

El Niño in California: Information & Preparedness Guide

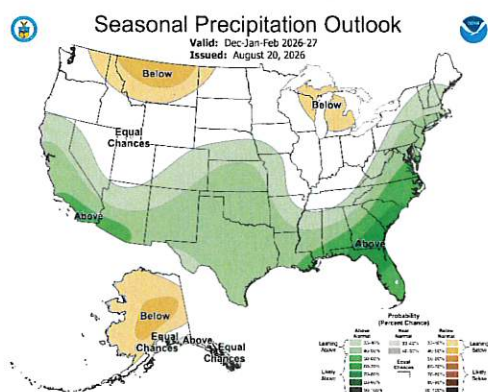
Early September 2026 Update

What is El Niño?

- El Niño refers to the warm phase of the El Niño-Southern Oscillation (ENSO) climate pattern, characterized by unusually warm ocean surface temperatures in the central and eastern tropical Pacific Ocean.
- El Niño is an oceanic phenomenon. It is not a storm or a series of storms.
- El Niño can significantly influence atmospheric steering currents and storm track, often altering typical seasonal precipitation, ocean temperatures, and coastal weather hazards in California.

What is the Forecast for 2026-2027?

- A strong El Niño is strengthening in the eastern tropical Pacific Ocean.
- There is a very high likelihood (greater than 90% chance) of a very strong El Niño event through the fall and winter.
- There is a high likelihood (75% chance) of a historic event that would exceed the strength of previous El Niño events dating back to 1950.
- Stronger El Niño events can more significantly tilt the odds in favor of expected outcomes but even very strong El Niño events do not lead to the expected impact everywhere.



What are the *Potential* Weather Hazards during El Niño? (These are not a guarantee!)

- **Enhanced Heavy Rainfall:** A warmer ocean increases the amount of available moisture in the atmosphere. This can shift global storm tracks and enhance precipitation in winter storms, leading to prolonged rain events, flash flooding, and urban drainage overflow.
- **Landslides and Debris Flows:** Heavy rainfall on saturated hillsides can increase the risk of mudslides and debris flows—especially in recent burn scars and steep topography across coastal ranges.
- **Coastal Erosion & Storm Surge:** Winter storms can bring large waves and storm surge to coastlines. In addition, higher ocean levels due to warmer than normal waters can lead to more severe coastal erosion and coastal flooding, especially during periods of high tides.
- **Snowpack Dynamics:** While warm ocean temperatures often bring warmer storm systems (raising rain-snow elevations), strong El Niño cycles can yield heavy Sierra Nevada snowpack at higher elevations, impacting spring melt runoff.

How Should You Prepare?

- Prepare for winter storms like you do every winter in California with heightened awareness.
- Clear storm drainage systems and complete maintenance on vulnerable infrastructure.
- Forecasts, details, and impacts from potential winter storms come into view in the one to two week forecast. Coordinate with your local NWS office for briefings or visit [weather.gov](https://www.weather.gov) for the latest forecasts, watches, and warnings!

NATIONAL WEATHER SERVICE - CALIFORNIA WEATHER FORECAST OFFICES

National Oceanic and Atmospheric Administration • U.S. Department of Commerce



What is El Niño & La Niña?

February 2026

What is El Niño & La Niña?

The El Niño – Southern Oscillation (ENSO) is a recurring climate pattern involving changes in the temperature of waters in the central and eastern tropical Pacific Ocean and the patterns of sea level pressure, lower- and upper-level winds, and tropical rainfall across the Pacific basin.

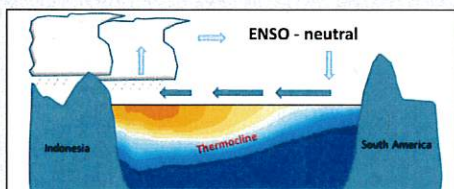
When Does This Occur?

