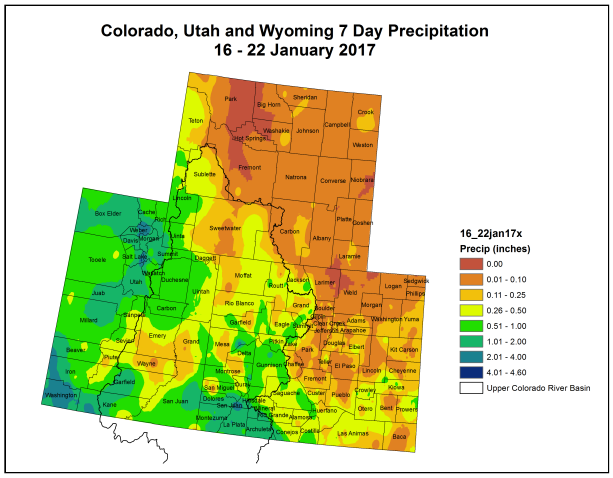
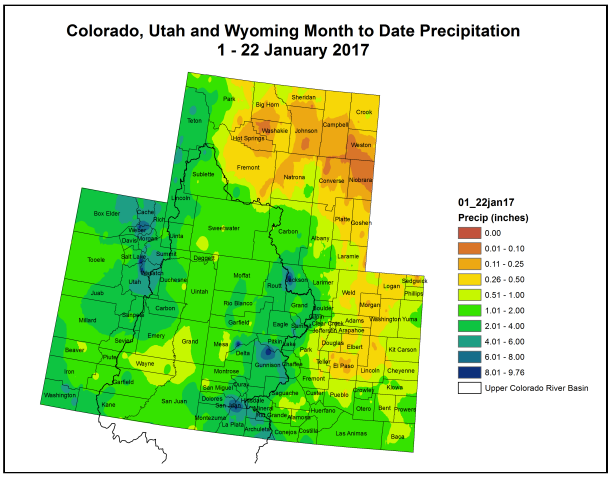
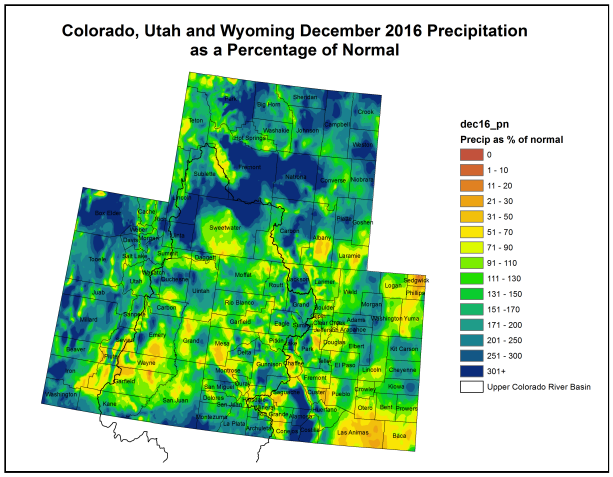
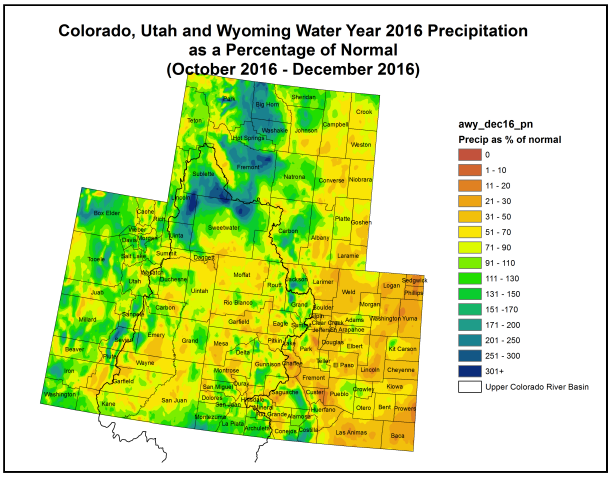
NIDIS Intermountain West
Regional Drought Early Warning System
January 24, 2017

