

## January 16, 2015 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.

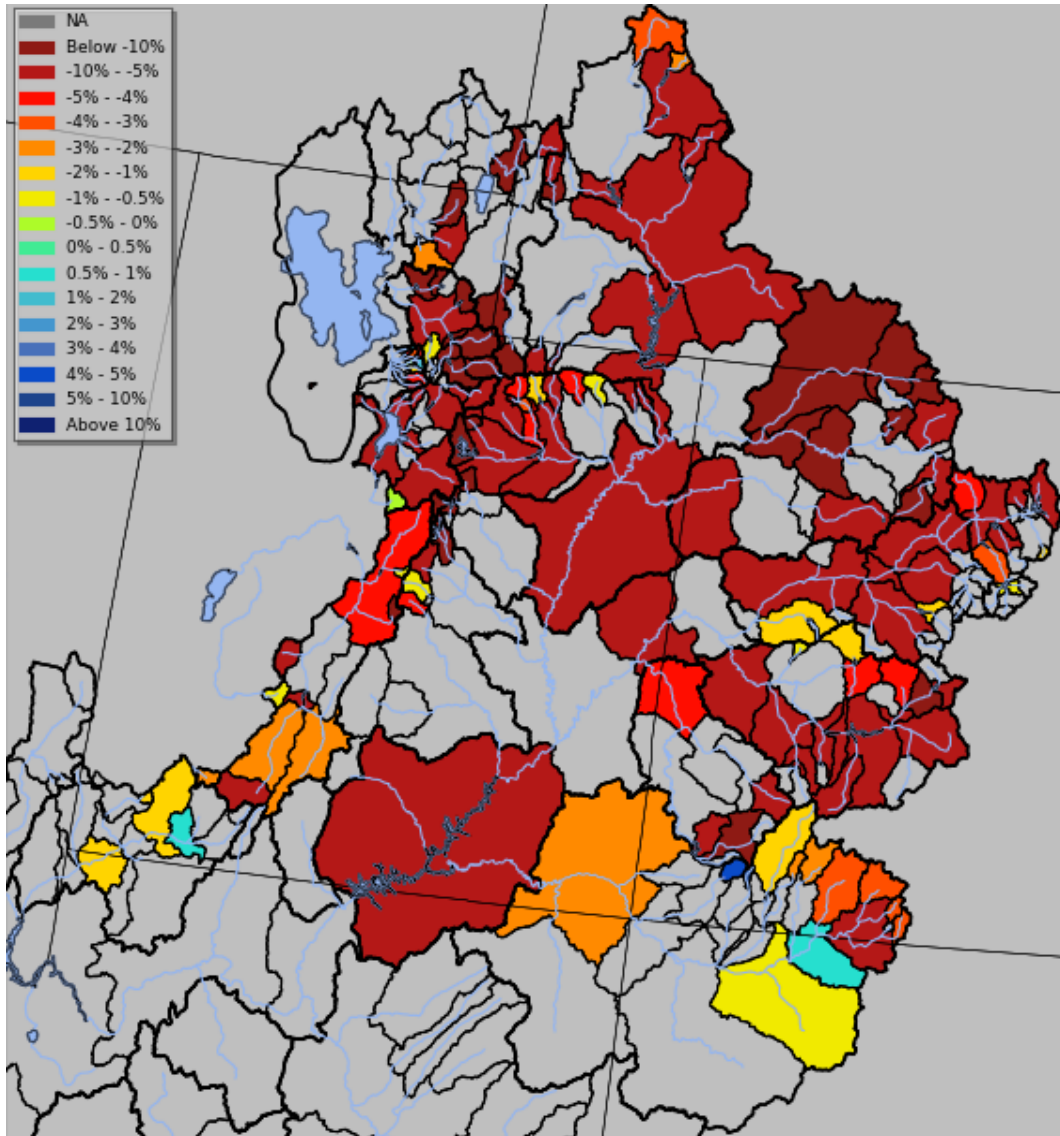
### Seasonal Water Supply Forecasts:

