PRECIPITATION

Last Week Precipitation:

- The Upper Green river basin was dry for the week with less than 0.50" falling. Uinta county in Wyoming did see 0.51-1.00" over the week.
- The Wasatch range was dry for the week with less than 0.50" falling while the Uintah mountains saw 0.51-1.00". Daggett county had a small bullet of 1-2" as well.
- The Northern and Central mountains in Colorado also picked up a good surge of moisture through the high country, mainly 0.50-2.00" with the highest amounts along the divide. Lower elevation of...
Moffat, Rio Blanco, and Mesa saw less than 0.50", however portions of Garfield county did see 0.51-2.00" for the week.

- The headwaters of the Gunnison also picked up much needed moisture in the range for 0.51-2.00" with a bullet of 2-4" on the Pitkin county border.
- The San Juan mountains received the highest precipitation amounts over the past week. Moisture in that area ranged from 2-4" over the higher terrain and 0.51-2.00" over the lower elevation of the Four Corners.
- While the mountains surrounding the San Luis valley received 0.51-4", the valley bottom was dry with less than 0.50" falling.
- East of the divide was mainly dry with 0.25"-1.00" falling along the urban corridor. The Sangre de Cristo mountains in southern Colorado also benefited from the recent storms. That area received 0.51 up to 4.00" (border of Las Animas/Costilla counties).
- The SE plains saw 0.11-0.50" while the NE plains were drier receiving less than 0.25" for the week.

February Precipitation:

- February was variable over the UCRB with above normal precipitation over the Green river basin and Four corners and dryer than normal conditions in the Duchesne, Yampa, White, Colorado and Gunnison basins.
- The headwaters of the Upper Green river basin saw normal to above normal moisture for February.
- The driest areas were NE Utah and NW Colorado where less than 70% of normal precipitation fell, particularly over lower elevations. The high country also struggled in the northern basins.
- The Four corners saw above normal moisture for the month, particularly in San Juan county Utah.
- Normal to above normal moisture fell over much of SW Colorado, however higher elevations in Hinsdale/San Juan/ La Plata counties saw below normal moisture for the month.
- The Rio Grande saw above normal precipitation for the month.
- East of the divide, precipitation was mainly above normal. The driest areas were extreme NE Colorado where 50-90% of normal precipitation fell over Logan, Sedgwick and Northern Washington as well as SE Yuma counties.
- There was also a dry pocket on the border of Prowers and Baca counties where 50-90% of normal precipitation fell.

Water Year 2015 Precipitation:

- The Water Year percents of normal in the UCRB are starting dry out a bit after a drier than normal January and much of February.
- The Upper Green river basin has seen above normal moisture for the water year through with the exception of Sweetwater county which saw 30-90% of normal precipitation.
The lower elevations of the UCRB have struggled for the water year through February where less than 90% of normal moisture has fallen over a large portion of Eastern Utah/Western Colorado.

The headwaters of the Yampa/White have below normal moisture for the water year, but conditions improve near the continental divide where amounts are more near normal for the water year.

The Upper Colorado has near normal precipitation through Grand/Summit/western Eagle counties, but dries out considerably west of the headwaters. From Central Eagle down to Mesa county, 30-110% of normal precipitation has fell for the water year through February.

The San Juan mountains have seen below normal precipitation for much of the water year. Some areas are near to above normal in Montrose/San Miguel/Dolores/Ouray counties, but the rest of the area is below normal for the water year, mainly 30-90% of normal.

San Juan county, Utah saw near to above normal moisture with the exception of the northern portion of the county where 50-90% of normal fell.

The San Luis valley saw mainly above normal precipitation with the exception of the western side of the basin.

Much of the Eastern plains are at or above normal for the water year. The driest area is in portions of NE Colorado in Washington/Yuma/Sedgwick and Phillips county which saw 70-90% of normal for the water year.

The SE plains have seen above normal moisture for the water year, which is much needed and welcomed considering that region has been in drought since September 2010.

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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:

- In the Green River Basin, precipitation percentiles are still mostly above the median, and range from the 16th -73rd percentile.
- Percentiles in the Wasatch and Uintah Ranges in northern Utah are very low, currently in the 0-19th percentile range with many SNOTEL stations indicating an all-time low.
- The northern and central mountains have benefited from moisture over the past week, however lower elevation sites continue to see water year percentiles below the 20th percentile. Along the divide, percentiles are near the median.
- The San Juan mountains have also benefited from good moisture over the past week (and continue to). Percentiles range from teh 9th-66th, with the majority below the 20th percentile.

