



### SD\_county precip for all years, data through 2016/01/08

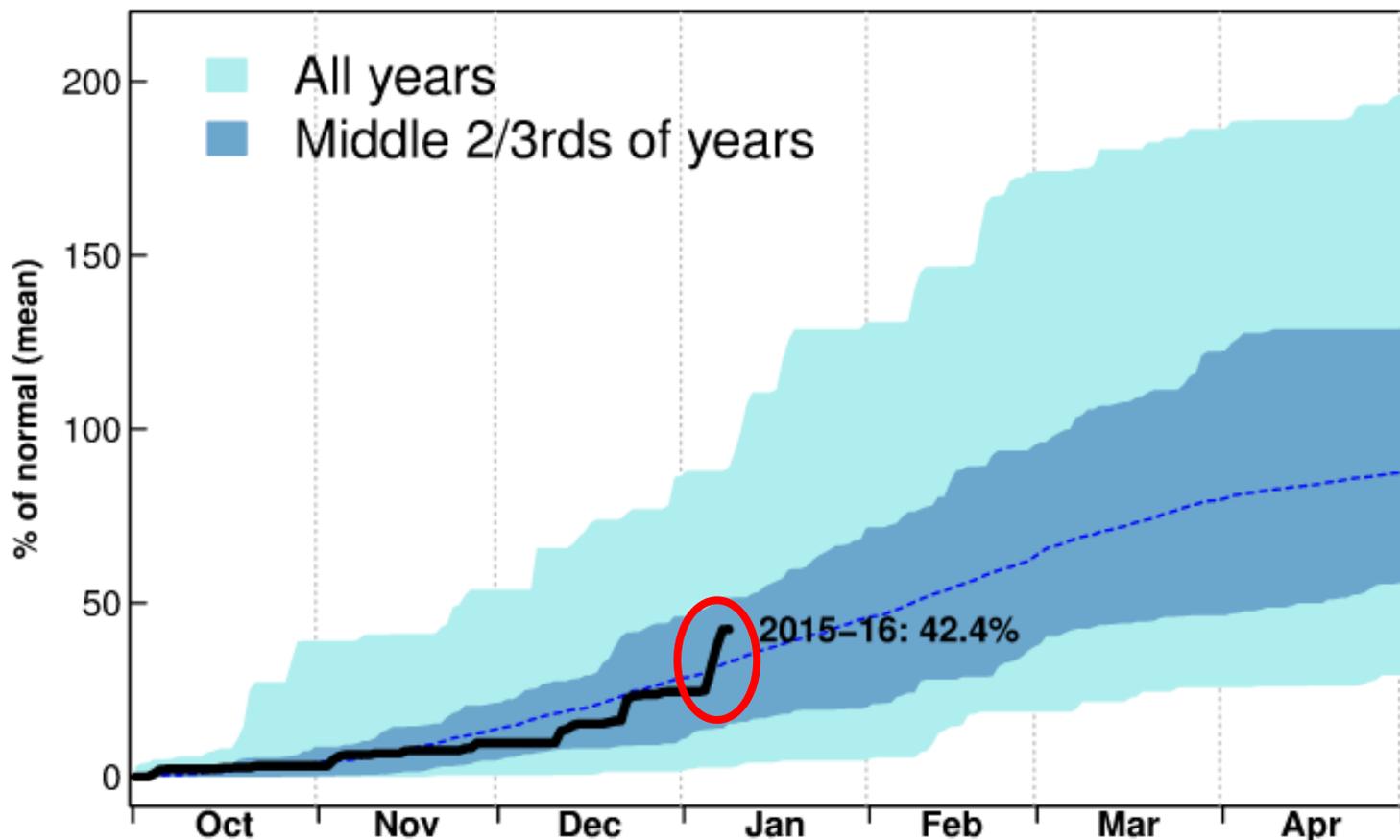


Figure 1. Current precipitation to date (bold, solid line) averaged across San Diego County and expressed as a percentage of normal to date for this date in the water year. [Each “Water Year” starts on 1 October and ends the following 30 September.] The mean across many years is shown (blue, dashed line), as is the range of all values (light blue shading) and of the middle 2/3 of all years (dark blue shading).