#### Quick Summary:

CBRFC raw model guidance has trended water supply forecasts downward over nearly all of the CBRFC forecast area since January 1st. However for several locations decreases were minimal. Only a couple of sub-basins located in the San Juan River Basin and Virgin River Basin indicated a slight increase. Near or above average April-July runoff volumes are still expected in the Green River Basin above Flaming Gorge, Colorado River Basin above Cameo, and most of the Yampa, White, and Gunnison River Basins. Near to below average April-July runoff volumes are expected in the San Juan, Duchesne, and Virgin River Basins. Headwater locations of the Bear, Provo, and Weber River Basins are expected to be near average but below average volumes are anticipated elsewhere in these river basins and in the Six Creeks drainages.

Mid January forecasts for some of the major upper Colorado River Basin reservoirs included no change from January 1st at Navajo, Fontenelle, and Flaming Gorge. The Gunnison River Basin Aspinall Unit forecasts decreased slightly, with Blue Mesa dropping from 102 percent to 98 percent of average. The Lake Powell inflow forecast decreased by 300 KAF, from 91 percent to 87 percent of average, and is now at 6.2 million acre-feet.

In the Lower Colorado River Basin, January-May volumes are forecast near to below median and take into account the possibility of a weak El Nino existing during the winter and spring months.



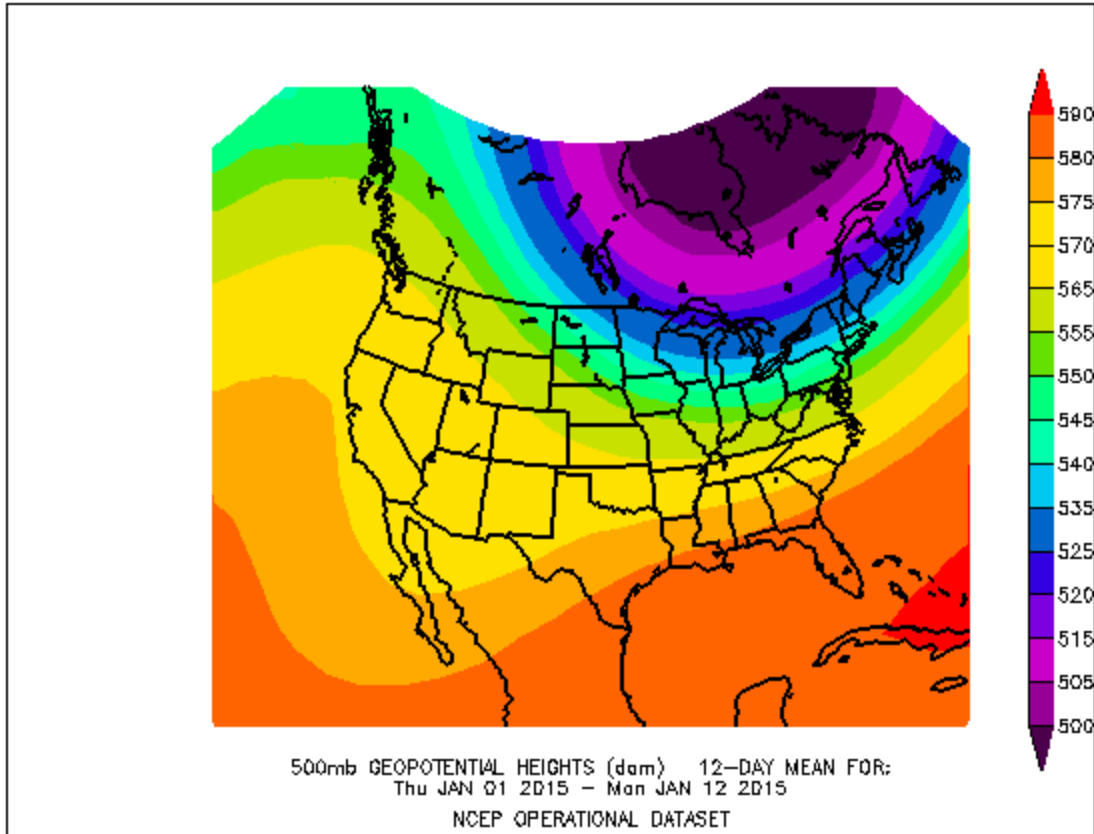
Trend in the April-July runoff volume forecasts since January 1st.  
(Change in April-July percent of average)

