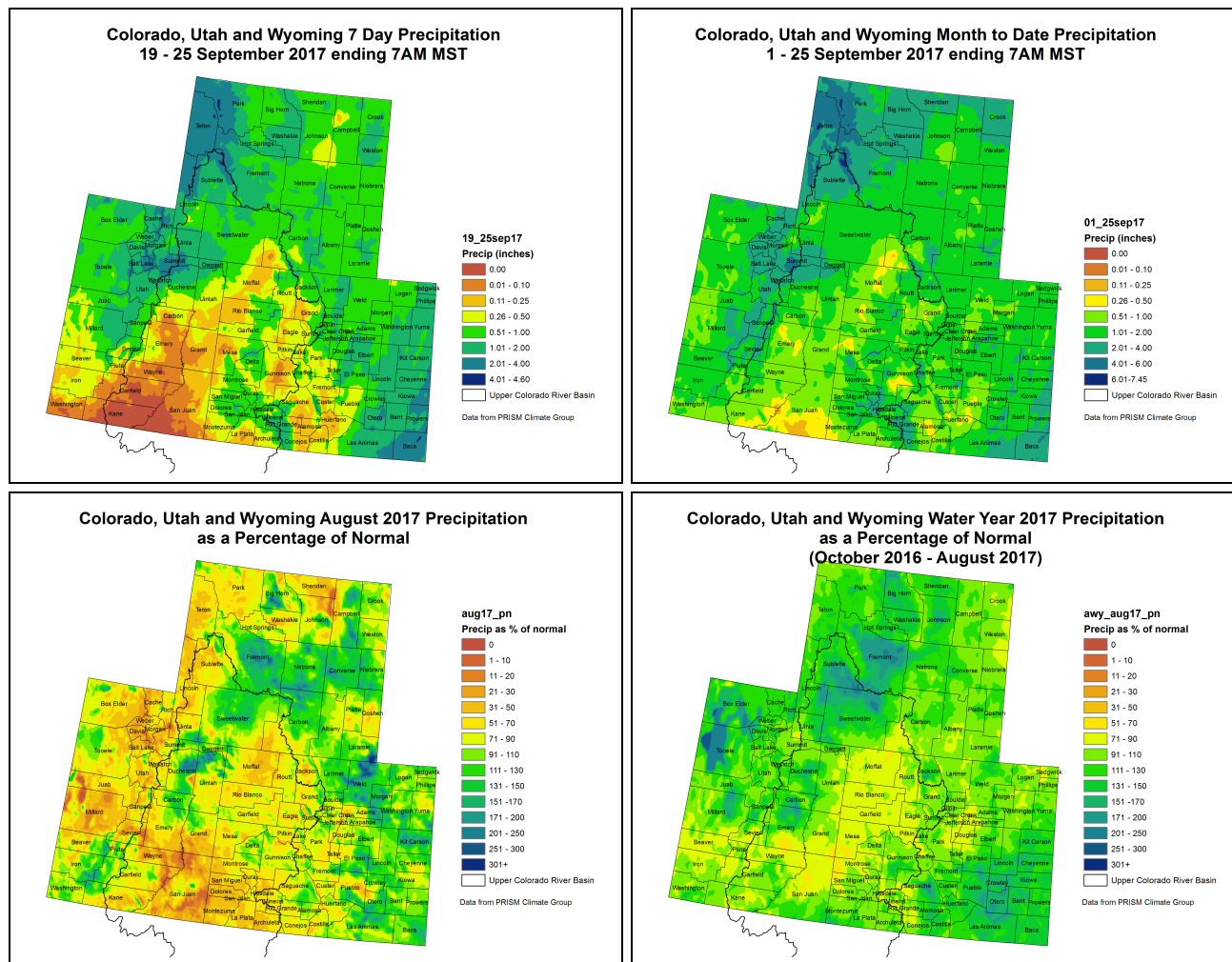


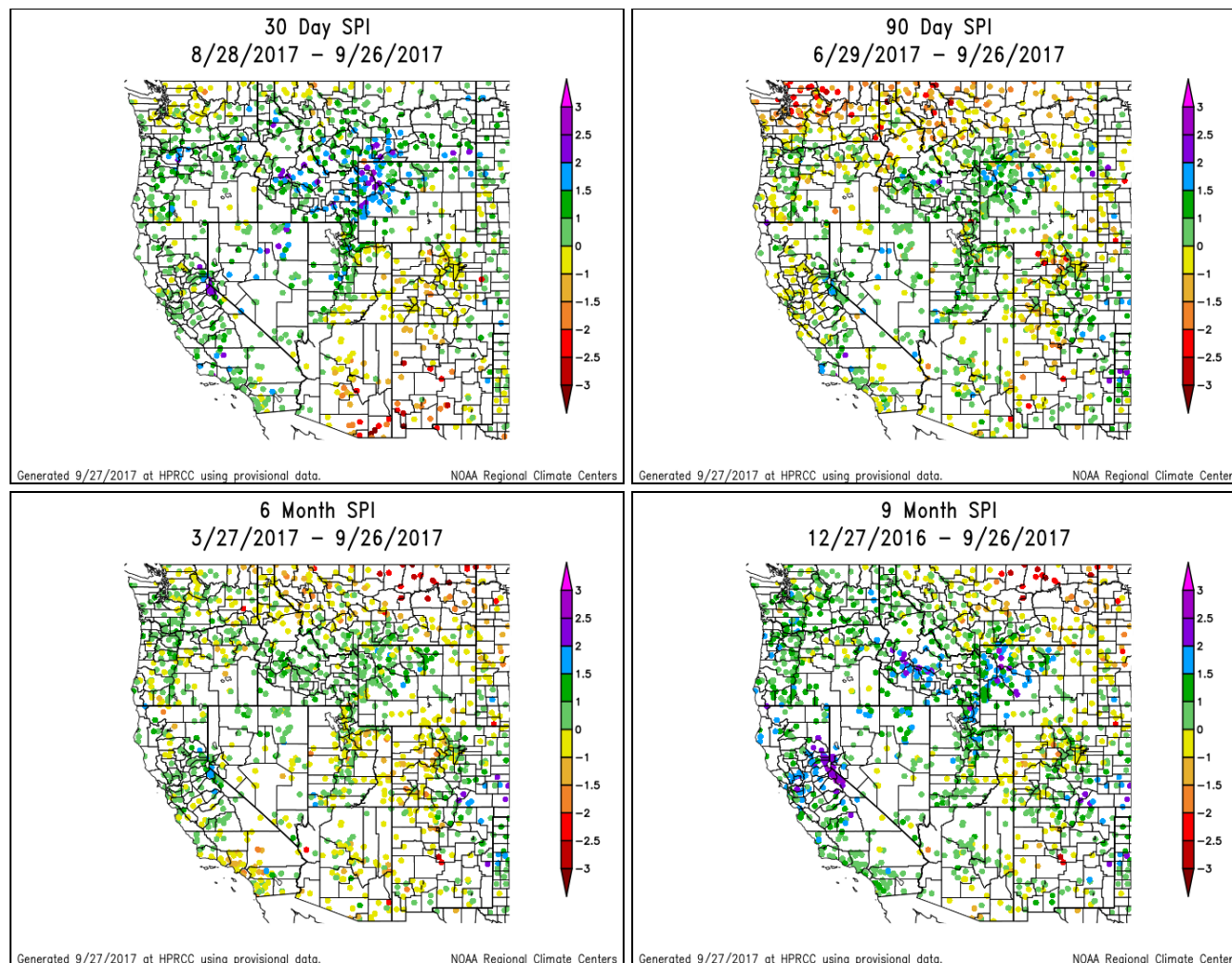
NIDIS Intermountain West Drought Early Warning System September 26, 2017

