

May 1, 2020 Water Supply Forecast Discussion

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

Water Supply Forecast Summary

The weather pattern during the month of April was dominated by general ridging across the Intermountain West. April precipitation was generally below to much below average across the Colorado River Basin and Great Basin. It was exceptionally dry over northern Utah and southwest Colorado. A number of SNOTEL sites across Utah and southwest Colorado recorded their driest April precipitation on record, with many of the sites having a period of record of at least 35 years. Southwest Colorado observed April unregulated flows were near record low in a few areas within the Gunnison, Dolores, and San Juan basins.

While April temperatures ended up mostly near average, the first three weeks of the month were below average, especially in northern basins. A very warm (10-20 degrees above normal) couple of days to end the month accelerated snowmelt and streamflow. Observed snow water equivalent (SWE) conditions as of early May are generally near to below normal (median) across the Upper Colorado River Basin and Great Basin.

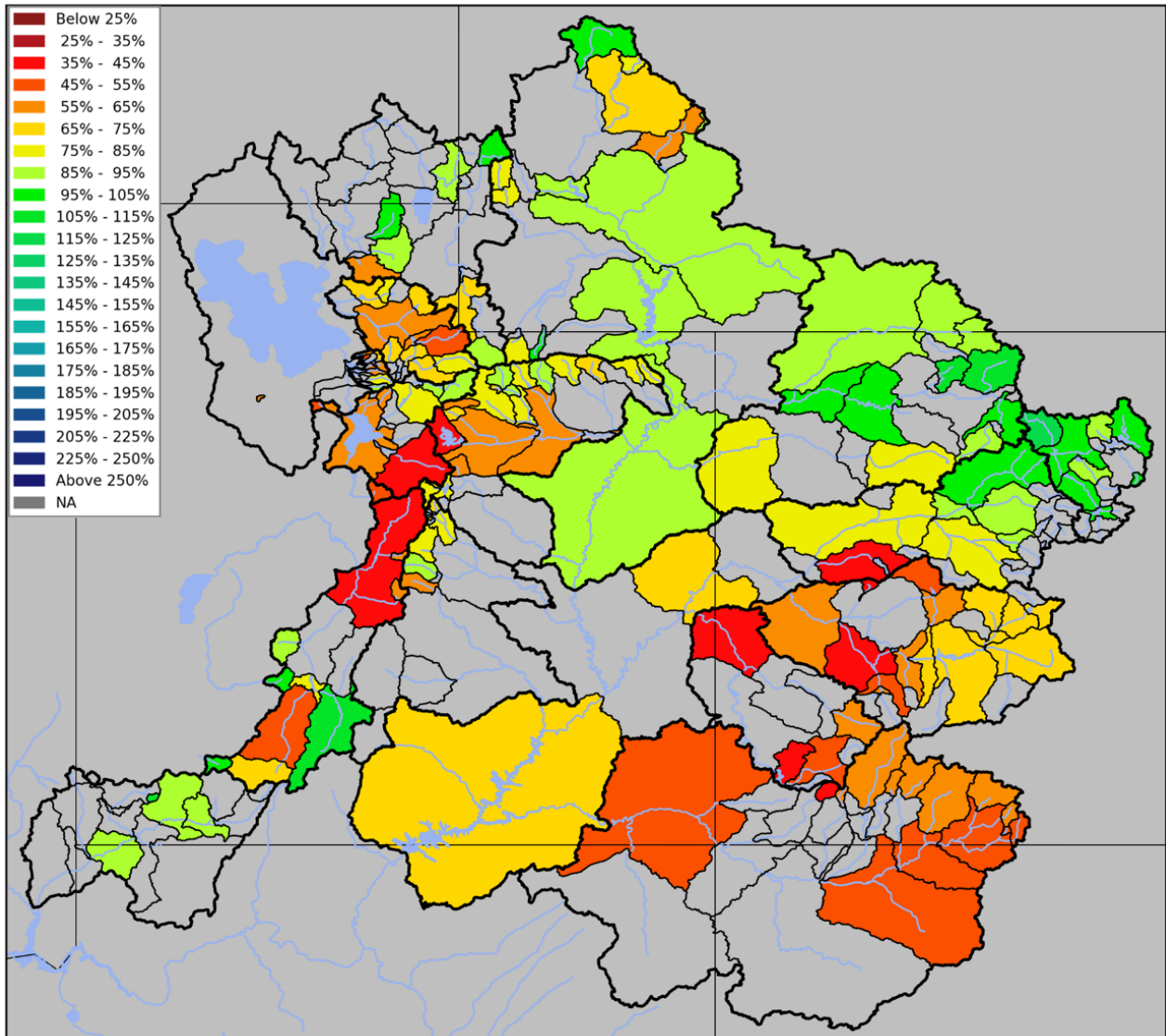
April-July water supply volume forecasts are near to much below average throughout the Upper Colorado River Basin and Great Basin. The majority of Upper Colorado River and Great Basin April-July water supply forecasts decreased between April and May due to much below average April precipitation. The forecasts at locations that did not decrease had minimal changes from early April.

