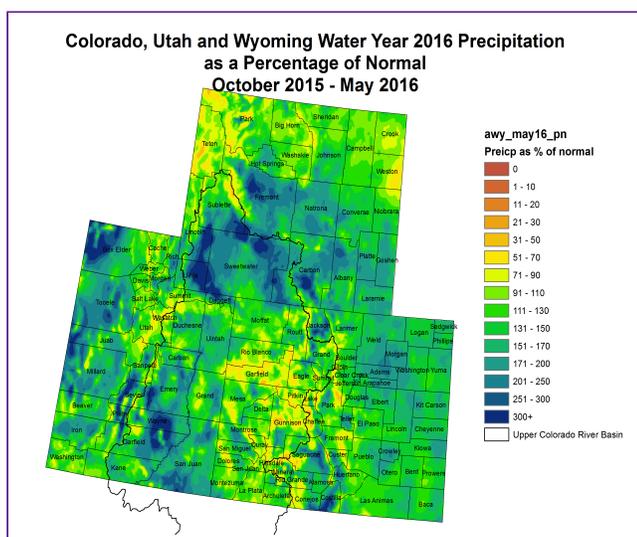
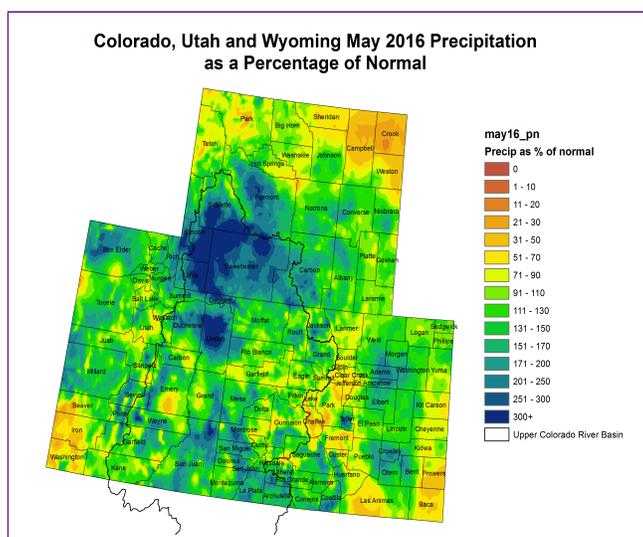
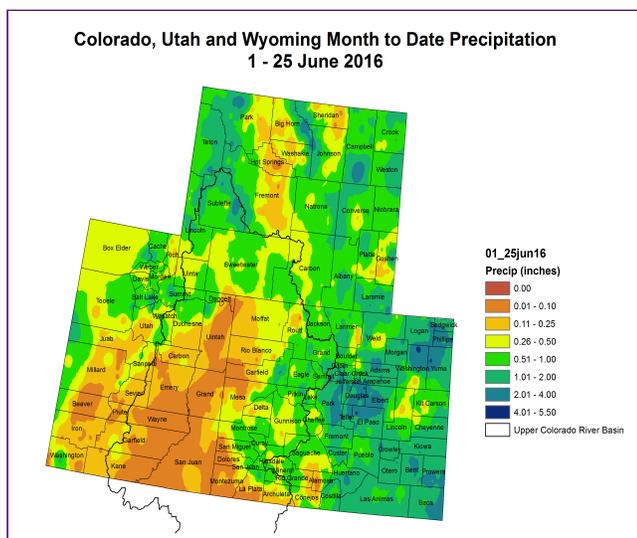
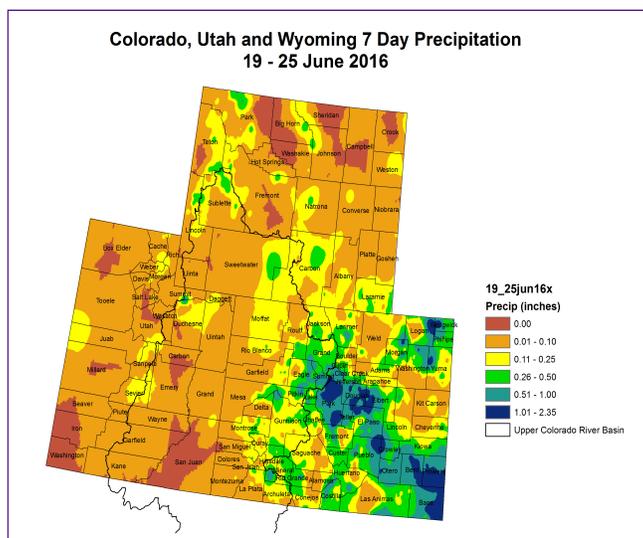
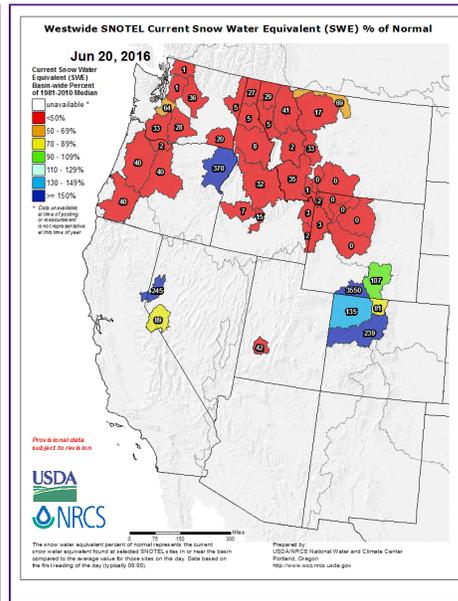
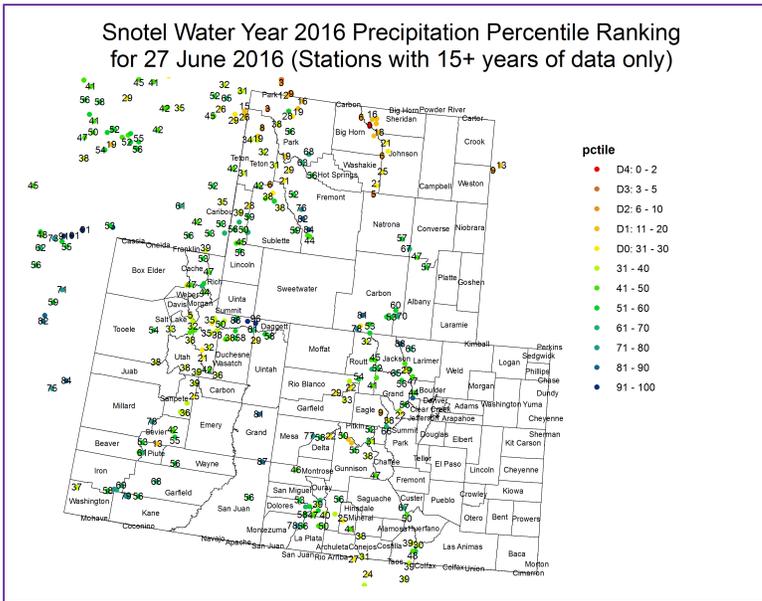