[Click here for the latest water supply model guidance](#)

## Water Supply Discussion

### Weather Synopsis:

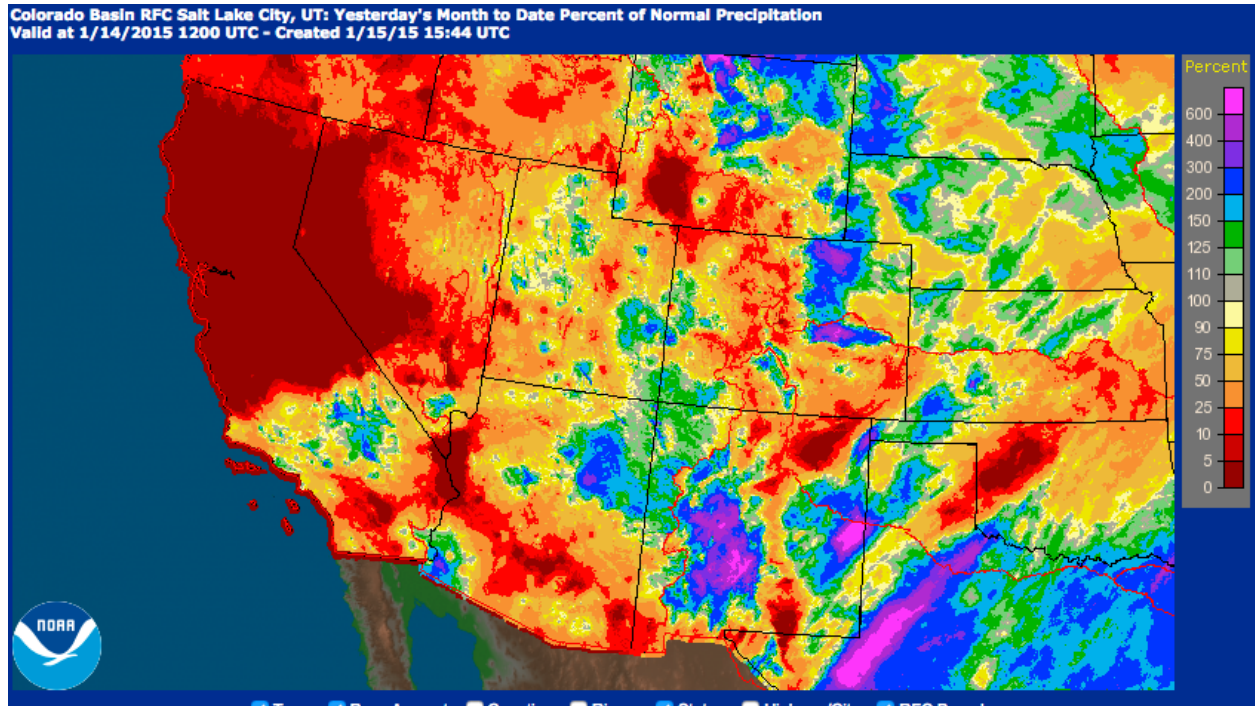
High pressure has been the dominant feature over the CBRFC forecast area during the first half of the month. A storm system moved through during the second weekend of the month, however dry conditions returned soon after.



