

Summary of El Nino

- **El Nino** conditions are the unusual warming of the Sea Surface Temperatures in the Pacific Ocean along the equator (occurs every 3 to 7 years) after trade winds are weakened
- An **El Nino episode** can take the normal Jet Stream from Oregon and bring it south across Southern California for much of the winter and spring months
- **El Nino** can result in a pattern that brings a series of stormy periods in the winter and spring months, but not a particular storm
- Strong (**1.7 °C running mean**) **El Nino** is present and strengthening slowly through Fall
- **El Nino** at the *strong phase* correlates to above normal precipitation in southern California but not necessarily the whole state
- Currently it is the strongest **El Nino** on record (record **3.0 °C** in the center for weekly value)
- **Above normal precipitation and frequent storms** are expected for southern California with the best chance from December through March
- **Santa Ana winds** still occur in El Nino years (Santa Ana's peak in December)
- Moderate snow levels (not the tropical high snow events and not the arctic air mass)
- The "**blob**" warm waters can enhance rainfall rates (more unstable)
- **El Nino** can impact the jet stream to bring more frequent storms during the wet season but not necessarily stronger storms (not just the Pineapple Express or Atmospheric River)
- Some of the wettest months have been **El Nino** years but individual large precipitation events have occurred in non-El Nino and La Nina years (such as January 1993 and December 2010)
- **El Nino** does not guarantee above normal precipitation and there have been several dry or average years in California during El Nino
- **Drought** will continue since 4-year deficits are 1 to 2 seasons missed and the entire state will need much above normal precipitation and above normal snowpack

Impacts and Actions

- Flooding (river, urban, small stream) from repeated storms and saturated soils (not necessarily major storms) – locations may not have flooded for 5 to 25 years
- Beach and coastal erosion from repeated elevated surf and high wind
- Check fire departments for sand bags locations (bags may not come full of sand)
- Clean storm drains, rain gutters, remove debris that can cause back-ups, contact city public works for road and drainage changes, or areas with historical flood and high wind impacts
- If you live near a slope, downstream of known debris flows or a fire burn scar (excessive rain will saturate soil and could cause steeper slopes move earth)
- Check your home owners insurance to see if it covers FLOODS
- Are you in a Flood Plain? <http://gis.bam.water.ca.gov/bam/>
- Download the **FEMA flood plain** app by Atkins