PRECIPITATION

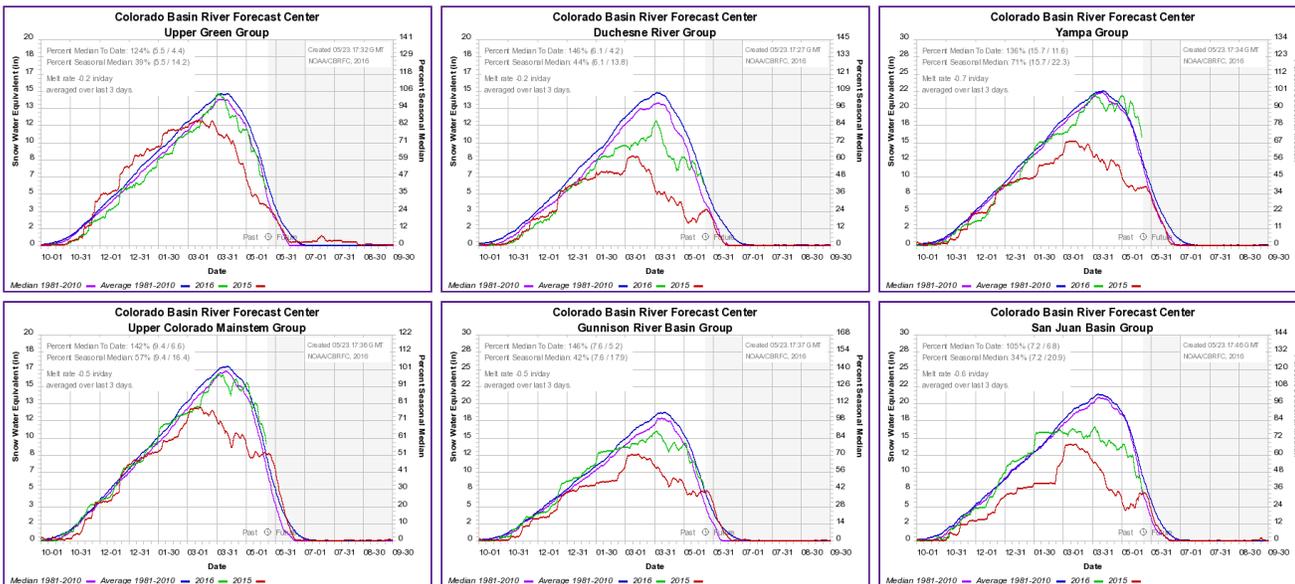


The images above use daily precipitation statistics from NWS COOP, CoCoRaHS, and CoAgMet stations. From top to bottom, and left to right: most recent 7-days of accumulated precipitation in inches; current month-to-date accumulated precipitation in inches; last month's precipitation as a percent of average;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