The highest forecast volumes with respect to average are in the White/Yampa, Virgin, parts of the Upper Green, and the Upper Colorado River mainstem above Kremmling, where volume forecasts are generally near the 1981-2010 historical average. May water supply forecasts are below average in the Duchesne River Basin and much below average across the Gunnison, Dolores, and San Juan basins. Volume guidance decreased by as much as 15-25% in the past month in the Gunnison, Dolores, and San Juan basins due to well below average April precipitation across southwestern Colorado.

April-July unregulated inflow forecasts for some of the major reservoirs in the Upper Colorado River Basin include Fontenelle Reservoir 670 KAF (92% average), Flaming Gorge 880 KAF (90% of average), Blue Mesa Reservoir 450 KAF (67% of average), McPhee Reservoir 130 KAF (44% of average), and Navajo Reservoir 365 KAF (50% of average). The Lake Powell inflow forecast is 4.65 MAF (65% of average), a 13 percent decrease from April 1.

Water supply volume guidance across much of the Great Basin decreased by 10-25% during the past month due to a very dry April. May water supply forecasts are most favorable in the Bear River Basin, where forecasts are near to below average. The water supply outlook in the Weber, Six Creeks, Provo/Utah Lake, and Sevier basins is below to much below the 1981-2010 historical average.

Seasonal Water Supply Forecasts



Upper Colorado, Great, Virgin River Basins: May 2020 April-July forecast volumes as a percent of 1981-2010 average.

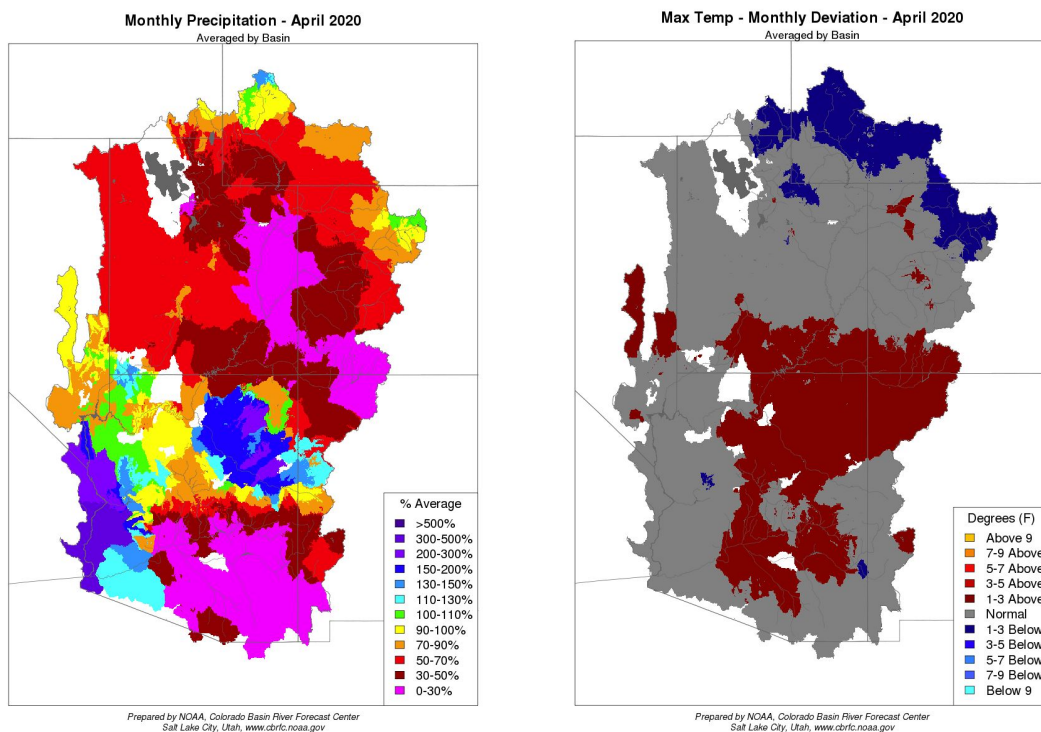
For specific site water supply forecasts click [here](#)

