report below the 30th percentile over much of the area. The driest soils are depicted in Western Kiowa and northern Bent counties.

Reservoirs:

- Green Mountain, Flaming Gorge, and Blue Mesa are near or above their May average volumes
- Lake Powell, McPhee, Navajo, and Granby are all below average, ranging between 55% to 72% of their May average volumes
- Granby's drop in volume through the late winter and early spring has been due to sending water to the Front Range reservoirs, not due to any losses from the system
- Most of the reservoirs are now increasing in volume as a result of increased runoff from snowmelt
- Dillon continues to decrease in volume at this time in preparation for the expected high runoff

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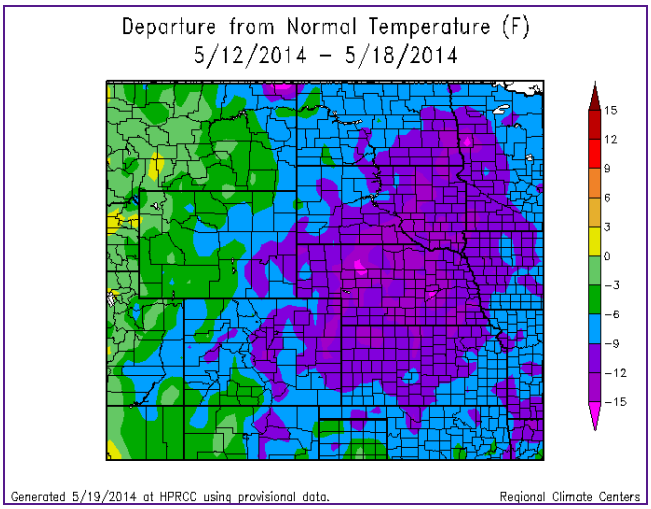
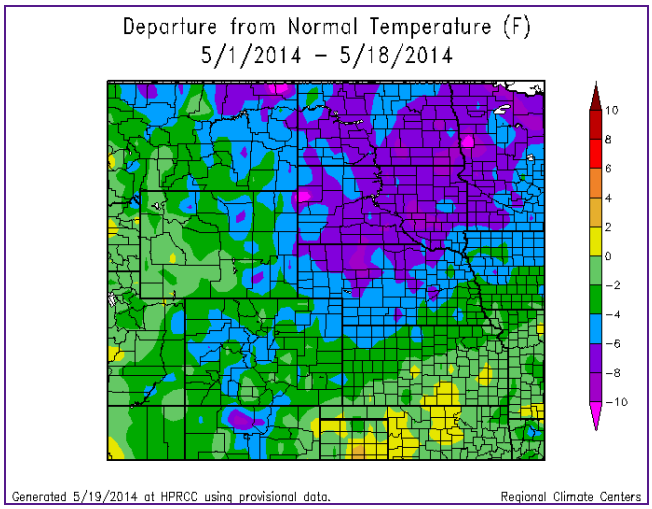
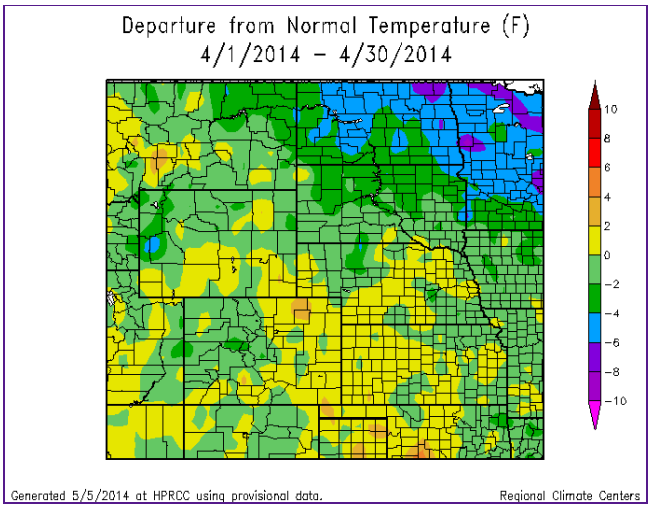
TEMPERATURE





All images show temperature departures from average over different time periods (last 7 days on top left; month-to-date on top right; last full month on bottom). Temperature departure maps provided by HPRCC ACIS.