Precipitation



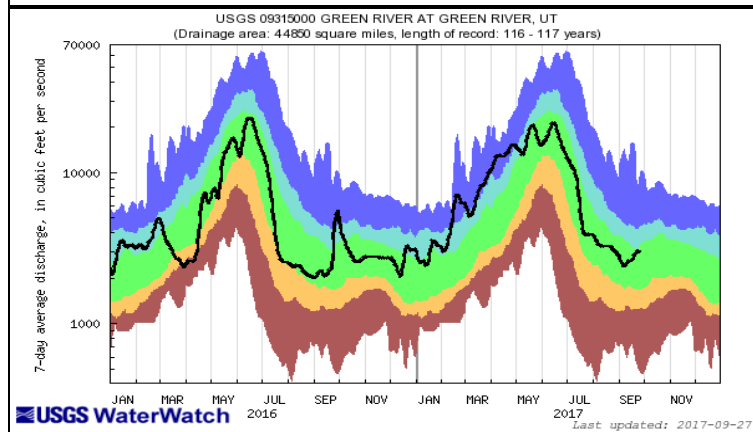
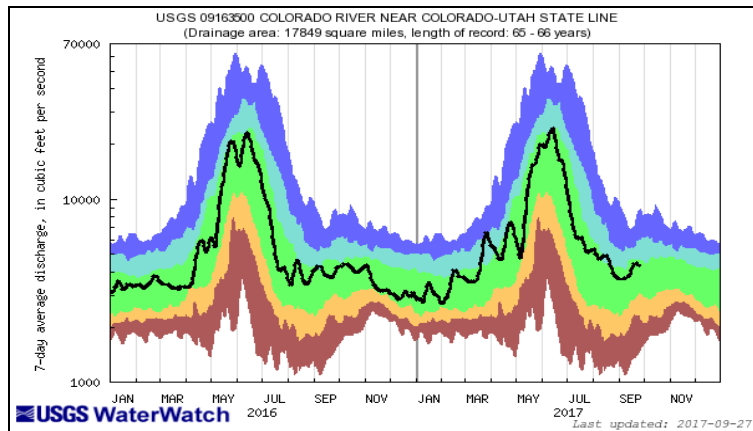
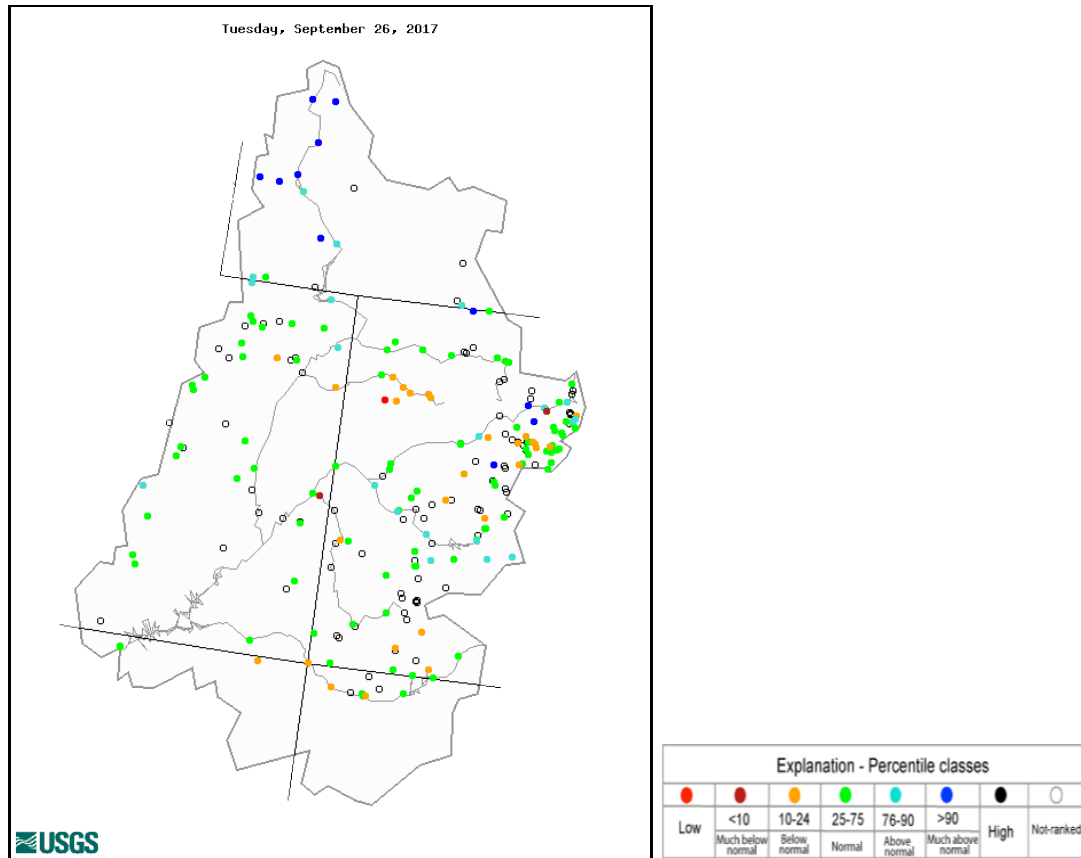
The images above use daily precipitation statistics from NWS COOP, CoCoRaHS, and CoAgMet stations. From top to bottom, and left to right: most recent 7-days of accumulated precipitation in inches; current month-to-date accumulated precipitation in inches; last month's precipitation as a percent of average;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