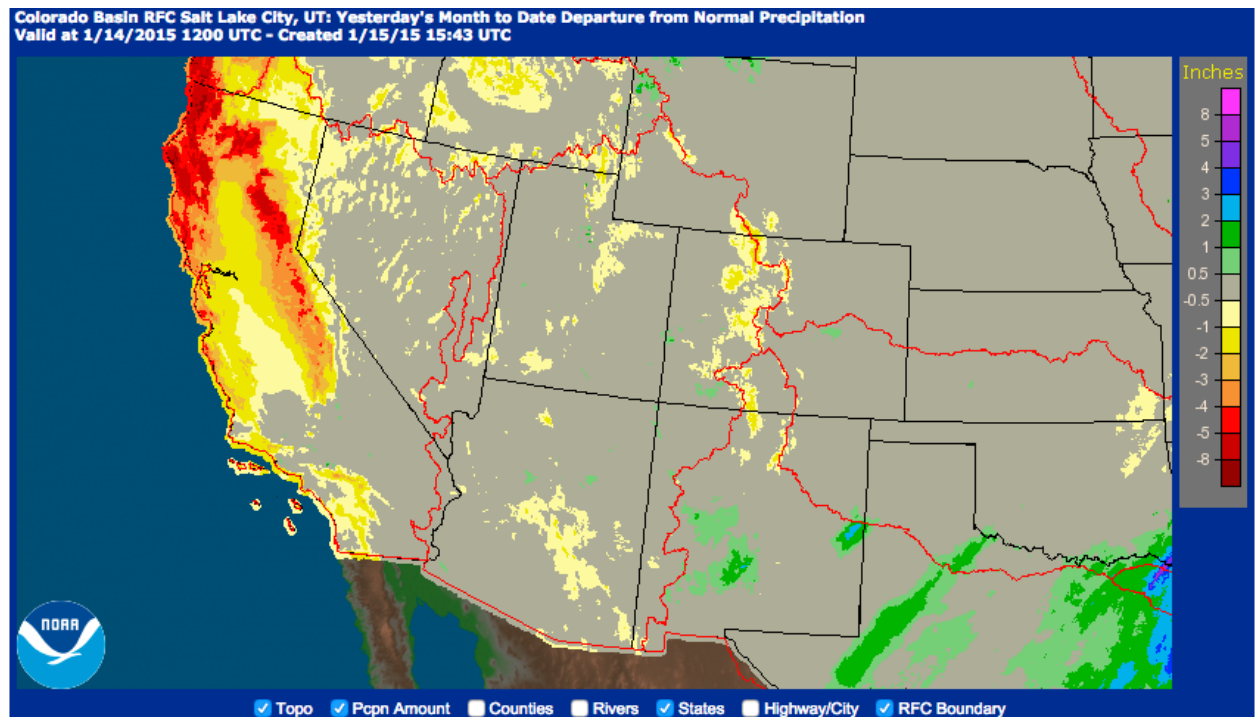
Mean upper air pattern the first couple of weeks of January. While conditions weren't completely dry a high pressure ridge along the U.S. West Coast extended inland and kept storms out of the area.

**Precipitation and Temperatures:**

Much of the CBRFC forecast area received below average precipitation the first half of January. However there were some exceptions, most notably over the northern Utah Wasatch Range, in parts of the San Juan River Basin, and in headwaters of the Little Colorado River Basin where near or above average precipitation was received.



January 1-15 percent of average precipitation for the Colorado River Basin.

