January 1, 2015 Water Supply Forecast Discussion

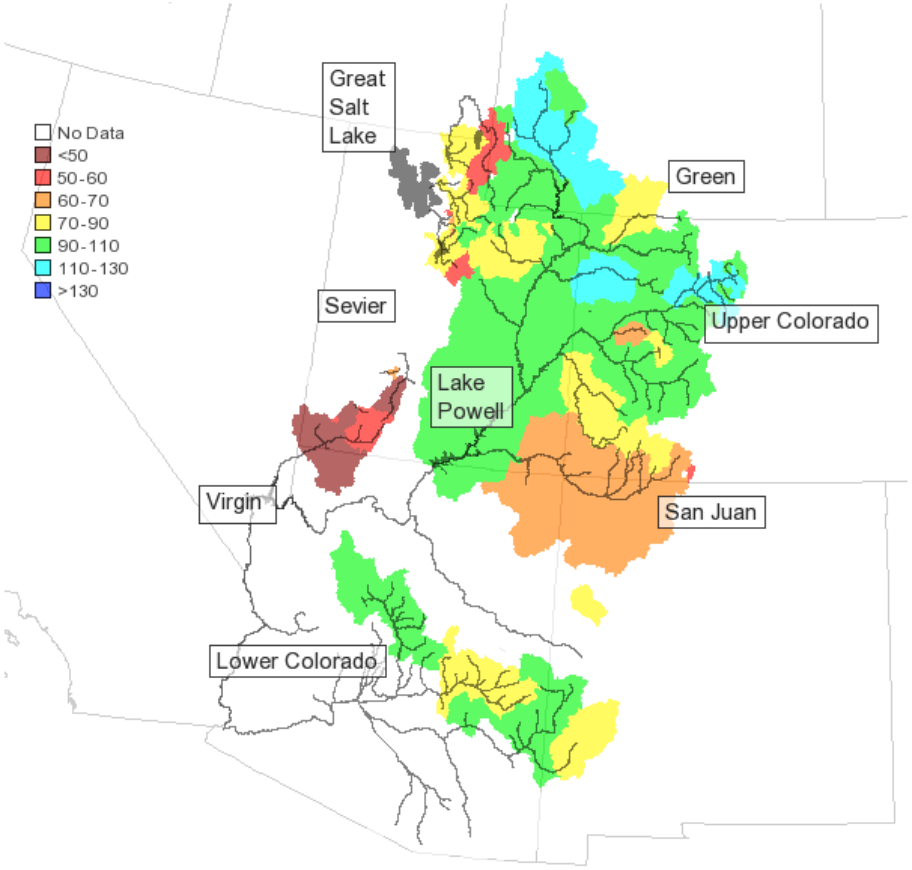
The Colorado Basin River Forecast Center (CBRFC) geographic forecast area includes the Upper Colorado River Basin, Lower Colorado River Basin, and Eastern Great Basin.

Seasonal Water Supply Forecasts:

Quick Summary:

Near or above average April-July runoff volumes are 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 Duchesne River Basin, Bear River Basin and Provo River Basin headwaters. Below to much below average April-July runoff volumes are anticipated elsewhere. Lowest runoff volumes, as a percent of the 1981-2010 average, are expected in the San Juan River Basin, Virgin River Basin, southern Sevier River Basin and lower elevation Six Creeks Basins.

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



Upper Colorado Basin: April-July runoff volumes as a percent of 1981-2010 average
Lower Colorado Basin (Arizona): January-May volumes as a percent of 1981-2010 median

