

# Truckee River Basin Study

WASHINGTON - The Bureau of Reclamation has released its study of the Truckee Basin in California and Nevada, projecting that climate change may impact water supplies in the 21<sup>st</sup> century. Now available [online](#), this study provides water managers with information to better understand the basin's water supply and demand from now until 2099, and also identifies potential options to help them meet future demands.

"The Truckee Basin is an important source of water for eastern California and western Nevada and includes the iconic Lake Tahoe," Reclamation Commissioner Estevan López said. "Reclamation and its partners now have the necessary information to develop options to ensure a sustainable water supply into the future."

Reclamation developed the study in partnership with the Truckee Meadows Water Authority, Tahoe Regional Planning Agency, Truckee River Flood Management Authority and Placer County Water Agency.

The Truckee Basin headwaters begin around Lake Tahoe. The basin includes the Truckee and Carson rivers and Pyramid Lake and encompasses the cities of Carson City, Reno and Sparks, as well as Reclamation's Newlands Project, all in Nevada.

According to the basin study, the Truckee Basin is heavily dependent on the Sierra Nevada's snowpack and available supply is dependent on the availability to capture, store and manage water. Precipitation within the basin can vary greatly from the high elevations in the Sierra Nevada to the desert regions around Pyramid Lake. Year-to-year precipitation can also vary greatly, with several years of below-average precipitation being common.

The mean average annual temperature in the basin is anticipated to increase by up to five degrees Fahrenheit by the end of the twenty-first century, while annual precipitation within the basin may decrease slightly. The increase in temperature will change the timing and intensity of runoff, with more precipitation falling as rain instead of snow. Runoff will begin earlier, thus impacting the amount of water that can be stored in Truckee reservoirs because of current flood management requirements.

Also, limited storage within the basin will impact water supplies. For example, because of the earlier runoff, the ability to meet full storage after April will be reduced. Due to warming, basin reservoirs are also projected to have higher rates of evaporation, and will be less resilient during future droughts. Lake Tahoe's surface is projected to drop below its natural rim more frequently, causing flows into the Truckee River at Tahoe Dam to cease; making Truckee supplies dependent on smaller reservoirs with limited capacity.

The study also found that the frequency and magnitude of flood events may increase within the basin. The likelihood of the basin experiencing more floods like the one in 1997 that heavily impacted downtown Reno and Sparks, as well as floods of lesser intensity, will increase 10 to 20 percent by 2050 and 30 to 50 percent by 2099.

Finally, the basin study identified structural and non-structural options to balance water supply benefits with flood risks, including working with the U.S. Army Corps of Engineers to allow flexibility in managing reservoir flood space, among other options.

The Truckee Basin Study is a part of WaterSMART. The report is available online at [www.usbr.gov/watersmart/bsp](http://www.usbr.gov/watersmart/bsp).