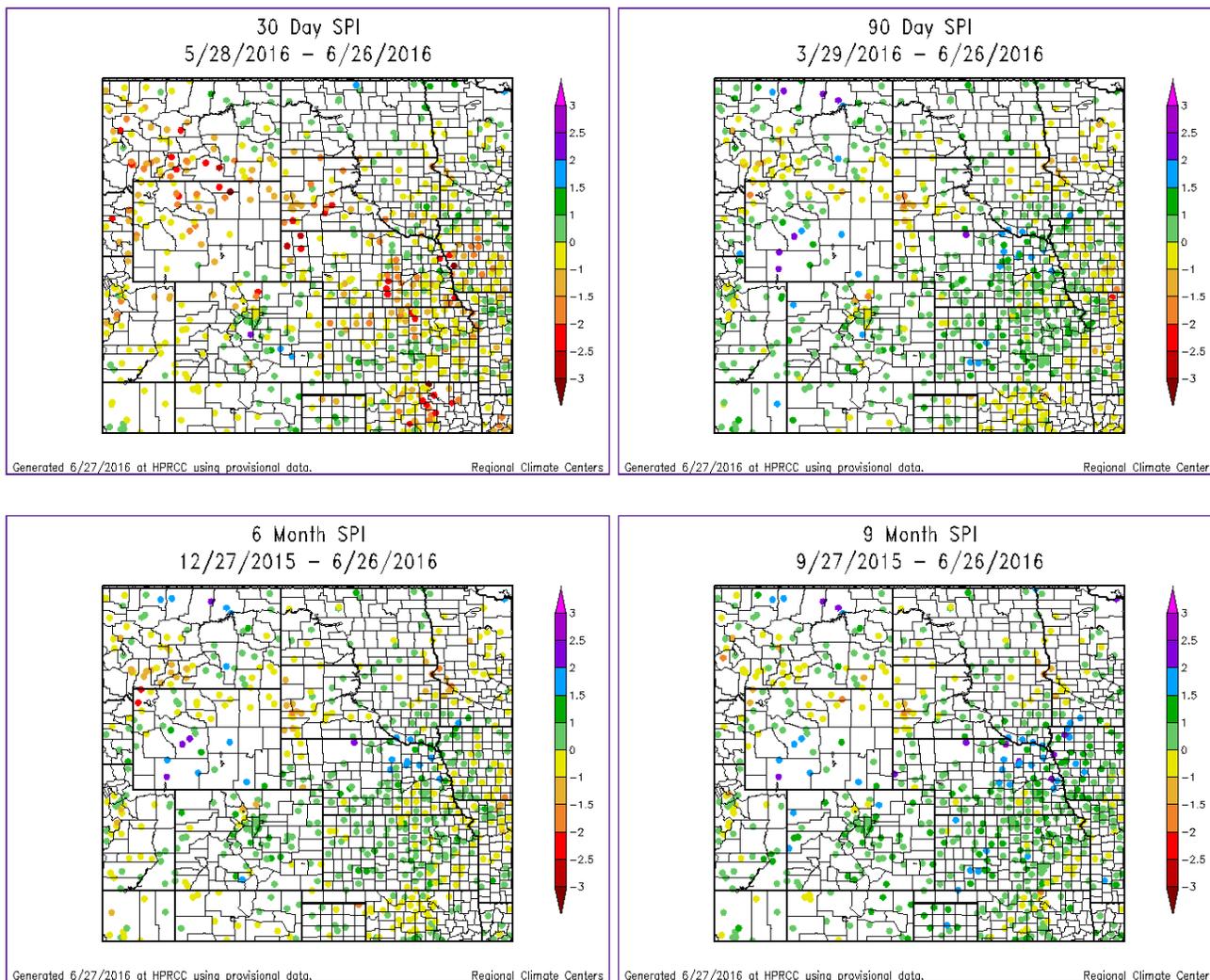
SNOTEL AND SNOWPACK



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).

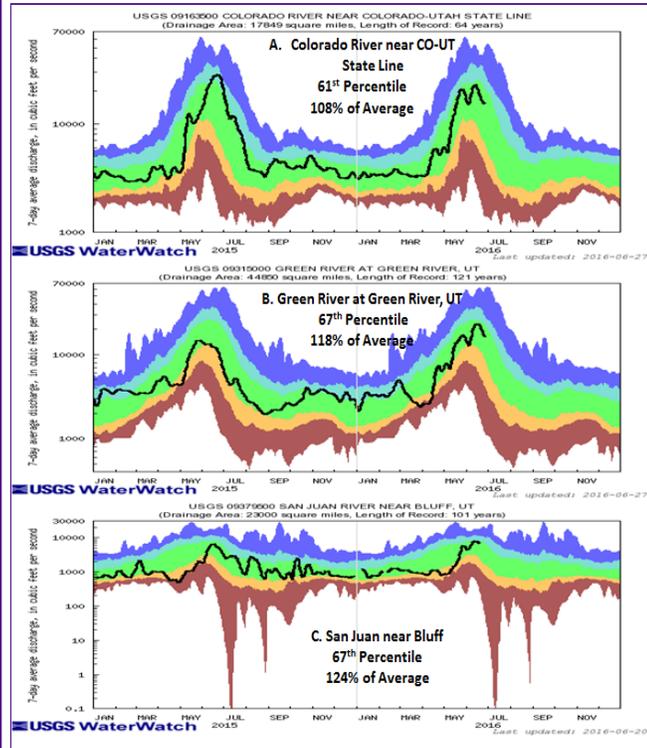
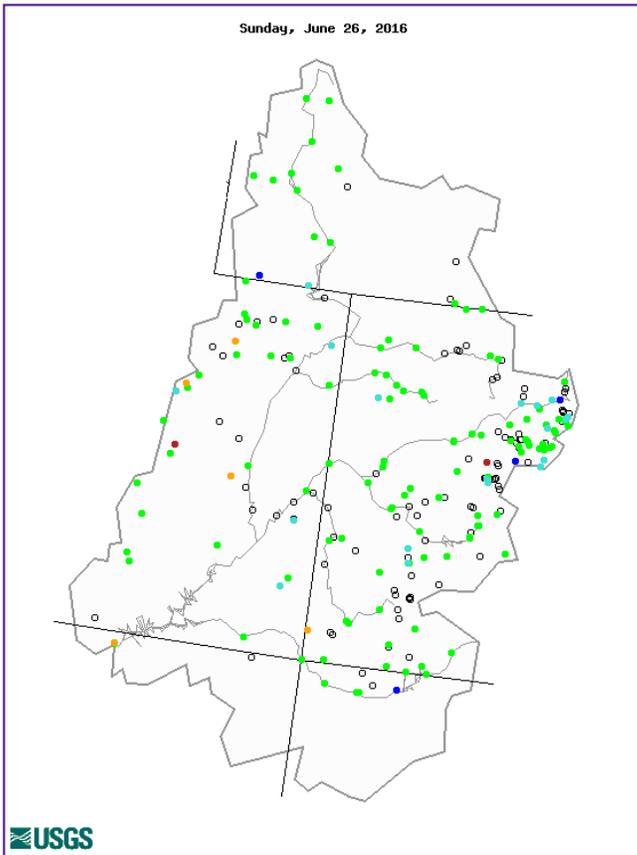


STANDARDIZED PRECIPITATION INDEX



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.