Westwide Snow Water Equivalent (SWE) Percent of Normal:

- Snowpack in the Upper Green River basin ranges from 73-113 percent of median.
- The Duchesne basin and much of Eastern Utah are much below normal ranging from 60-78th percent of median.
- The basins in Colorado range from a high of 94% in the Upper Colorado to 72% of median in the San Juan basin.

SWE Timeseries Graphs:

- The Upper Green basin is at 103% of median snowpack to date.
- The Duchesne basin is at 65% of median snowpack to date and has seen a small surge with resent moisture, but remains much below the median.
- The Yampa-White basin is at 77% of median snowpack to date. Snowpack continues to increase, but not in the quantities needed to reach the median.
- The Upper Colorado basin is at 94% of median snowpack to date, up 5% from last week with the resent storms boosting snowpack.
- The Gunnison basin is at 82% of median snowpack to date, up 9% from last week. This basin saw a
decent increase in moisture over the past week but still has ground to make up to recover to normal.

- The San Juan basin is only at 72% of median snowpack to date. This was an increase of 12% since last week. The graphic shows an increase of about 3.5" over the week for the basin.

**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):**

- The Upper Green river basin is highly variable on the short term with SPI's ranging from +2 to -2. The lowest values are in Sweetwater and Lincoln counties with conditions improving to the North and East.
- The Duchesne basin ranges from +1 to -1 on the short term.
- The Yampa/White basin is dry at 30 days with SPI's ranging from 0 to -1.5
- The Upper Colorado SPI's are wet near the Continental Divide,
however lower elevations are struggling with those drier SPI's ranging from +1 to -1.5
- The Gunnison basin also shows and elevational gradient and high variablity. SPI's range from +1 to -2 in that basin.
- The Four Corners are wet on the short term thanks to the past week of moisture. Those SPI's range from +1 to +2.5.
- The San Luis valley is also wet with SPI's ranging from 0 to +2.5.
- East of the divide is also showing wet conditions at the short time scale with the exception of NE Colorado where SPI's range from +1 to -1. Farther south SPI's range from 0 to +3.

Long Term (6-month):

- The 6 month time scale shows much less variability than the short term with most areas slightly wet to slightly dry.
- The Green river basin SPI's range from 0 to +1.
- The Duchesne basin ranges from +1 to -1.
- The Yampas White also ranges from +1 to -1.
- The Upper Colorado is mainly wet with the majority of SPI's between 0 to +1.5
- The Four Corners range from +1 to -1.
- The San Luis valley is wet with SPI's between 0 to +1.
- The SE plains are also mainly wet (a few down to -1) with the majority between 0 and +2. The NE plains continue to show dryness at the 6 month time scale where SPI's range from 0 to -1.

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:

- Only 83 of the 140 stream gages in the UCRB are reporting. All others are ice affected.
- 81% of the gages are in the normal to much above normal range, none are at record highs.
- 18% of the gages are in the below normal range and 1% are in the much below normal range.
- The below normal gages are mainly along the Duchesne, White and San Juan drainages.
- The Colorado River near the CO-UT state line is reporting in the 46th percentile, 89% of normal.
- The Green River at Green River, UT is at at the 64th percentile, 104% of normal and has seen a fairly large drop over the past week.
The San Juan River near Bluff, UT is back in the normal range following a small surge. It is now at the 59th percentile, 88% of average.

SURFACE WATER

The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows VIC plus SWE total soil moisture storage.
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:

- Sweetwater County, WY has been shown as dry by the VIC for a considerable amount of time and continues to depict soils in the 2-30th percentile range over much of the eastern part of the county.
- Northeastern UT is showing normal to wet soils, with the exception of Uintah County, which is showing a small area of dry soils between the 10th and 30th percentile.
- There are some very wet soils in the Upper Green River Basin. Near the Wyoming-Utah state line soil moisture is in the 70-100th percentile range.
- Western CO is still showing a large area of above average soil moisture over the 70th percentile. The highest percentiles are in Jackson County.
- The Four Corners Region is showing dry soils along the CO-UT border in Montezuman and Dolores counties where soil moisture percentiles range from 20th-30th.
- The San Luis Valley is in the normal range and slightly wet on the west side of the drainage.
- East of the divide, much of the eastern plains are showing normal soil moisture, the exception is Lincoln into Kit Carson counties where soil moisture percentiles range from the 5th to 30th.
- A small area in western Las Animas County is also dry, in the 10-30th percentile range.
Reservoirs:

- Flaming Gorge is 106% of the March average.
- Green Mtn is 107% of the March average.
- Lake Granby is 155% of the March average.
- The data for Lake Dillon are missing this week, but the reservoir is near full.
- Blue Mesa is 135% of the March average.
- Navajo is 84% of the March average.
- McPhee is 68% of the March average.
- Lake Powell is 65% of the March average and is only 45% full.