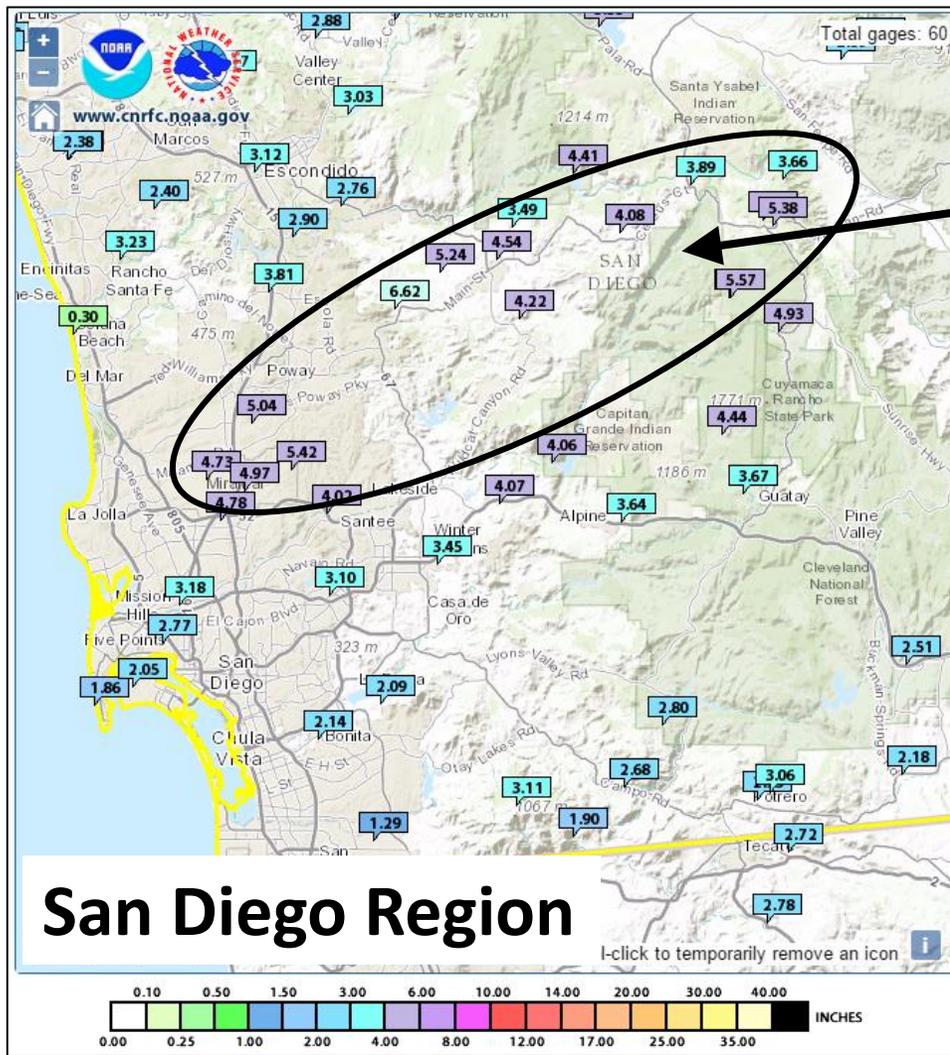
The storms, associated with a strong El Niño condition and organized into an atmospheric river, brought San Diego County to well above normal for this time of year (the solid black line is above the dashed blue line).

This is tracked at the California-Nevada Applications Program (CNAP) and the Center for Western Weather and Water Extremes (CW3E), both at UCSD’s Scripps Institution of Oceanography, in partnership with KQED.

This precipitation tracking tool is available At <http://cirrus.ucsd.edu/~pierce/sdprecip/>

Additional information on storms is available at [cw3e.ucsd.edu](http://cw3e.ucsd.edu) (including a summary of the 5 January atmospheric river storm)

Points of contact: D. Pierce/D. Cayan/M.Ralph, at UCSD/Scripps Institution of Oceanography