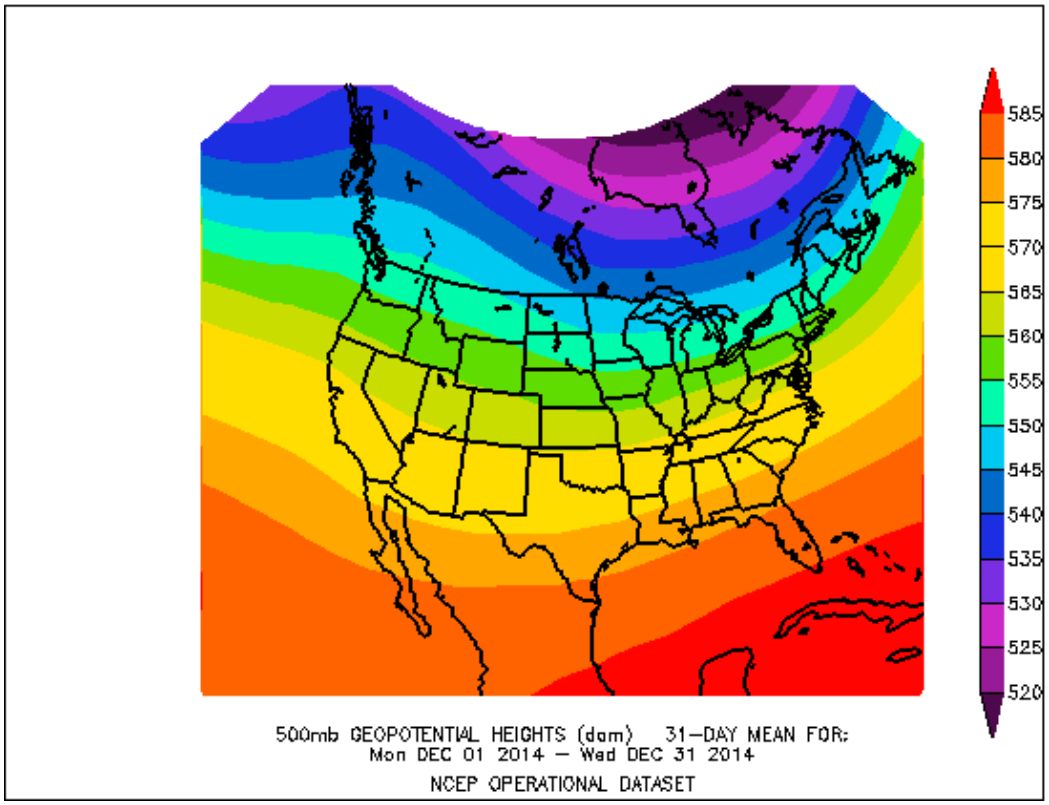
Click here for specific site water supply forecasts

Water Supply Discussion

Weather Synopsis:

October was a dry and mild month over the CBRFC area with below average precipitation widespread. Storms increased in November and primarily affected higher elevations of the upper Colorado River Basin, Green River Basin above Flaming Gorge, and northern Great Basin. Near to above average precipitation occurred in these areas with below average precipitation elsewhere. Rain also occurred at high elevations in October and November as the airmass was quite mild with some of the storms.

Storm systems with a sub-tropical source moved into the western U.S. from the Pacific Ocean during the month of December. The result was a mild and moist airmass that brought above average temperatures and precipitation to much of the CBRFC area. How much precipitation occurred was very dependent upon the track of the storms and not every area received above average precipitation. Much cooler weather dominated the last week of the month as Arctic air moved into the western U.S. dropping snow levels to lower elevations.



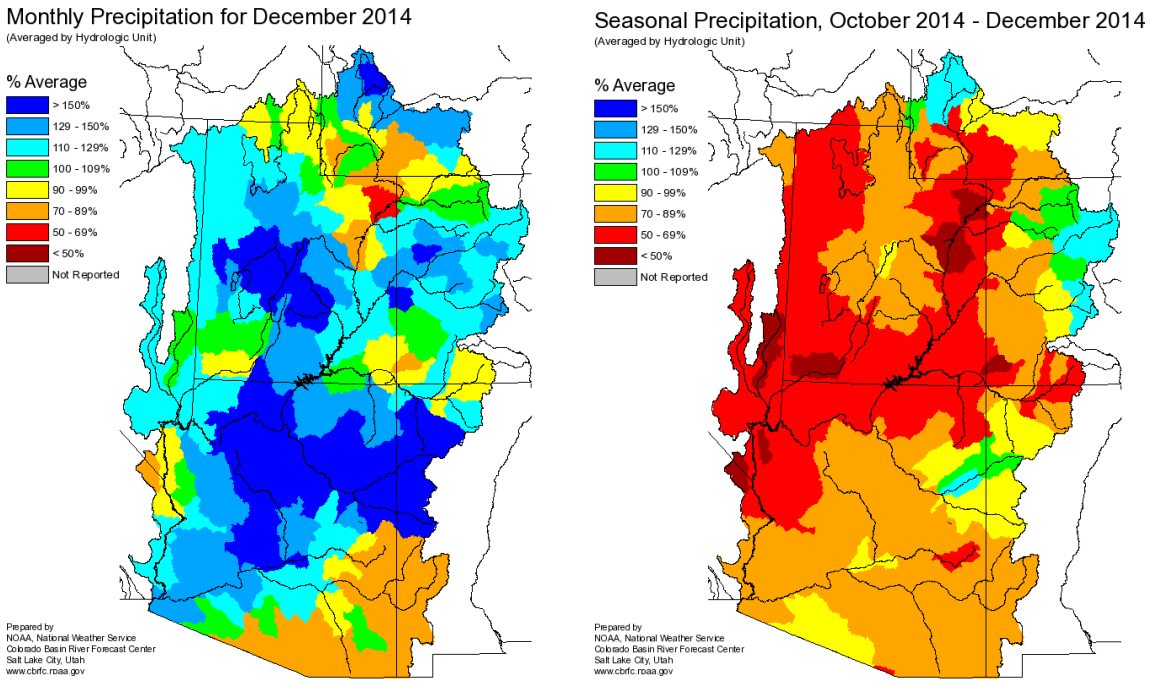
Mean upper air pattern during December 2014.