Precipitation



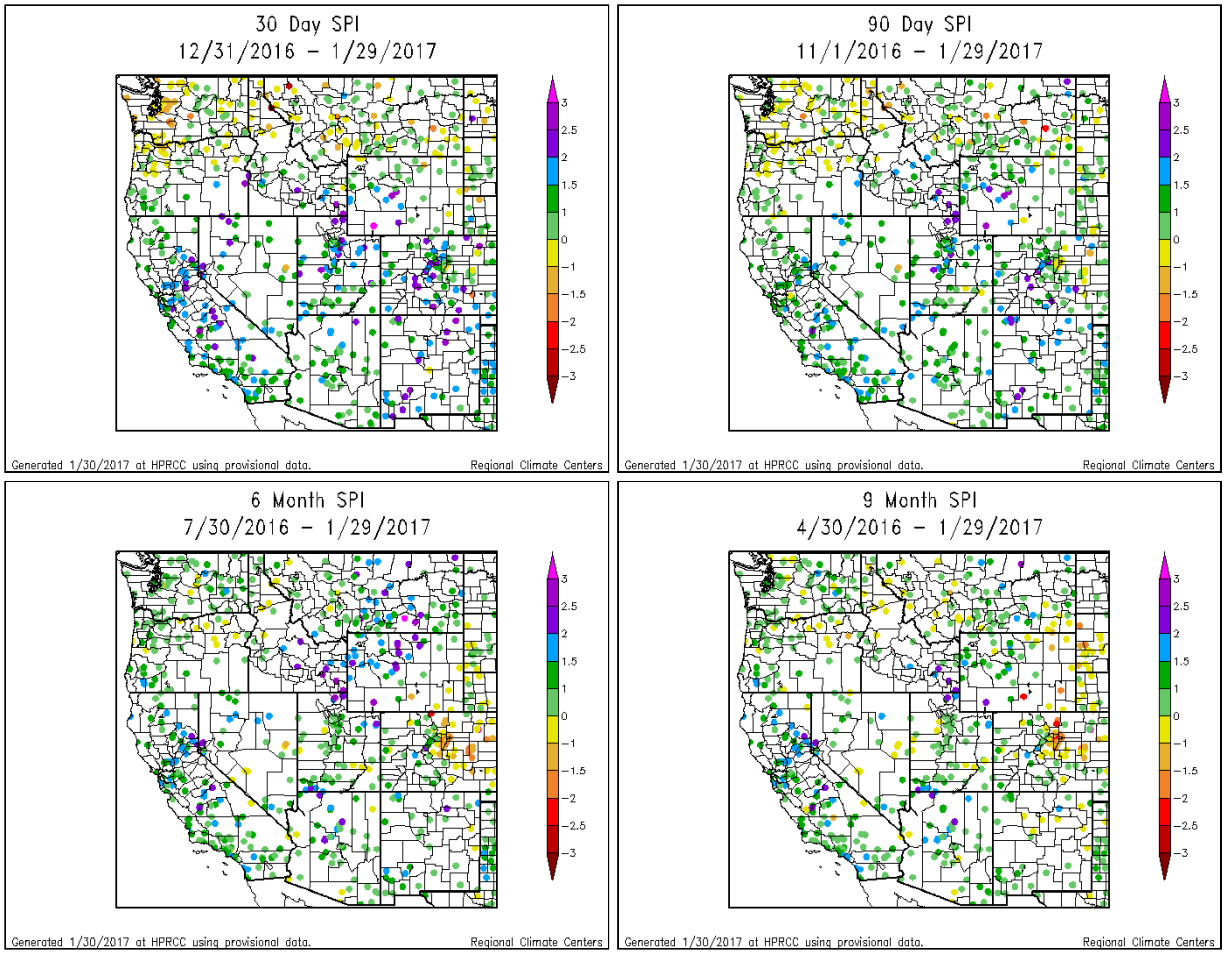






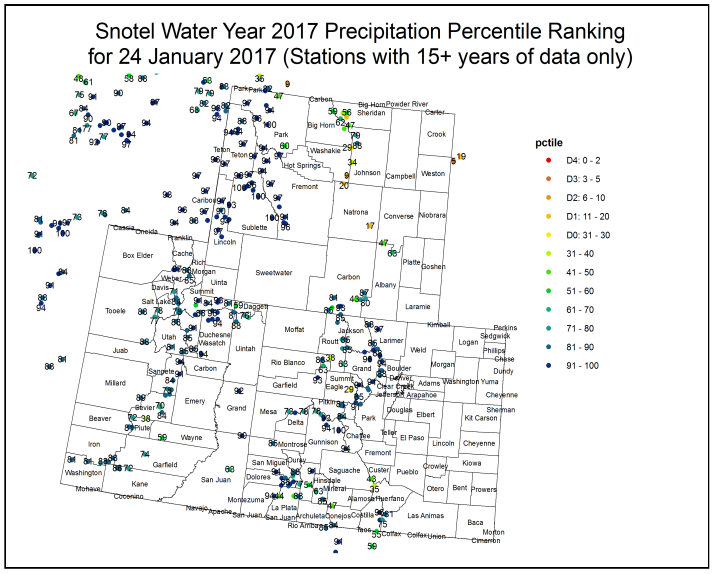
The images above use daily precipitation statistics from NWS COOP, CoCoRaHS, and CoAgMet stations. From top to bottom, and left to right: most recent 7-days of accumulated precipitation in inches; current month-to-date accumulated precipitation in inches; last month's precipitation as a percent of average;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

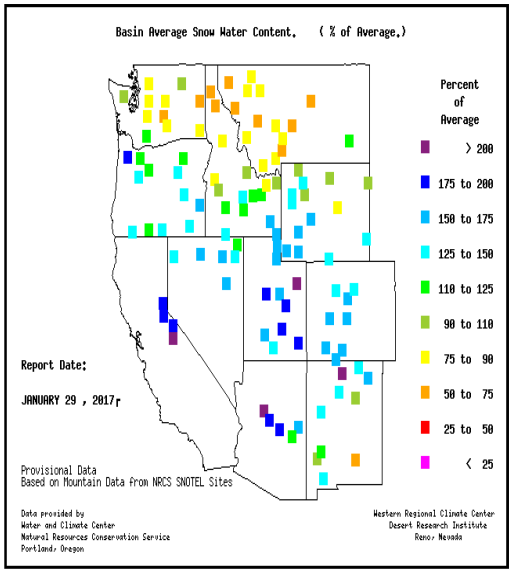
Standardized Precipitation Index



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.

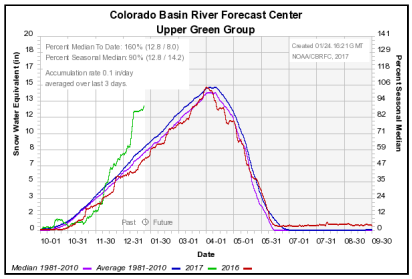
Snotel and Snowpack

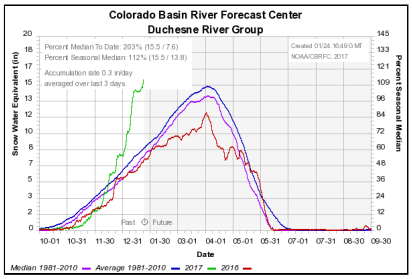


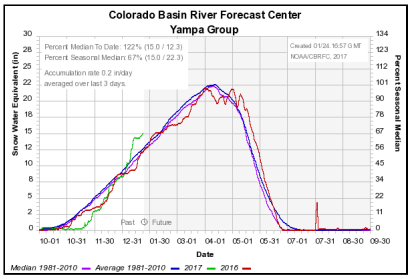


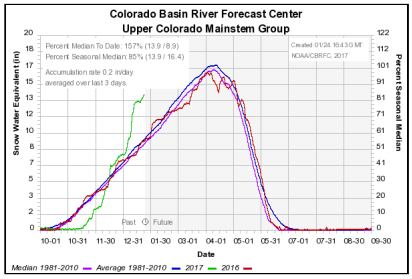
The top left image shows the Natural Resources Conservation Service's SNOTEL water-year-to-date precipitation percentile rankings. The top right image shows sub-basin averaged snow water equivalent accumulations as a percent of average. The images below show accumulated

