

## April 19, 2017 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 April brought a mixed bag of weather impacts over the CBRFC forecast area with periods of storminess and periods of dry warm conditions and melting snow. Parts of the northern Great Basin that include the Bear and Weber River Basins, the Green River Basin headwaters in northern Wyoming, and part of the San Juan Basin were impacted greatest by storm systems early in April. However very dry conditions were the main story for most areas and even in some of those areas impacted by early April storms conditions had become drier by mid April.

In between storms above average temperatures initiated significant snow melt at elevations up to near 10,000 feet with increasing streamflows observed.

Water supply guidance indicated a decrease in forecasts for the April-July period in many of the drier areas including parts of the San Juan Basin, Gunnison Basin, Dolores Basin, along the Colorado River mainstem and extending north into the Yampa River Basin. The Green River Basin of Wyoming and higher elevation basins of the Duchesne River Basin changed little or not at all from early April forecasts with significant runoff volumes still expected.

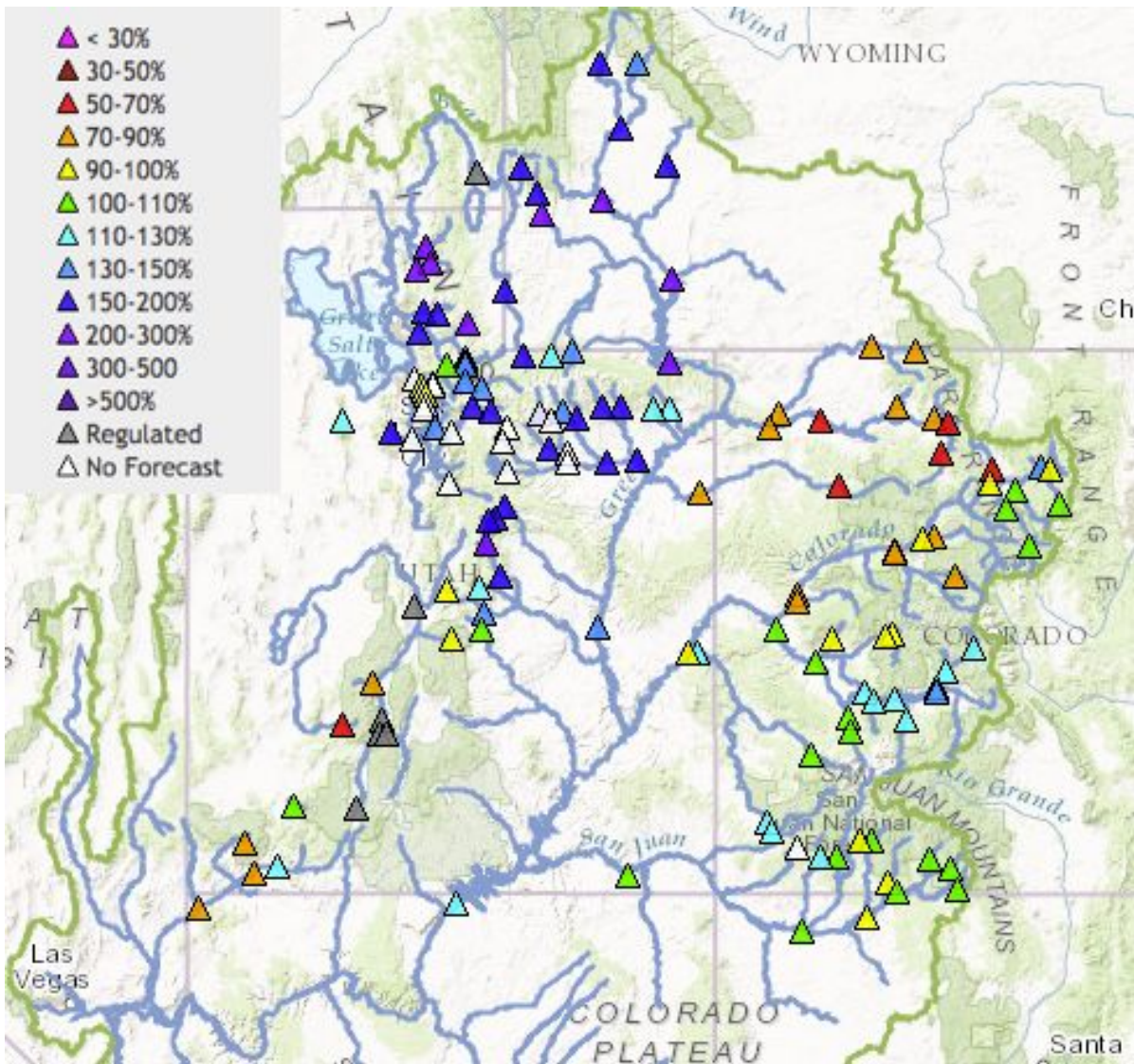
Some Great Basin forecasts also decreased, particularly in the Sevier River Basin and lower elevation basins farther north, however guidance held fairly steady in much of the Bear and Weber River Basin where significant runoff volumes are still expected.

