El Niño's Powerful Reach

Educational Activities

What is El Niño Anyway?

Summary:

Participants learn the definition of an El Nino by exploring sea surface temperature charts.

Grade Level:

Upper primary (grades 4-6)
Intermediate (grades 7-8)
Secondary (grades 9-12)

Time Needed:

One, 90-minute class or
Two, 45-minute classes

Learning Objectives:

- Describe what El Niño is and where it occurs
- Understand what sea-surface temperature is and be able to "read" a sea-surface temperature chart
- Understand that scientists around the world use data to study El Nino

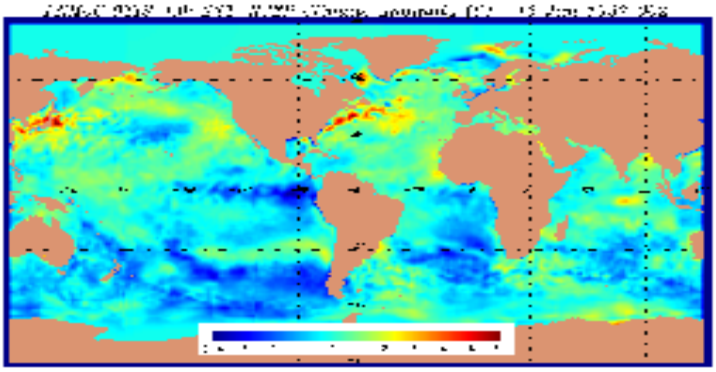
Materials:

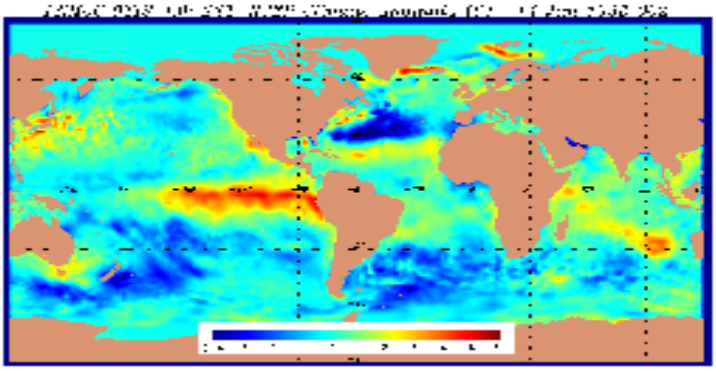
- Computer with internet connection
- Colored pencils/markers

Background:

The primary signature of an El Niño is the warming of sea surface temperature in the Pacific Ocean near the west coast of South America. Scientists at NASA, NOAA, the Smithsonian, and at other scientific organizations around the globe monitor the sea surface temperature to better predict El Niño events. They obtain data both from buoys in the Pacific Ocean and from satellites orbiting our planet overhead. They compile this data to create sea-surface temperature charts that give them visual predictors of El Niño.

1. Locate and write down definitions of El Niño on the internet at the NASA (http://www.nasa.gov) and NOAA (http://www.noaa.gov).
2. Go to the El Niño exhibit computer interactive and explore the "What is El Niño" section (http://forces.si.edu/elnino/01_00.html). Watch the video animation of changing sea surface temperature. Write down your visual observations of what changed in the animation.
3. Examine the two figures sea-surface temperature charts below. Compare the two charts. Which one do you think shows an El Niño event? What differences and similarities to you see in the two charts?





4. Print the map below. Color in the map as it would look if it showed the sea surface temperature during an El Niño.