Several locations received over 5 inches of rain in 3 days

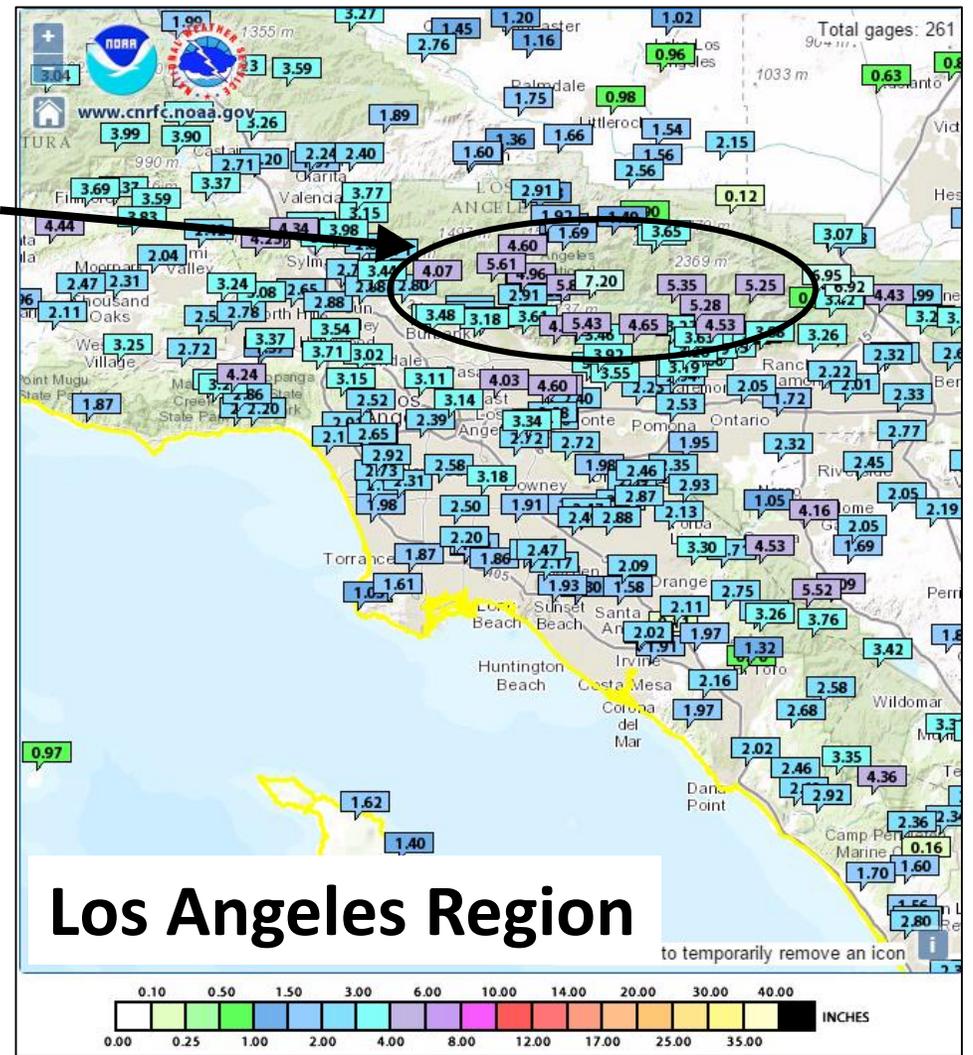


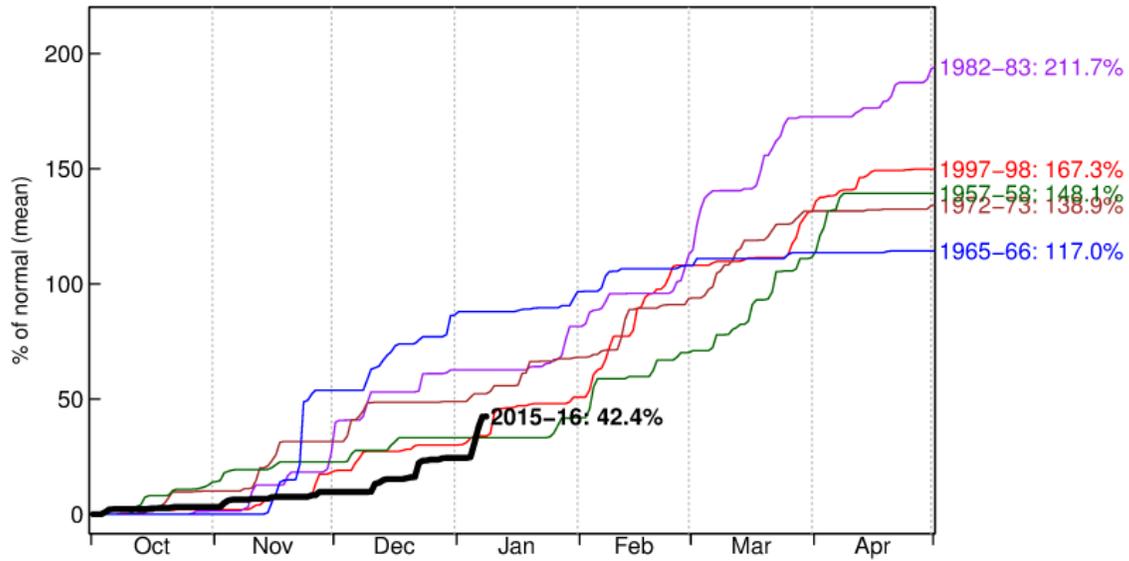
Figure 2. 72-hour accumulated precipitation totals (inches) in the greater San Diego region for the 3 days ending on 7 January 2016. Data and figure are from the California Nevada River Forecast Center (CNRFC) web site ([www.cnrfc.noaa.gov](http://www.cnrfc.noaa.gov)).