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:

http://climate.colostate.edu/~drought/current_assessment.php
Much of the UCRB saw below normal temperatures over the past week.
Departures ranged from +5 to -15 degrees. However, the vast majority of the basin was in the 0 to 10 degrees below normal brining reprieve from several weeks of above normal temperatures across the basin.
East of the divide was even colder with the plains experiencing temperatures 10-25 degrees below normal for the week.

February Temperatures:

- The month of February was warm across the UCRB.
- The Upper Green basin was 3-15 degrees above normal for the month.
- The Wasatch and Uintah ranges were the warmest part of the basin and experienced temperatures 9-15 degrees above normal.
- The Yampa/White/Colorado/Gunnison basins were 3-9 degrees above normal while the San Juans were slightly more moderate with departures ranging from 0-9 degrees above normal with a small bullet of 9-12 degrees above normal over NE La Plata county.
- The San Luis valley was also warm with temperatures 3-12 degrees above normal for the month.
- East of the divide saw much more seasonal temperatures than the west slope. Departures on the plains were 0-6 degrees above normal with a few pockets of cooler than normal temperatures.

FORECAST AND OUTLOOK

http://climate.colostate.edu/~drought/current_assessment.php
The top two images show Climate Prediction Center's Precipitation and Temperature outlooks for 8 - 14 days. The middle image shows the 3 months Precipitation outlook. 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:**

- A burst of cold air is pushing across the UCRB today, and will dive south of the basin by tonight leaving very cold air in its wake.
- Remaining precipitation from this system will fall mainly on the western slopes and high country of the Colorado Rockies. Remaining totals in this area are likely between a quarter and half
of an inch. Totals in the Wasatch Mountains may be over a quarter of an inch in some locations as well. East of the divide between a tenth and a quarter of an inch of additional precip is expected by late night tonight with less in the northeast corner of the state.

- After tomorrow morning a drying trend is expected for Colorado an the UCRB. Temperatures will be cold at first in the wake of the push of arctic air, but a ridge will build in from the southwest from Thursday night all the way into the weekend. This will warm up conditions over the west portion of the UCRB first. By Saturday morning warmer air will have been advected across the UCRB and east of the divide.

- Some cooler air may clip the northeast corner of Colorado early next week, but warm, dry conditions across Colorado and the UCRB are expected to persist across Colorado and the UCRB through the beginning of next week.

**Longer Term:**

- The 8-14 day precipitation outlook shows slightly increased chances for above average precipitation for the southwest portion of the UCRB. The rest of Colorado and the UCRB are still forecast equal chances of above and below average precipitation over this time frame.

- The 8-14 day temperature outlook shows increased chances for above average temperatures for the entirety of the UCRB and the area in Colorado east of the divide. These chances are most highly enhanced in northeast Colorado.

- The Climate Prediction Center 3-month precipitation outlook shows increased chances for above normal precipitation for the entirety of the UCRB, and the area in Colorado east of the divide for the March to May period. These chances are highest in southern and western Colorado, eastern Utah, and southwest Wyoming.

- The seasonal drought outlook indicates that drought is expected to persist or intensify in southwest Colorado and eastern Utah. Drought improvement and removal is forecast as likely for southeast Colorado.

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**U.S. DROUGHT MONITOR**
Summary for March 3, 2015:

A much needed surge of moisture benefited many of the UCRB subbasins this week, especially in the San Juan river basin where snowpack had been lagging much behind normal (and continues to, even with the recent moisture). This moisture was accompanied by below normal temperatures across the UCRB. East of the divide also saw smaller amounts of moisture over the SE plains, but likely not enough to warrant any improvements at this time.

Recommendations:

UCRB: Status quo is recommended considering D1 was just added and snowpack and water year precipitation are still lagging across most of the basins. If moisture continues to improve snowpack over the next week, trimming of the D1 will be considered. That would be more likely for the Yampa/White/Colorado than the Gunnison or San Juans considering where snowpack is currently.
Eastern CO:

The plains saw above normal moisture for February, however normals are rather low in that area for February (0.3-0.5”). If moisture continues to benefit SE Colorado as their wetter seasons ramp up, improvements will be made. Considering the lingering impacts and length of time in drought, status quo is recommended for this week.

NE Colorado has dried out slightly but not enough to warrant degradation after good moisture last summer. If impacts start being realized, degradations will be made at that time.