

May 16, 2019 Water Supply Forecast Discussion

The [Colorado Basin River Forecast Center \(CBRFC\)](#) geographical forecast area includes the Upper Colorado River Basin, Lower Colorado River Basin, and Eastern Great Basin.

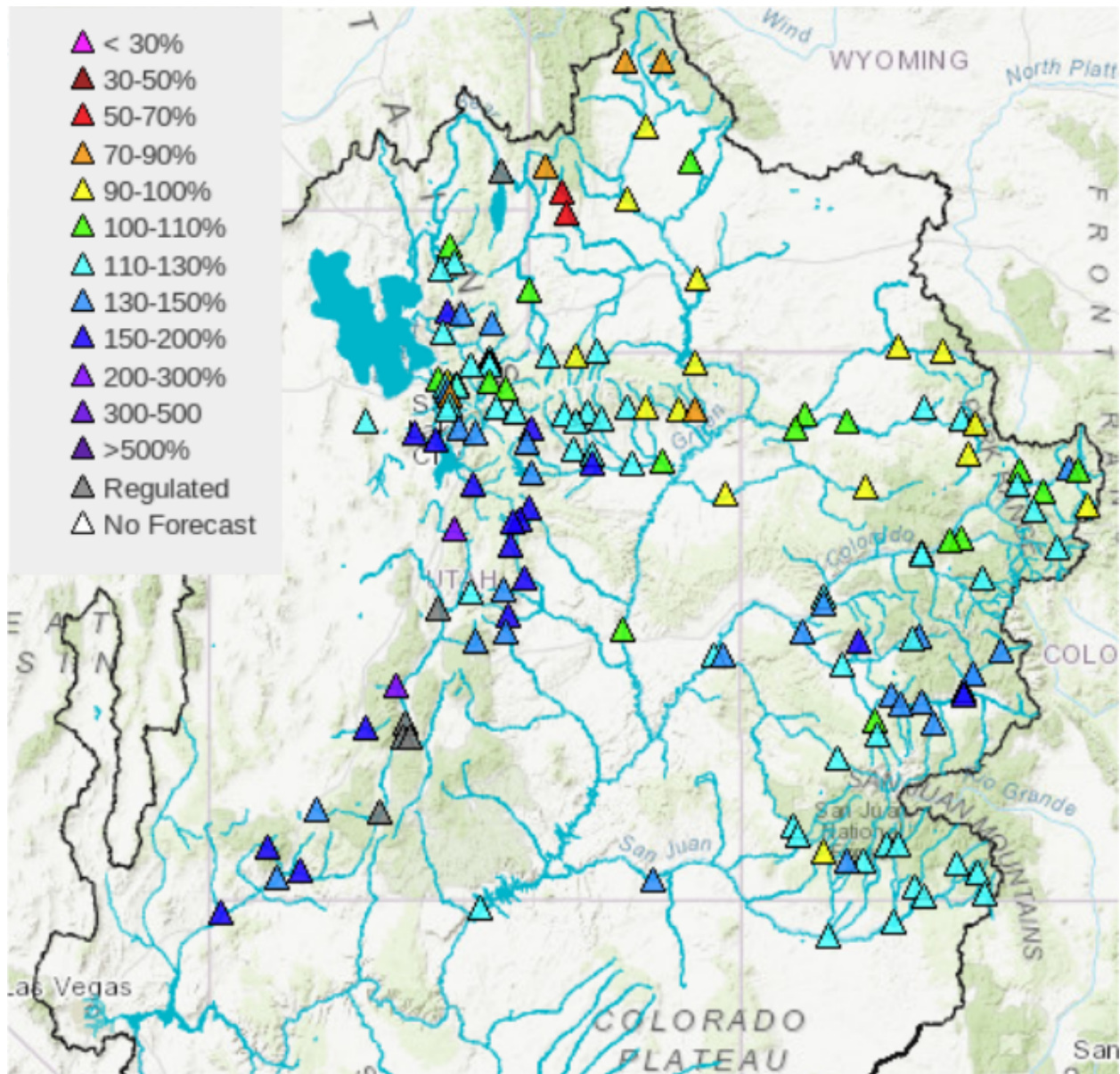
Water Supply Forecast Summary:

The first half of May was generally drier than normal across the Great Basin and Upper Colorado River Basin with temperatures near to below average through the first eleven days of the month. Above average temperatures from May 12-16 initiated upper elevation snow melt in some areas. This resulted in rises on several streams that had been fairly steady to that point of the month

Water supply guidance decreased slightly at many points across the basin due to the dry first half of the month. However, with significant storms forecast for the next week the official water supply forecasts were generally held steady from the beginning of the month. There were some increases as well where the preservation of high elevation snow and potential for precipitation may result in higher volumes with the onset of higher temperatures.