Water Supply Discussion

Weather Synopsis / April Precipitation & Temperature

The weather pattern during the month of April was dominated by general ridging across the Intermountain West. This was a continuation of the ridging and dry conditions that prevailed during the preceding month. The pattern was not conducive to bringing storm systems across the majority of the Upper Colorado River Basin and Great Basin. A few storm systems in northwesterly flow did impact Wyoming and the northern half of Colorado, particularly during the first half of the month. While April temperatures ended up mostly near average, the first three weeks of the month were below average, especially in northern basins. A very warm (10-20 degrees above normal) couple of days to end the month accelerated snowmelt.

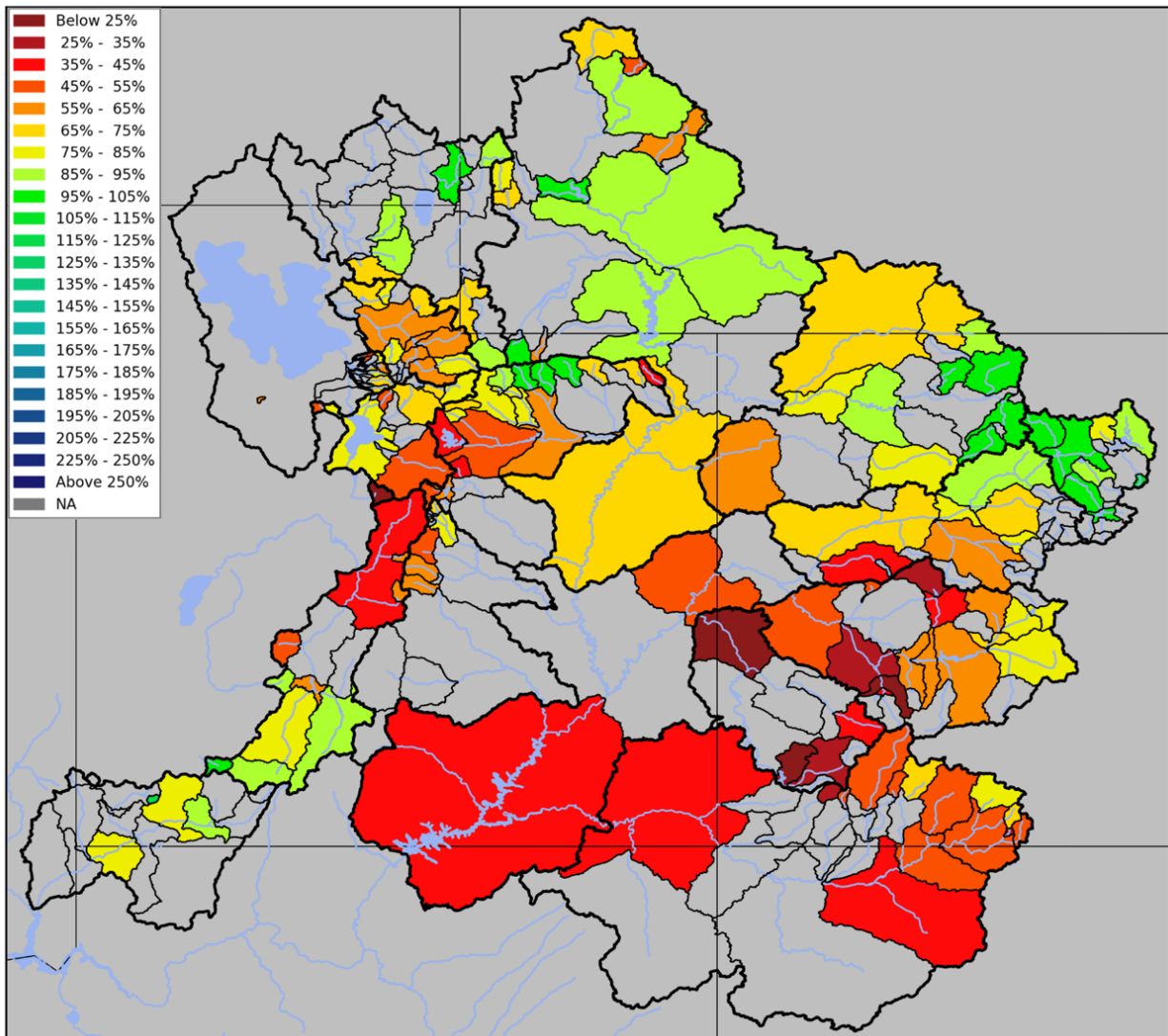
April precipitation was mostly below to much below average across the Colorado River Basin and Great Basin. It was exceptionally dry over northern Utah and southwest Colorado, where several SNOTEL locations were below the 10th percentile for monthly precipitation. A number of SNOTEL sites across Utah and southwest Colorado recorded their driest April precipitation on record, with many of the sites having a period of record of at least 35 years. Due to the aforementioned storm systems that clipped Wyoming and northern Colorado, portions of the Upper Green and Yampa/Upper Colorado headwaters saw near to slightly above average (100-130%) precipitation. Much of the Lower Colorado River Basin experienced below normal precipitation. The exception was portions of the Little Colorado and Verde/Salt basins, where a two day precipitation event of 1-2 inches on April 12-13 resulted in near to above average monthly precipitation.



April 2020 percent of average precipitation and maximum monthly temperature departure.
(Averaged by basins defined in the CBRFC hydrologic model)

April Observed Streamflow

Observed unregulated streamflows during April were variable across the Upper Colorado and Great Basins with flows generally decreasing from north to south. Southwest Colorado observed April flows were near record low in a few basins within the Gunnison, Dolores, and San Juan basins. As mentioned earlier, a very warm last week of April accelerated snowmelt and streamflow. The map below shows the April unregulated streamflow volumes as a percent of average.



Upper Colorado, Great, Virgin River Basins: April 2020 unregulated observed volumes as a percent of the 1981-2010 average.