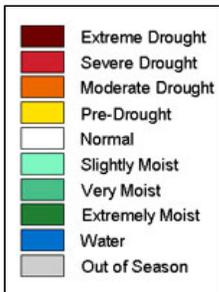
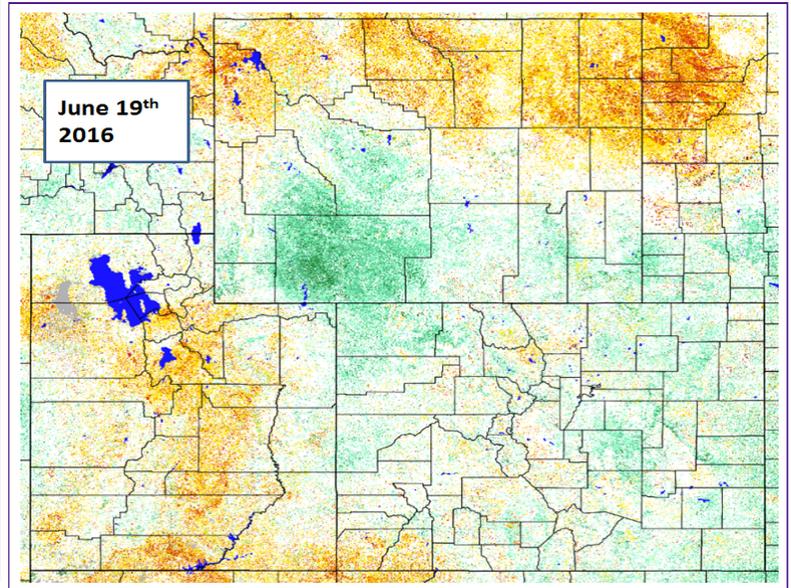
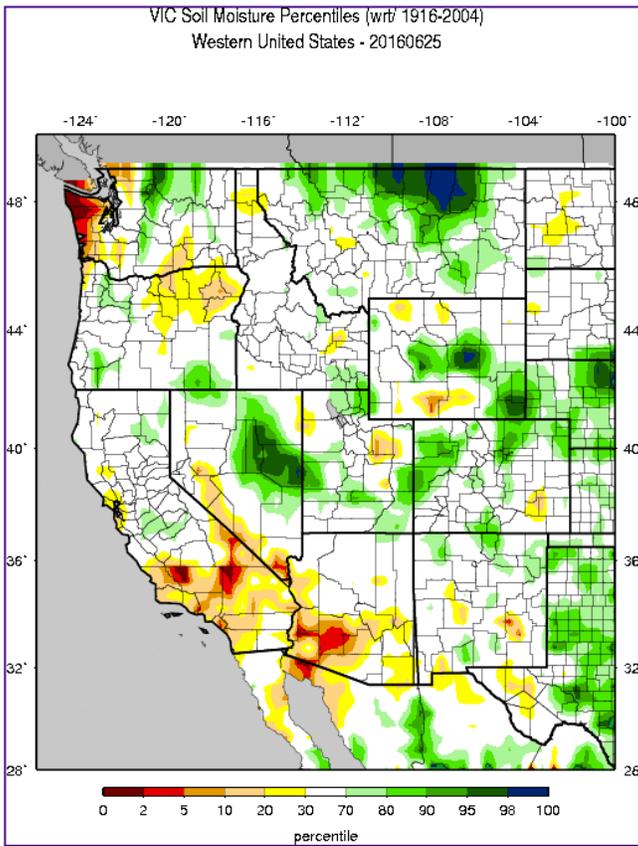
STREAMFLOW



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		

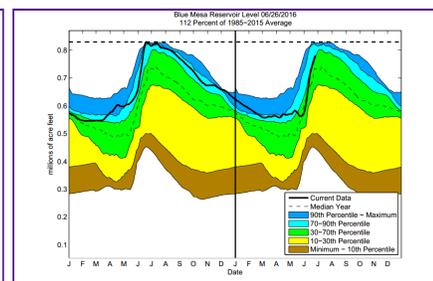
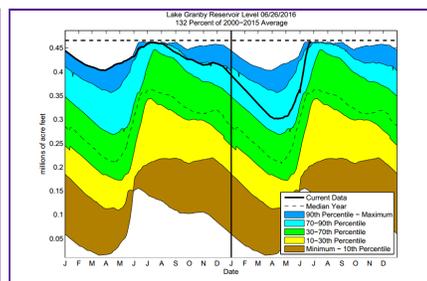
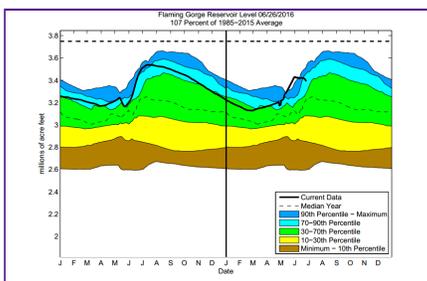
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