Mid May forecast updates for some of the major Upper Colorado River Basin reservoirs include Fontenelle with no change at 740 KAF (102% of average), Flaming Gorge no change at 1.05 MAF (107% of average), Blue Mesa Reservoir at 990 KAF (147% of average) an increase of 20 KAF, Mcphee Reservoir at 395 KAF (134% of average) a decrease of 25 KAF, and Navajo Reservoir no change at 930 KAF (127% of average). Lake Powell inflow is forecast at 9.20 MAF (128% of average), the same as on May 1st.

Seasonal Water Supply Forecasts:



Upper Colorado, Great, Virgin River Basins: 2019 April-July forecast volume raw ESP model guidance as of May 16th 2019.

Forecasts displayed as a percent of 1981-2010 average
(50% exceedance probability forecast)

For specific site water supply forecasts click [here](#)

Water Supply Discussion

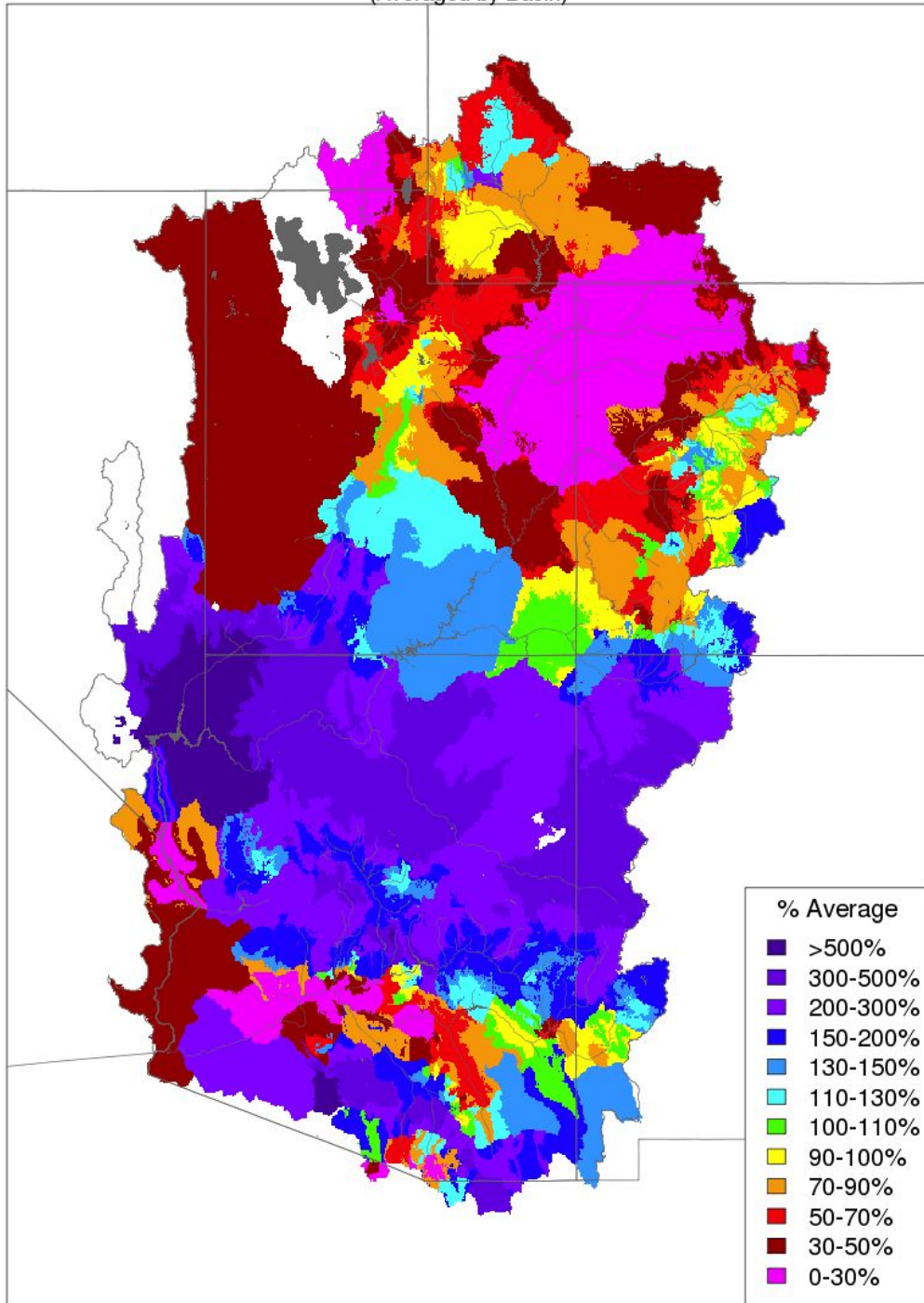
Weather Synopsis-Precipitation-Temperature:

The weather pattern for the first half of May has been characterized by general ridging across the Intermountain West. This has promoted near to above normal temperatures over much of the Upper Colorado Basin along with below normal precipitation. A few weak storm systems moved across southern Utah and northern Arizona from May 8-11 producing some good precipitation amounts (0.5-2.0 inches), especially considering we are entering the climatologically dry period of May/June.

Precipitation through the first half of May was highly variable with some areas receiving above average precipitation and other areas receiving below average precipitation. Central and northern Arizona and New Mexico have received above normal precipitation and include the Virgin, Little Colorado, and San Juan basins. May precipitation-to-date was below average over much of the Upper Colorado and Great Basins.

Month to Date Precipitation - May 16 2019

(Averaged by Basin)



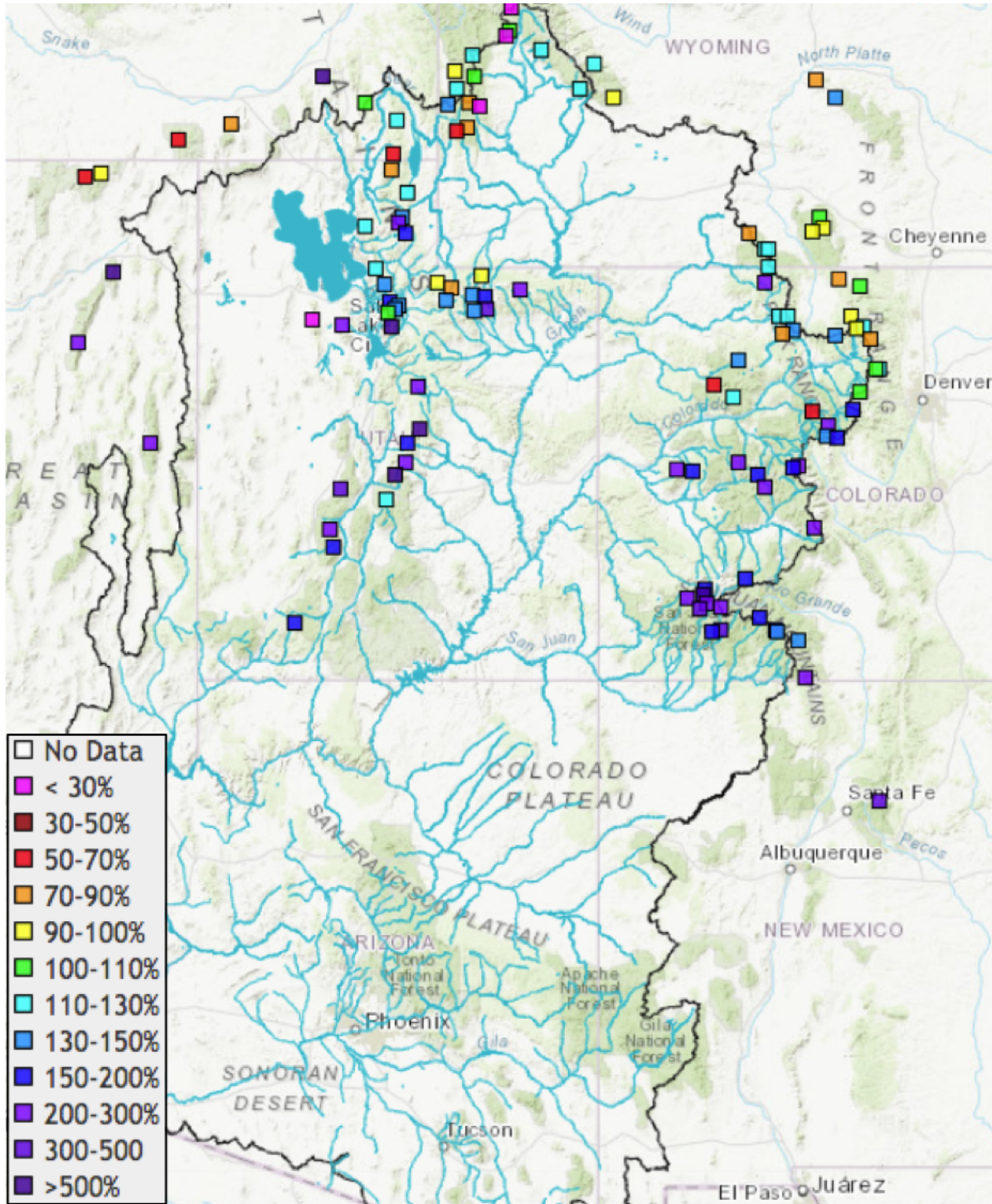
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