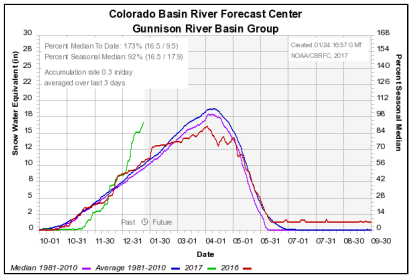
snow water equivalent in inches (green) compared to average (blue) and last year (red) for several different sub-basins across the UCRB (and were created by the Colorado Basin River Forecast Center).

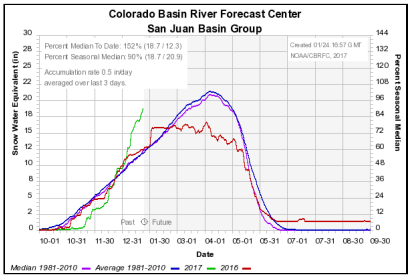




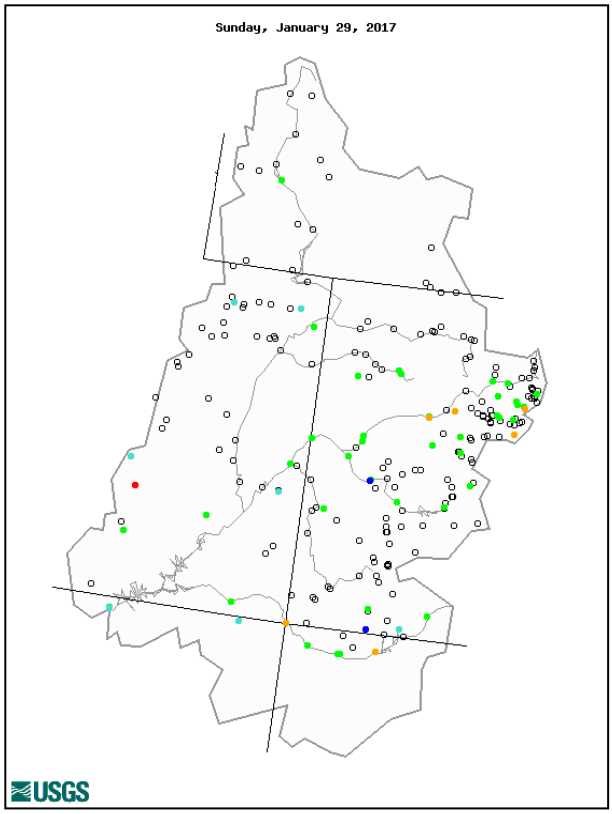




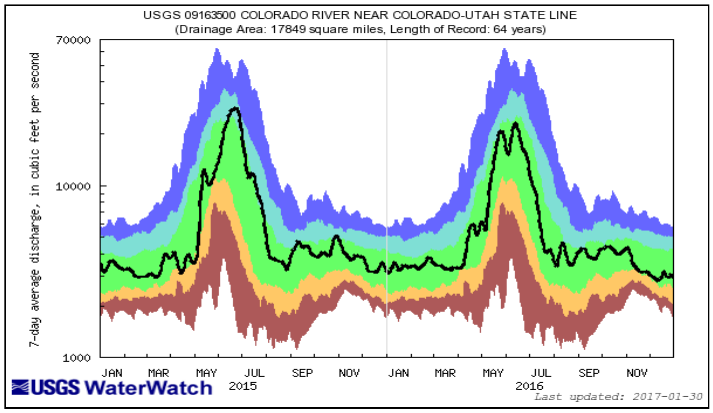


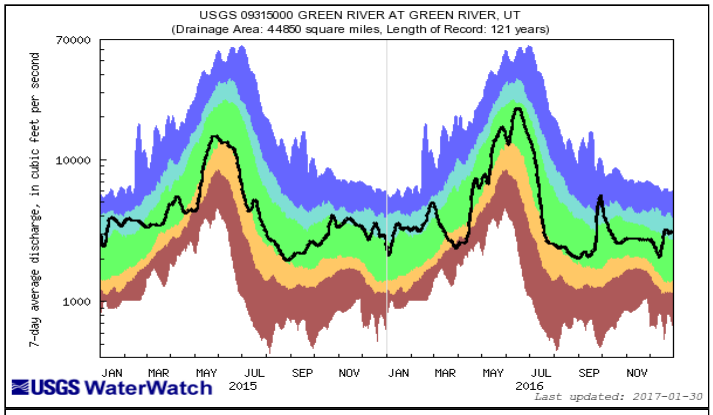


