A-Level Geography Resource Package

[Physical Geography]

What is El Niño?

Key Concept: El Niño is a far-reaching meteorological phenomenon occurring with the warming of sea surface temperature that occurs every few years, concentrated within the South-Central equatorial Pacific

Why is it important to us?

Well, El Niño creates stronger vertical wind shear across the Gulf of Mexico, the Caribbean and the tropical Atlantic, which leads to abnormal weather on a larger, often global scale.

This can have the effect of warmer seasons across the Western seaboard of the USA, Central and Southern America, raising wildfire and tropical storm risk.

This is most notable during winter, where temperatures are less cool, and high rates of rainfall can also lead to unseasonable storm events.

In More Detail:

An El Niño is typically declared when sea temperatures in the tropical eastern Pacific rise 0.5 °C above the long-term average. El Niño is felt strongly in the tropical eastern Pacific with warmer than average weather. This is a part of what is known as the El Nino-Southern Oscillation (ENSO) recurring climate pattern, usually lasting a few weeks to months.

The effects of El Niño often peak during December; it's name "the boy" is thought to have originated as "El Niño de Navidad" centuries ago when Peruvian fishermen named the weather phenomenon after the newborn Christ.

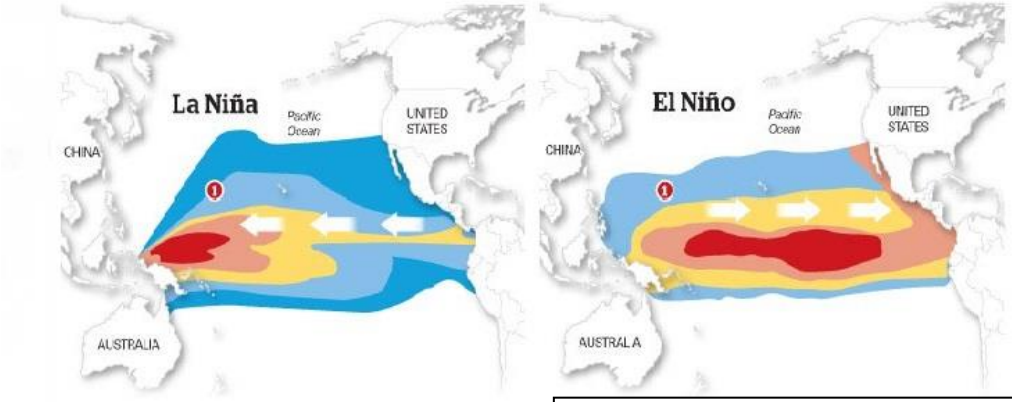

Figure 1. A fantastic map showing the movement of warmer (redder) and cooler (bluer) waters in the Southern Central Pacific ocean during El Niño and La Niña years.

Extra: What is La Niña?

'La Niña' or "the girl" is the term for the opposite side of this fluctuation, seeing cooler than average sea surface temperature in the equatorial Pacific. The conditions for declaring 'La Niña' differ between different agencies, but during an event sea temperatures can often fall 3-5 °C below average. Cooler, drier than average weather is experienced in the tropical eastern Pacific. This is less common than El Niño, so less well-known.

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