May 1-15, 2019 precipitation as a percent of average.
(Averaged by basins defined in the CBRFC hydrologic model)

Snowpack:

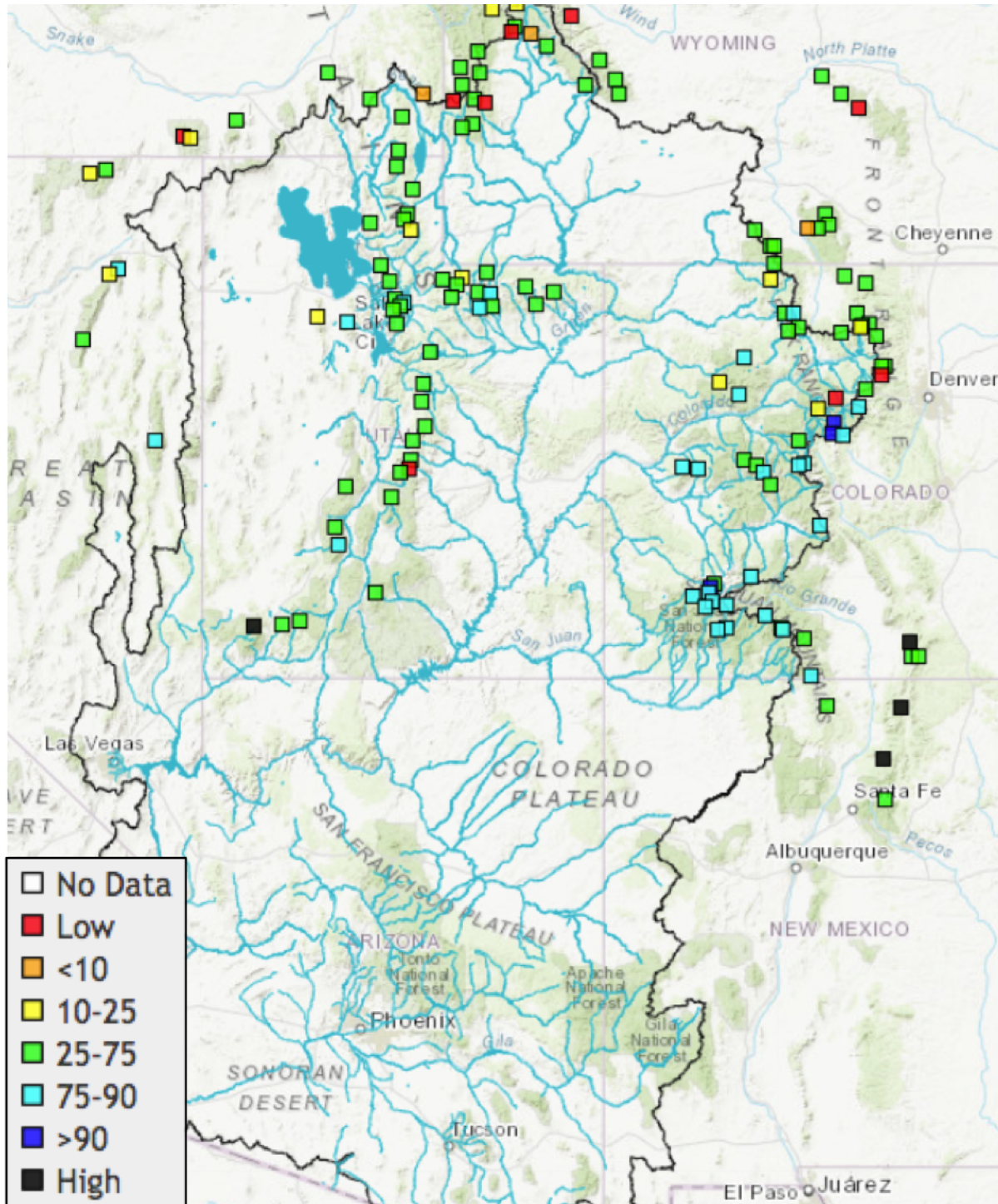
In the spring after the normal time of peak snowpack has passed, percent median snow water equivalent (SWE) can be misleading and vary significantly from day to day, as well as site to site, depending on the rate of snowmelt, new snow accumulation, and the magnitude of the median value. That being said, well above normal (median) snow conditions exist across much of Utah and western Colorado, with SWE percent of normal conditions generally increasing from north to south.