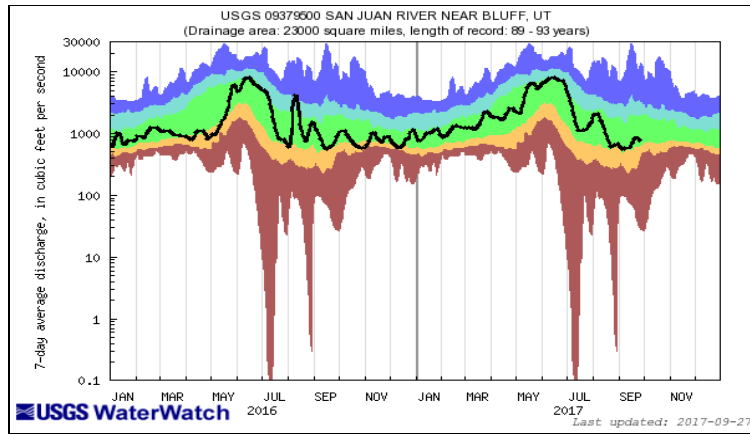
Standardized Precipitation Index



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.

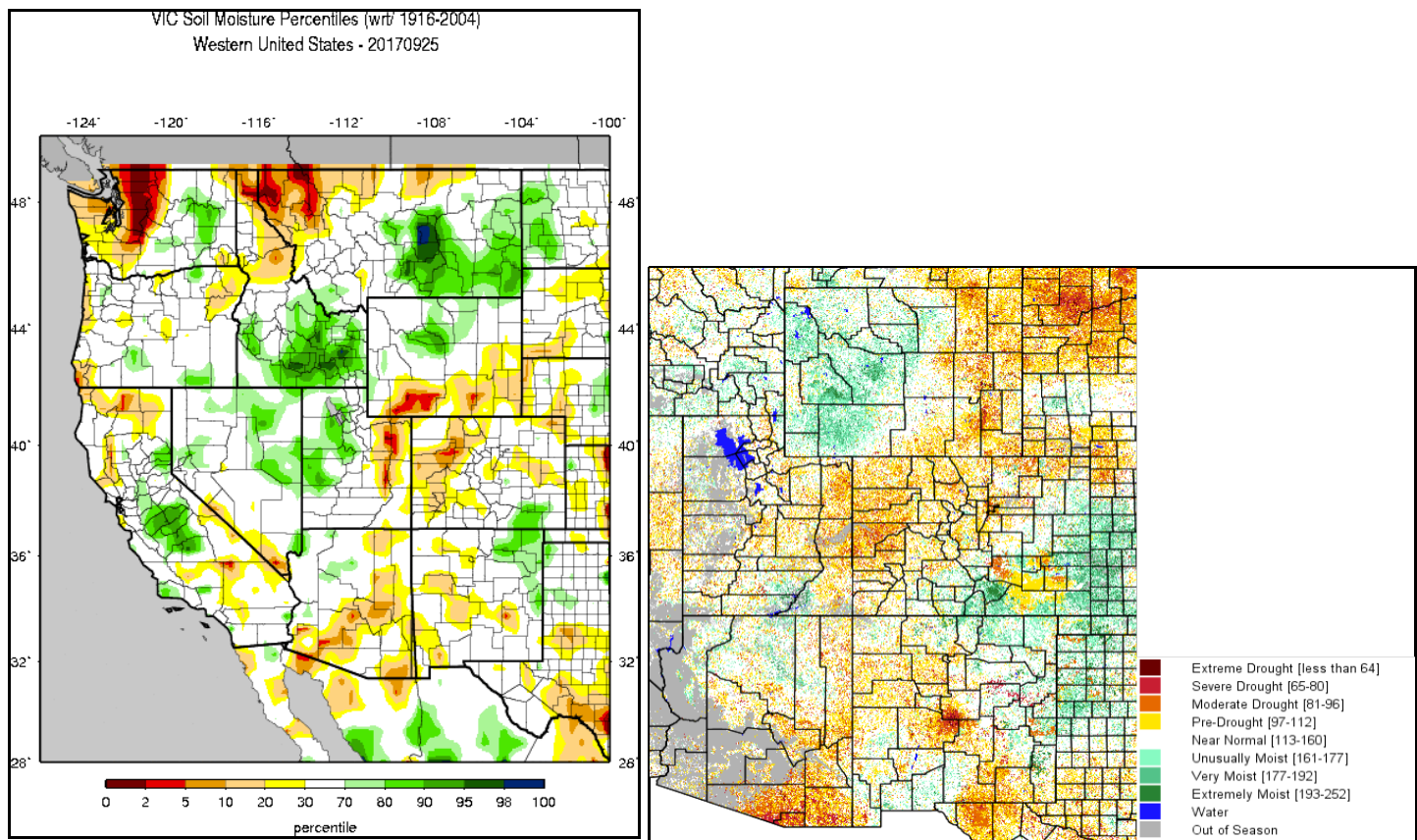
Streamflow





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.