Precipitation and Temperatures:

Precipitation was near or above average for much of the CBRFC area in December. Exceptions to this included parts of the Duchesne, Yampa, and San Juan River Basins where near or below average precipitation was observed. The Gila and Salt River Basin were also below average in December.

Drier conditions were more widespread in November and especially October. These conditions are reflected in the

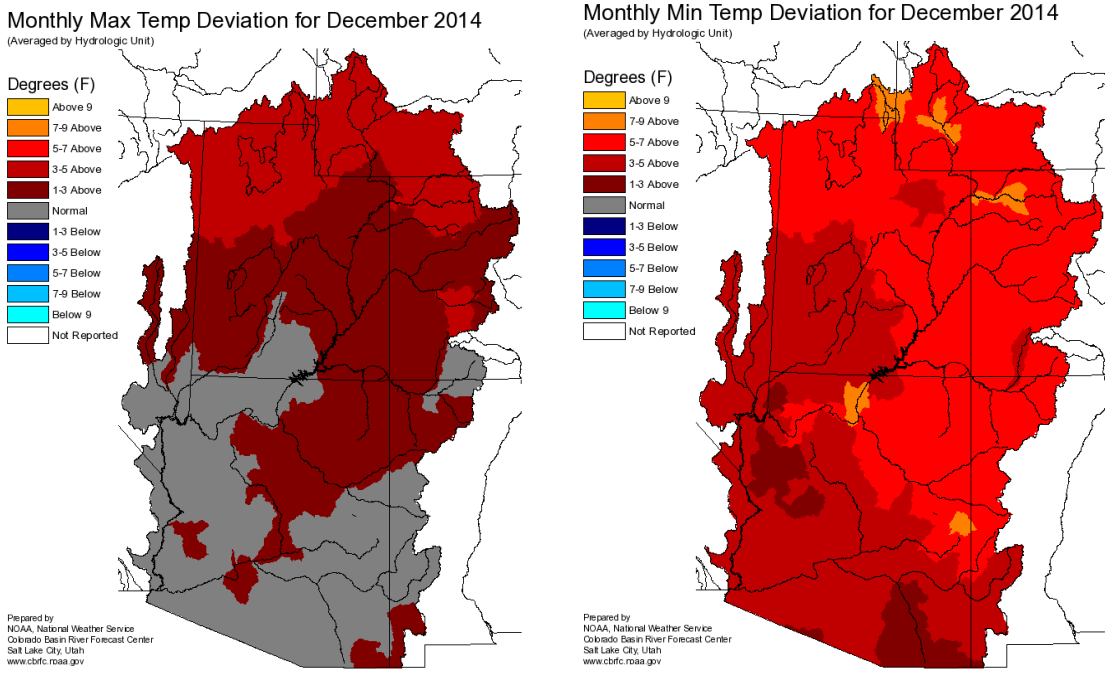
water year precipitation graphic. Near or above average water year precipitation (October-December) is limited to the Green River Basin above Fontenelle Reservoir, Yampa River Basin, Colorado River Basin and Gunnison River Basin headwaters. Elsewhere water year precipitation is generally below average.



