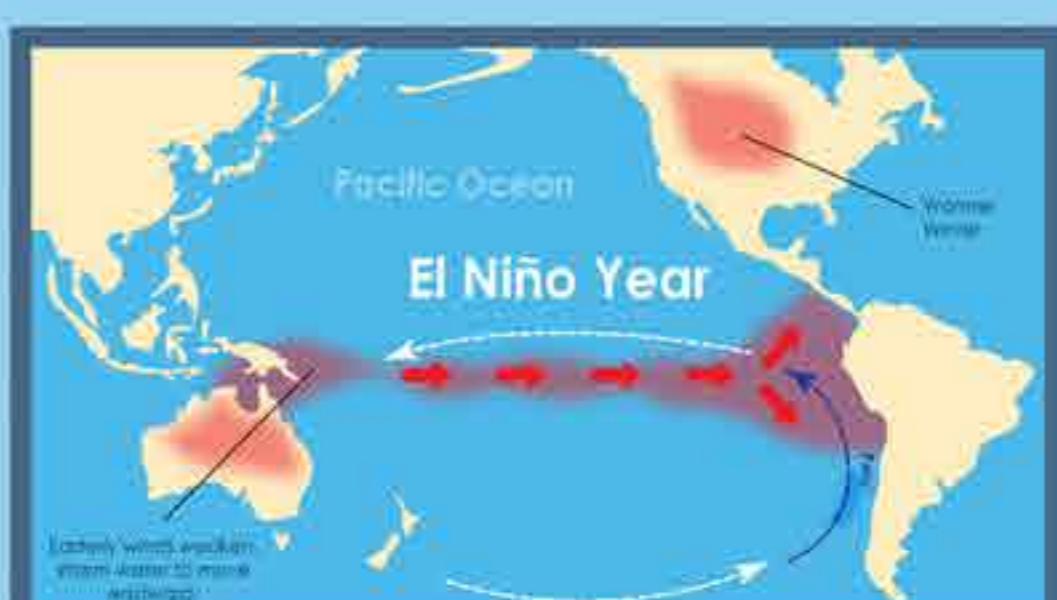
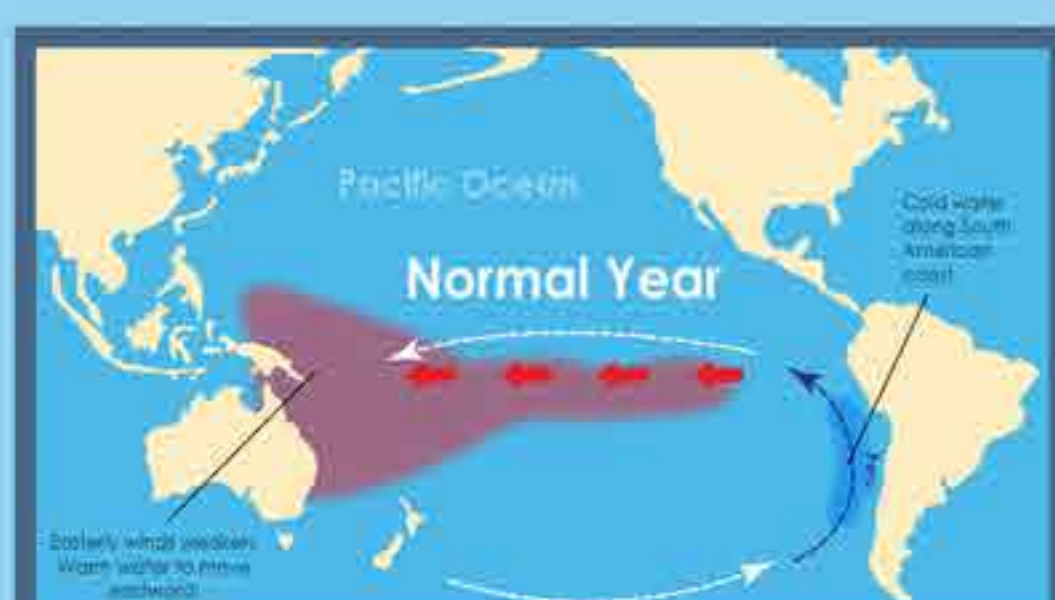


UNDERSTANDING EL NIÑO

THE ANATOMY OF AN UNFAMILIAR WEATHER EVENT



The El Niño Southern Oscillation is an irregular periodic climate change which affects much of the tropics and the subtropics.



CAUSE

Variations in sea surface temperature over the tropical eastern Pacific Ocean. Deeper mechanisms causing the oscillation are still being studied.



EFFECTS

Extreme weather patterns consisting of droughts & floods in many regions of the world. Areas bordering the Pacific are likely to be the worst affected.



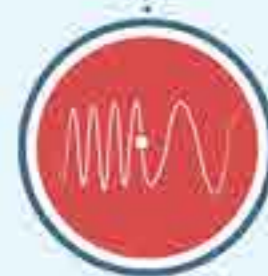
TIME OF ARRIVAL

Usually around Christmas



DURATION

6 months to 2 years



FREQUENCY

Every 2 to 7 years

STRONGEST EL NIÑO EVENTS

1982 - '83, 1997, - '98



- It is predicted that the number of extreme El Niño events could double in the 21st century, rising from 1 every 20 years to at least 1 every 10 years.
- A strong El Niño event can disrupt weather patterns all over the world.
- Research has linked the massive 1918 - '19 drought in India and the Spanish flu pandemic to the strong El Niño event of that year.
- The last major El Niño event (1997-98) caused an estimated \$35 billion in damages and 23,000 deaths around the world.
- NOAA predicts that this year's El Niño event may be the strongest since 1950.
- 7 out of 10 of the hottest years on record were El Niño years or the year immediately following one.

EFFECTS OF EL NIÑO ON NORTH AMERICA

Generally speaking, El Niño has a wide spectrum of impact on the continent and the effects are strongest during winter.



ECONOMIC AND INFRASTRUCTURAL IMPACT ON THE UNITED STATES

Storms, flooding and landslides in Southern California

Reduced crop yield during the following summer

Crop Damage

Pacific Northwest fisheries & fishing industry experiences a decline

Northern US ski industry suffers because of reduced snowfall

Heavy precipitation causes major flooding and damage in the Gulf states

EFFECTS ON THE WEATHER

Weakened trade winds

The Deep South & the Pacific coast is expected to be faced with winter temperatures much below average, especially between December & February.

Intensified winter storms in Gulf states, Southern United States and the West Coast

Although it is still a point of debate, there is some evidence linking El Niño events with tornados

Unusually intense hurricane season in the eastern and central Pacific regions



El Niño also transfers heat stored in the deeper layers of the ocean to the surface. When combined with global warming, it can lead to record hot years, as in 1998.

Greater than average snowfall across the Southern Rockies and Sierra Nevada range

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