Figure 3. Same as Fig. 2, but for the greater Los Angeles region.

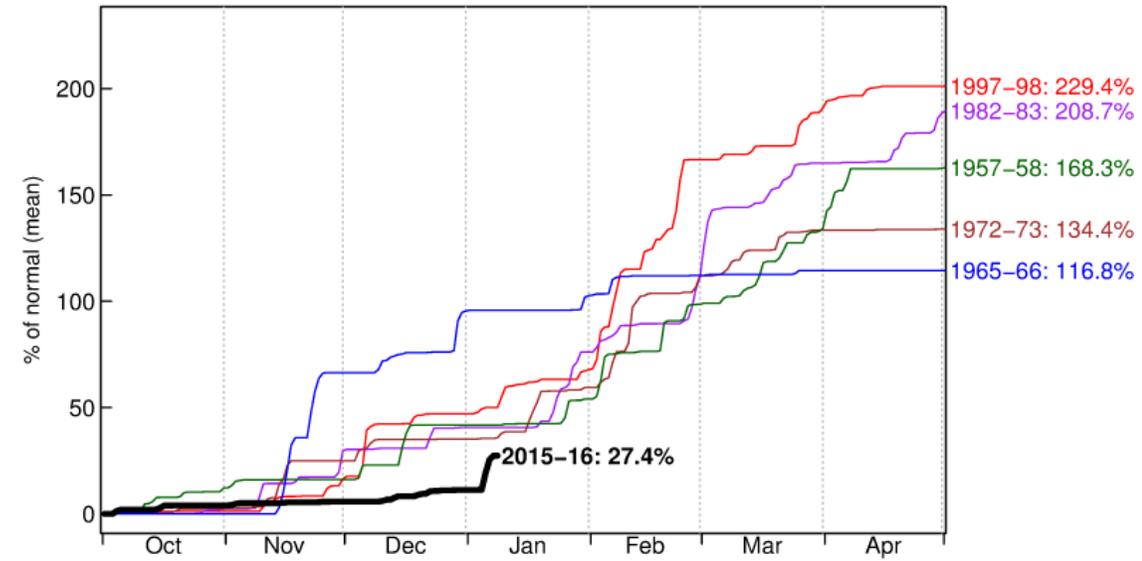
- El Niño-fueled storms over the last few days, including a land-falling atmospheric river on 5 January have made an impressive contribution in Southern California's winter precipitation totals, including locations receiving 5-7 inches of precipitation in 3 days (See Figures 2 and 3).
- In the last three days, San Diego county has received almost 17% of the amount of precipitation it receives in an entire year, on average. That brings the county's accumulated precipitation so far this winter to 42% of the total received over an entire average year. This is an above-average value for the first time since the winter started; typically, by this point in the winter, San Diego will have accumulated 32% of the average year-end total precipitation. (See Figure 1.)
- The Los Angeles basin has been affected even more strongly. Before the recent storms hit, the accumulated precipitation since the winter started was only 11% of the typical end-of-winter total, far below the average value of 29%. In three days the accumulation has jumped to 27%. This rapid increase is more than has been experienced in 95 out of 100 past wet periods of 3-day duration in the region, leading to strong flows in the normally quiescent Los Angeles river and localized flooding in Southern California coastal areas. (See Figure 4.)
- Precipitation during the week was widespread, with rain and snow delivered from Washington to Northern Mexico. California statewide totals also were boosted during the Jan 4-7 period (<http://cnap.ucsd.edu>), although amounts were not as heavy in Northern California as they were in Southern California.

- These accumulated precipitation totals can be tracked in real time from the California-Nevada Applications Project (CNAP) and Center for Western Weather and Water Extremes (CW3E)'s "San Diego Precipitation Page" ([cirrus.ucsd.edu/~pierce/sdprecip/](http://cirrus.ucsd.edu/~pierce/sdprecip/)). This includes monitoring of how current water year precipitation compares to that during the last 5 strongest El Niño winters (See Figure 4).
- Precipitation gauge records compiled by the California Nevada River Forecast Center ([www.cnrfc.noaa.gov](http://www.cnrfc.noaa.gov)) show accumulations of 3-5" over much of the Los Angeles basin in the past 72 hours, reaching 7" in some locations in the surrounding mountains (Figure 3). San Diego county accumulations are 1-3" over much of the city, and 4-5" in the North County interior (Figure 2).
- The current El Niño is one of the three strongest in records that go back to 1950, registering broad unusually warm surface waters and highly anomalous winds and other atmospheric conditions in the tropical Pacific. El Niño events can alter the North Pacific winter storm track and produce unusually wet winters in Southern California about 60% of the time, compared to about 11% of the time during years when no El Niño or its opposite, La Niña, is present. Forecasts indicate that El Niño conditions are likely to persist through the spring of 2016, before fading in the early summer of 2016.