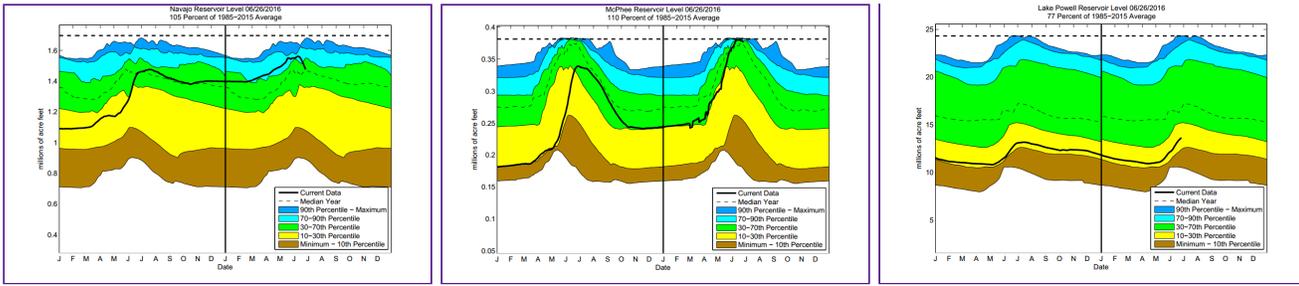
SURFACE WATER



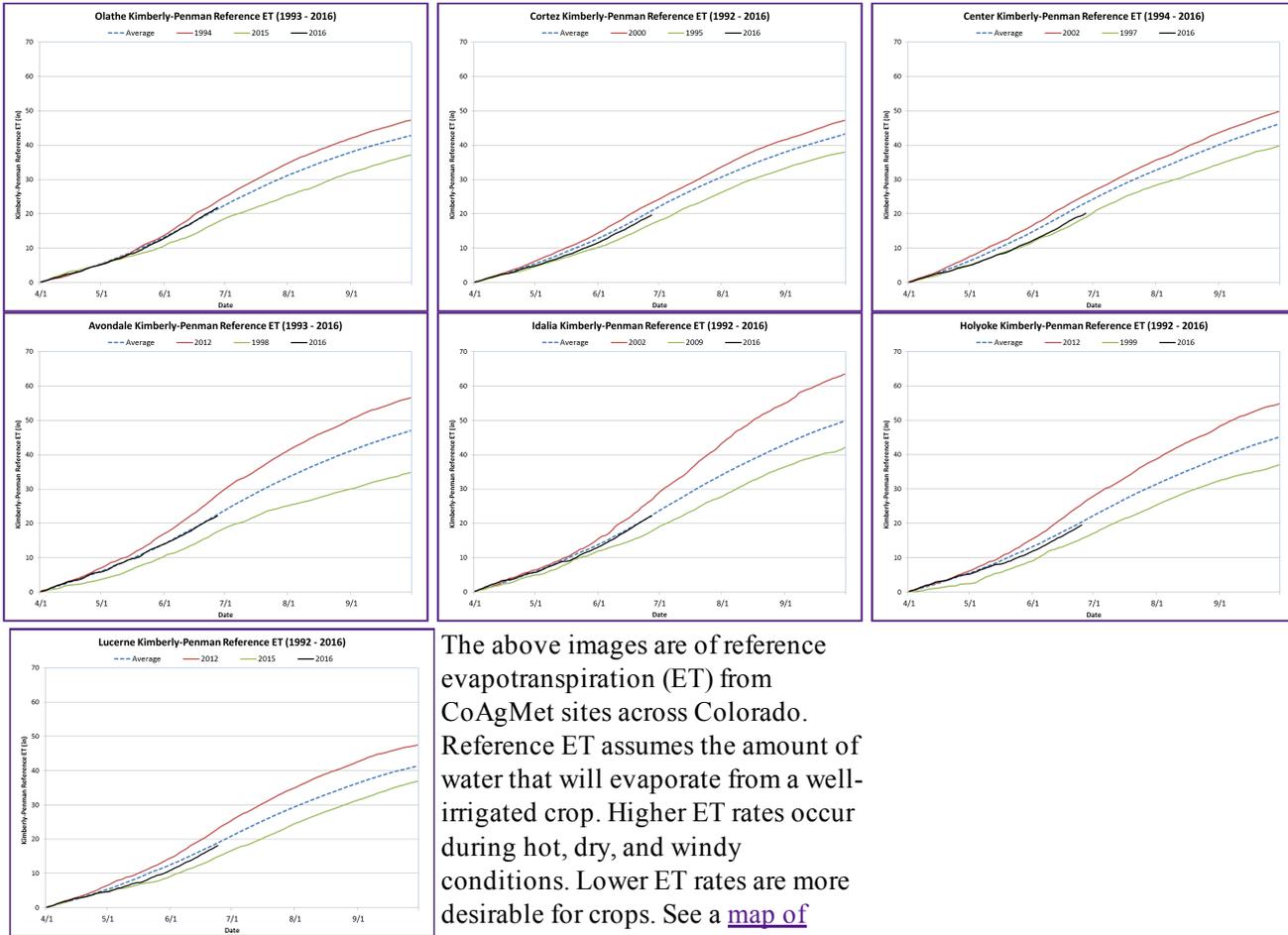
The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

The graphs shown below are plots of reservoir volumes over the past full year and current year to date (black). The dashed line at the top of each graphic indicates the reservoir's capacity, and the background color-coded shading provides context for the range of reservoir levels observed over the past 30 years. The data are obtained from the Bureau of Reclamation. Some of the reservoir percentiles don't line up at the new year due to differences in reservoir levels at the beginning of 1985 and the end of 2014. Dead storage has been subtracted. Note: Lake Granby data are obtained from the Colorado Division of Water Resources, and only goes back to the year 2000.

