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:

- A drier week in the UCRB, with only the northern and eastern portions of the basin receiving the most beneficial precipitation.
- The northern Upper Green river basin, in Sublette and Lincoln Counties, WY, received between 0.5-2" of precipitation, with up to 3" in the higher elevations. Sweetwater county remained dry with less than 0.1".

http://climate.colostate.edu/~drought/current_assessment.php
The Wasatch and Uintah ranges in Utah received between 0.5" and 3", with the eastern Uintah range receiving less.
Eastern UT and western CO were much drier picking up only 0.01-0.25".
The eastern portion of the basin in CO, along the Divide and in the San Juan Mountains in southern CO received between 0.5 and 2", the higher amounts in the higher elevations.
East of the divide in Colorado was drier, the only beneficial precipitation falling along the Divide with amounts between 0.5 - 2".
The rest of the Plains received less than 0.1".
The San Luis valley was dry over the past week.

January Precipitation:

- Many locations around the UCRB were drier than average for the month of January
- Most of eastern UT and the Four Corners region received between 10% and 50% of average precipitation
- Sweetwater County in WY also received less than 50% of average precipitation
- The Wasatch range in UT was mixed, with the northern region receiving between 70% and 110% of average and the southern region seeing close to average moisture
- The higher elevations in the northern part of the UCRB received near to above average precipitation
- Most of northwest CO and the northern and central CO mountains received near average up to 200% of average precipitation for the month
- East of the basin, most of eastern WY received near average moisture, and northeast CO received above average moisture
- Southeast CO ranged from near average precipitation to below 70% of average in the far southeast and San Luis Valley

Water Year Precipitation:

- Most of the UCRB has received near to above average precipitation since the beginning of the water year through January
- The Wasatch range in UT has been a bit drier, receiving between 70% and 110% of average precipitation
- The Four Corners region has also been drier, with WYTD precipitation between 50% and 90% of average
- Most of WY received near average up to 300% of average moisture
- Northeast CO WYTD precipitation ranges between 70% and 150% of average
- Southeast CO has received 30% and 90% of average precipitation since the beginning of the water year, with drier values to the south
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:

- Most SNOTEL precipitation percentiles in the basin are at or above the median percentile for the Water Year.
- The Wasatch and Uintah Ranges in northern UT are a bit lower, ranging from the 30s to lower 50s.
- Percentiles in the Upper Green River in Sublette and Lincoln counties are all much above the median.
Along the northern CO mountains, percentiles are wetter, between the 70s and 80s, with slightly drier percentiles in the central CO mountains, mostly between the 50s and 70s. The southwest CO mountains have seen some improvement, but are still drier with percentile rankings in the 20s to 40s.

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

- The eastern and northern sub-basins in the UCRB currently have near to above normal snowpack.
- Eastern and northern UT show below normal, ranging between 75% and 97% of normal. This is an improvement from a few weeks ago.
- Southwest CO is showing snowpack around 90% of normal, while northwest CO over 120% of normal.
- East of the basin, snowpack is above normal, with the exception of the Rio Grande Basin at 85%.

**SWE Timeseries Graphs:**

- All regions have seen decent increases in snowpack the last few weeks.
- The Upper Green river basin is reporting SWE at 135% of normal after a large increase over the past weeks.
- The Duchesne basin is still reporting below normal at 90% but did have quite an increase in SWE over the past few weeks.
- The Yampa/White basin is in good shape at 122% of normal with snowpack continuing to increase.
- The Upper Colorado basin is also in good shape at 131% of normal with sharp increases over the past weeks.
- The Gunnison basin is now at 111% of normal, with a slight decrease in SWE the last week.
- The San Juan basin had a slight decrease the last week as well, now at 94% of normal.

---

**STANDARDIZED PRECIPITATION INDEX**

![30 Day SPI](http://climate.colostate.edu/~drought/current_assessment.php) ![90 Day SPI](http://climate.colostate.edu/~drought/current_assessment.php)
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):

- Short-term SPIs are wet for much of the UCRB, with the exception of southwest CO and eastern UT.
- SPI's in SW Wyoming range from -1.5 to +1.5 with areas farther north showing wetter conditions.
- Northern Utah is showing improvement with SPI's in the -1 to +2 range near the Wasatch range.
- Eastern Utah is drier with SPI's ranging from 0 to -1.5. The drier SPI's are near the four corners area.
- SW Colorado is also slightly dry with the majority of stations reporting in the 0 to -1 range.
- NW, central and eastern Colorado is showing wet short term SPI's ranging from 0 to +2.5. The driest areas are in Otero and Las Animas county with SPI 0 to -1.5.
- The San Luis valley is showing SPI's near normal in the -1 to +1 range.

