PRECIPIATION

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.

**WYTD Precipitation:**

- Parts of the Upper and Lower Green basins in southwest WY and northeast UT are near to above average for the water year
- Parts of the northern CO mountains show near average precipitation for the water year
- Much of western CO and eastern UT are between 30% and 90% of average
- Near average precipitation for much of northeast CO
- Much of the Arkansas basin (in southeast CO) below 50% of average precipitation since October
April Precipitation:

- Above average precipitation fell across most of the northern part of the UCRB (with the exception of Sweetwater County, WY which was between 30% and 100% of average precipitation)
- Southeast UT and southwest CO were drier in April, receiving less than 50% of average precipitation in many areas
- Northern CO and southeast WY were above average for the month, receiving over 130% of average precipitation in some areas
- The Front Range mountains and foothills received near average April precipitation
- Southeast CO was drier, seeing less than 30% of average precipitation in many locations

Last Week Precipitation:

- Precipitation was mainly confined to the northern portion of the UCRB with southwest Wyoming receiving between 0.25"-0.50".
- Northern Utah, mainly the Wasatch and Uintah ranges, picked up similar amounts ranging from 0.25"-0.50".
- The northern and central mountains of Colorado also picked up between 0.25"-0.50" in the higher terrain. Similar amounts also fell in the Rio Grande Basin.
- Precipitation in eastern CO mainly fell in east-central CO, southern Elbert and northern El Paso Counties, receiving 0.25" - 0.50".
- SE CO in Baca and southern Las Animas Counties also received up to 1.00" of precipitation.

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:

- Precipitation percentiles near to just below the median around the Duchesne basin in northeast UT
- Wasatch range and central UT percentiles are lower, ranging from the single digits to the 20s
- Western WY percentiles are just below the median with percentiles dropping to single digits and teens just to the east in Sublette county.
- Northern and central CO mountains showing improvement with percentiles ranging from the teens to median and slightly above.
- San Juans in southwest CO are now mainly in the single digits with a few sites reporting in the low teens.

Basin-wide Snow Water Equivalent Percent of Normal:

- Percents of normal will be highly variable during the melt season. Compared with normal melting rates, faster melting or further accumulations can cause anomalously small or large values in percents of normal

SWE Timeseries Graphs:

- The northern areas reached around 90% of normal peak snowpack values, while the southern areas reached less than 80% of normal peak seasonal snowpack
- All graphs show later peak than last year and later peak than normal
- After a slight increase last week, the sub-basins are melting now at a rate between 0.1" to 0.5"/day over the past 3 days.
- The San Juan Basin is now averaging less than 0.5" of Snow Water Equivalent at the SNOTEL sites through 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- and 90-day):

- Wetter SPIs in the northern and central CO mountains
- Drier SPIs in southwest WY and northern UT
- Near normal to slightly below normal SPIs around the 4 corners area on the 30-day, with drying out on the 90-day.
- Eastern Colorado split with wetter SPIs through Elbert, Lincoln, and Kit Carson and drier SPIs to the north and even drier in the Arkansas basin to the south.

Long Term (9-month):

http://climate.colostate.edu/~drought/current_assessment.php
- SPIs between +1 and -1.5 in southwest CO and southeast UT
- SPIs between 0 and -2.5 throughout southeast CO
- SPIs between +1 and -1.5 in northeast CO
- -1 to +1 SPIs in northwest CO, northeast UT, and southwest WY
- Mixed wet and dry SPIs in northern UT

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:**

http://climate.colostate.edu/~drought/current_assessment.php
- 54% of gages recording normal to above normal 7-day average streamflows
- 46% of gages recording below normal or low 7-day average streamflows
- A decrease in the 7-day average flow was seen over much of the basin. This was mostly due to cooler temperatures and snow at the beginning of the week. Current flow are increasing.
- 141 gages now reporting
- All three key gages in the basin have slightly decreased in flows this past week, again, due to cool temperatures
- The Colorado River at the CO-UT state Line is reporting flow in the 11th percentile (49% of normal), the Green River at Green River, UT is in the 16th percentile (54% of normal) and the San Juan River near Bluff, UT saw a slight uptick in flow but is still reporting much below normal in the 5th percentile (27% 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 left image shows the percent of average volumes of the major reservoirs in the UCRB. The above right image shows the percent change in volume over a specific time period for the reservoirs.

**VIC:**

- Drier soil moisture conditions over southern WY
- Much of NE Utah showing soil moisture below the 30th percentile.
- Soil moisture between the 10th - 30th percentile for much of southwest CO, a slight improvement from last week.
- Soil moisture below the 10th percentile for much of southeast CO
- Near average to slightly below normal soils in NE Colorado, with decreases in soil moisture along the CO, WY, NE border.

**VegDRI:**

- The driest vegetation areas are showing up in SE Colorado, Southern Wyoming and NE Utah.
- Western Colorado and eastern Utah are also showing poor vegetation health in the range of pre- to moderate drought conditions.

**Reservoirs:**

- Flaming Gorge and Green Mountain are slightly above normal volume for May
- Rest of reservoirs below May average (ranging from 58% at Granby to 79% at Lake Dillon)
- All reservoirs saw an increase in volume for May. Green Mtn saw the largest increase with 28.5% while Lake Powell saw only 0.9% increase.
- Flaming Gorge saw the lowest increase in the basin, 0.6%, however the reservoir was already above normal.

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

- Temperatures near average for much of the UCRB and east of the divide in Colorado.
- Temperatures over the northern portion of the basin ranged from 0-4 degrees above normal
- The central mountains in CO were 0-2 degrees below normal.
- The southern part of the basin saw temperatures right around normal.
- Temperatures over eastern Colorado were mostly above normal for the week experiencing 0-4 degrees above normal with pockets slightly below (0-2 degrees) normal.
• NE CO saw temperature 0-4 degrees below normal.

**Last Month Temperatures:**

• Temperatures throughout the UCRB were cooler than average for the month of April
• Near average to 3 degrees colder than average for the southern half of the basin
• Temperatures 3 to 6 degrees colder than average for the northern half of the basin
• Eastern CO was 3 to 9 degrees below average for the month of April

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**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.
This Week:

- Mostly sunny and dry conditions will continue through Wednesday
- Chance of afternoon showers on Thursday and Friday with light accumulations favoring the northern CO mountains

Longer Term:

- Dry conditions will return for the weekend and persist well into next week
- The 8 - 14 day outlook shows that below average precipitation conditions are most likely
- The three month outlook through August shows drier than normal conditions are likely

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 28, 2013

Warming temperature continue to aide in quickly melting the mountain snowpack throughout the UCRB with some slowing in the melt this week due to cooler temperatures. San Juan basin snowpack has mostly melted out, and it's possible the streamflow in the region have already peaked, with a much below normal peak. Beneficial moisture throughout the basin and eastern CO was sparse last week. Cooler temperatures and some moisture may move into the northern portion of the basin and northern CO this week. The longer term forecast is to warm up and dry out over the area.

Recommendations

UCRB:
Status Quo for the basin is recommended for this week's drought monitor. The San Juan Basin continues to dry out, however indicators still show D2 over the basin. A close eye will be kept on the basin for degradation of conditions. In Wyoming, Tony Bergantino is looking at improving the southeast portion of Freemont County, WY, however may hold off until next week.

Eastern CO: With improvements in NE CO last week and no change in conditions this week, status quo is also recommended for eastern CO.