Mid April forecast updates for some of the major Upper Colorado River Basin reservoirs include Fontenelle with no change at 1.68 MAF (232% of average), Flaming Gorge no change at 2.26 MAF (231% of average), Blue Mesa Reservoir at 850 KAF a decrease from 138% to 126% of average, McPhee Reservoir at 380 KAF a decrease from 142% to 129% of average, and Navajo Reservoir at 685 KAF a decrease from 103% of average to 93% of average. Lake Powell inflow is forecast at 8.80 MAF a decrease from 130% to 123% of average since April 1st.

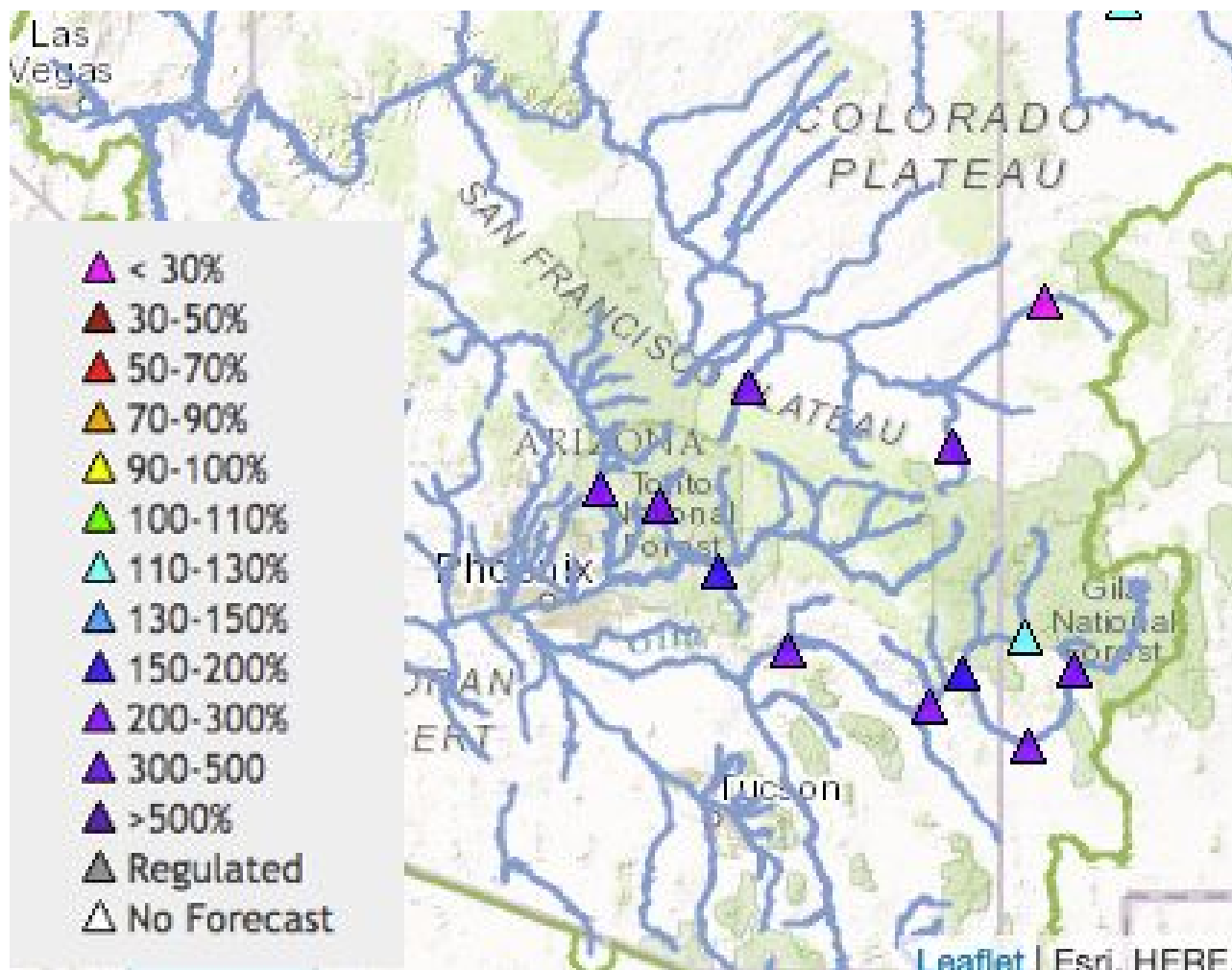
The Lower Colorado River Basin was also very dry so far in April with little to no precipitation in many areas. Jan-May forecast trends remained nearly unchanged since the first of April as climatologically this is a dry period and precipitation impacts are fairly minimal. Total January-May forecast volumes for these areas will come in between 150 percent to over 250 percent of median.