Long Term (6-month):

- Most of the UCRB shows wetter long-term SPIs
- The driest area of the UCRB on the longer term is northern Utah near the Wasatch range where SPI's range from -1.5 to +1.
- The rest of the UCRB indicates wet conditions at the 6 month time scale with SPI's ranging from 0 to +3.
- East of the divide, the foothills indicate wet conditions but dry out further on the plains. The driest areas on the plains remain in the lower Arkansas valley.
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 55 out of about 145 steam gages are reporting, the rest are ice affected.
- 62% of the gages are recording 7-day average streamflows in the near normal range and higher
- 38% of the gages are recording below normal or lower 7-day average
streamflows.
- The Colorado River at the CO-UT state line and Green River at Green River, UT just started reporting again after being ice affected for the last few months.
- The Colorado River at the state-line is reporting in the 60th percentile at 98% of normal.
- The Green River at Green River, UT is reporting the 3rd percentile, 47% of normal.
- The San Juan River near Bluff, UT is recording much below normal flows in the 8th percentile, 39% of normal.

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 (total moisture = SWE+SM):**

- Most of the UCRB is showing near average to wet soil moisture conditions
- Some spots in northern UT and southwest WY are slightly drier, with soil moisture between the 10th and 30th percentiles
- Much of western CO and parts of eastern UT show wet soils over the 70th percentile
- The Four Corners shows near normal soil moisture conditions
- East of the basin, most of WY and some of northern CO show wet soil moisture conditions
- Soil moisture is near average in northeast CO
- Dry soil moisture continues to show up over southeast CO, with a large area below the 10th percentile (coinciding with the worst depicted drought conditions in CO)

**Reservoirs:**

- All of the major northern reservoirs in the UCRB are near to above their February averages, ranging between 93% (Lake Granby) and 112% (Dillon) of average
The southern reservoirs are below average, ranging between 57% (Powell) and 88% (Blue Mesa) of average.

McPhee, Flaming Gorge, and Blue Mesa all experienced volume increases in the month of January.

Volume decreases at the remaining reservoirs are normal for this time of year.

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 entire basin saw much above normal temperatures.
- The northern and western portion of the basin in SW WY and NE UT
saw temperatures 9 to 15 degrees above normal for the week.
- Northwestern CO saw temperatures 9 to 12 degrees above normal.
- Temperatures in central and SW CO were 3 to 9 degrees above normal.
- East of the divide was mixed with temperatures in eastern CO 0 to 6 degrees below the normal for the week. Along the foothills and into southeastern CO temperatures were 3 to 9 degrees above normal.

Last Month Temperatures:

- Temperature departures across the UCRB were mixed for the month of January
- Southwest WY was much warmer than average, with temperatures 2 to 8 degrees above average
- Far northeast and central UT were warmer than average, with an isolated region of eastern UT showing up as cooler than average
- The Four Corners and southwest CO region were slightly warmer than average
- Northwest CO was slightly cooler than average for the month
- East of the basin, temperatures across most of eastern WY and eastern CO were near average

FORECAST AND OUTLOOK

The top two images show Climate Prediction Center's Precipitation outlooks for 8 - 14 days.

http://climate.colostate.edu/~drought/current_assessment.php
(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:

- A cold front will move through the mountains bringing showers Wednesday into Thursday. The valleys will receive rain possibly mixing with snow Wednesday night, while the mountains will receive snow and blowing snow.
- East of the divide the plains will see a chance of rain and snow Wednesday night, with wind returning Thursday.
- Friday brings another unsettled period bringing snow over the mountains Friday and Saturday, with a slight chance of snow on the plains for Saturday.

Longer Term:

- The 8-14 day precipitation outlook shows probable drier than average conditions across the basin.
- The CPC 3-month outlook shows greater chances for drier than normal conditions across the southern part of the UCRB, with equal chances for wet, dry, or near normal conditions across the northern part of the basin and the rest of CO and WY
- The seasonal drought outlook shows a probability of drought persisting across the western portion of the basin and across southeast CO and northern UT
Summary: February 18, 2014

A fairly quiet, mild week in the Upper Colorado River Basin and Eastern CO and WY. Precipitation fell in the higher elevations of the Basin, mainly the Northern and eastern portions of the basin. The Wasatch and Uintah ranges in UT also saw beneficial precipitation. Snotel precipitation percentiles and snowpack percent of normal for much of the basin are now above the median for the Water Year.

Recommendations**

UCRB: While SWE and precipitation percentiles are above median, the last week was dry and warm in areas that could be improved. Status quo is recommended for the UCRB. The forecast for the next week could bring precipitation to this region for more justification for improvements.
Eastern UT has been drier than the rest of the basin recently, after ending 2013 at or above average. If this area continues to dry out, degradations could be suggested in the next few weeks.

**Eastern Colorado:** SPIs are showing near average precipitation for much of eastern CO on the shorter time scales (30 day and 60 day), however start to dry out on the 3 month and longer time scales in the eastern counties, not enough yet to degrade the area. Status quo is recommended for eastern CO.