The image below displays the SNOTEL sites as a percent of their historical median as of May 16, 2019. Several SNOTEL locations in central Utah (Duchesne, Price, San Rafael, Sevier river basins) and southwest Colorado (Gunnison, Dolores, San Juan river basins) are reporting SWE values above 200 percent of their historical median. Many western Colorado SNOTEL sites are reporting SWE values in the top 5 of their historical record as of mid-May. Snowpack conditions are generally above median in much of the Great Basin, Upper Colorado mainstem, White, and Yampa basins and near to slightly below median in the Upper Green basin.



Percent median SNOTEL conditions as of May 16, 2019.

The snow percentile image displayed below indicates where the current snow measurement ranks in the historical record (typically 35-40 years) for each site. This map helps highlight the areas with unusually high snowpack at this time, such as western Colorado, particularly the Dolores and San Juan basins in southwest Colorado.

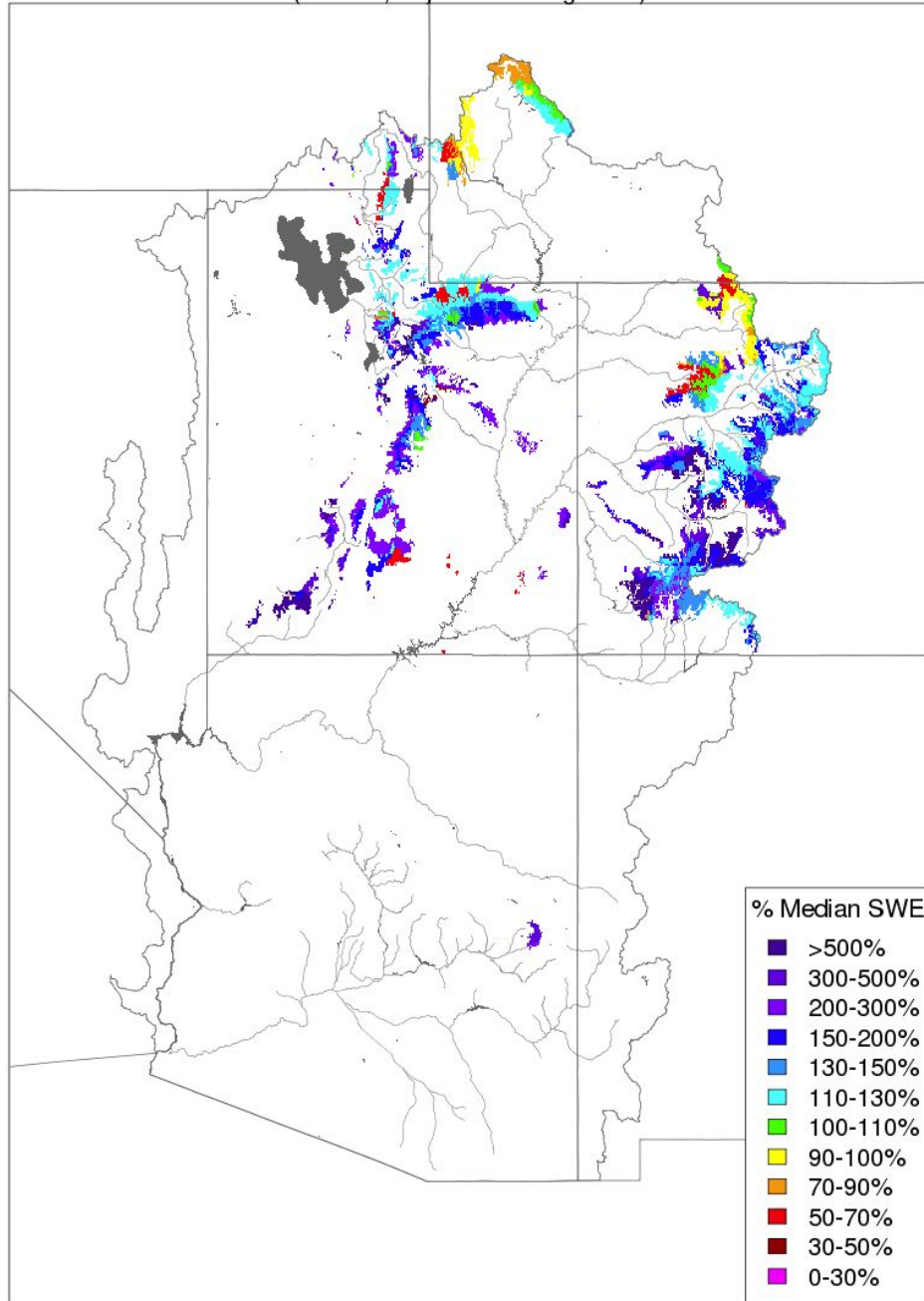


Percentile ranking of SNOTEL conditions as of May 16, 2019.

The image below is the representation of snow in the CBRFC hydrologic model. Only those areas that provide the greatest contribution to the April-July runoff volumes are displayed. The snow represented in the model closely mirrors the SNOTEL image.

Snow Conditions - May 16 2019

(Modeled, Major Contributing Areas)



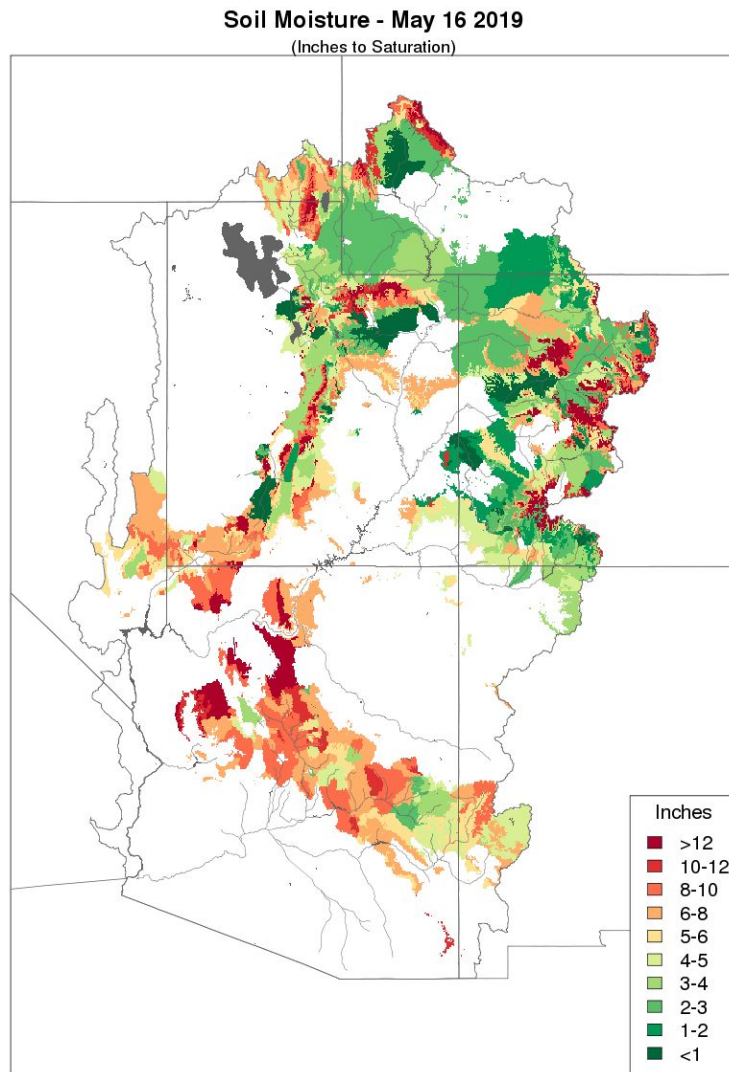
Prepared by NOAA, Colorado Basin River Forecast Center
Salt Lake City, Utah, www.cbrfc.noaa.gov

CBRFC hydrologic model snow from May 16, 2019.