The Virgin River Basin forecast guidance also changed little since early April. April-July forecast guidance remains just below average but are well above the historical median.

Seasonal Water Supply Forecasts:



Upper Colorado, Great, Virgin River Basins: 2017 April-July forecast volumes guidance as of April 18th 2017.  
Forecasts displayed as a percent of 1981-2010 average  
(50% exceedance probability forecast)



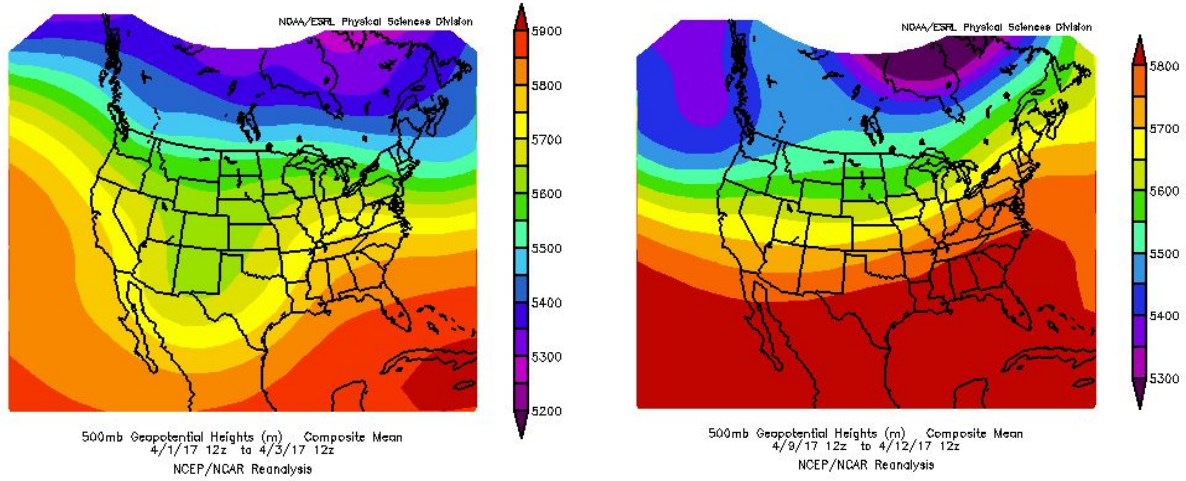
Lower Colorado Basin (AZ/NM): 2017 January-May forecast volumes guidance as of April 18th 2017.  
 Forecasts displayed as a percent of 1981-2010 median  
 (50% exceedance probability forecast)

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

## Water Supply Discussion

### Weather Synopsis:

A weather pattern fairly typical of April was observed the first half of the month. The pattern was progressive with periods of storminess followed by periods of dry and warm weather. Precipitation impacts were minimal however impacting primarily areas along the Utah / Arizona border extending into part of the San Juan Basin. This precipitation occurred early in the month in those areas with drier conditions beyond that. Near to above average precipitation was also observed for a time in part of the northern Great Basin including the Weber and Bear River Basins and extended into headwaters of the Green River Basin of Wyoming. Generally conditions were dry over most of the forecast area throughout the first half of the month.



Left Image: Mean atmospheric pattern for early April. A low pressure system is exiting the area after bringing precipitation to the four corners region. Right Image: Mean atmospheric pattern for April 8-12 shows a warmer and drier southwest flow over the area.