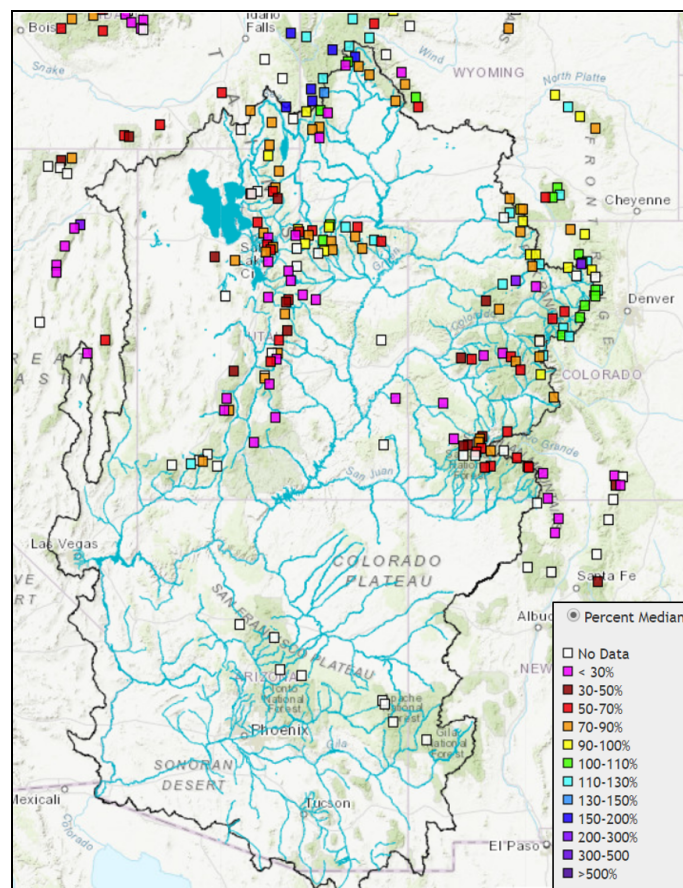
Snowpack

Observed snow water equivalent (SWE) conditions as of early May are generally near to below normal (median) across the Upper Colorado River Basin and Great Basin. With the exception of the northern Bear and Upper Green basins near the Idaho/Wyoming border and the Upper Colorado River mainstem above Kremmling, SWE conditions as a percent of the 1981-2010 median have declined considerably during the past month across the Upper Colorado Basin and Great Basin. This is a result of much below average April precipitation and snowmelt during the past month. The snowpack has melted out across the mountainous areas of the Lower Colorado River Basin (Arizona).