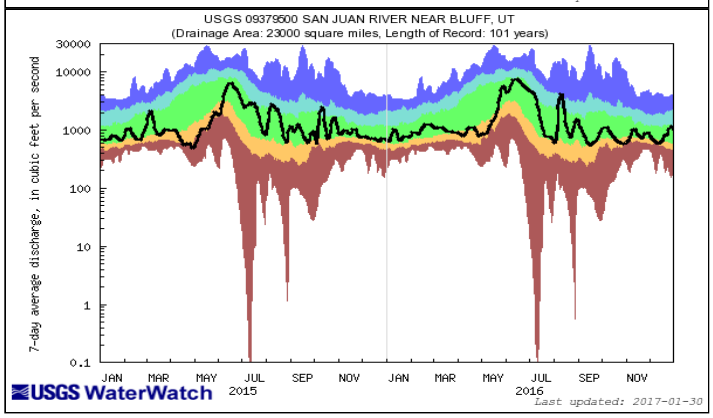
Streamflow



Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

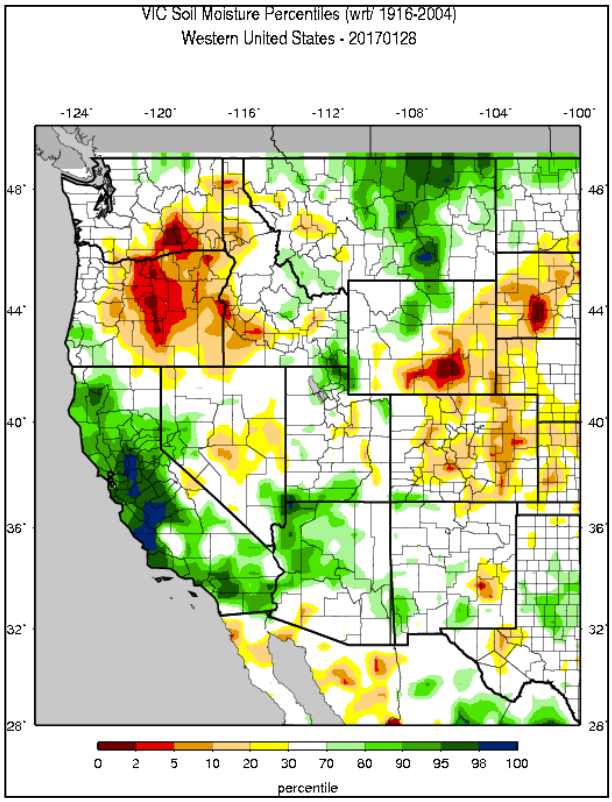


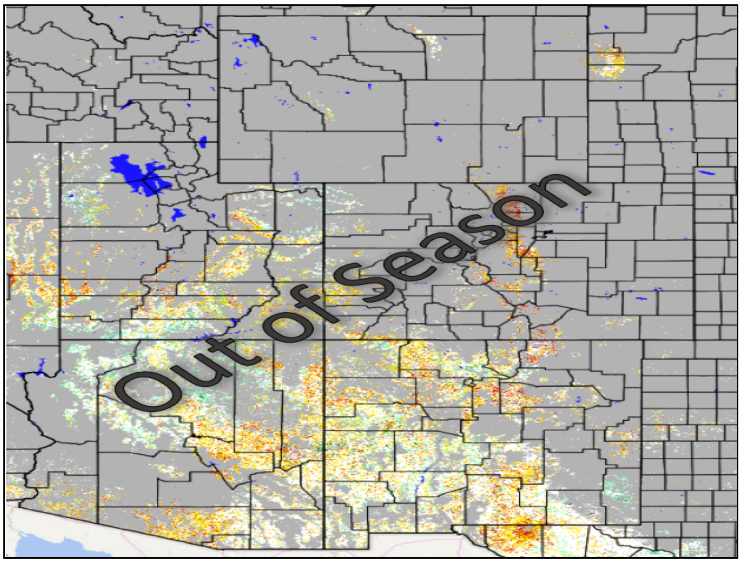




The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

Surface Water

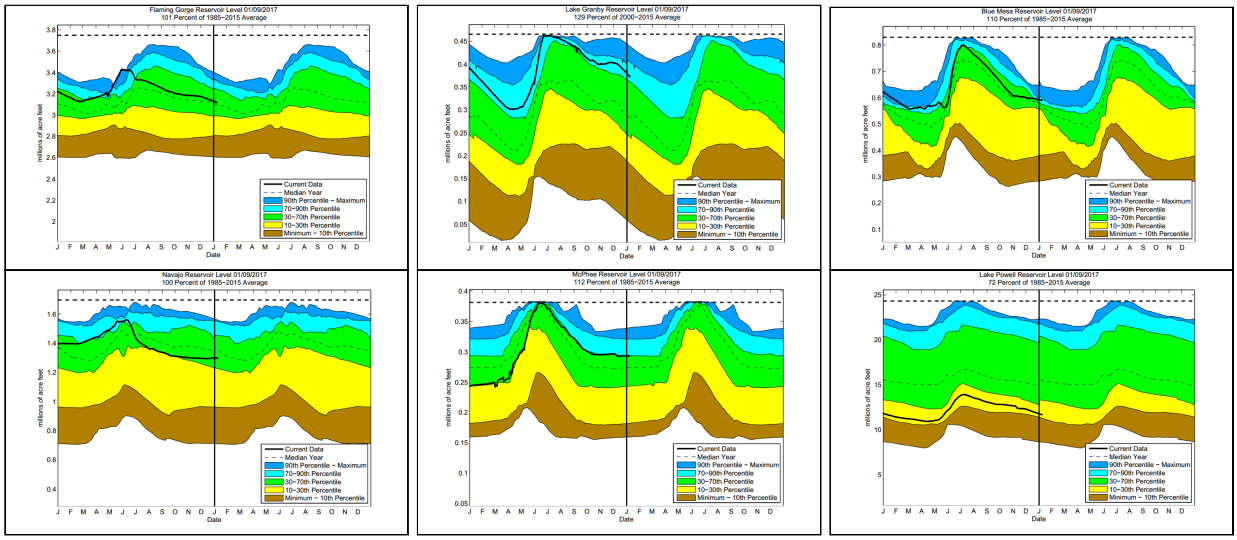




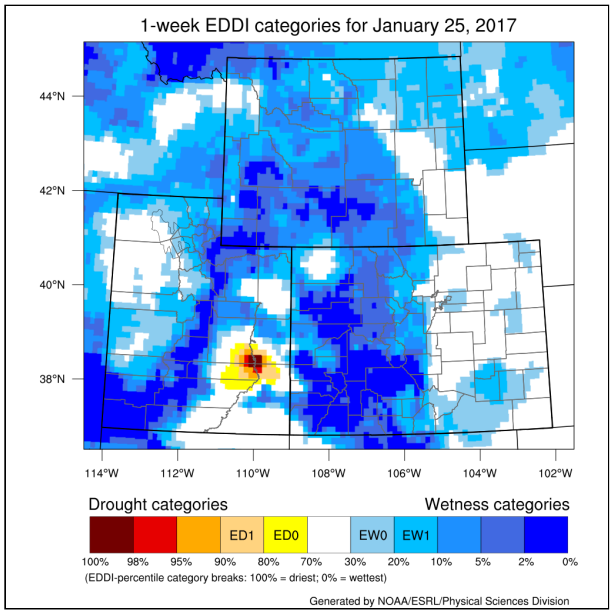
The top left image shows VIC modeled soil moisture as a percentile ranking. The top right

