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# El Nino & La Nina

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## ABSTRACT

El Nino is an extensive warming of the upper ocean in the tropical Pacific lasting three or more seasons. The Southern Oscillation is a widespread inter-annual oscillation in sea-level atmospheric pressure between one region near northern Australia and one in the central Pacific.

La Nina is sometimes referred to as the cold phase of ENSO and El Nino as the warm phase of ENSO. These deviations from normal surface temperatures can have large-scale impacts not only on ocean processes, but also on global weather and climate. An ENSO event takes place every 3 to 7 years, and may last for up to 18 months. The impact can be worldwide.

## INTRODUCTION

• El Nino and La Nina are opposite phases of what is known as the El Nino-southern Oscillation (ENSO) cycle.

• The ENSO cycle is a scientific term that describes the fluctuations in temperature between the ocean and atmosphere in the east-central equatorial Pacific (approximately between the international date line and 120 degrees west).

• La Nina is sometimes referred to as the cold phase of ENSO and El Nino as the warm phase of ENSO. These deviations from normal surface temperatures can have large-scale impacts not only on ocean processes, but also on global.

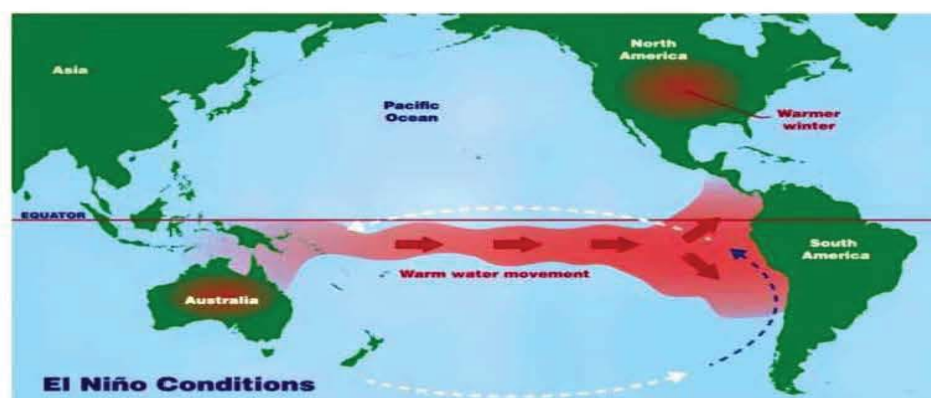
## What is El Nino?

- El Nino means the Little Boy, or Christ Child in Spanish.
- El Nino was originally recognized by fishermen off the coast of South America in the 1600s, with the appearance of unusually warm water in the Pacific Ocean.
- The term El Nino refers to the large-scale ocean-atmosphere climate interaction linked to a periodic warming in sea surface temperatures across the central and east-central Equatorial Pacific.

• Typical El Nino effects are likely to develop over North America during the upcoming winter season.

### • The First Signs of an EL Nino:

- Rise in air pressure in the Indian Ocean, Indonesia and Australia.
- A fall in air pressure over Tahiti and the rest of central and eastern Pacific Ocean.
- The trade winds in the South Pacific weakened or headed east.
- Warm air rises in Peru.
- Warm water spreads from the West Pacific and the Indian Ocean to the East Pacific. It takes rain with it, causing rainfall in normally dry areas and drought in normally wet areas.



## The Effect of El Nino

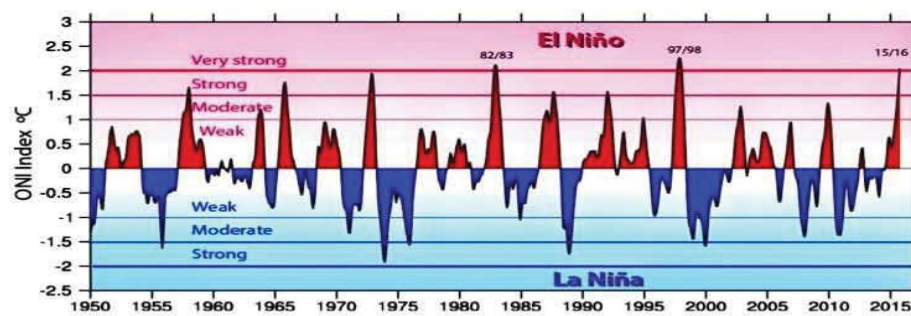
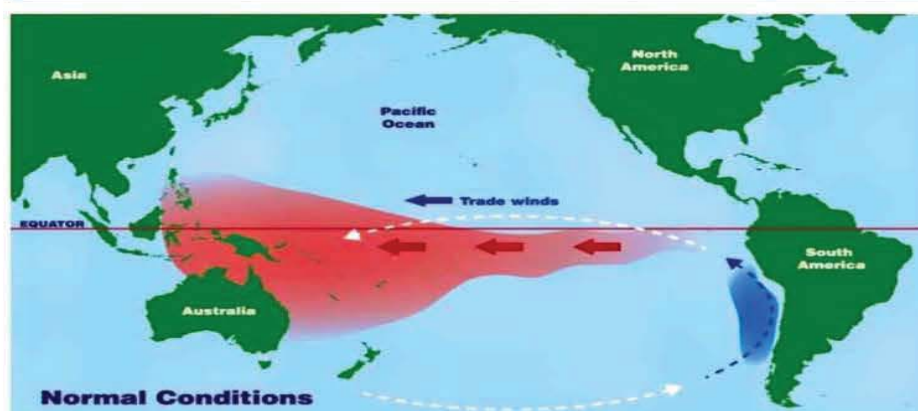
- Wet winters over south-eastern United States.
- Drought in Indonesia and Australian, and other places that are typically wet.
- Flood in South America in areas that are typically dry.
- wildfires and mudslides.

## What is La Nina ?

- La Nina means the Little Girl in Spanish.
- La Nina episodes represent periods of below-average sea surface temperatures across the east-central Equatorial Pacific.
- During a La Nina year, winter temperatures are warmer than normal in the Southeast and cooler than normal in the Northwest.
- **The First Signs of a La Nina:**
  - The first signs of an emerging La Nina event are often observed in the ocean. The Bureau of Meteorology monitors and reports on a range of ENSO indicators, including:
    - Short-term bursts of tropical rainfall activity.
    - Water temperatures at the sea surface and at depth.

## The Effects of La Nina

- Monsoon seasons will be more intense in a La Nina year.
- South America may be in drought conditions.
- In the United States, Washington and Oregon may see increased precipitation.



## conclusion

- El Nino and La Nina are two weather phenomena that occur in the Pacific Ocean and affect weather systems in South America, Australia and Southeast Asia.

## REFERENCE

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