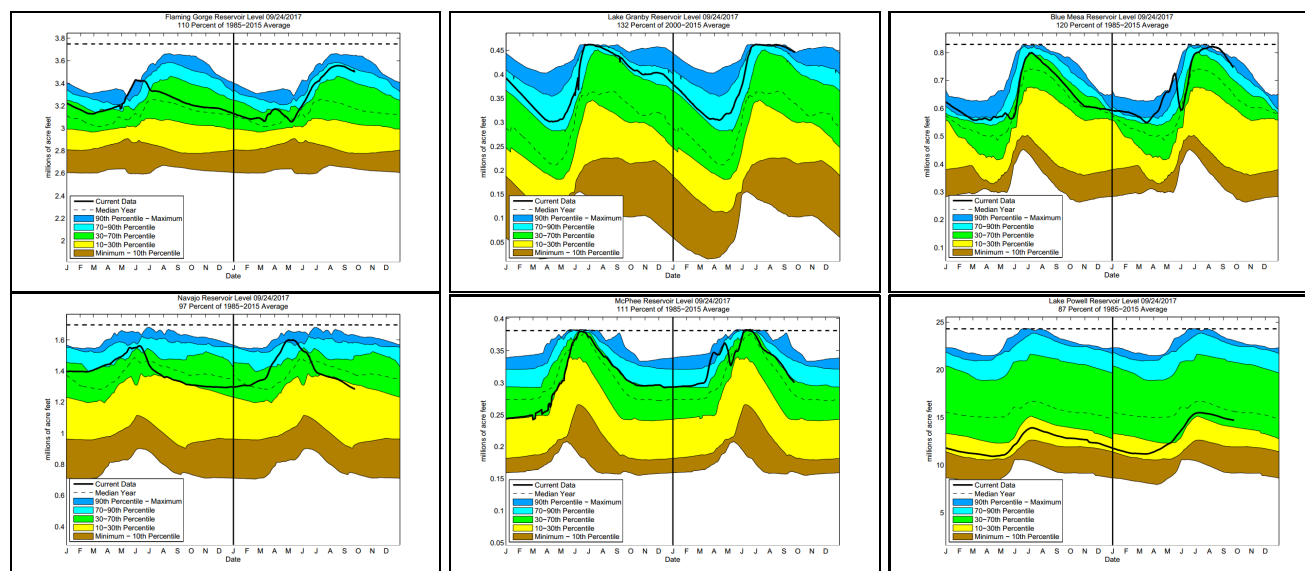
Surface Water



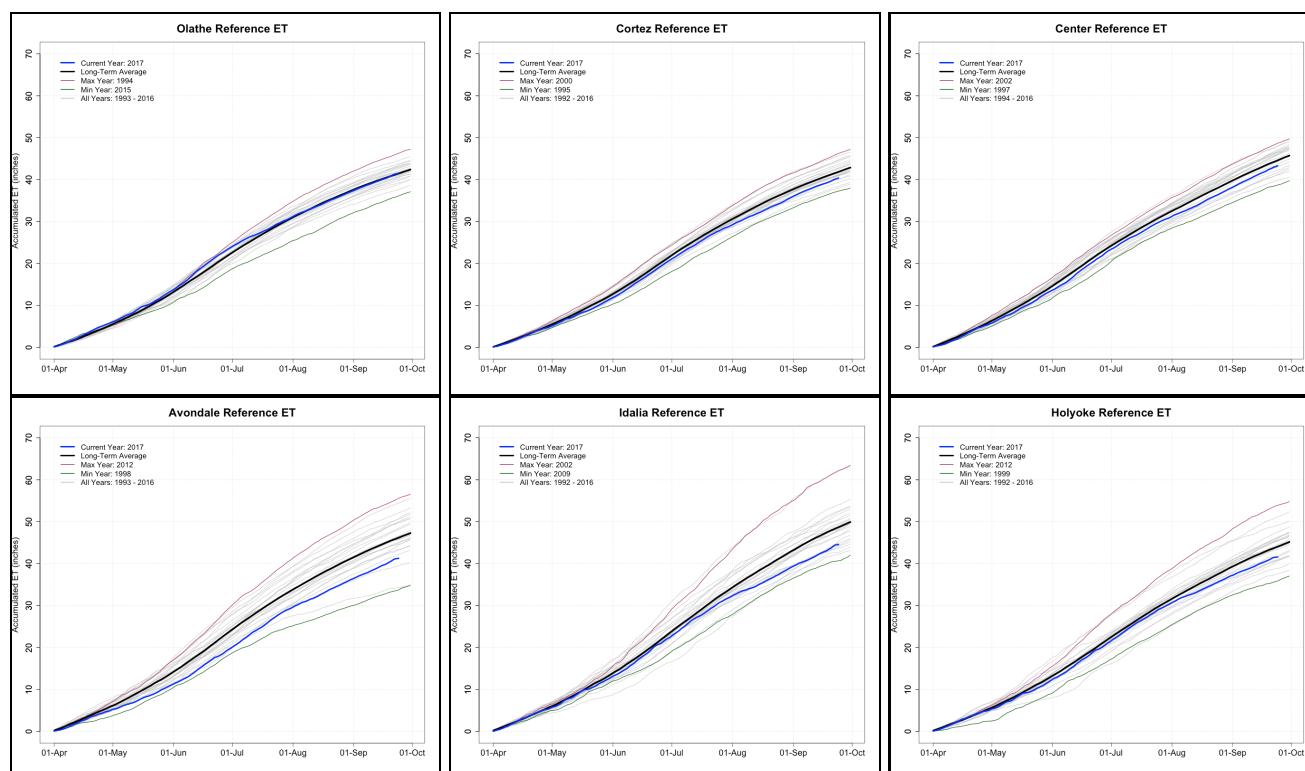
The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

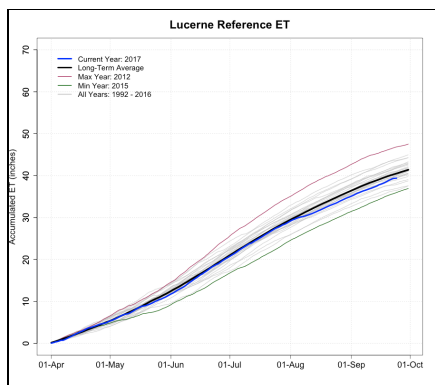
The graphs shown below are plots of reservoir volumes over the past full year and current year to date (black). The dashed line at the top of each graphic indicates the reservoir's capacity, and the background color-coded shading provides context for the range of reservoir

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.