Early May SWE conditions are above normal in the Upper Colorado River mainstem above Kremmling, and near normal in the Upper Green, Duchesne, Virgin, White/Yampa, and Upper Colorado mainstem basins below Kremmling. Snow conditions are below normal in the Gunnison River Basin, and much below normal in the Dolores and San Juan basins.

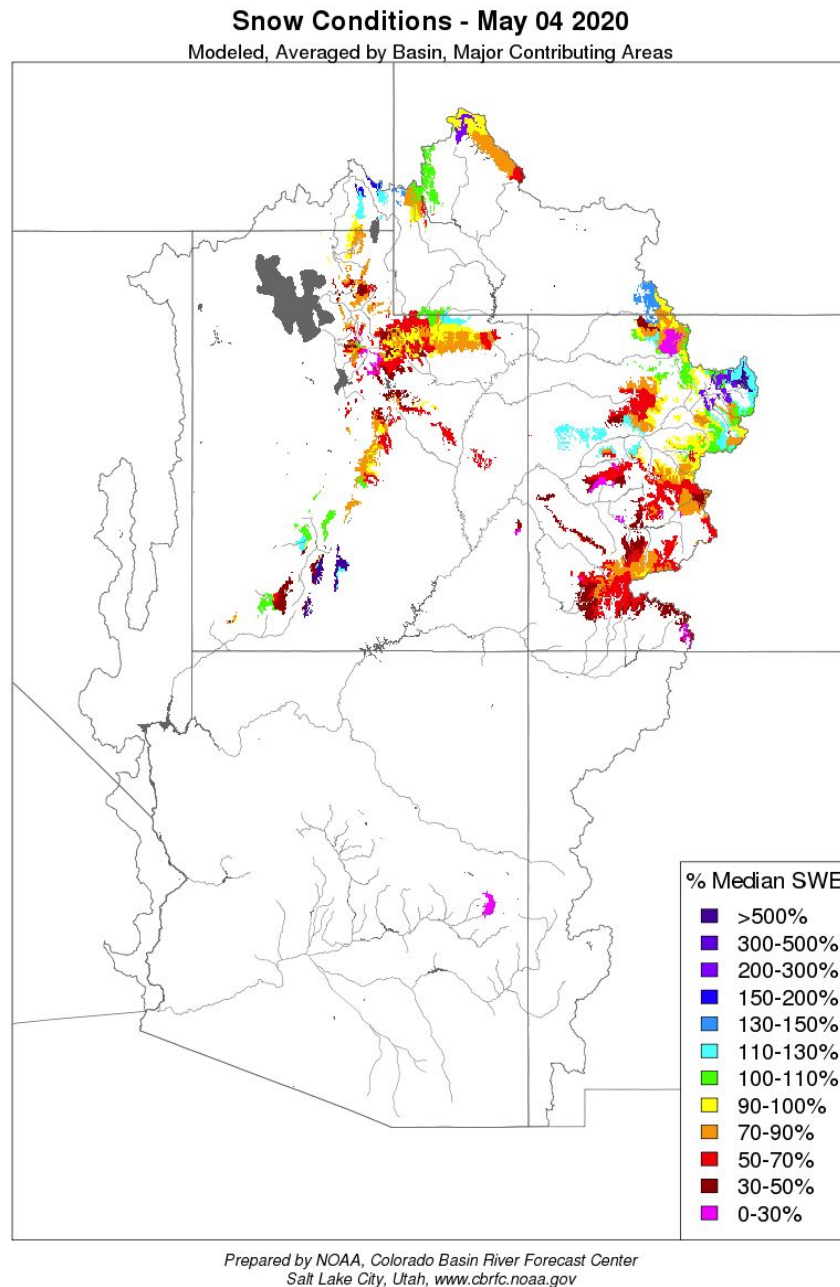
Snowpack conditions across the Great Basin as of early May are near normal in the Bear River Basin, below normal in the Six Creeks and Sevier basins, and much below normal in the Weber and Provo basins.