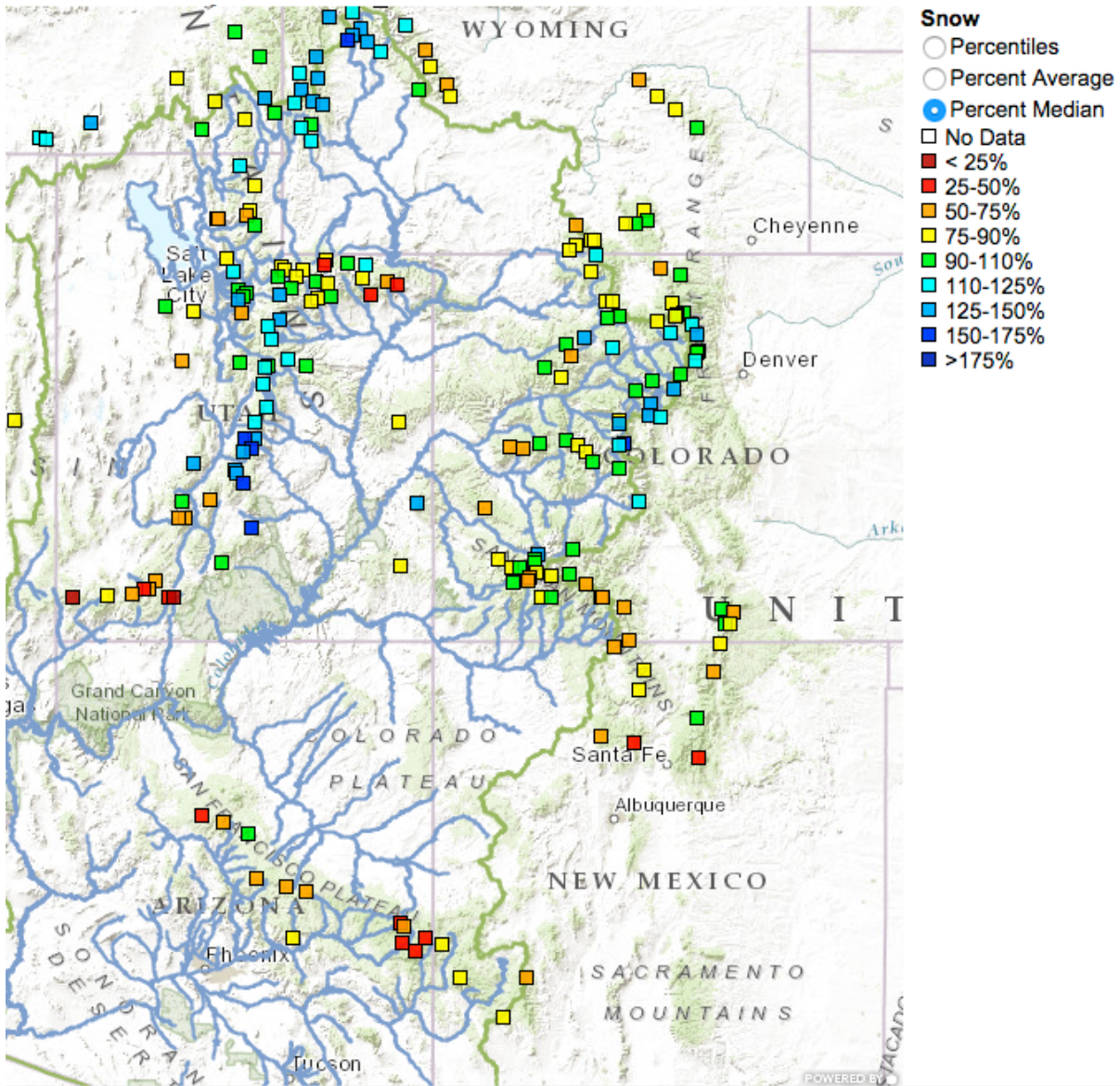


January -15 departure from average precipitation for the Colorado River Basin.

**Snowpack:**

Snowpack conditions continue to vary significantly across the Colorado River and Eastern Great Basins as of mid January. Snowpack conditions, expressed as a percent of the 1981-2010 median, were slightly lower over most

areas. Above median snowpack exists in the Green River Basin above Fontenelle, Colorado River headwaters, and in the central Utah Wasatch Mountain Range. Below median conditions exist in the eastern Duchesne River Basin, San Juan River Basin, Virgin River Basin, and Lower Colorado River Basins of Arizona. Even within individual river basins conditions vary as indicated by the graphic below.