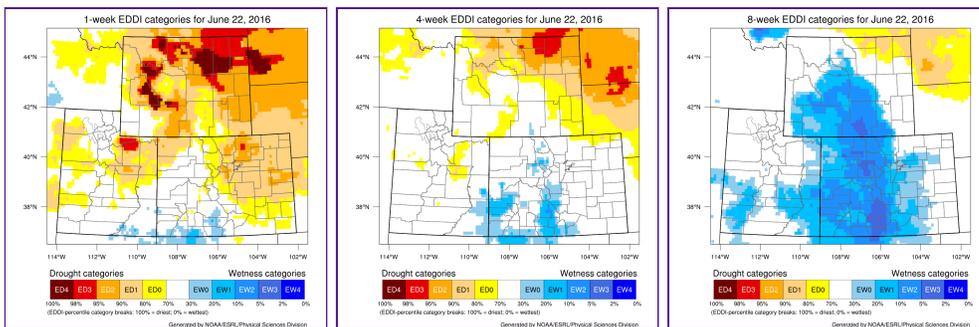


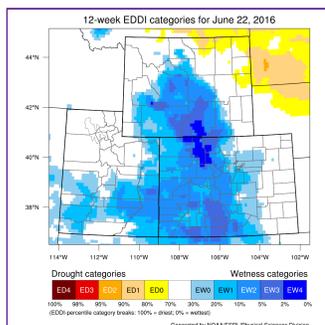


EVAPOTRANSPIRATION



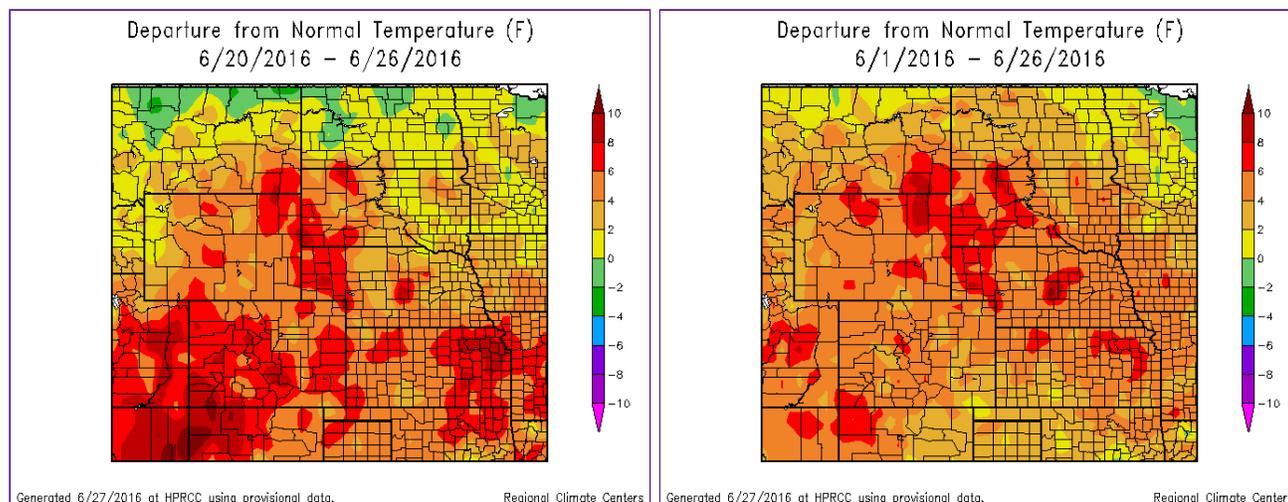
The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a [map of locations](#) for the above ET sites.



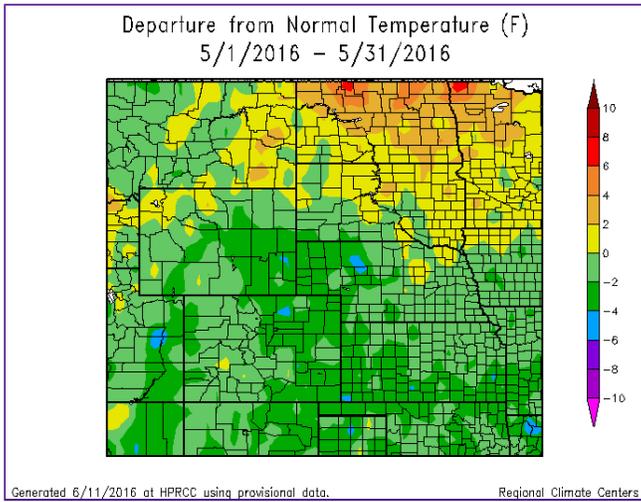


The above images are available courtesy of NOAA's Evaporative Demand Drought Index (EDDI). Drought classification listed is a function of the depth of reference evapotranspiration accumulated over a given period of record with respect to a climatology of 1981-2010. The drought categories displayed are in line with the US Drought Monitor's Percentile Ranking Scheme <http://droughtmonitor.unl.edu/AboutUs/ClassificationScheme.aspx>. Data used to generate these maps come from the North American Land Data Assimilation System Phase-2 (NLDAS-2) project, which assimilates observations of temperature, wind speed, radiation, and vapor pressure deficit. The date indicates the last day of the period of record, and the week number indicates the window size for the period of record..

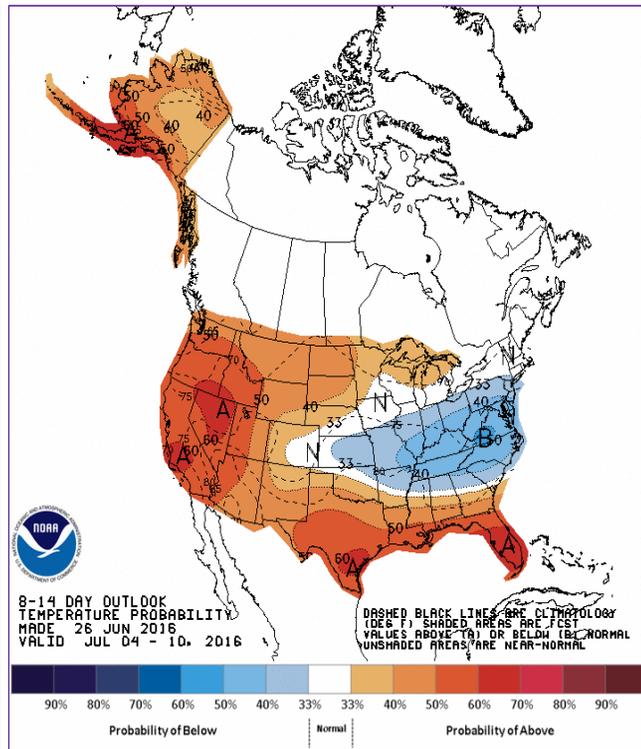
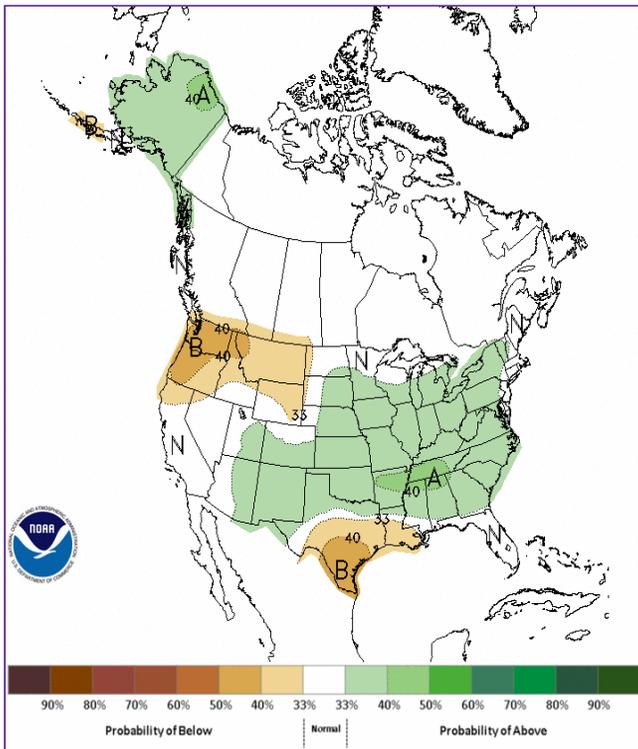
TEMPERATURE