For updated SNOTEL information refer to click [here](#)
For CBRFC hydrologic model snow click [here](#)

Soil Moisture:

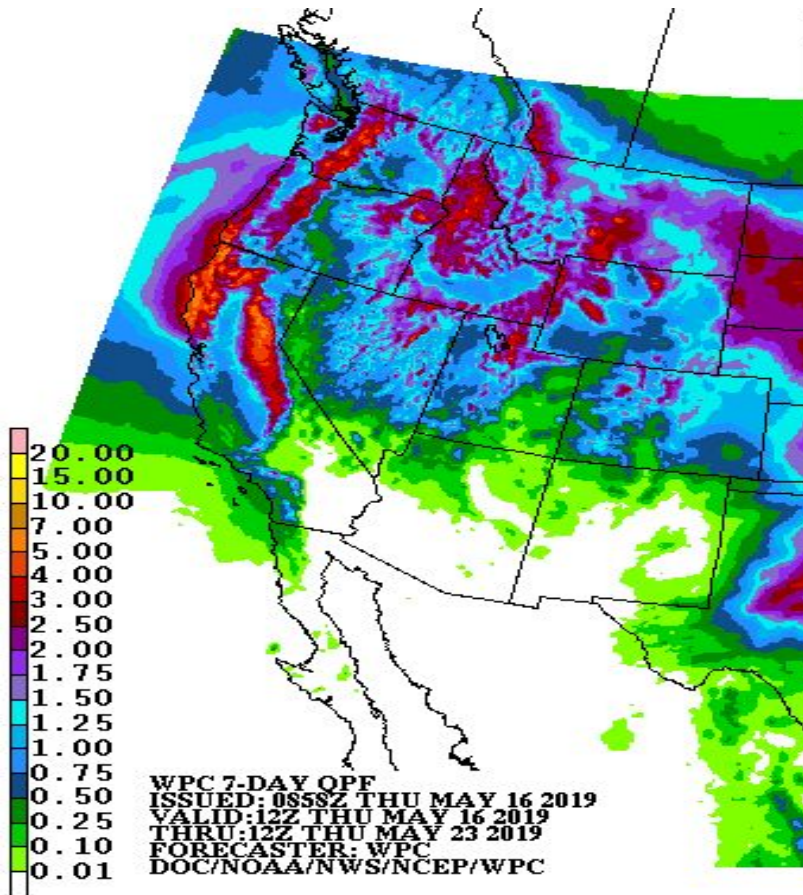
In the image below areas in the darker green colors are where soil conditions have become more saturated either due to recent rainfall, melting snow, or a combination of both. It would take less precipitation or snow melt to begin producing higher runoff efficiency. What is worth noting is how higher elevation areas, where snowmelt has only recently begun, still have larger soil moisture deficits compared to most lower elevation areas. Depending on the rate of snowmelt these drier soils may have some impact on streamflow levels and runoff volumes as we get deeper into the runoff season.



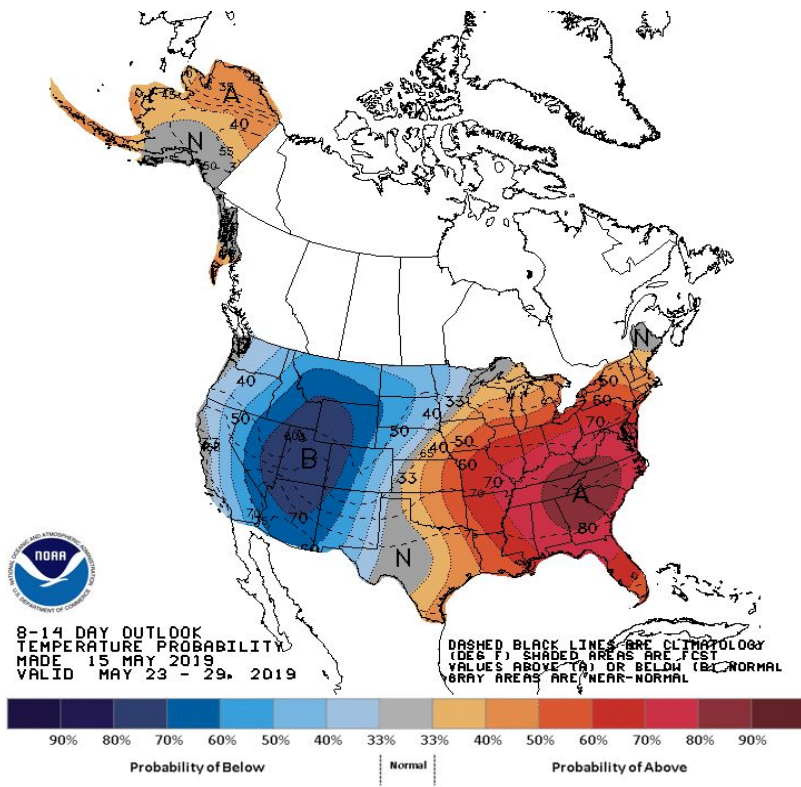
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Upcoming Weather:

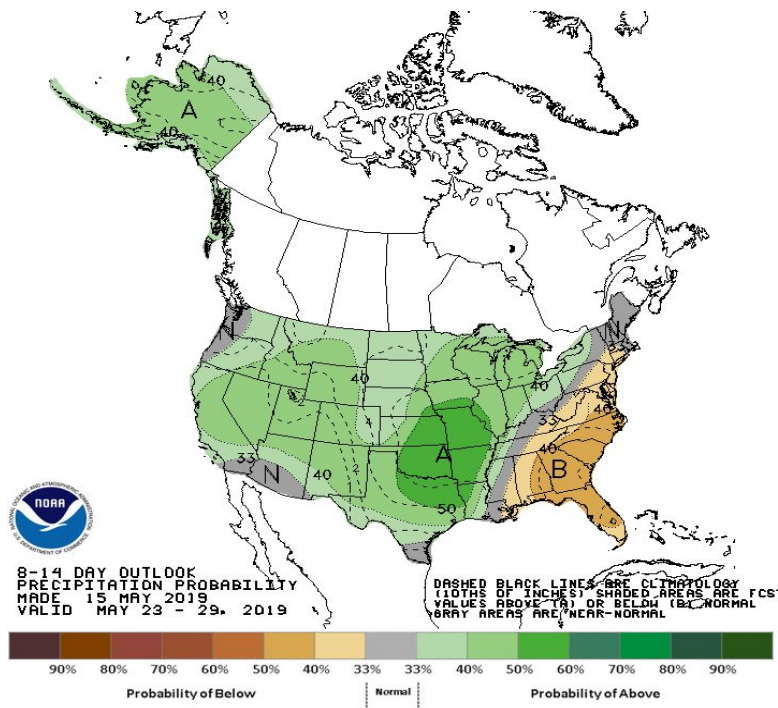
The weather pattern will undergo a dramatic change over the next few days that will usher in a period of unseasonably cool and wet conditions across much of the Upper Colorado and Great Basins. The persistent trough pattern is reminiscent of 2011, which was one of the colder/wetter last two weeks of May. A series of three potent storm systems will impact the Upper Basin over the next week. An anomalous trough will persist at least through the middle of next week (perhaps even longer), resulting in temperatures that are 10-20 degrees below normal. These temperatures are more characteristic of early-to-mid April. While the wettest anomalies are likely to be across the northern half of Utah into southwest Wyoming, most of the Upper Colorado Basin will see above normal precipitation. Thus, despite the dry start to May, it is the expectation that most of Utah/Colorado/Wyoming will end the month of May with near to above normal precipitation. The much cooler temperatures will halt snowmelt over the next ten days. With snow levels dropping to 7000-8500 feet, it is possible that higher elevation SNOTEL sites will actually see an increase in SWE over the next ten days, particularly over northern Utah. The weather outlook for next weekend into Memorial Day is more uncertain, but the model consensus of a lingering trough across the Intermountain West tilts the odds toward below normal temps and slightly above normal precipitation.



NWS Weather Prediction Center precipitation forecast for May 16-23, 2019.



NWS Climate Prediction Center temperature probability forecast for May 23-29, 2019.



NWS Climate Prediction Center precipitation probability forecast for May 23-29, 2019.

End Of Month Reservoir Content Tables

[Green River Basin](#)

[Upper Colorado River Basin](#)

[San Juan River Basin](#)

[Great Salt Lake Basin](#)

[Sevier Basin](#)

Basin Conditions and Summary Graphics

[Green River Basin](#)

[Upper Colorado River Basin](#)

[San Juan River Basin](#)

[Great Salt Lake Basin](#)

[Sevier River Basin](#)

[Virgin River Basin](#)