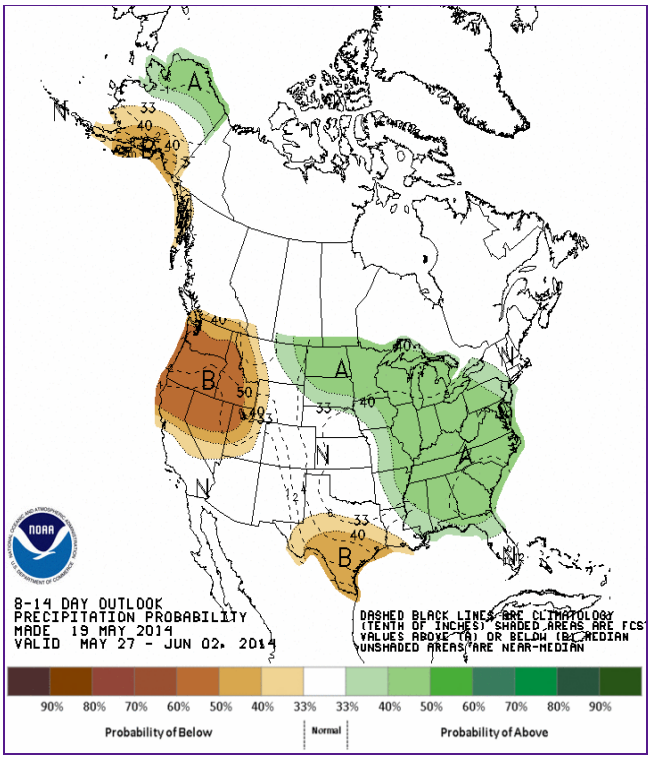
Last Week Temperatures:

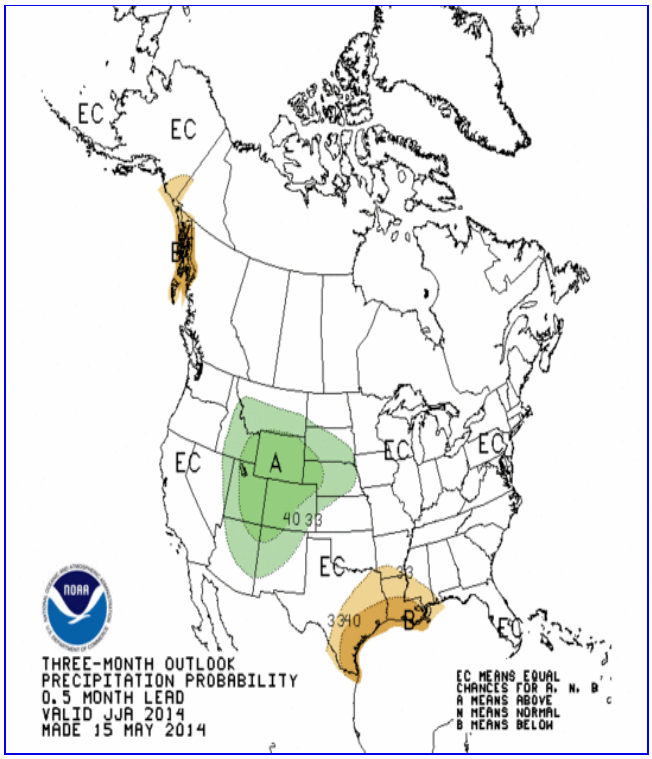
- The UCRB experienced cooler than average temperatures last week in the range of 0 to 12 degrees below normal.
- East of the divide was much cooler than normal in the range of 6-15 degrees below normal for the week. The coolest areas were on the far eastern plains near the NE/KS borders.