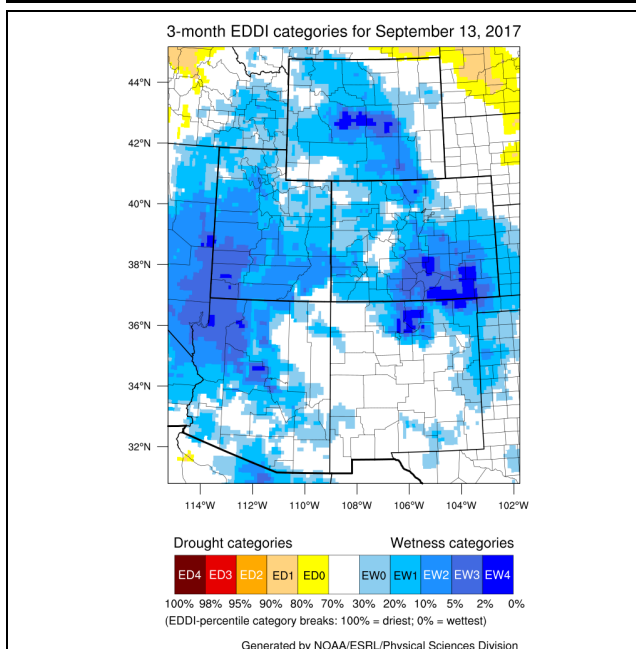
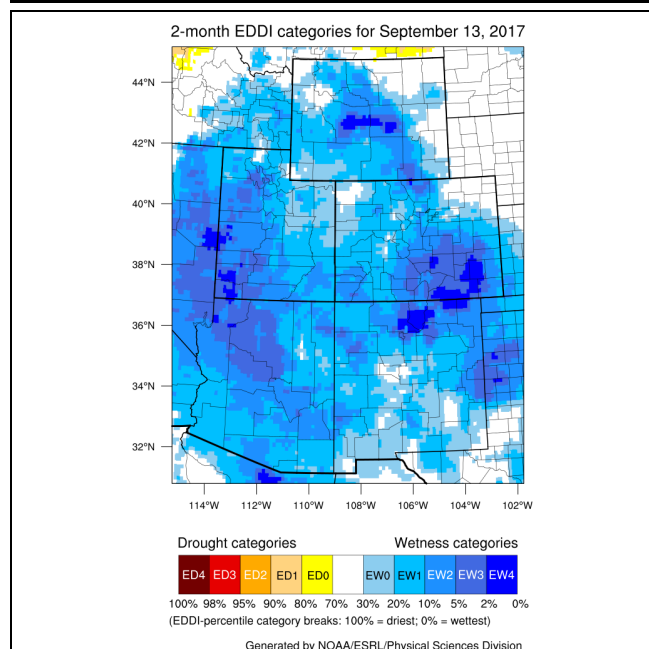
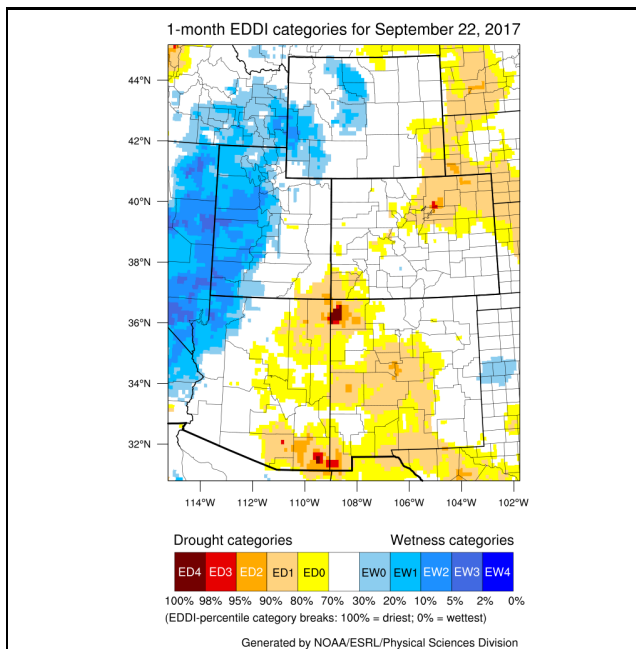
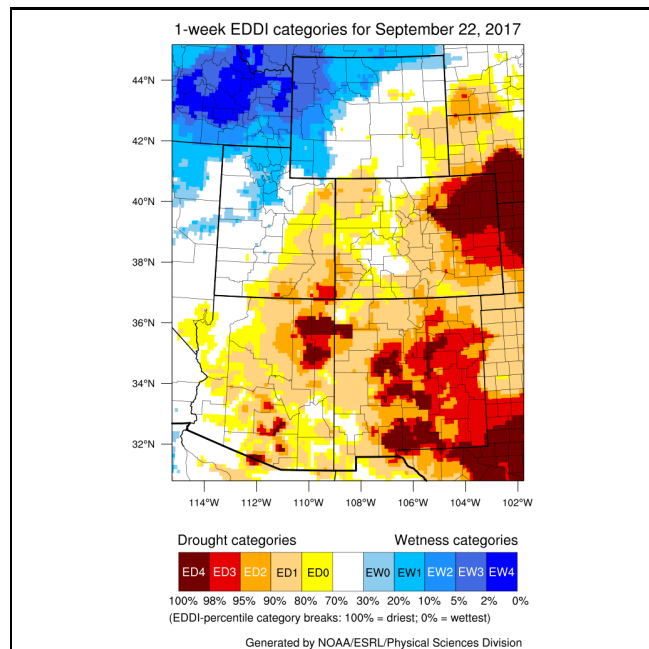


Evaporative Demand





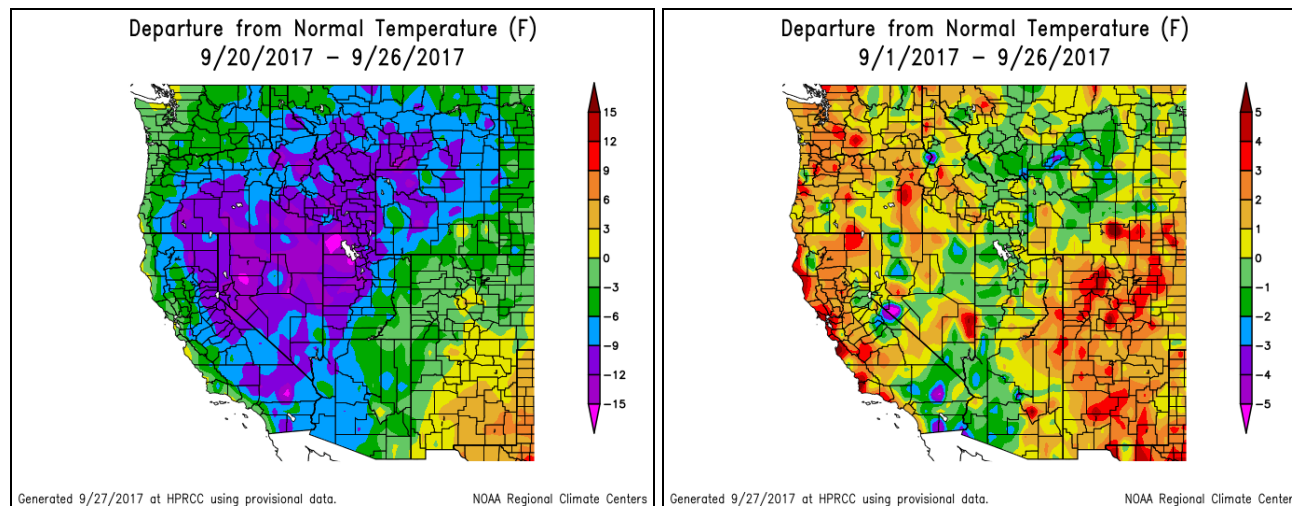
The above images are of reference evapotranspiration (ET) from CoAgMET sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a [map of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