Percent Median Snow condition as of January 14, 2015

For the latest snow conditions click [here](#)

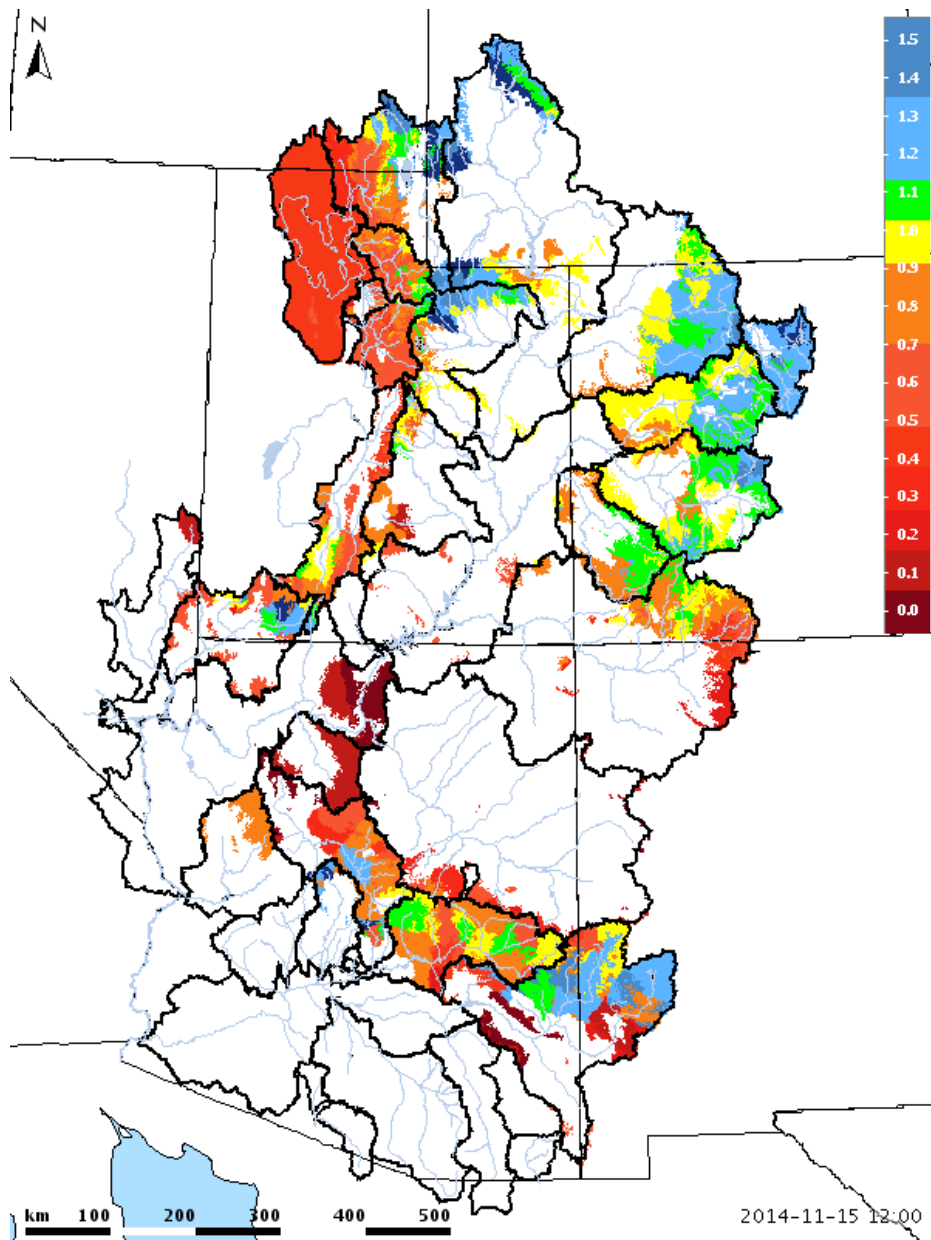
**Soil Moisture:**

Soil moisture conditions in the higher elevation headwater areas are important entering the winter, prior to snowfall, as it influences the efficiency of the snowmelt runoff the following spring. Modeled soil moisture conditions as of November 15th were above average over much of the Green River Basin above Fontenelle, headwaters of the Yampa and White River Basins, and the Colorado River headwaters above Kremmling. Above average soil moisture

also existed over much of the Uinta Mountain range that drains into the Bear River, Duchesne River, and Green River above Flaming Gorge.