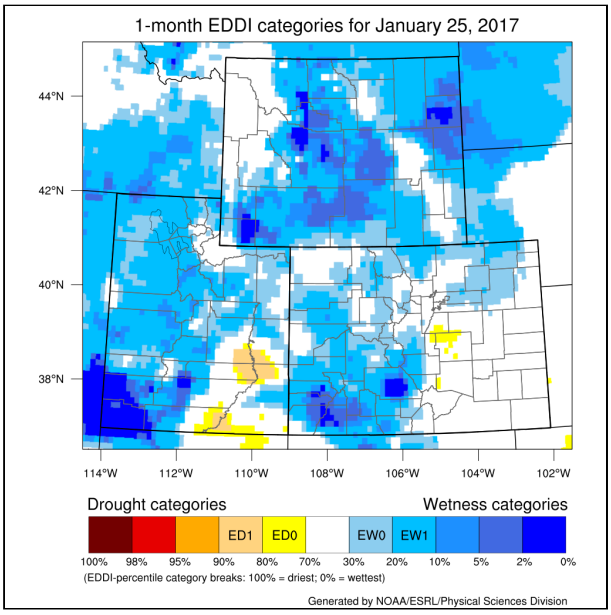
image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

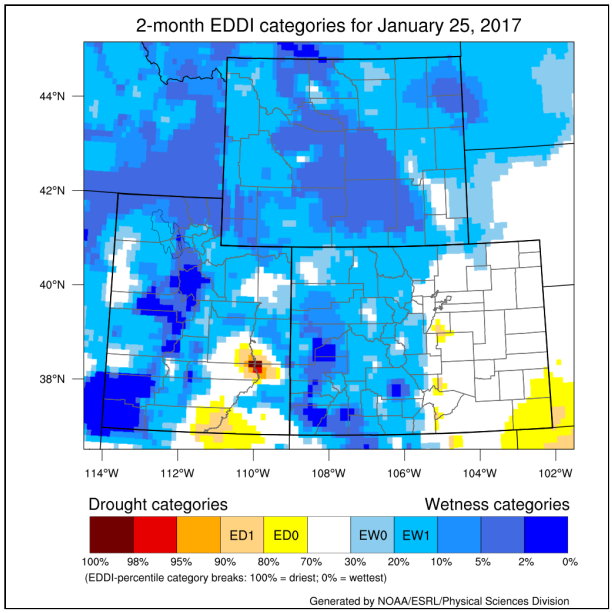
The graphs shown below are plots of reservoir volumes over the past full year and current year to date (black). The dashed line at the top of each graphic indicates the reservoir's capacity, and the background color-coded shading provides context for the range of reservoir levels observed over the past 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.