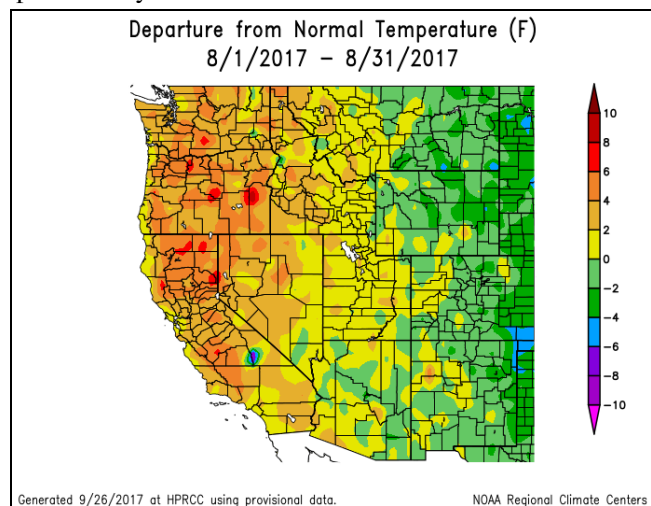
The above images are available courtesy of NOAA's Evaporative Demand Drought Index (EDDI). Drought classification listed is a function of the depth of reference evapotranspiration

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](#). 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.