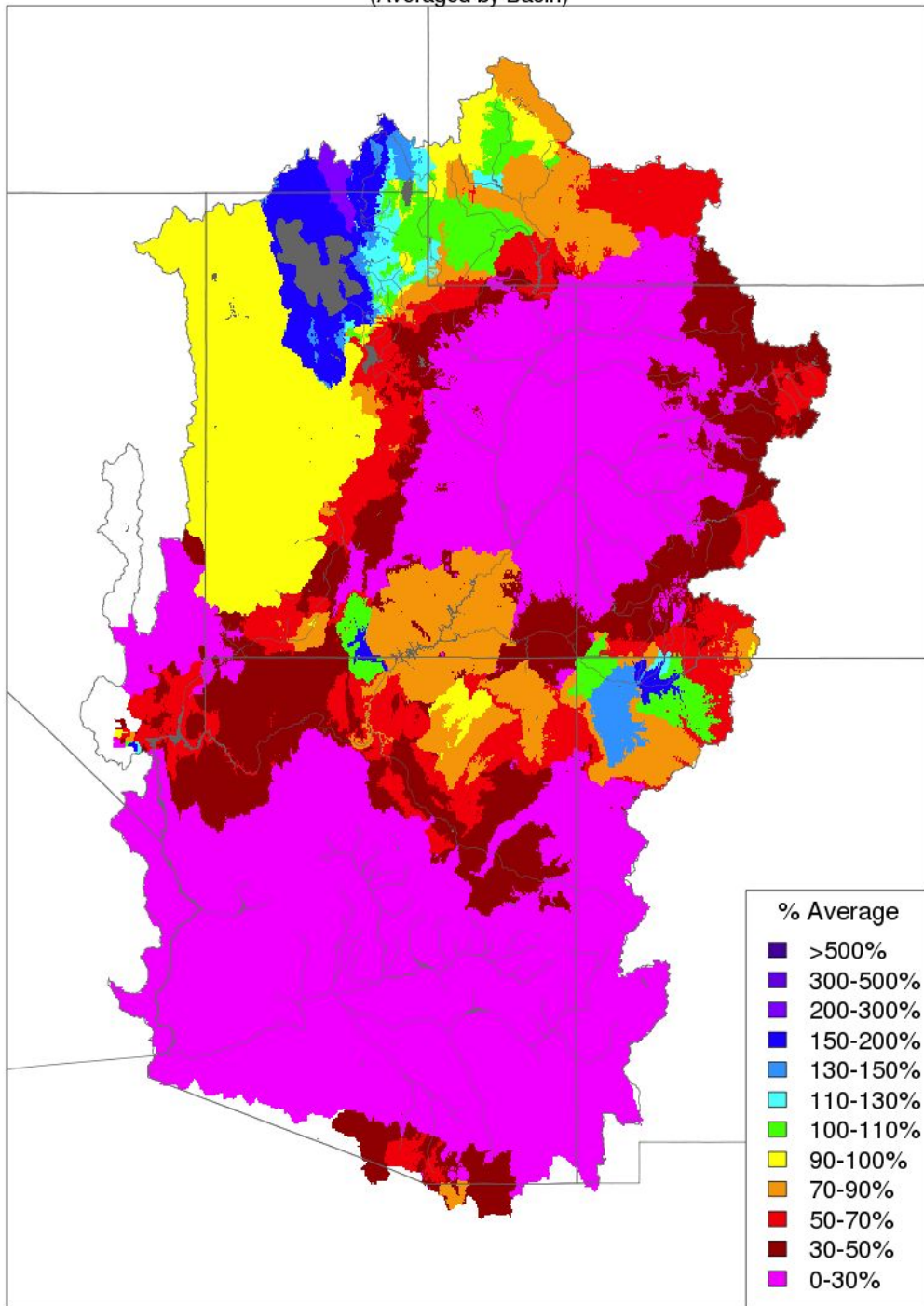
### Precipitation and Temperature:

The mid April precipitation image below shows that dry conditions are widespread through the middle of the month. April is typically one of the wetter months so the impacts have been significant with some rather large decreases to the April-July runoff volume forecasts in the drier areas.

Little change occurred in the northern Great Basin and Green River Basin of Wyoming where precipitation was closer to average and high elevation snowpack is still quite significant. A storm system April 18th-19th also impacted these areas resulting in additional precipitation.