Early May observed (SNOTEL) conditions as a percent of the 1981-2010 historical median are shown in the image below. It's important to note that in the spring after the normal time of peak snowpack has passed, percent median 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.



Observed (SNOTEL) percent median SWE conditions as of May 4, 2020.

The image below is the representation of early May CBRFC model snow conditions in areas that provide the greatest contribution of April-July runoff. Model snow conditions correlate well with SNOTEL conditions throughout the Colorado River and Great Basins.



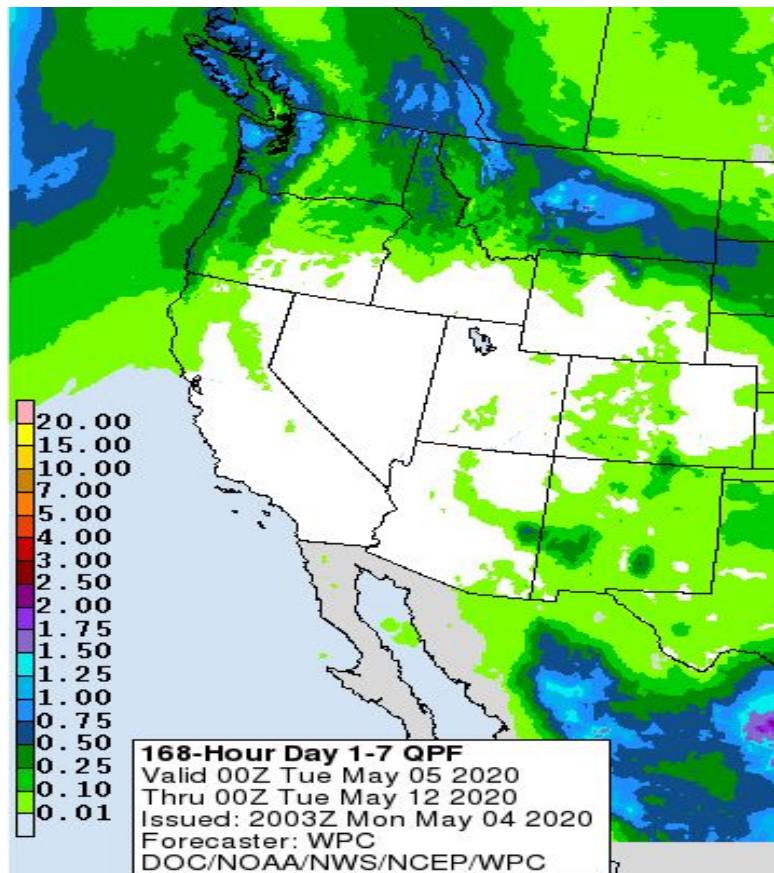
CBRFC hydrologic model snow conditions in significant runoff areas as of May 4, 2020.