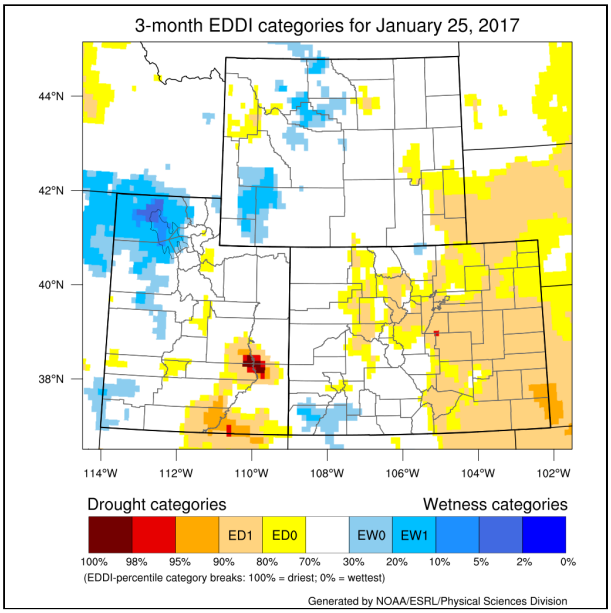


Evaporative Demand



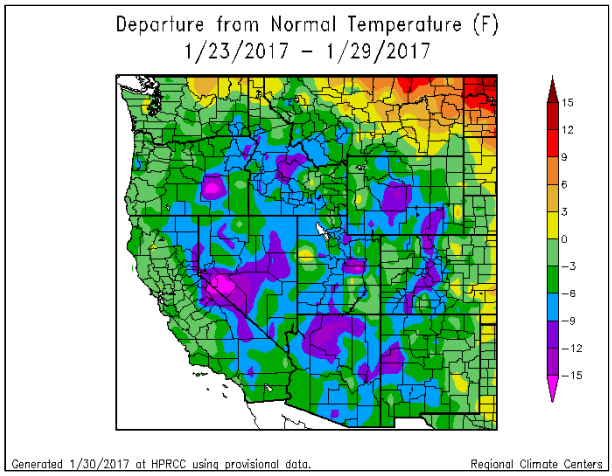


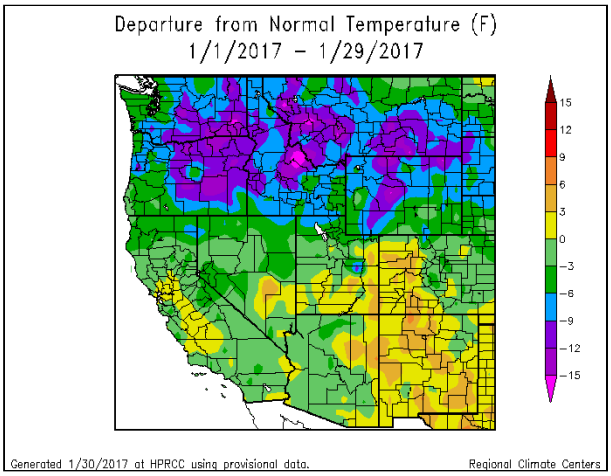




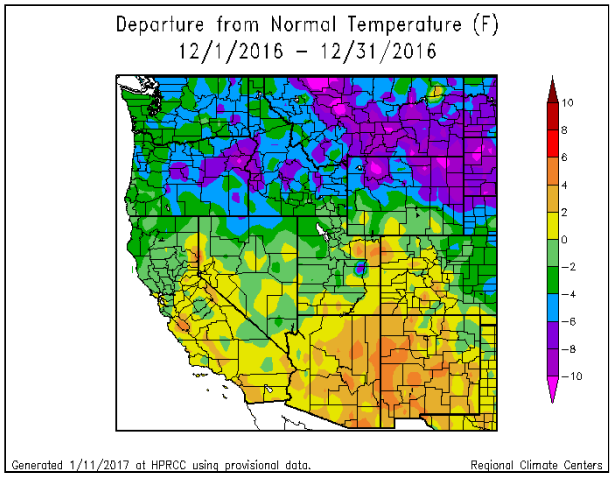
The above images are available courtesy of NOAA's Evaporative Demand Drought Index (EDDI). Drought classification listed is a function of the depth of reference evapotranspiration accumulated over a given period of record with respect to a climatology of 1981-2010. The drought categories displayed are in line with the US Drought Monitor's Percentile Ranking Scheme. 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

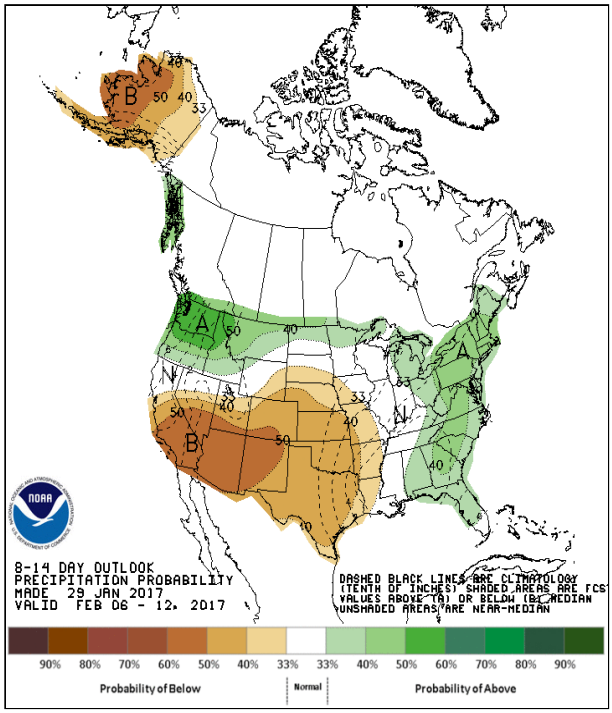


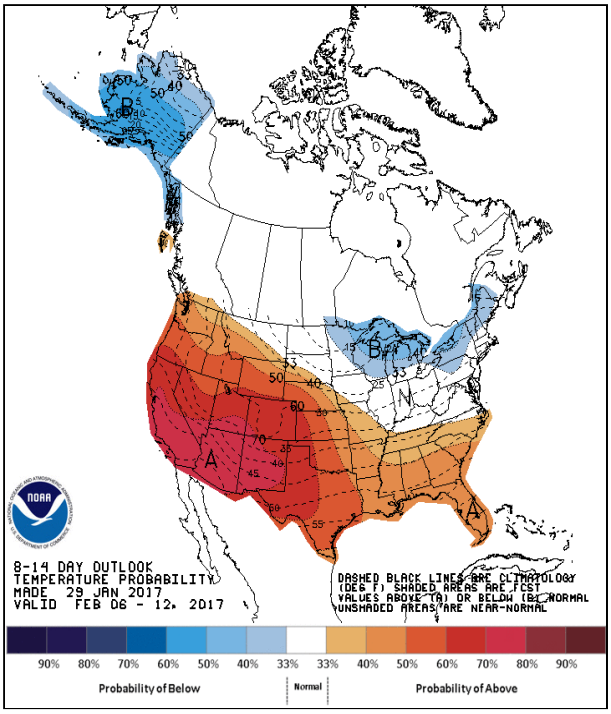


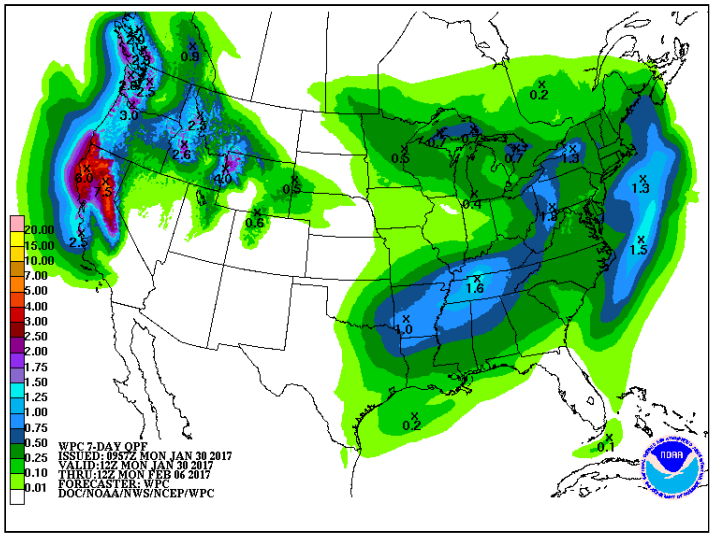
All images show temperature departures from average over different time periods (last 7 days on top left; month-to-date on top right; last full month on bottom). Temperature departure maps provided by HPRCC ACIS.