On periods ranging from about two to seven years, the surface waters across a large swath of the tropical Pacific Ocean warm or cool by anywhere from 1°C to 3°C, compared to normal. This irregular oscillation between warm and cool patterns, referred to as the ENSO cycle,

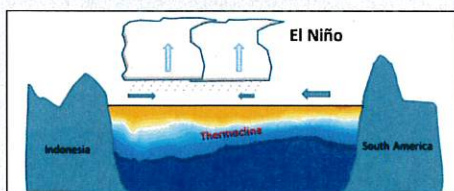
directly affects rainfall distribution in the tropics and can have a strong influence on weather across the United States and other parts of the world. El Niño and La Niña are the extreme phases of the ENSO cycle; between these two phases is a third phase called ENSO-neutral.

ENSO Phases

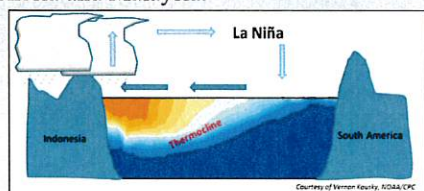
ENSO-neutral: Normally, strong trade winds blow from the east along the equator, pushing warm water into the western Pacific Ocean.



El Niño conditions occur when abnormally warm waters accumulate in tropical latitudes of the central and eastern Pacific Ocean associated with a weakening of the low-level easterly winds. Consequently, tropical rains that usually fall over Indonesia shift eastward.



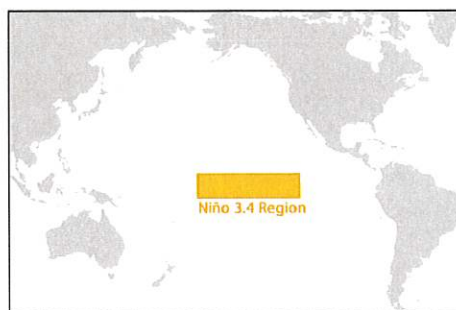
La Niña conditions occur when cooler-than-average waters accumulate in the central and eastern tropical Pacific, associated with a strengthening of the low-level easterly winds over the central tropical Pacific. Heavy rainfall occurs over Indonesia and Malaysia.



The Thermocline is a layer of water in which there is an abrupt change in temperature separating the warmer surface water from the colder deep water.

How do we tell what phase ENSO is in?

NOAA's Climate Prediction Center uses the average monthly sea surface temperature for a particular swath [5° N-5°S, 170°W-120°W] of the tropical Pacific Ocean to monitor ENSO. Scientists refer to that swath as the Niño 3.4 region. The average sea surface temperature is compared to

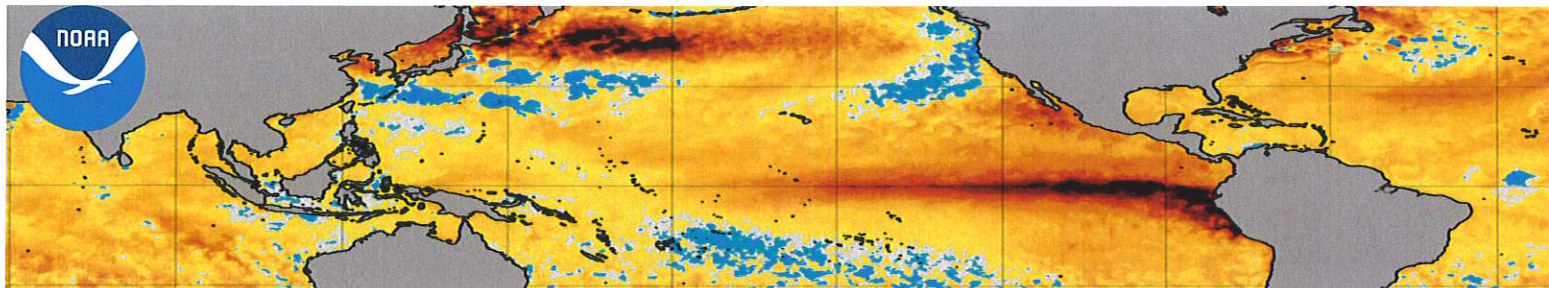


to the base climate period of 1991-2020. This value is then compared to the same for the global tropics (20° N-20°S), giving a relative value.

ENSO INDEX:

This relative sea surface temperature anomaly in the Niño 3.4 region is calculated for each month, and then scaled to match the variance of the monthly Niño 3.4 anomaly without the tropical average anomaly removed. These scaled monthly values are then averaged with the preceding and following months. This running three-month average value is known as the **Relative Oceanic Niño Index or RONI**.