Soil moisture conditions were below average over the lower Bear River Basin, Weber River Basin, Provo River Basin, and Six Creeks Basins. The Sevier, San Juan, and most of the Virgin River Basins had below average soil moisture conditions entering the winter. In the Lower Colorado River Basins of Arizona conditions vary with most areas below average. However in this area, the January-May runoff volumes are primarily influenced by the frequency and magnitude of winter rain events.

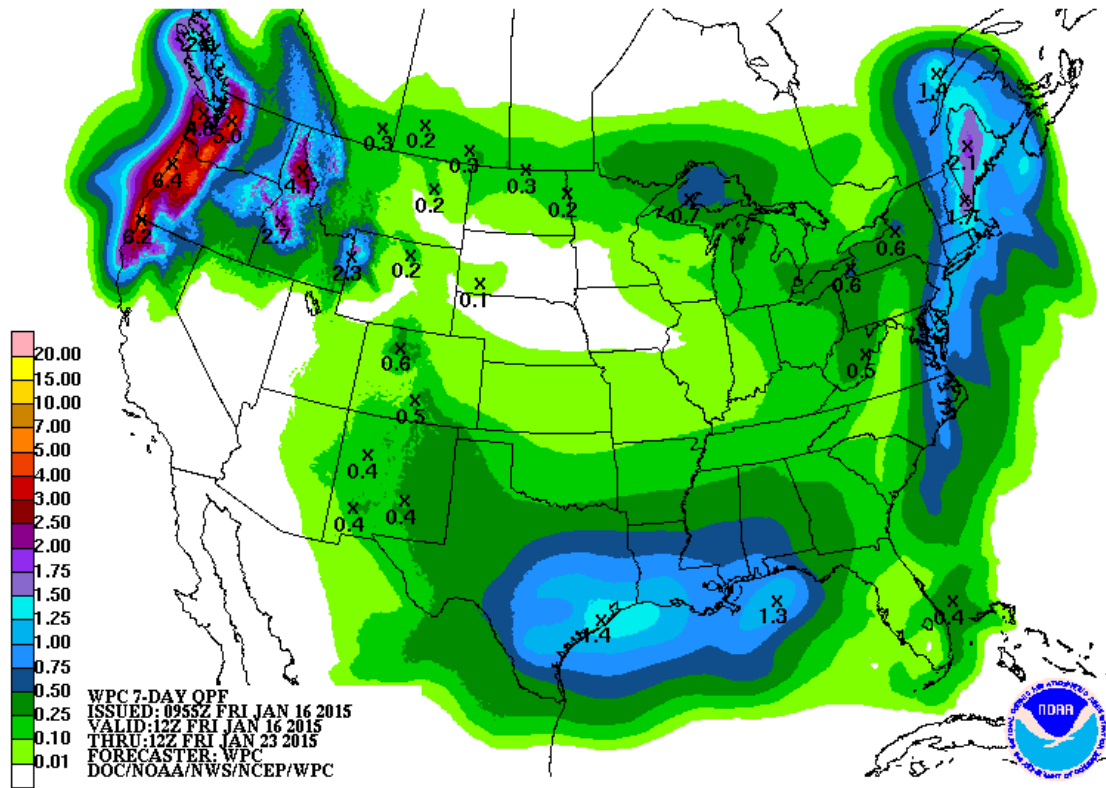
In the map below, areas in blue are above the historical model soil moisture average while those in the red and orange are below average. Only the higher elevation areas are displayed. The areas in white are not included.