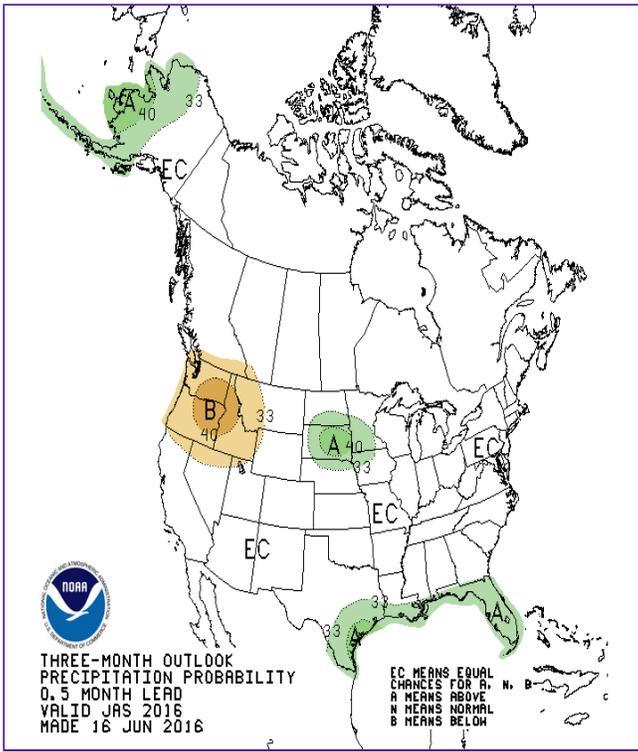


All images show temperature departures from average over different time periods (last 7 days on top left; month-to-date on top right; last full month on bottom). Temperature departure maps provided by HPRCC ACIS.

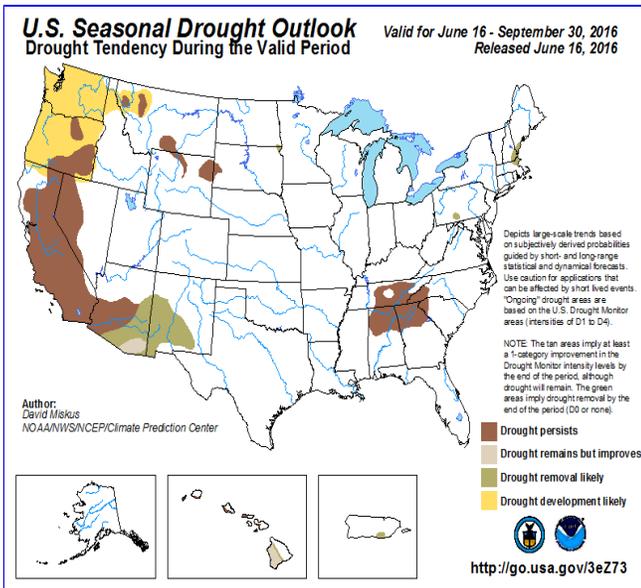
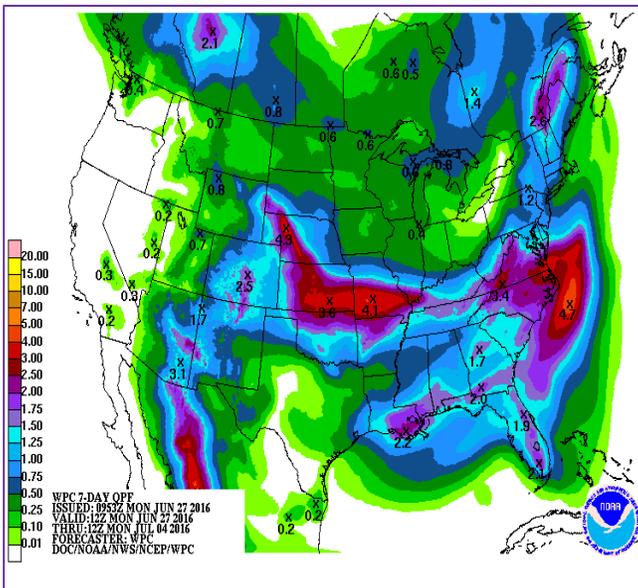


FORECAST AND OUTLOOK





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 Weather Prediction Center's Quantitative Precipitation Forecast accumulation for the seven days between Tuesday 12Z and ending Tuesday 12Z. The bottom right image shows the Climate Prediction Center's most recent release of the U.S. Seasonal Drought Outlook.



Short Term: (6/28)