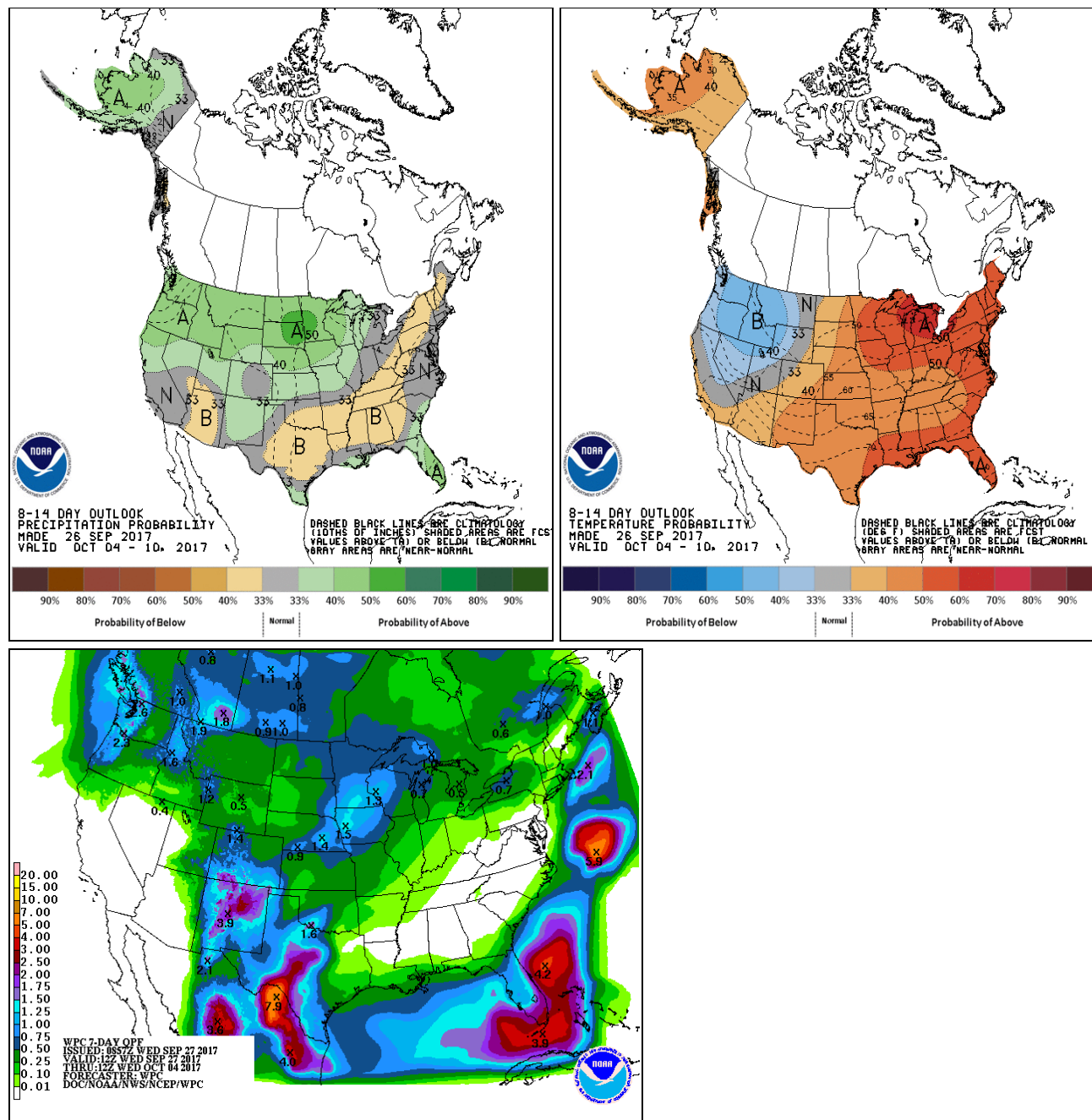
Temperature



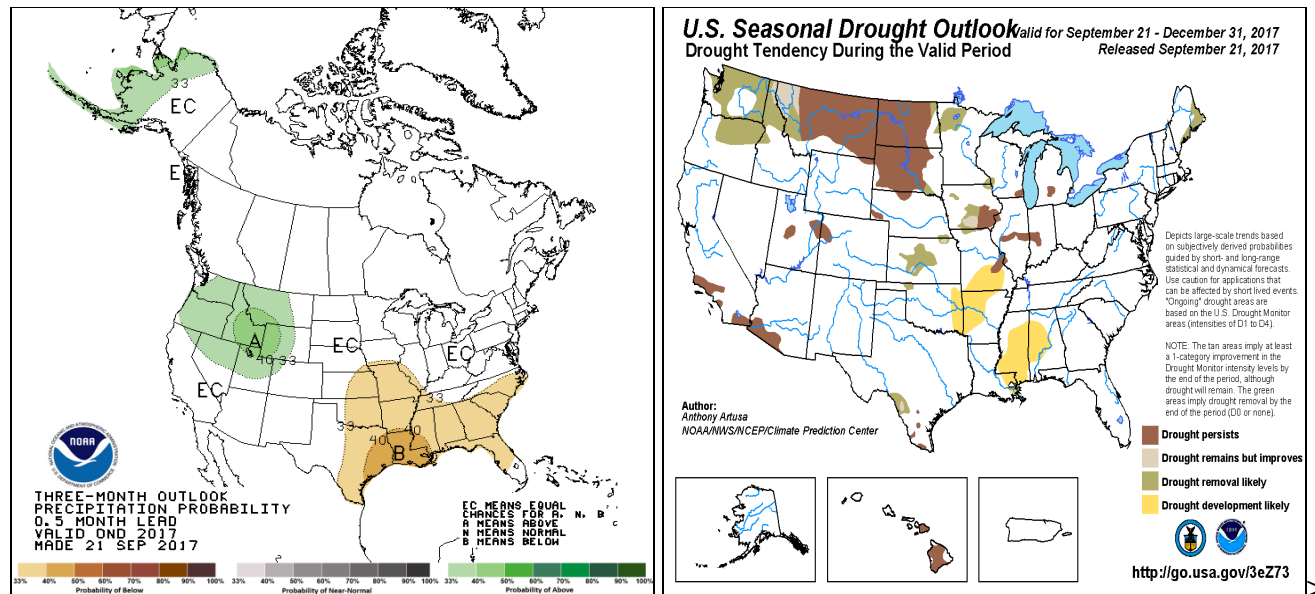
All images show temperature departures from average over different time periods (last 7 days on top left; month-to-date on top right; last full month on bottom). Temperature departure maps provided by HPRCC ACIS.