- **El Niño** is characterized by a positive RONI greater than or equal to +0.5°C.
- **La Niña** is characterized by a negative RONI less than or equal to -0.5°C.
- Whenever the RONI is between +0.5 and -0.5, conditions are referred to as ENSO-neutral.



El Niño en California: Guía de Información y Preparación

Actualización de Principios de Septiembre 2026

¿Qué es El Niño?

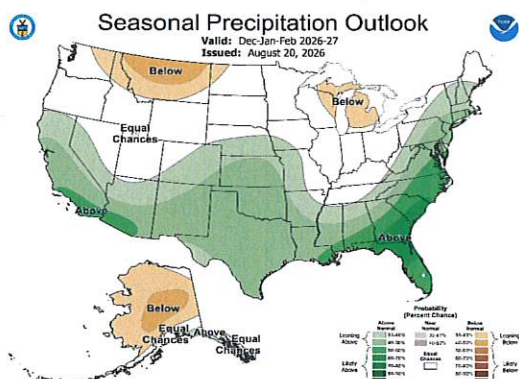
- El Niño se refiere a la fase cálida del patrón climático de El Niño-Oscilación del Sur (ENSO por sus siglas en inglés), caracterizado por temperaturas inusualmente cálidas en la superficie del océano Pacífico tropical central y oriental.
- El Niño es un fenómeno oceánico. No es una tormenta ni una serie de tormentas.
- El Niño puede influir significativamente en las corrientes atmosféricas y la trayectoria de las tormentas, lo que a menudo altera las precipitaciones típicas de temporada, las temperaturas del océano y los riesgos meteorológicos costeros en California.

¿Cuál es el Pronóstico para 2026-2027?

- Ya se ha desarrollado un evento fuerte de El Niño en el océano Pacífico tropical oriental.
- Existe una probabilidad muy alta (90%) de un evento de El Niño muy fuerte durante el otoño y el invierno.
- Existe una probabilidad alta (75%) de un evento histórico que superaría la intensidad de los eventos de El Niño anteriores registrados desde 1950.
- Los eventos de El Niño más fuertes aumentan significativamente las probabilidades a favor de los resultados esperados, pero incluso estos no generan los impactos previstos en todas partes.

¿Cuáles son los Posibles Riesgos del Tiempo durante El Niño? (¡No están garantizados!)

- **Lluvias Más Intensas:** Un océano más cálido aumenta la humedad en la atmósfera. Esto puede cambiar las trayectorias de las tormentas e intensificar las tormentas invernales, causando eventos de lluvias prolongadas, inundaciones repentinas y desbordamiento de los drenajes urbanos.
- **Deslizamientos de Tierra y Flujos de Escombros:** Lluvias intensas en cerros saturados pueden aumentar el riesgo de derrumbes y deslaves, especialmente en áreas recientemente quemadas y terrenos empinados en las montañas costeras.
- **Erosión Costera y Marejada Ciclónica:** Las tormentas invernales pueden generar grandes olas y marejadas en las costas. Además, el alto nivel del océano debido a aguas inusualmente más cálidas puede empeorar la erosión y las inundaciones costeras, especialmente durante la marea alta.
- **Dinámica en la Capa de Nieve:** Aunque las temperaturas cálidas del océano suelen traer tormentas más cálidas (elevando el nivel de la nieve), los ciclos de El Niño fuerte pueden dejar una gran acumulación de nieve en las zonas más altas de la Sierra Nevada, afectando las escorrentías durante el deshielo de primavera.



¿Cómo Prepárese?

- Prepárese para las tormentas de invierno como lo hace cada año en California, pero con mayor precaución.
- Limpie los sistemas de drenajes y realice el mantenimiento necesario de áreas vulnerables.
- Los pronósticos, detalles e impactos de posibles tormentas de invierno se pueden prever con una a dos semanas de anticipación. ¡Comuníquese con su oficina local del SNM o visite [weather.gov](https://www.weather.gov) para obtener los pronósticos, vigilancias y alertas más recientes!