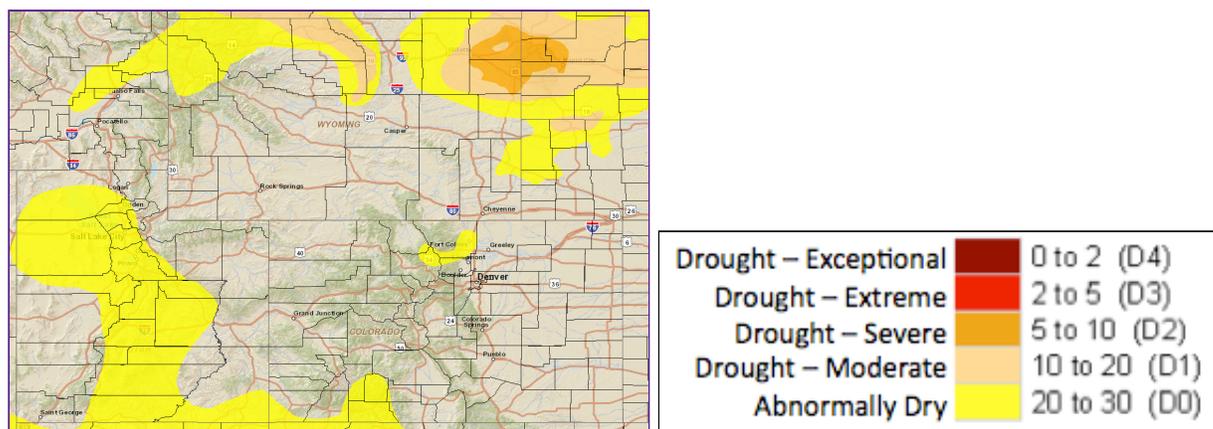
- The North American Monsoon is scheduled to make a very welcome return this week. All of Colorado except the extreme northeast corner are forecast over half an inch of precipitation for the coming week. The wettest areas will be the central Rockies, the San Juans, Sangre de Cristos, and foothills to the immediate east.

Temperatures will also cool by 5-10 degrees. The northern and western portions of the UCRB will also benefit from this moisture, but not to the same degree. Here weekly precipitation totals are likely to fall in the 0.25-0.50" range with higher amounts anticipated at higher elevations.

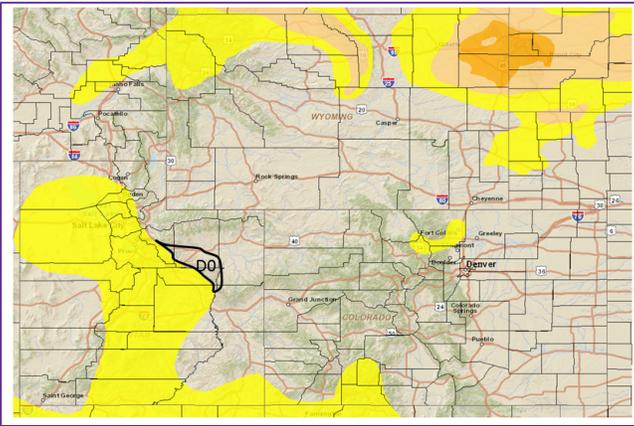
- **Longer Term:**

- The 8-14 day precipitation outlook shows increased chances for above average precipitation for southeast Utah and southern Colorado. The northernmost reaches of the Upper Green River Basin will see increased chances of below average precipitation.
- The 8-14 day temperature outlook shows increased chances for above average temperatures for the entirety of the UCRB. Most of eastern Colorado and the San Luis Valley are forecast equal chances of above and below average temperatures. The northern Front Range and northeast plains will see slightly elevated chances for above average temperature.
- The Climate Prediction Center July through September outlook shows equal chances of above and below average precipitation for the entirety of the UCRB and eastern Colorado.
- The seasonal drought outlook for Colorado and the UCRB shows no likely drought development over the next three months, and removal likely in the southeast corner of the state.

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: June 28, 2016

The past week was a scorcher for the Upper Colorado River Basin and eastern Colorado. The UCRB saw average temperatures for the week of over 85 degrees in some areas. As is often the case this time of year the proper strategy to cool off would be to retreat to high elevations. Mountain areas saw average temperatures in the 60s this week. These temperatures were above normal everywhere for the week across the UCRB and eastern Colorado. In most locations weekly temperature anomalies were between +4 and +8 degrees Fahrenheit.

With the exception of some high elevation convective showers, the UCRB was very dry over the past week, receiving less than 0.10" of precipitation in most locations. East of the divide, thunderstorms generating off the mountains and traveling southeast dropped over 0.50" of precipitation across much of the Arkansas River Basin. Isolated areas received over an inch. The amount of area in northeast Colorado that received above normal rainfall over the past week was lower. Most of northeast Colorado received less than 0.25".

This is the driest time of year for much of the UCRB, but this June has been even drier than normal. Most 30-day SPIs in the UCRB are between -1 and 0. 30-day SPIs are between -2 and -1 in Duchesne and Uintah Counties in Utah, Grand and Routte Counties in Colorado, and Lincoln County in Wyoming. The eastern side of Colorado is closer to normal on short timescales, but also showing more variability. On longer timescales most areas are in pretty good shape. The western fringe of the UCRB near the Wasatch Range is showing moderate short and long-term dryness, and this is currently reflected by D0.

The UCRB is doing well in terms of water storage with the obvious exception of Lake Powell. Cumulative streamflow at major indicator sites along the Green, Colorado, and San Juan Rivers is at or near normal for 2016 to date. Only 4% of gages in the UCRB are reporting 7-day streamflows below normal. Lake Dillon, McPhee, Green Mountain, and Lake Granby are all near their capacities. Blue Mesa, Flaming Gorge, and Navajo Reservoirs are all above average. Lake Powell has been boosted to 77% of its average late June level, which is up from around 70% a month

ago.

Impacts of short-term hot and dry conditions on root zone soils and vegetative health have been largely muted by better long-term conditions, and by relaxed evaporative demand in April and May to start the growing season. Using a combination of the Evaporative Demand Drought Index and CoAgMet indicator sites, ET was found to be below or near normal across the UCRB and eastern Colorado to start the growing season. Shallow soils and vegetation with near-surface roots are drying out in many areas, but the only area showing concerning dryness integrated through the entire root zone is southern Duchesne County in Utah.

Recommendations

UCRB: It is recommended that D0 be extended in eastern Utah to include the remainder of Carbon County, extreme southeast Uintah County, south and central Duchesne County, and extreme east-central Wasatch County. Duchesne, Utah is showing similar precipitation deficits for the year to date to Price, Utah in Carbon County, which is currently in D0. Remotely sensed vegetative health and modeled root zone soils are consistent with short-term abnormally dry conditions in this region.

Eastern Colorado: Status Quo. D0 appears to be depicted in the correct areas.