Monthly and water year precipitation graphics

.

Temperatures were mild for the majority of December. Both monthly maximum and minimum mean temperatures were several degrees above average.



Monthly maximum and minimum temperature departure from average.

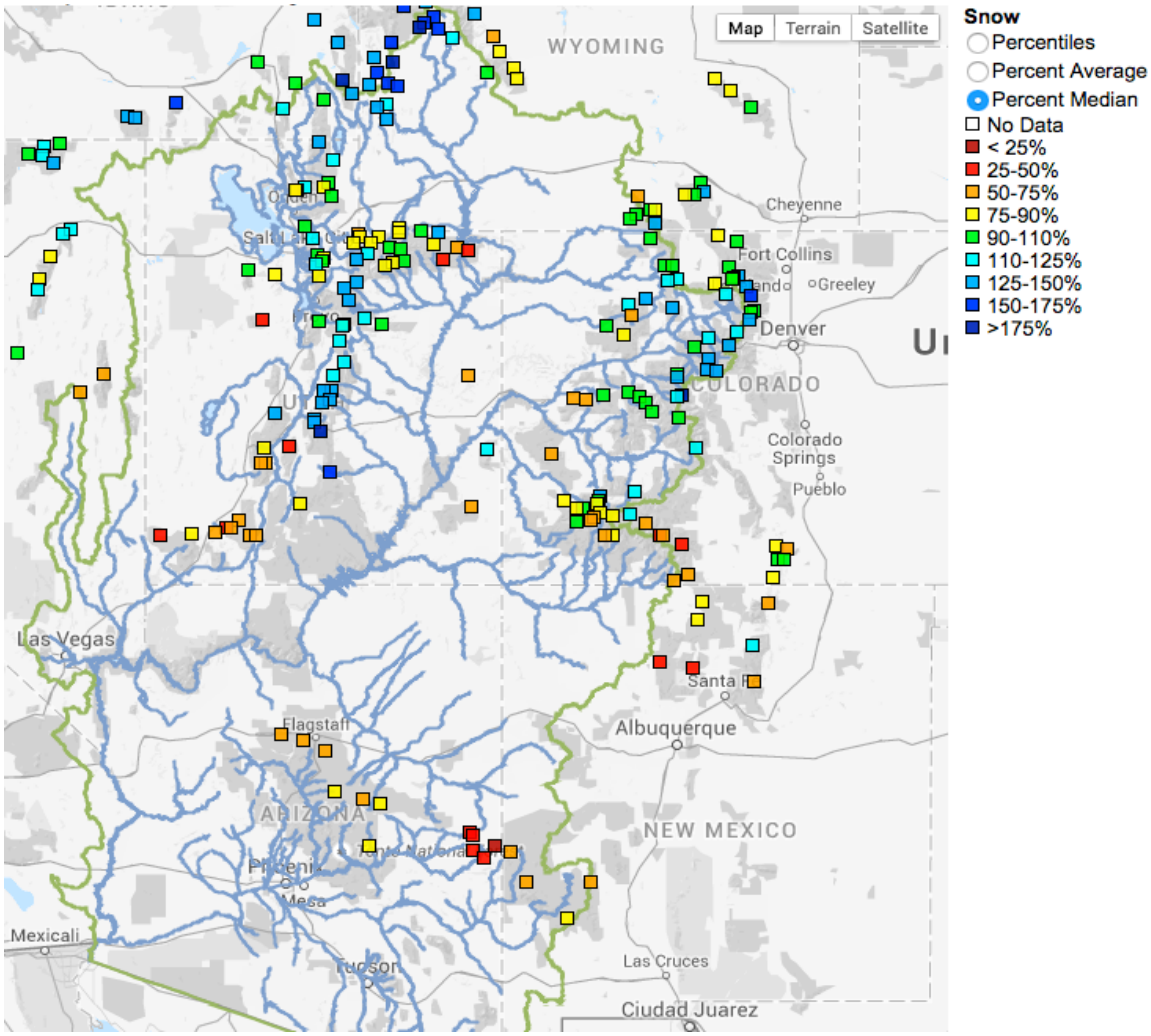
Snowpack:
Snow conditions vary significantly over the CBRFC forecast area for early January. Some of the variation can be attributed to the unseasonably warm temperatures associated with the autumn storms. In these instances higher elevation areas were experiencing rain events during periods when they typically accumulate snow. Another factor was the track of the December storms and the associated orographic effects. The result was a wide variation of snow conditions even within individual river basins.

