The April issue of the La Niña Drought Tracker will be the last this year because April–June is the driest time of year in the Southwest and La Niña’s influence on precipitation is therefore marginal. CLIMAS will begin publishing the Monsoon Tracker to help the region stay abreast of the latest science, impacts, and evolution of the monsoon. The first issue likely will be published in June.

The La Niña event contributed to dry conditions in many parts of the Southwest again this past month. In March, rain and snow measured less than 50 percent in most of the Southwest, and less than 5 percent in most of New Mexico. The six-month totals are also meager, measuring less than 50 percent of average in most of both states (Figure 1). Precipitation deficits are about 2 inches below average in most of both states and between 4 and 12 inches in southeastern Arizona and southwestern New Mexico, where drought conditions are most extreme. The scant rain and snow during March caused drought conditions to expand, particularly in the southern regions where drought is classified as extreme (Figure 2). The dry winter has caused extreme drought conditions in Arizona and New Mexico to be more widespread in the region than at any time since late November 2007 and mid-June 2008, respectively. As a result, streamflow projections are less than 50 percent of average for many rivers, including the Salt, Gila, and Verde (Supplemental Figure 1). The La Niña event has waned in strength and may peter out later this summer, but drought relief likely will not come until the monsoon begins because the next three months are a dry part of the year for many areas in the Southwest (Supplemental Figure 2). Only the northwest corner of Arizona has received above-average precipitation, which reflects the Pacific storms tracks this winter. The upshot of this pattern is that parts of the Rocky Mountains, where about 80 percent of Colorado River water originates, currently have above-average snow water equivalent in the snowpack (Supplemental Figure 3), which bodes well for spring streamflow.
The La Niña event is waning in strength and projections suggest by mid-summer ENSO-neutral conditions will return (Supplemental Figure 9); some ENSO indices suggest that the La Niña event could regain strength and return next winter.

Most of New Mexico and southeastern Arizona are the areas hardest hit by drought conditions in the Southwest; impacts reported for Arizona include low and no flows in perennial streams, poor range conditions, and lack of water in livestock tanks.

March temperatures have been above average and have led to near complete melt of many mountain snowpacks (Supplemental Figure 10 and Snowpack Figures).

While La Niña events tend not to influence April–June temperatures, recent warming trends portend a warmer-than-average spring (Supplemental Figure 11).

Streamflows in river basins in Arizona and New Mexico are below average, including the Rio Grande where spring flows are likely to be about 63 percent of average.

Drought conditions in nearly all of the Southwest have worsened in the last six months; some parts have deteriorated from no drought to extreme drought (Supplemental Figure 12).

Drought conditions are expected to develop and persist or intensify in nearly all of Arizona and New Mexico (Supplemental Figure 13).

Snow water equivalent (SWE) has almost entirely melted in most areas in New Mexico and eastern Arizona (left); SWE rapidly declined during the second half of March, when temperatures were above average.

Most Snow Telemetry (SNO-TEL) stations in Arizona and New Mexico have reported much sooner melt-out than average (Supplemental Figures 4–7).

The March 15 forecast for Arizona suggests a 50 percent chance that inflow to Lake Powell will be about 116 percent of the 1971–2000 average during April–July, or 9.2 million acre-feet; streamflow for the Rio Grande has a 50 percent chance of being above or below 63 percent of average at Otowi Bridge.

Temperature outlooks call for increased chances for above-average temperatures during the April–June period.

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