



CBRFC Modeled Lower Zone Soil Moisture Maps

The Colorado Basin River Forecast Center (CBRFC) uses the Sacramento Soil Moisture Accounting (SAC-SMA) model to simulate basin runoff from rain and snowmelt events. The SAC-SMA model divides the soil response into a fast responding upper zone (approximately the top 20-50 mm of soil) and a longer-term (weeks to years) lower zone (generally deeper than 50 mm).

Lower zone soil moisture conditions in the fall help determine the volume of runoff during the spring and summer months by indicating a basin's antecedent condition prior to melt. [CBRFC soil moisture maps](#) are a snapshot of mid-November lower zone contents as a percentage of the average contents on that date. The daily average values for each elevational sub-area within the river basin are derived from the calibration process (spanning water years 1981-2020) during which the hydrologic model parameters are adjusted so that the historical model simulated streamflow matches the historical observed streamflow as closely as possible.

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Calibration

These maps span water years 1981-2015 and show November 15 model soil moisture from each year of the calibration period in areas that are significant contributors to the spring runoff volume (generally the higher elevations).

Model

These maps start in water year 2016 and show CBRFC operational hydrologic model soil moisture conditions in areas that are significant contributors to the spring runoff volume.