As of early January above median snow conditions exist in the Green River Basin above Fontenelle Reservoir and in the headwaters of several tributaries that feed into the Green River and Colorado River in southeast Utah. The majority of SNOTEL sites indicate near to above median snow conditions in the Yampa, Colorado River headwaters above Kremmling, and Gunnison River Basin. However, a few sites in these areas are near or below median. The Duchesne River Basin is quite varied with best conditions in the western headwaters and below median conditions further east.

In the northern Great Basin below median conditions exist in the Bear River and Weber River Basin headwaters. Elsewhere most observations are near median although a wide range from below to above median exists.

Snow conditions are less favorable in river basins further south with the San Juan River Basin, Virgin River Basin, southern Sevier River Basin, and Lower Colorado River Basins below average.

The map below shows conditions of snotel sites across the CBRFC area as of January 6, 2015. For more details and daily updates, please refer here.

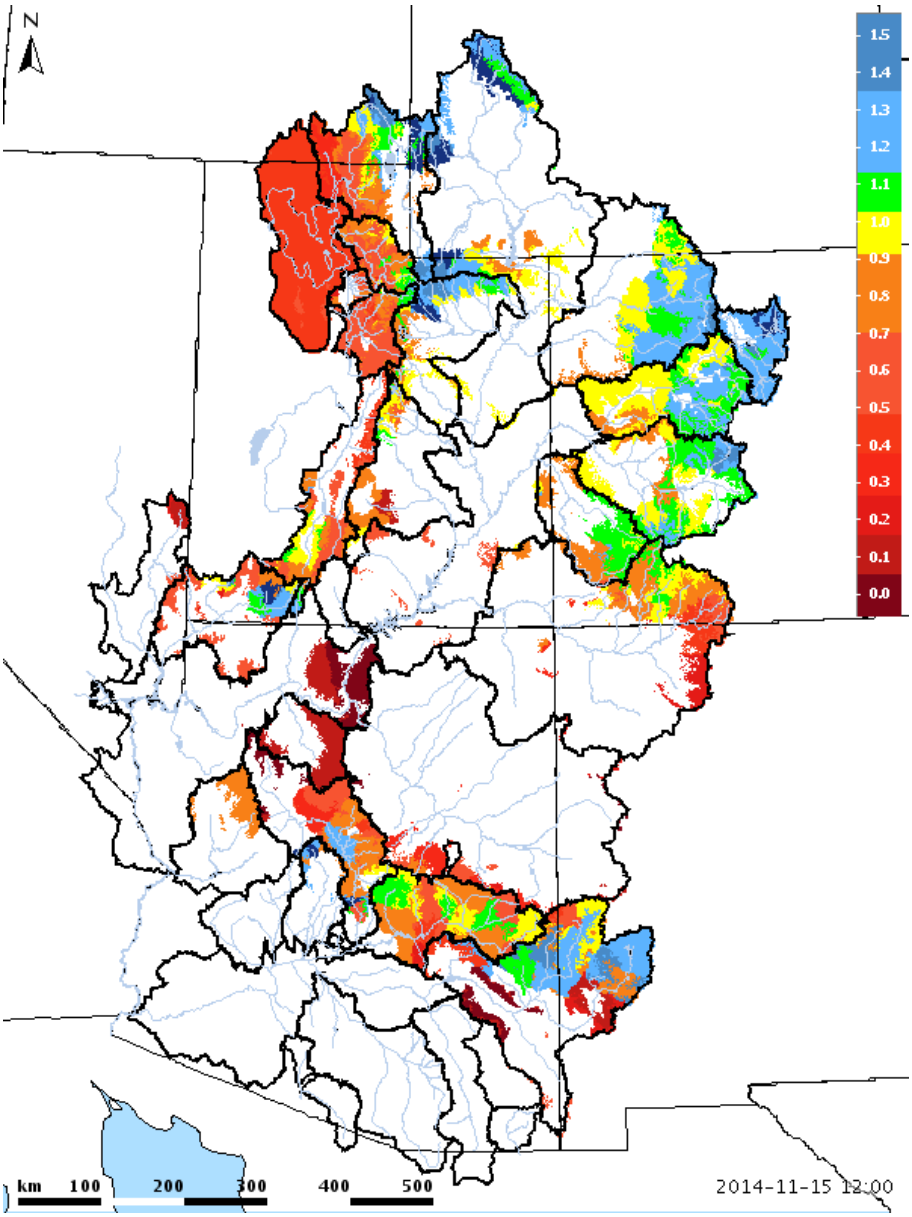


Percent Median Snow condition as of January 6, 2015

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.

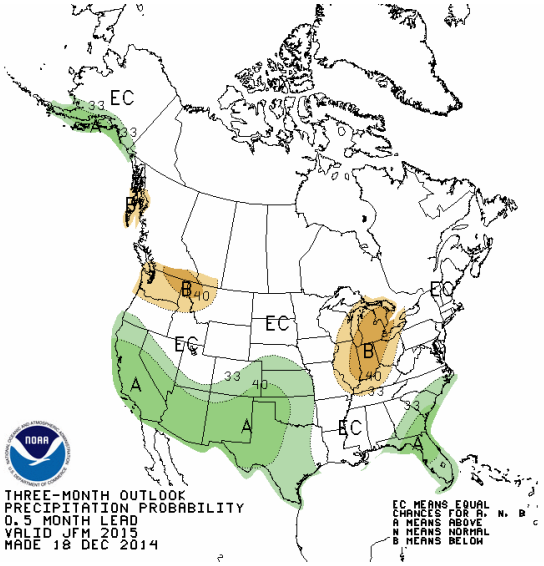
Soil moisture conditions were below average over the lower Bear River, Weber River, Provo River, and Six Creeks Basins. The Sevier River, San Juan River, and most of the Virgin River had below average soil moisture conditions entering the winter. In the Lower Colorado River Basins of Arizona conditions 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.

