March 21, 2022

The California Hydrology Update is a regular summary of current weather conditions in the State of California and serves as a supplement to the data on the California Water Watch website. It is produced by the California State Climatologist, Mike Anderson, and the hydrology and forecasting team at the California Department of Water Resources. For the latest on drought conditions, visit drought.ca.gov. For tips and resources for conserving water, please visit saveourwater.com.

Precipitation

To date statewide for the current water year (October 1, 2021 to September 30, 2022), precipitation is 73 percent of average, down significantly from the end of December when it was near 150 percent of average. Dry conditions have been record-setting to start the year, with January and February 2022 recording less than half of the precipitation accumulated in 2013, which had been the driest in the observed record. While some precipitation has fallen in March, it is significantly less than average.

Temperature

The statewide mean temperature is slightly above average for this time of year at 106 percent of average. The lack of clouds and precipitation coupled with longer days and a higher sun angle have pushed conditions above normal. Historically La Nina years, which is what we are experiencing this year, are cooler than average. But recent La Nina years, including 2008, 2009, 2018, and 2021 have had warmer than average outcomes. With the warmest months still ahead, Water Year 2022 will likely join the list. This is consistent with the warming trends we have seen the past decade due to California's changing climate.

Reservoirs

Statewide reservoir storage has increased at a slower pace than normal so far this year due to the lack of storms and associated runoff. In mid-March, the statewide storage is at 70 percent of average for this time of year. It is also a decrease from statewide reservoir storage estimated at the end of December, which was 78 percent of average at the time. This is largely attributed to the lack of storms and runoff normally seen this time of year.

Snowpack

Following a dry January, February, and first-half of March, the statewide snowpack is 53 percent of a seasonal snowpack. The peak of the snowpack appears to have happened on March 8 with about 57 percent of a seasonal snowpack and an estimate from the automated sensors of 16.1 inches of snow water equivalent or SWE. Since March 8, the snowpack started to melt with 0.8 inches of snow water equivalent (SWE) lost in the following 10 days.

Streamflow and Groundwater

Streamflow and groundwater are also both below average across much of the state. March has been drier than average limiting the opportunities to offset drought conditions for this water year. In an average year, April is the month when snowpack begins to melt, and precipitation tapers off. On average 90 percent of the annual precipitation falls between October and April. After that point, the dry season begins, snowmelt peaks and the heat of summer sets in.