# Month to Date Precipitation - April 19 2017

(Averaged by Basin)



Prepared by NOAA, Colorado Basin River Forecast Center  
Salt Lake City, Utah, [www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)

Images: April 1st 2017- April 19th 2017 precipitation as a percent of average.  
(Averaged by basins defined in the CBRFC hydrologic model)  
(Data is provisional)

Temperatures during April have been on the warm side, however there have been periodic cool downs between storm systems. This progressive type of pattern, with occasional storms followed by periods of warmer and drier weather is quite typical for this time of year. Temperatures have reached as much as 10-15 degrees above average at times during the first half of April resulting in an increase in snow melt.

**Snowpack:**

In general, due to the combination of lack of precipitation and early melt during March and continuing into April, snowpack conditions as a percent of median have decreased throughout the CBRFC area. However, upper elevation snowpack conditions remain quite significant in the Green River headwaters, Bear River Basin, Weber River Basin, Provo River Basin, and Duchesne River Basin. Several SNOTEL locations in these areas range from 150 to 200 percent of the historical median. The snowpack is also still above median in the headwaters of the Gunnison River Basin and the Dolores River Basin. Snowpack conditions in these basins range from 110 to 130 percent of median.

The Upper Colorado mainstem headwaters and parts of the San Juan basin have near median snowpack as of mid April, but elsewhere, especially in the Yampa and White River Basins, the snowpack conditions are below to much below median.

In the Lower Colorado River Basin the Virgin River Basin has near median upper elevation snowpack and is experiencing rapid snowmelt which is normal for this time of year.