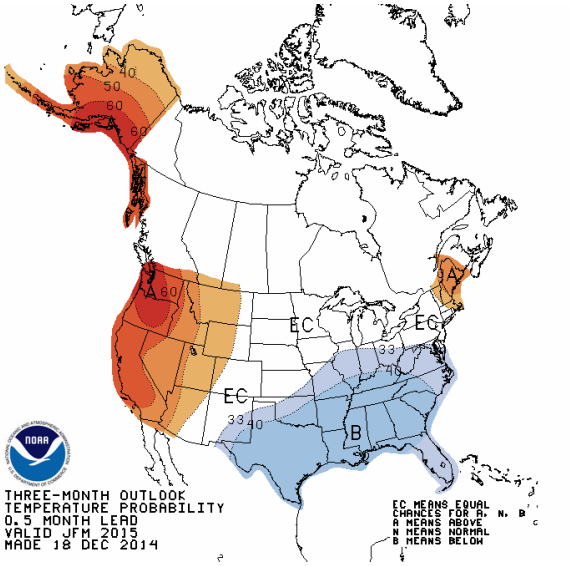
In the map below areas in blue are above the historical model soil moisture average while those in the red and orange are below average. Only the higher elevation areas are displayed. The areas in white are not included.



Climate Outlook:

The El Nino Southern Oscillation (ENSO) condition continues to be neutral. However, positive sea surface temperatures anomalies exist across most of the Pacific Ocean. Climate models indicate a 65% chance that El Nino conditions will be present during the winter and spring of 2015. The Climate Prediction Center indicates enhanced chances of above normal precipitation over Arizona extending into extreme southern Utah and southern Colorado for the January-March 2015 period. Equal chances of above or below average precipitation exist for the eastern Great Basin and Upper Colorado River Basin for the same period. There is enhanced chances of above normal temperatures over the eastern Great Basin and much of the Green River Basin with equal chances for above or below normal temperatures elsewhere during the January-March 2015 period.





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 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.

End Of Month Reservoir Content Tables

- Green River Basin
- Upper Colorado River Basin
- San Juan River Basin
- Great Salt Lake Basin
- Sevier Basin
- Virgin River 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