Outlook

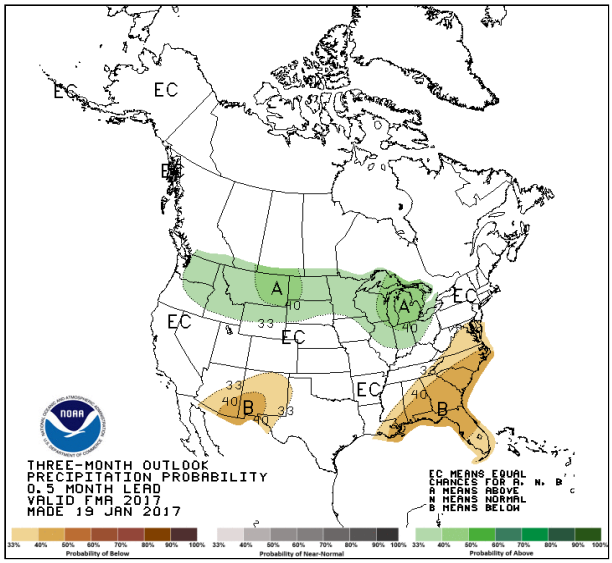


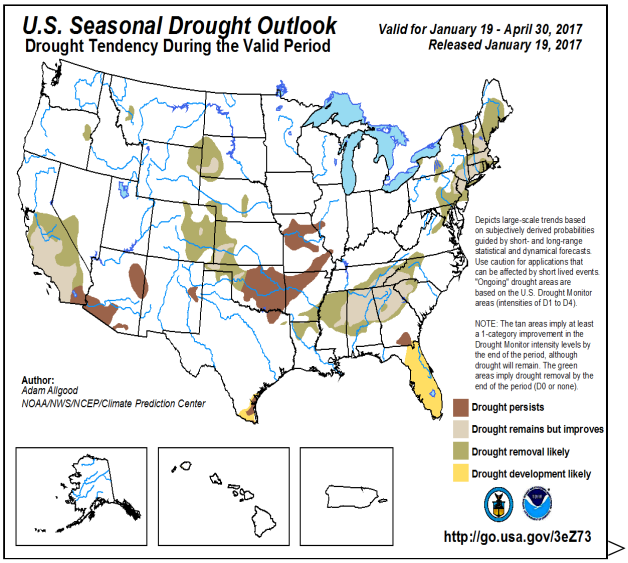




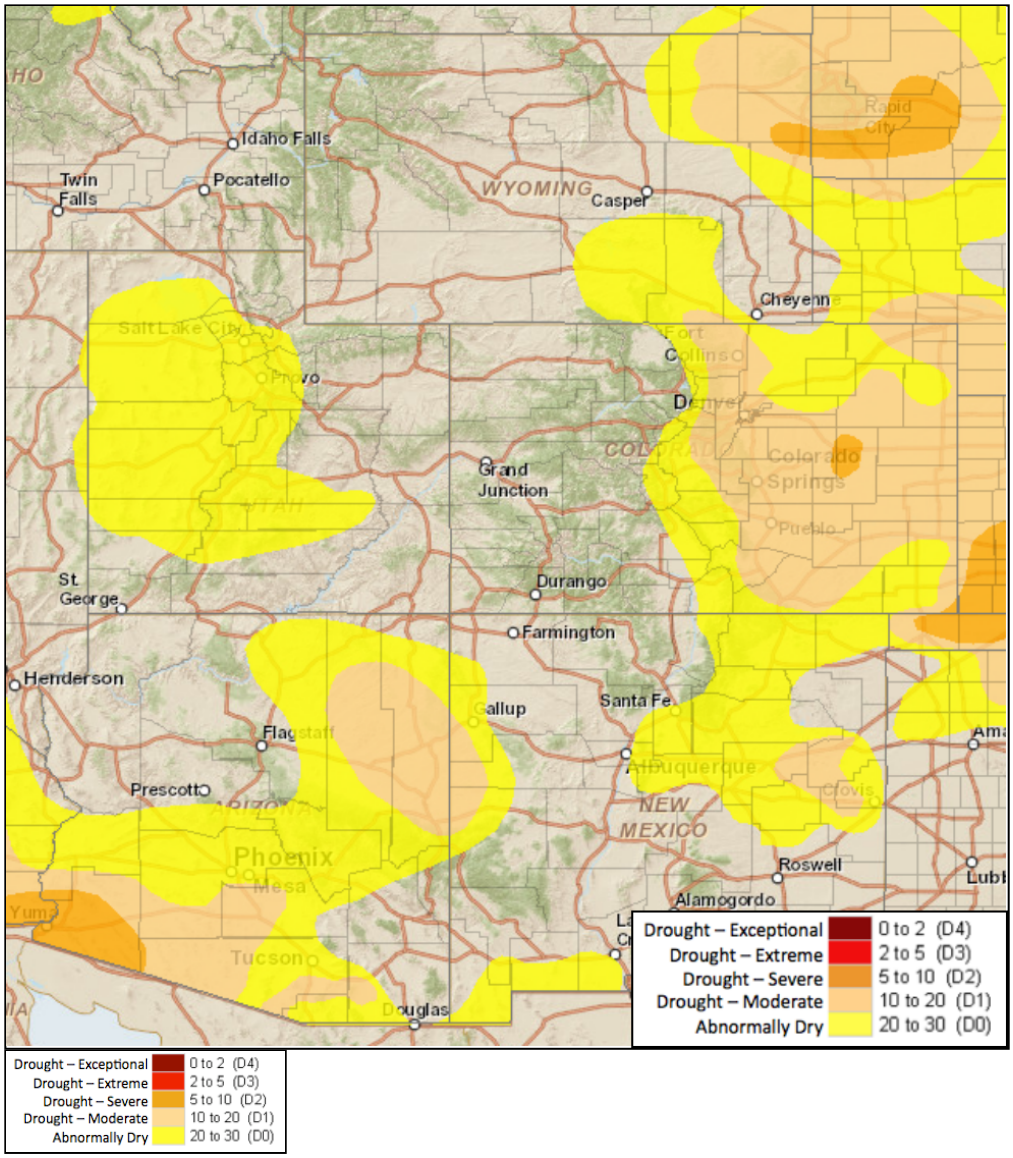
The top two images show Climate Prediction Center's Precipitation and Temperature outlooks for 8 - 14 days. The middle image shows the Weather Prediction Center's Quantitative Precipitation Forecast accumulation for seven days. The bottom left image shows the 3-month

precipitation outlook from Climate Prediction Center, and the bottom right image shows the Climate Prediction Center's most recent release of the U.S. Seasonal Drought Outlook.