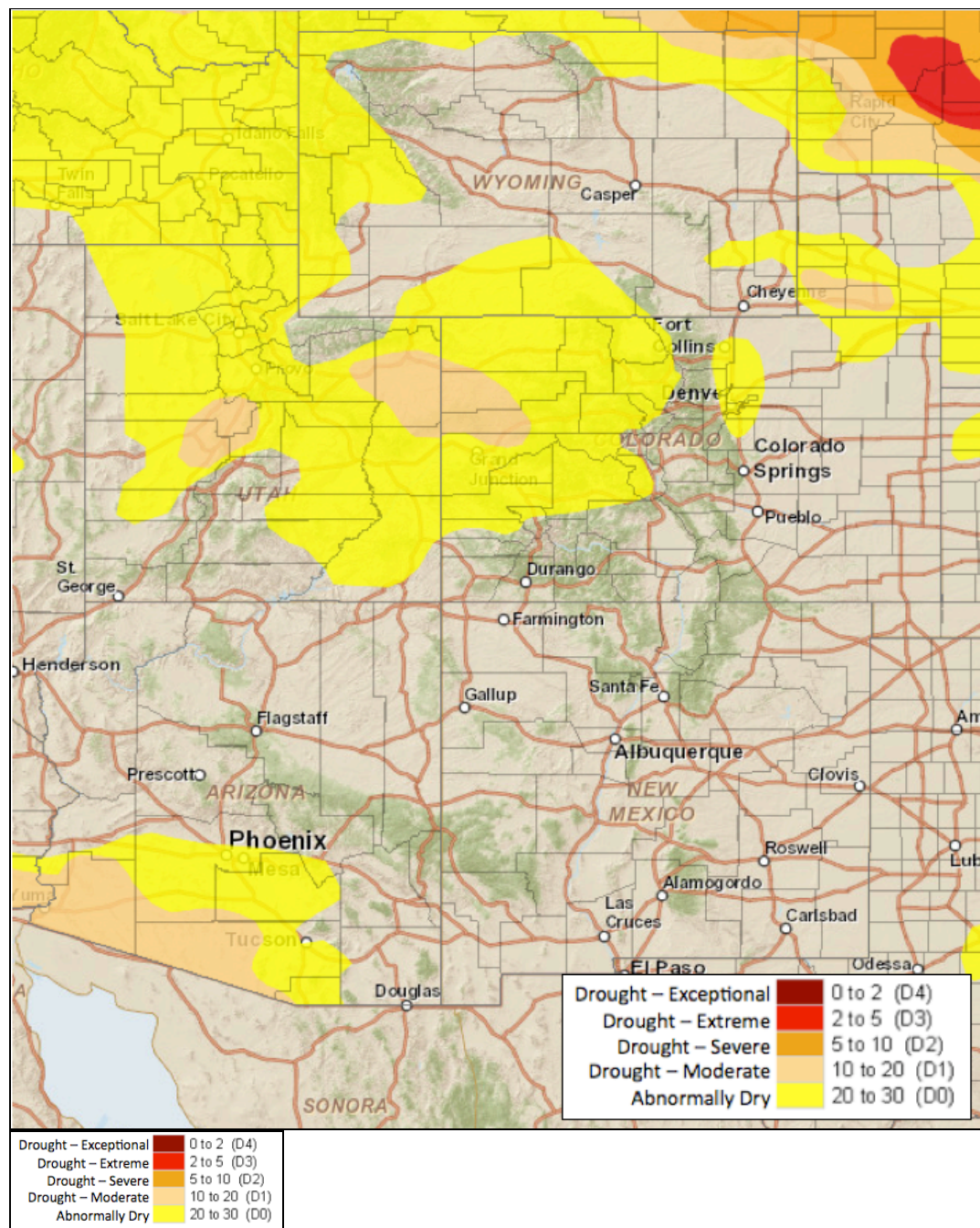
Outlook



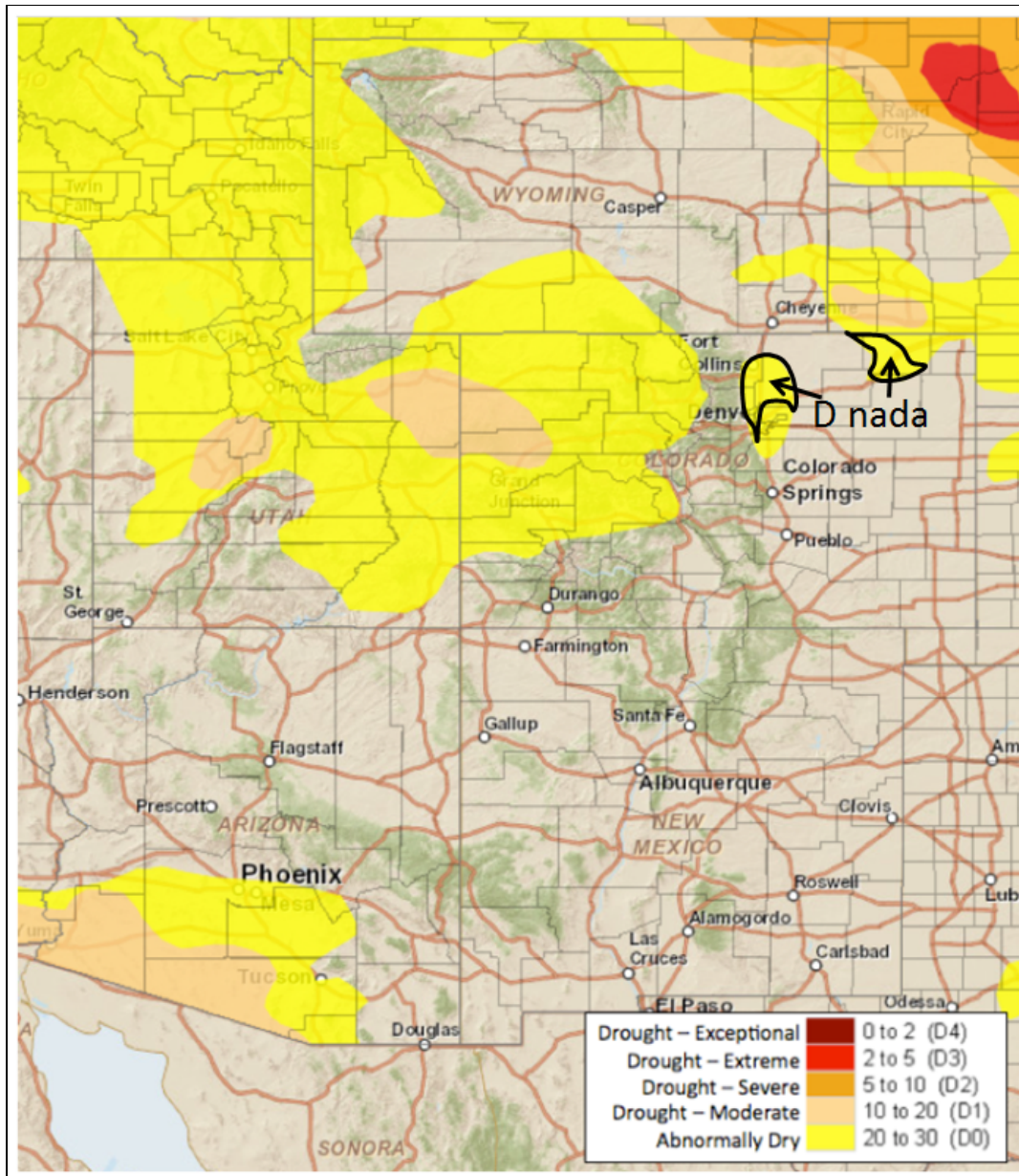
The top two images show Climate Prediction Center's Precipitation and Temperature outlooks for 8 - 14 days. The middle image shows the Weather Prediction Center's Quantitative Precipitation Forecast accumulation for seven days. The bottom left image shows the 3-month precipitation outlook from Climate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



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: September 26, 2017

The Upper Colorado River Basin and eastern Colorado spent much of last week in a gradient zone between a cool and dry airmass that settled over the Great Basin, and a warm, moist airmass over the Central Plains. A big rain-maker moved across the region between Thursday and Sunday. This brought precipitation to the Upper Green River Basin as early as Wednesday night through Friday. The moisture spread across northern Utah and western Colorado on Thursday and Friday. The storms made it to eastern Colorado by Saturday and Sunday.

The largest moisture totals, 2.00-4.00", fell in the Teton and Wasatch Ranges, but also on the plains of southeast Colorado in Baca and Prowers Counties. Much of the Upper Green River Basin, the San Juans, eastern Colorado, and the northern Front Range received over an inch of rainfall over the past seven days. Unfortunately, this week's storm ended up making the wet areas wetter and dry areas drier in much of the basin. Southern Utah saw less than 0.10" in most areas. Gunnison County near Gunnison received less than 0.25". There were some exceptions. Eastern Garfield, Rio Blanco, and Mesa Counties, as well as Delta County, are drier than average long term, but received over 0.50" of rainfall.

Seven day average streamflows did see some recovery in the basin as a result of the week's rainfall totals. Most notable among these is in the Yampa River. Here flows shifted back to above average. The White river is still running below normal, but did see some recovery as well. The Eagle River is also still flowing below normal near Gypsum.

Modeled soil moisture showed some notable recovery in areas. Eastern Moffat County and northern Rio Blanco County soils are back in the normal range. There was also soil moisture recovery east of the Continental Divide in northern and northeast Colorado. VegDRI, a remotely-sensed vegetative health index, is still showing a concerning large area of pre-to-moderate drought. This extends from Utah in the Green and Duchesne River Basins into western and northwest Colorado, to the headwaters of the Colorado River, and over the Continental Divide into the Urban Corridor and northeast Colorado. This VegDRI depiction matches other indicators of drought in eastern Utah and western Colorado, but is now a bit of an anomaly in how it depicts drought relative to other indicators in northern and northeast Colorado.

Recommendations

UCRB: Status quo. Precipitation in the basin this week was not enough to warrant any improvements, but enough to hold off on further degradations.

Eastern Colorado: It is recommended that D0 be removed from southwest Weld County, southeast Larimer County, eastern Boulder County, and northeast Jefferson County. The late September rains falling this weekend were sufficient for closing precipitation deficits that had been widening since the middle of August.

It is recommended that D0 be removed from far northeast Weld County, and from Logan County save for the northeast corner. The gradient in long-term precipitation deficits has shifted eastward as a result of the most recent rainstorm.