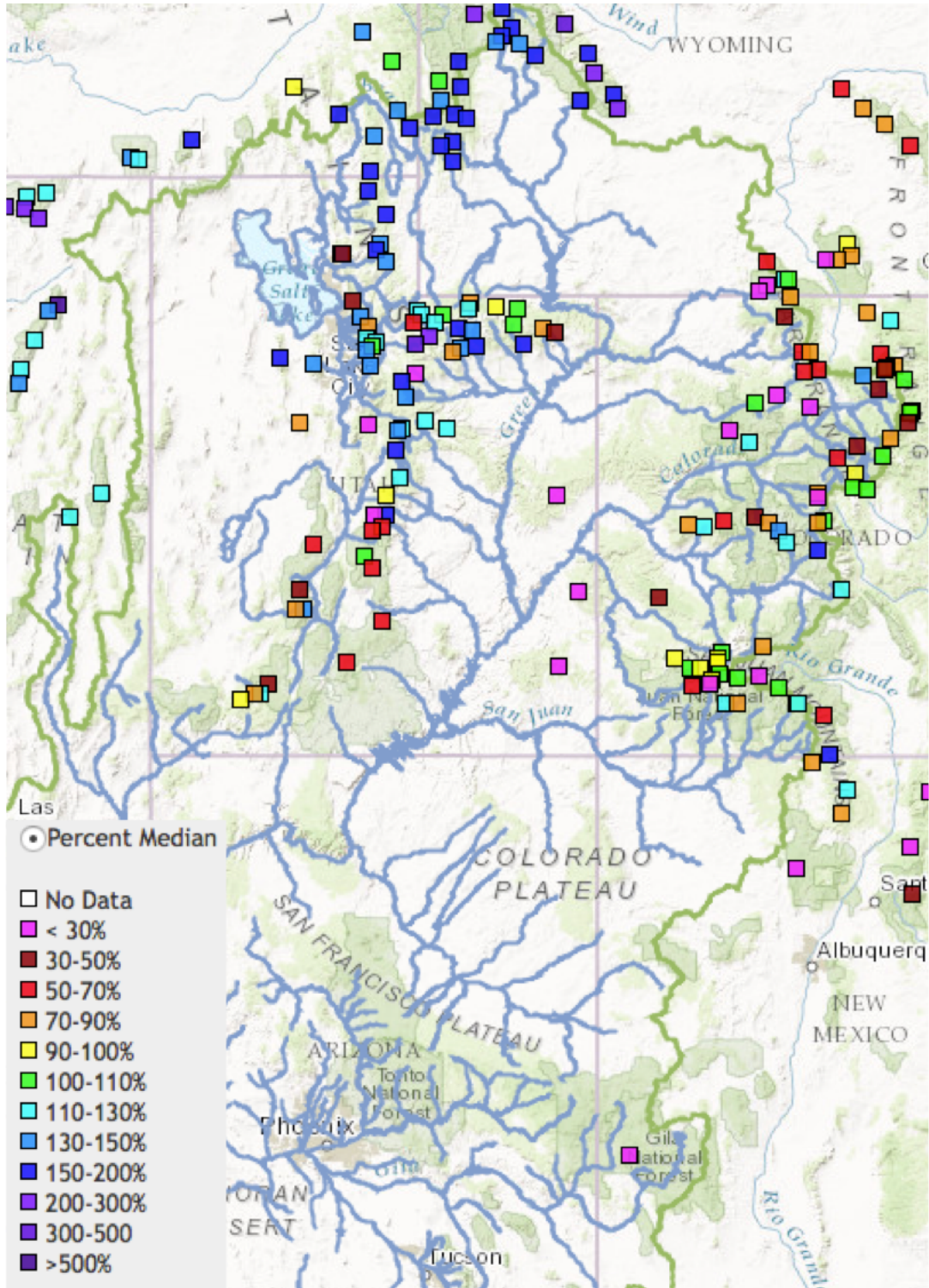
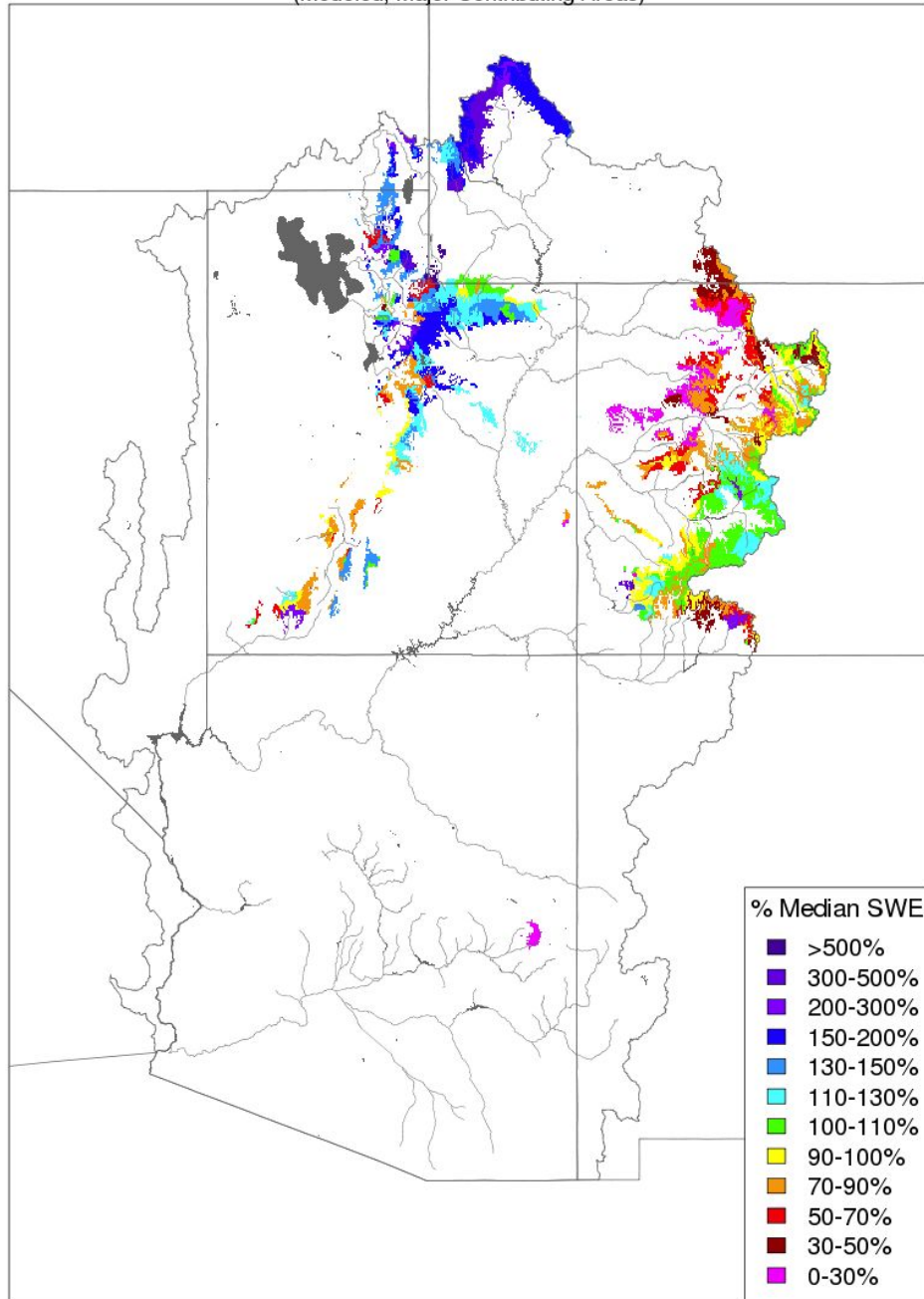