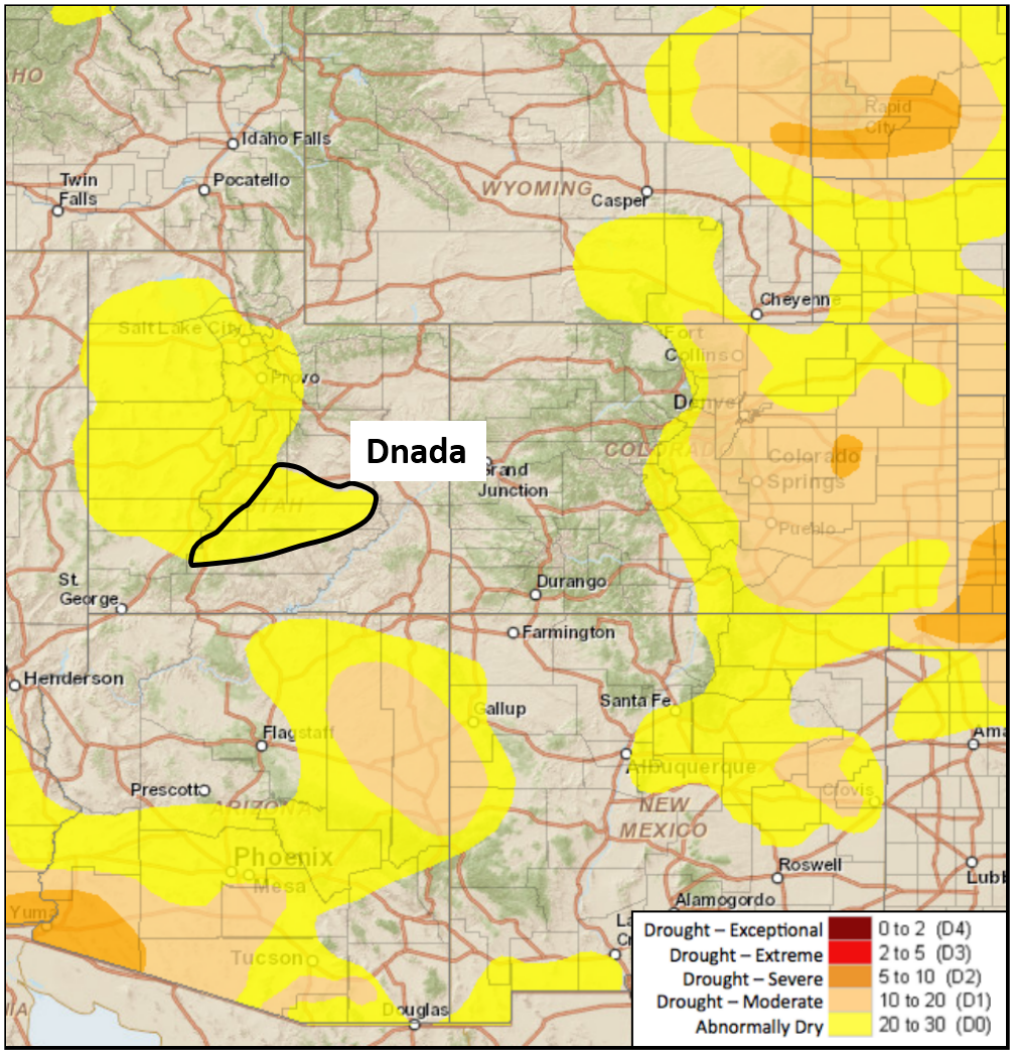


Summary and Recommendations



Drought – Exceptional 0 to 2 (D4)
Drought – Extreme 2 to 5 (D3)
Drought – Severe 5 to 10 (D2)
Drought – Moderate 10 to 20 (D1)
Abnormally Dry 20 to 30 (D0)

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: January 24, 2017

Last week in the UCRB, the Upper Green Basin received mainly less than 0.50" of new precipitation. The higher elevations of the Duchesne basin in ne Utah saw up to 1.00" of new precipitation. Northwestern Colorado saw less than 0.50" while the San Juan Mountains saw 1.00 to 2.00" over the last week.

Eastern Colorado saw less than 0.25" over most of the area last week. South of the Arkansas River saw a little more, in the 0.25 to 0.50" range. The San Luis Valley also saw 0.25 to 0.50".

Not much change occurred in the past week. Short term 30-day SPIs are still positive through the region. 90-day SPIs in the UCRB are still positive while eastern Colorado starts to show dryness. Long-term SPIs are still in good shape in the western portion of the UCRB with more dryness in western Colorado and very dry SPIs in eastern Colorado.

Temperatures for the last week were up to 6 degrees warmer than average through all of Colorado and cooler than normal in eastern Utah and southwestern Wyoming.

Most of the stream gages in the UCRB and eastern Colorado are now ice affected. Gages that are not ice affected are mostly reporting in the normal

range.

Recommendations

UCRB: Last week we recommended removal of D0 in Wayne, Emery and Garfield counties in southern Utah, but those changes were left out with no explanation. We will try the recommendation again. Status quo for the rest of the basin.

Eastern Colorado: Status quo for eastern Colorado. Trimming of D1 and D0 in southern Colorado could be argued for with the past 30 days of moisture, however, soil moisture is still very poor in this area and long-term SPIs are still showing dryness. With the lack of precipitation this week and outlook looking dry, we may keep the picture like it is.