Last Month Temperatures:

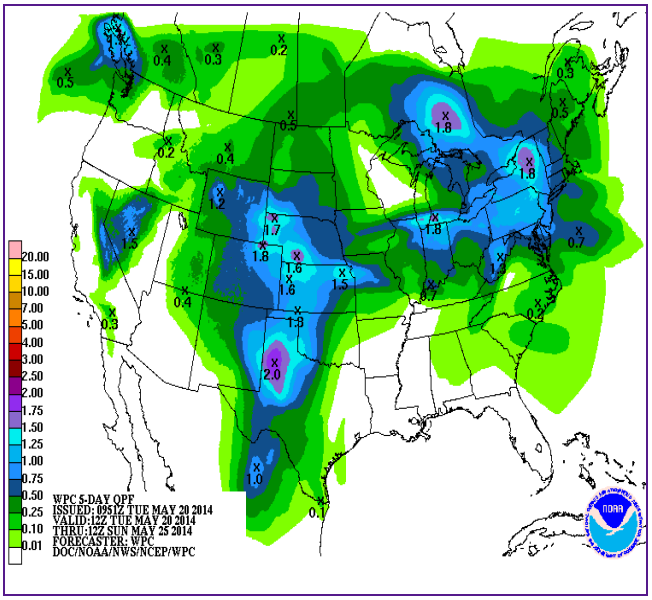
- Most of the UCRB saw near normal temperatures for the month of April
- Eastern UT, western CO, and northwest WY temperatures were 0 to 4 degrees below average
- Central UT, southwest WY and parts of the Four Corners saw temperatures 0 to 2 degrees above average
- East of the basin, most of eastern CO saw temperatures very near to slightly warmer than average, with cooler than average in northeast WY

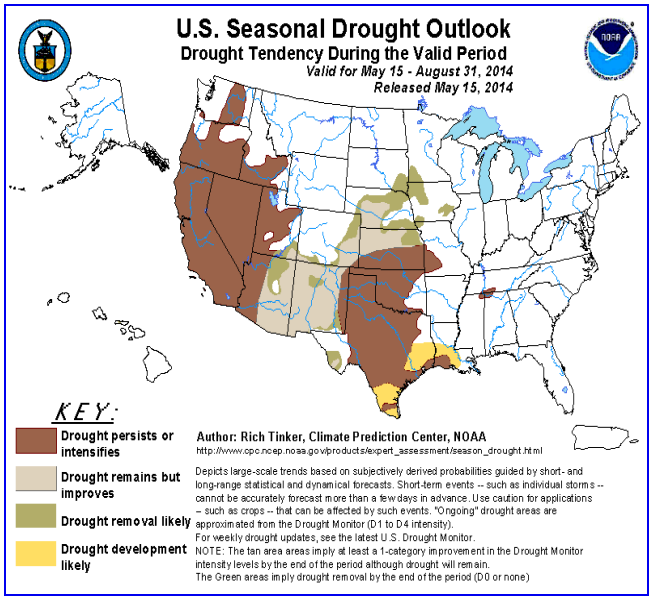
FORECAST AND OUTLOOK





The top two images show Climate Prediction Center's Precipitation outlooks for 8 - 14 days (top left) and 3 months (top right). The bottom left image shows the Hydrologic Prediction Center's Quantitative Precipitation Forecast accumulation for the five days between Tuesday 12Z and ending Sunday 12Z. The bottom right image shows the Climate Prediction Center's most recent release of the U.S. Seasonal Drought Outlook.