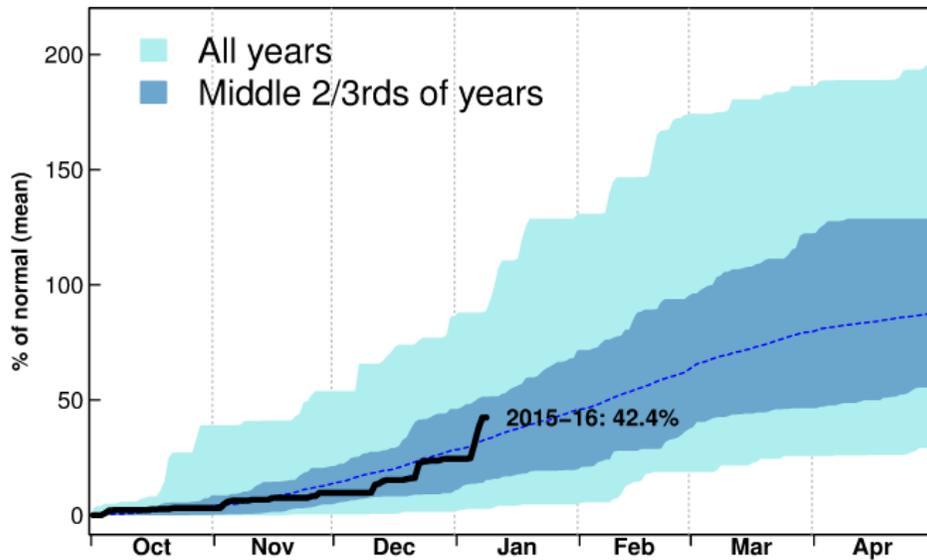
**SD\_county precip vs. 5 strongest EI Ninos, data through 2016/01/08**



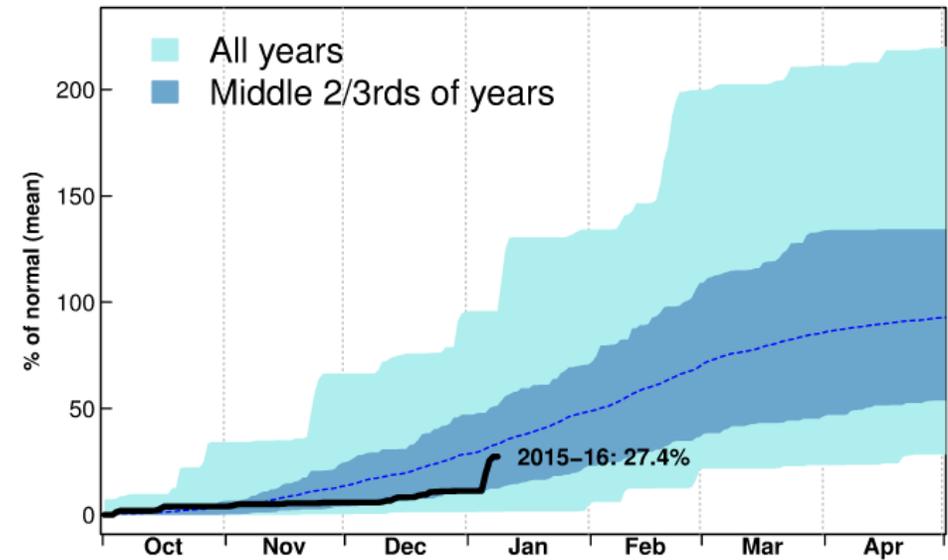
**LA\_basin precip vs. 5 strongest EI Ninos, data through 2016/01/08**



**SD\_county precip for all years, data through 2016/01/08**



**LA\_basin precip for all years, data through 2016/01/08**



*Figure 4. Comparison of current water year precipitation to date (solid black lines) to actual full year precipitation from the 5 past strongest El Niño winters (top panels) and from all winters (lower panels; see Fig. 1 caption for more detail on lower panel format). Left panels are for the San Diego County area. Right panels are for the Los Angeles region. <http://cnap.ucsd.edu>*