SERVICIO NACIONAL DE METEOROLOGÍA - OFICINAS DE CALIFORNIA

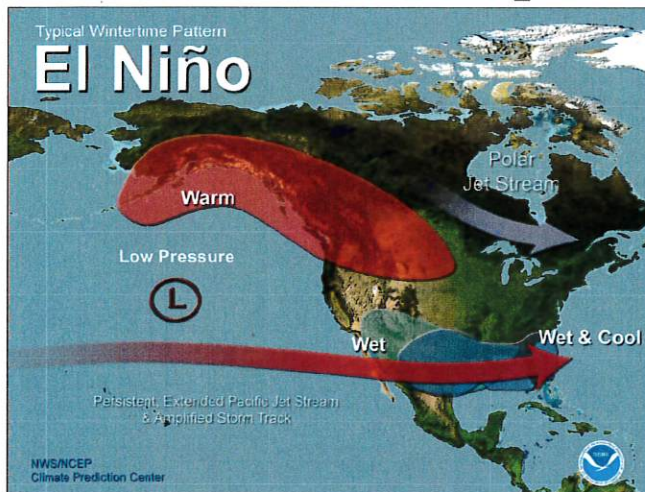
Administración Nacional Oceánica y Atmosférica • Departamento de Comercio de los EE. UU.

ENSO Impacts

Although the strongest signal of ENSO impacts is in the areas closest to the equatorial Pacific, El Niño and La Niña can shift seasonal temperature and precipitation patterns around the globe. These shifts, known as teleconnections, when different parts of the tropical ocean warm and cool and the pressure gradients shift, the atmospheric wind patterns also shift to alter precipitation patterns. Because each El Niño and La Niña event has unique characteristics of timing, intensity, and specific pattern changes, such shifts are never exactly the same during every El Niño and La Niña event. In addition, the atmospheric effects due to changes in sea-surface temperatures are responsible for only part of the regional climate observed; chaotic fluctuations within the atmosphere and sea surface temperatures in other areas of the globe also influence the weather and climate we experience. Because of this, anticipated ENSO impacts in seasonal forecasts are treated probabilistically and not with absolute certainty.

Source: <https://iri.columbia.edu/our-expertise/climate/enso/why-do-we-care-about-el-nino-and-la-nina/>

Wintertime Impacts Over North America



El Niño episodes feature an equatorward-shifted, stronger-than-normal jet stream and wetter-than-average conditions across the southern part of the United States, and less storminess and milder-than-average conditions across the North.



La Niña episodes feature a wave-like jet stream flow over the United States and Canada, with colder and stormier than average conditions across the North, and warmer and less stormy conditions across the South.

Real-Time ENSO Monitoring and Prediction

CPC monitors and predicts ENSO through the issuance of the monthly El Niño - Southern Oscillation (ENSO) Diagnostic Discussion, which is released on the second Thursday of each month. This is where the latest ENSO Alert System status is found, in addition to probabilistic ENSO outlooks. A probabilistic ENSO strength outlook provides additional information, as the strength of ENSO is related to likelihood of realizing impacts.

ENSO Alert System Condition Descriptions:

- ENSO watch: Conditions are favorable for the development of El Niño or La Niña conditions within the next six months
- ENSO Advisory: El Niño or La Niña conditions are already observed and expected to continue
- ENSO Final Advisory: El Niño or La Niña conditions have ended.

- El Niño/Southern Oscillation (ENSO) Diagnostic Discussion
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/index.shtml
- ENSO Blog @ Climate.gov
<https://www.climate.gov/news-features/department/enso-blog>



El Niño

Wet Weather Preparedness

WE'RE READY... ARE YOU?



Call us at 1-800-773-2489 💧 Social Media @lacitysan 💧 #WetWeatherPrepLA 💧 #LARain

What can residents and businesses do to prepare?