Modeled soil moisture entering the winter season (as of November 15 2014)

**Weather Outlook:**

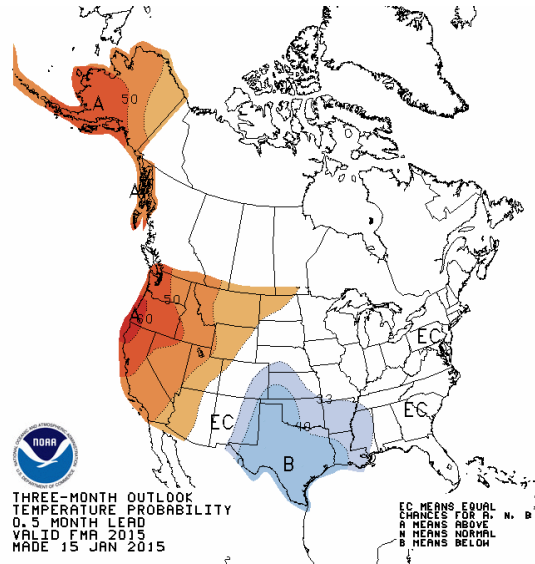
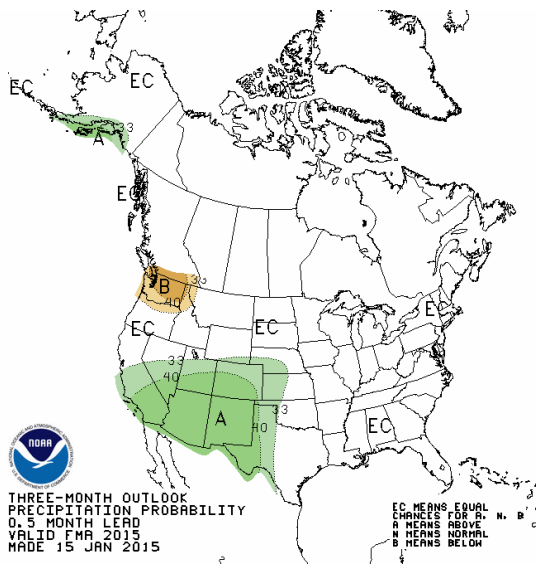
Weather models suggest a high pressure ridge along the western U.S. coast with weakening storm systems primarily affecting the extreme northern CBRFC forecast area. There is a potential for a stronger storm systems the last week of January that may bring a better chance of precipitation to the CBRRC forecast area.



Precipitation outlook for January 16 - January 23 from the Weather Prediction Center.

**Climate Outlook:**

The El Niño Southern Oscillation (ENSO) condition continues to be neutral. However, positive sea surface temperatures anomalies exist across the east-central equatorial Pacific Ocean. Climate models indicate a 50%-60% chance that weak El Niño conditions will be present during the next couple of months with neutral conditions likely beyond that time. The Climate Prediction Center indicates enhanced chances of above normal precipitation during the February-March 2015 period over much of the Colorado River and eastern Great Basin. These chances decrease from south to north with equal chances of above or below normal precipitation in the Green River Basin of Wyoming. There are enhanced chances of above normal temperatures over the eastern Great Basin and Green River Basin of Wyoming during the same period with equal chances for above or below normal temperatures elsewhere.



**Conclusion:**

Above average soil moisture conditions along with near to above median snow conditions have resulted in above average spring runoff volume forecasts for the Green River Basin above Fontenelle and the Colorado River above Kremmling. Favorable snow conditions have also resulted in forecasts near to slightly above average in much of the Yampa, White and Gunnison River Basins as well as the tributaries to the Green and Colorado Rivers in southeast Utah. Soil moisture is also having a positive effect in areas where snow conditions are less favorable and include headwaters of the Bear River Basin, Provo River Basins, and parts of the Duchesne River basin.

Below average runoff is anticipated in the San Juan Basin, Weber River Basin, Six Creeks, lower Bear River Basin, Virgin River Basin and southern Sevier River Basin. A combination of below average soil moisture and near to below median snow conditions are driving the forecasts in these areas.

In the Lower Colorado River Basin soil moisture conditions are generally below average but the likelihood of an El Nino event during the winter and spring has resulted in January-May forecasts near or slightly below median.