For updated SNOTEL information refer to click [here](#)

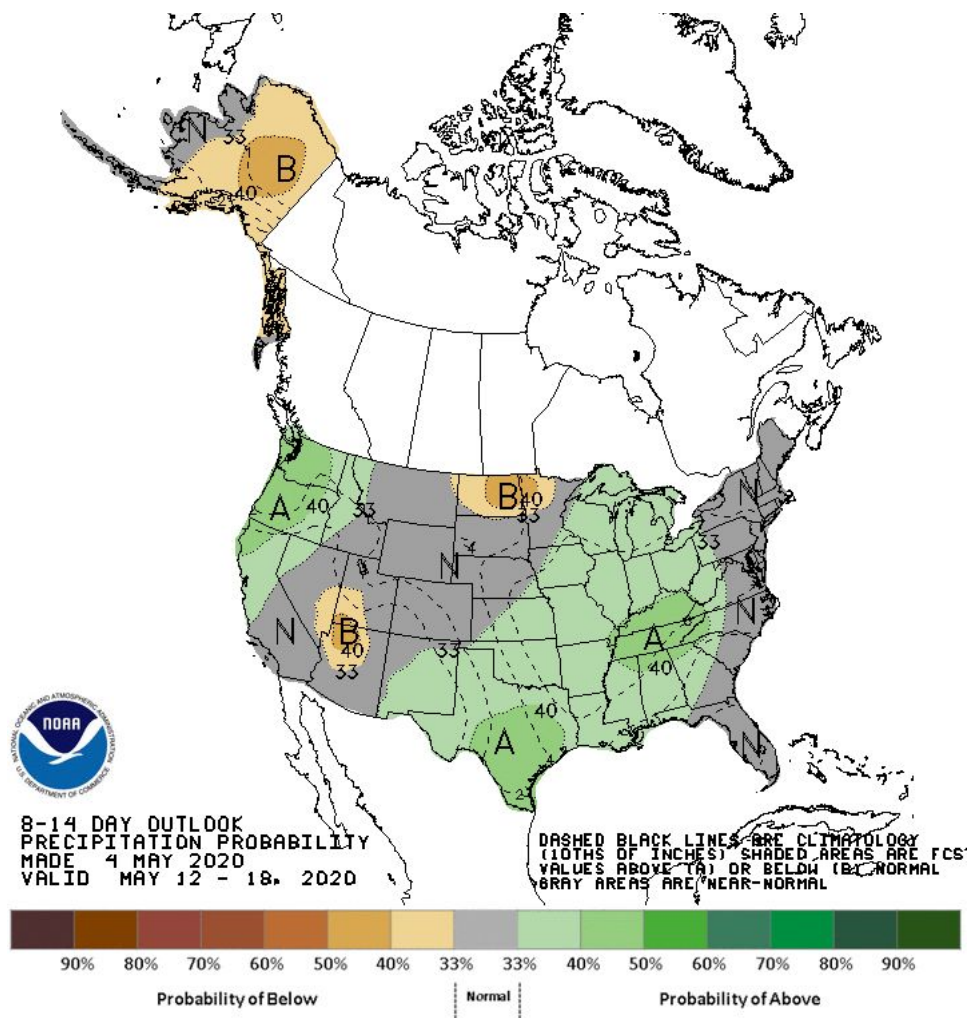
For CBRFC hydrologic model snow click [here](#)