- Check your catch basins to make sure they are clear of debris. Call us at 311 or 1-800-773-2489 for assistance with debris removal.
- Ensure your building drainage is clear of debris, including rain gutters.
- Secure any loose palm fronds, tarps, loose items that may be carried away by rain or be blown away.
- Cover steep slopes on your property that are not vegetated, which may become unstable when saturated by rain.
- Use sand bags to protect properties in low lying areas. Contact your neighborhood fire station for sandbags.
- Have alternate evacuation routes out of your neighborhood.
- If you have sprinklers, turn them off before, during and after rain.
- Install rain barrels to capture rain. LADWP provides rebates for up to 4 rain barrels per property.
- Please reduce water consumption during rain to reduce flows in our sewers.
- Create an emergency kit including the following items:
 - Food and water to last three days to a week. (extra for pets)
 - First aid kit & medications (over-the-counter and prescription)
 - Radio (with extra batteries)
 - Cash and important documents
 - Blankets, clothing and sturdy shoes
 - Tools (wrench, duct tape, fire extinguisher, sturdy gloves, whistle)
 - Sanitation and hygiene supplies



Customer Care Hotline
24 hours a day
1-800-773-2489

What residents should do during the rain?

- Monitor radio and TV news closely for information about weather conditions, flooding in your area and safety precautions being advised.
- Be aware of notifications of suspended trash service in your area. Don't leave trash containers out during those conditions as they may tip over and clog storm drains & catch basins.
- Be prepared to leave immediately if an evacuation is ordered.
- Stay away from flood channels & flowing rivers. You could be knocked off your feet in as little as 6 inches of water.
- Don't try to cross flooded areas and never enter moving water. Turn around - don't drown.
- If your home has been flooded, protect your family's health by cleaning up right away. Throw away food and medications that may have been contaminated.
- Stay away from steep slopes that may become unstable when saturated by rain.
- Never touch a downed power line, which can cause serious injury or death. Call 9-1-1 to report it.
- Look out for tilted trees, telephone poles, fences or walls, and for new holes or bare spots on hillsides.
- If trapped in your vehicle, stay with it. If possible, relocate to the hood if water continues to rise.
- Be alert when driving. Roads may become blocked or closed due to hazards.
- Report small problems as soon as they occur, before they turn into bigger problems.



Is Your Home El Niño Ready?

- Check your roof for leaks
- Clear debris from gutters and downspouts
- Repaint the wood trim on your home
- Check windows and window glazing for leaks
- Consider purchasing a rain barrel to catch water
- Make your house pest-proof
- Consider backup power options



Is Your Property El Niño Ready?

- Clear culverts
- Check your property for proper drainage
- Have shovels, sandbags and plastic sheeting on hand
- Install straw-waddle or sandbags to divert water in advance
- Trim trees or call an arborist
- Secure outdoor objects that might blow away and cause damage



Is Your Vehicle El Niño Ready?

- Check your tires for wear - purchase new ones if needed
- Buy new windshield wipers if needed
- Check your vehicle's headlights and turn signals
- Inspect your vehicle's brakes; make sure they are in good, working order
- Fill your tank or charge your vehicle ahead of storms as power outages may occur

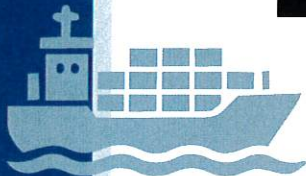
Preparedness is a Real Vibe!

When an accident occurs or the environment makes a location unsafe, you may have to act quickly. Being able to grab an emergency kit and having a plan are key elements. No matter if you are faced with an earthquake, a fire, or strong effects from an El Niño event, EMD encourages all Angelenos to prepare.

QUICK TIPS FOR

EL NIÑO

PREPAREDNESS



OVERALL MARITIME SAFETY TIPS

- Review emergency plans, equipment, supplies, and power systems
- Monitor local advisories (local, county, USCG, etc.)
- Clear drainage systems to prevent flooding

MARINA SAFETY TIPS

- Secure and inspect docks, pilings, loose shore power equipment and vessels
- Verify bilge pump and battery readiness
- Evacuation policies and procedures



TERMINAL SAFETY TIPS

- Inspect and secure cargo, drainage systems, vessels, cranes, etc.
- Confirm emergency contacts and after-hours notification procedures
- Procedure for interrupted truck and rail operations for unsafe conditions

FINAL 24 - HOUR STORM CHECKLIST

Secure → Inspect → Drain → Protect → Communicate →
Monitor → Shut down when necessary → Report damage



ALERT NOTIFICATIONS AND MORE INFORMATION

- ALERT.LACOUNTY.GOV
- NOTIFY.LA
- <https://portoflosangeles.org/community/weather-preparedness>

