

WEATHER: Cascades have a solid snowpack this year

Continued from page 1

by many residents of the Pacific Northwest, who had just endured two extremely dry winters in a row. Another would certainly worsen drought conditions and might impose hardships for many whose livelihoods depend on mountain snow and available water.

El Niño is the warm phase of the El Niño Southern Oscillation (ENSO) and occurs when warm ocean water in the tropics migrates eastward, pooling in the eastern Pacific. Once in place, it disrupts normal weather patterns across the globe for months at a time. Here in the U.S. winters tend to be warmer in the Midwest and New England, cooler and wetter across the southern tier of states from Southern California to the East Coast, and warmer and drier in the Pacific Northwest.

An El Niño's existence and strength is gauged by applying various types of indices. Two of the more commonly used are the Oceanic Niño Index (ONI) and the Multivariate ENSO

Index (MEI). The ONI tracks ocean temperature anomalies (departures from normal), while the MEI integrates water temperature with four types of atmospheric conditions. For both indices, the higher the numerical value, the stronger an El Niño is rated.

The climate experts were right — sort of.

A mega-El Niño did develop late last fall, and still lingers into early spring. It easily joins the 1982-83 and 1997-98 events as the top three El Niños since 1950. According to the ONI, this season's El Niño and that of 1997-98 are tied as the two strongest events on record. The MEI puts the current El Niño in third place behind 1997-98 and 1982-83.

What's a bit hard to explain, however, is how uneven the weather turned out to be in various parts of the country. The Midwest and East Coast generally had warmer than normal temperatures, while the Southeast experienced cooler and wetter conditions, typical of an El Niño.

But on the West Coast, normal El Niño weather was hard to come by. Southern California was put on alert to expect torrents of rain that might end its drought

but also trigger mudslides in the process. Computer models kept forecasting a series of moist storms to move through the area but it never happened. It's true that fewer and weaker storms have provided northern and central California with near-normal precipitation, but Southern California only received about half its average rainfall for the winter.

Here in the Pacific Northwest our "Jekyll-and-Hyde" winter was also unexpected, much to the relief of many of its residents.

Preliminary data for Sisters obtained from the Sisters Ranger District Office shows that winter-like weather began in late October with low-elevation rain and mountain snow that just kept coming through November and December. There were also a few episodes of low-elevation snow during this period.

November was colder than normal and precipitation in December was 4.5 inches above normal. The Cascade snowpack in Central Oregon was measured at 147 percent of normal on December 28. It was as if El Niño had forgotten all about us.

By January, there were signs the weather was starting to settle down, despite

being slightly colder than normal with average precipitation totals. Then BANG, in February it all changed around. Winter was put on pause as El Niño was finally on to us. Maximum daily temperatures were almost 6 degrees Fahrenheit above normal and precipitation totaled just 0.5 inches. And that precious mountain snow was starting to melt away. On February 26 the snowpack registered just 106 percent of normal.

A few more storms rolled through our region in March, bringing above-normal precipitation and average temperatures, allowing the mountains to add a bit more snow to the now-normal snowpack.

The Climate Prediction Center (CPC) is calling for above-normal temperatures with near-average precipitation levels in our area for the upcoming three-month period April through June.

Though still strong, the inconsistent El Niño of 2015-16 is beginning to fade. By late spring or early summer the ENSO signal is expected to become neutral, and, according to the CPC, there's a 50 percent chance that a La Niña (ENSO's cool phase) will develop by next fall.

OSU to raise tuition, fees in Bend by four percent

BEND (AP) — Oregon State University is raising tuition and fees at its Cascades campus in order to make the cost closer to the rate at the main campus in Corvallis.

The Bulletin reports that tuition at OSU-Cascades for resident undergraduates will increase this fall to \$2,800 per term, or \$8,400 for the 2016-17 academic year, compared to \$2,710 per term this year. Tuition at the Corvallis campus for the same student will increase to \$2,905 per term in tuition, up from \$2,845 this year, or \$8,715 per year.

OSU officials say combined tuition and fees for Cascades resident undergraduates will rise nearly four percent.

OSU spokesman Steve Clark says the tuition at the Bend campus is increasing as Cascades transitions to a four-year campus.

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