Image: Percent Median Snow Conditions as of April 19th 2017

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. Largest snowpack areas compared to the historical median extend from central Utah through northern Utah into Wyoming and include primarily the Duchesne Basin, northern Great Basin, and the Green River Basin of Wyoming.

### Snow Conditions - April 19 2017

(Modeled, Major Contributing Areas)



Prepared by NOAA, Colorado Basin River Forecast Center  
Salt Lake City, Utah, [www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)

Modeled Snow: Snow representation from the CBRFC hydrologic model April 19th 2017



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

### Upcoming Weather:

The pattern from now through the end of April will likely be similar to the pattern seen during the first half of the month: progressive with periods of cool and wet weather intermixed with periods of warm and dry weather. Streamflow levels, while generally increasing through April, will also fluctuate with the warmer and cooler temperatures.

This type of weather pattern is typical of April and is not expected to have a large impact to existing water supply volume forecasts in the near term. Greatest impacts would result from an extended period with precipitation and temperature on one side or the other of climatological normals.

The map below, from NOAA's Weather Prediction Center, illustrates 7-Day forecasted precipitation totals from April 19th through April 26th.

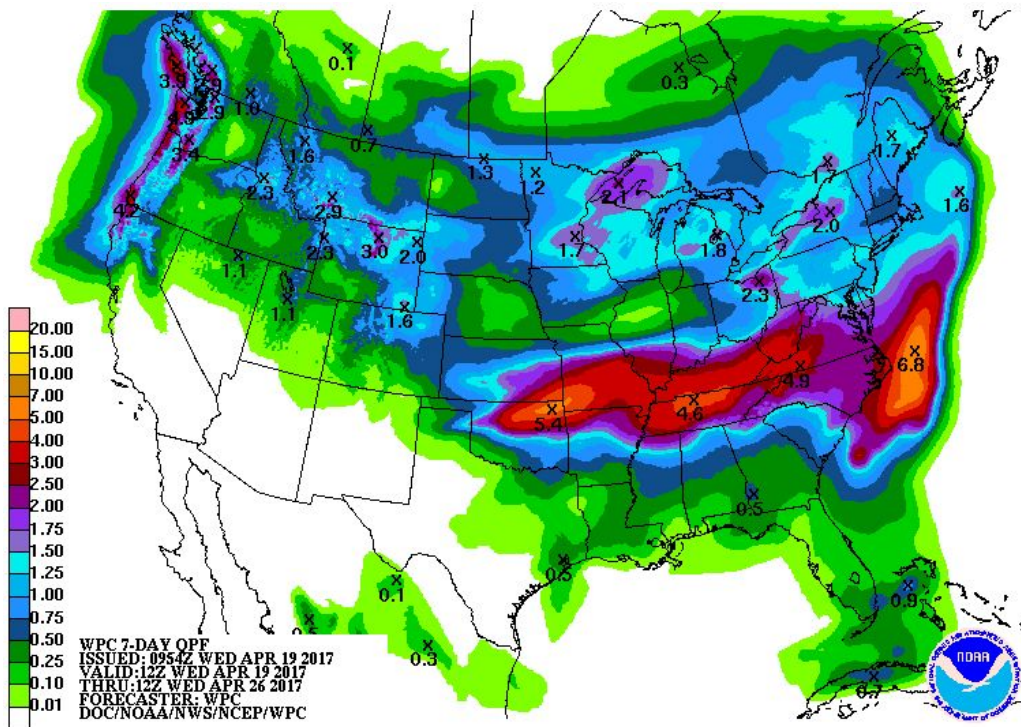


Image: NWS Weather Prediction Center precipitation forecast for April 19th - April 26th 2017

**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](#)