Upcoming Weather

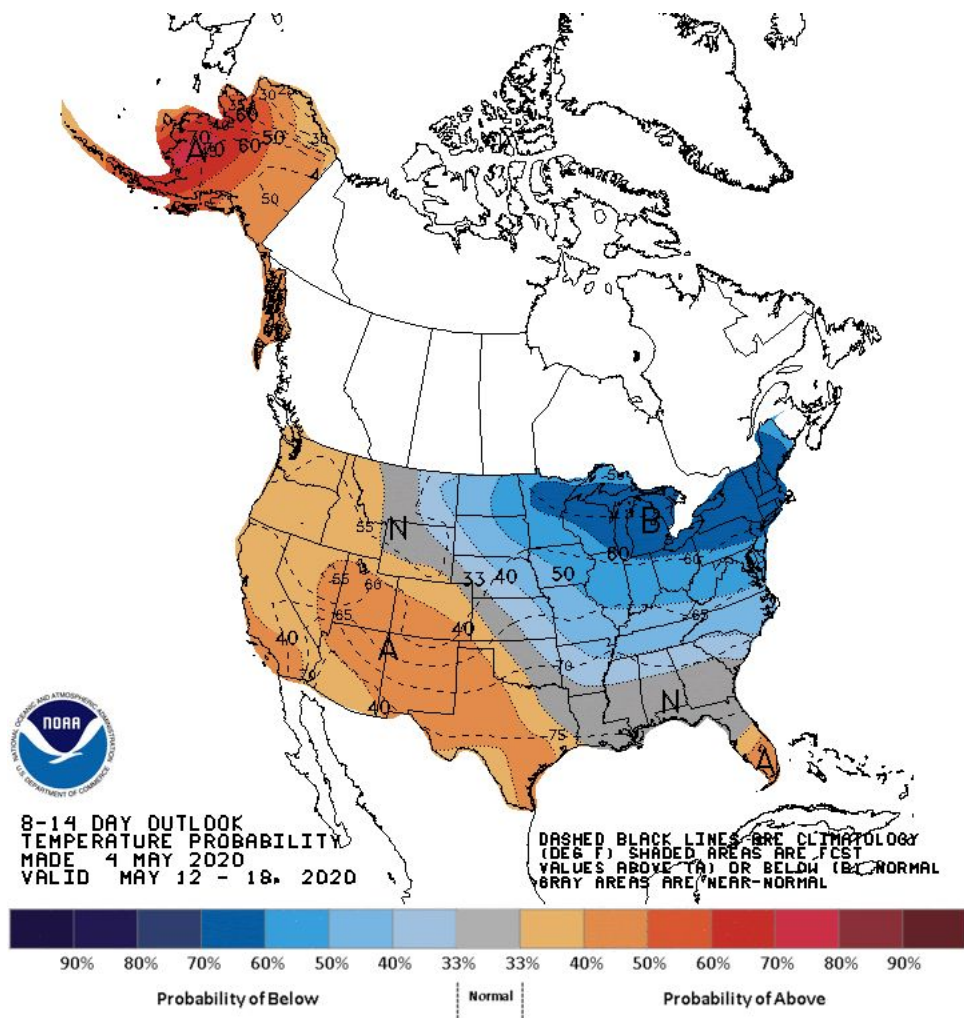
Weather models are in agreement with showing general ridging across the Intermountain West over the next week, resulting in a continuation of the warm, dry conditions that have prevailed for much of the spring. While a weak storm system will clip Wyoming on Thursday, bringing a slight cooldown across the northern portions of Utah/Colorado, the majority of the upcoming week will feature temperatures slightly above average. Thus, with warm temperatures and limited cloud cover, efficient snowmelt will continue across the Upper Colorado and Great Basins. The weather pattern for next week (May 11-18) suggests more of the same, with no real indication of a major pattern change towards cooler/wetter spring weather. The climatologically dry month of June is not far away, and time is running out to change course on an already quite dry spring season.



NWS Weather Prediction Center precipitation forecast for May 5-12, 2020.



NWS Climate Prediction Center precipitation probability forecast for May 12-18, 2020.



NWS Climate Prediction Center temperature probability forecast for May 12-18, 2020.

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](#)

End Of Month Reservoir Content Tables

- [Green River Basin](#)
- [Upper Colorado River Basin](#)
- [San Juan River Basin](#)
- [Great Salt Lake Basin](#)
- [Sevier Basin](#)