Short Term:

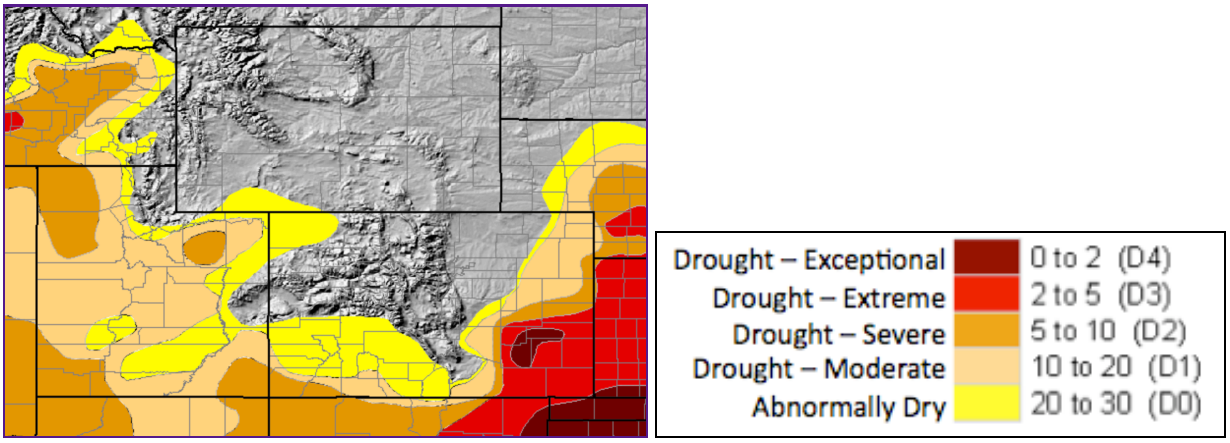
- The UCRB will be warm and windy through Wednesday under SW flow. Red Flag conditions are expected over the four corners for today

and tomorrow.
- Shower activity increases toward the end of the week as a low pressure system digs in the Great Basin.
- The holiday weekend will be wet with slow moving thunderstorms that are forecast to be severe on the Eastern Plains of Colorado Tues-Wed, then showers become more widespread (especially east of the divide) and bring the threat of rain on snow flooding east of the divide.
- Showers are expected to decrease Sunday into Monday for the holiday.

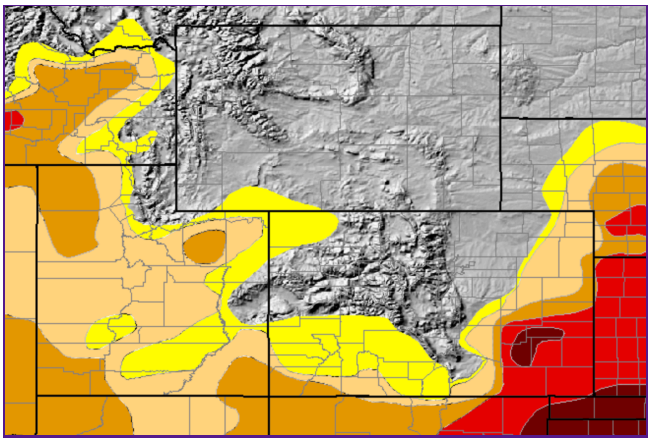
Longer Term:

- The 8-14 day precipitation outlook shows higher probability of below average moisture over western Wyoming and much of Utah with normal conditions over much of Colorado.
- The 8-14 day temperature outlook (not pictured) is showing probability of warmer than average temperatures across much of the U.S. and all of the UCRB.
- The CPC 3-month outlook shows higher chances for wetter than normal conditions over the UCRB in Utah and Colorado as well as much of eastern Colorado for the May, June and July period.
- The seasonal drought outlook indicates the drought in NE Utah will persist, however the drought around the southern tier of Utah and Colorado (including the Arkansas basin) should improve or be removed through the August 31st time period.

U.S. DROUGHT MONITOR



Above is the most recent release of the U.S. Drought Monitor map for the UCRB region.
Below shows the proposed changes for this week, with supporting text.



Summary: May 20, 2014

Precipitation fell over the higher elevations of the UCRB over the past week . It remained dry in Utah and western Colorado which is normal for this time of year in that area. With a fairly potent storm forecast for the eastern plains over the next week, status quo is recommended for the UCRB and Colorado this week.

Recommendations**

UCRB: Status quo.

Eastern Colorado: Status quo.