El Niño’s Powerful Reach

Background:
The most immediately obvious effect of El Niño is a change in the weather. El Niño causes changes in weather patterns because it affects ocean and air temperatures and currents. This changes the amount of precipitation in the tropics and around the globe. Areas of the world that usually receive heavy rainfall, particularly Indonesia and Australia, experience terrible droughts during an El Niño. These droughts often lead to famine and devastating wild fires. Areas in North and South America that would normally be very dry, experience heavy rain and snowfall during an El Niño. Heavier precipitation can lead to positive affects like bountiful harvests and increased water supplies. Unfortunately, they often lead to widespread flooding and even mudslides in some areas. El Niño can also cause severe and extreme weather events, such as typhoons and tornadoes, to strike unusual locations.

In the United States, three types of unusual weather patterns generally occur during El Niño years. Western and southern states experience above normal rainfall; warmer than normal temperatures prevail in Alaska, the Northeast and the Pacific Northwest; and cooler than normal conditions affect the South-East. Western states - particularly California - often experience the most severe weather impacts, including torrential rains, flooding and mudslides. Other states experience less obvious, but no less real impacts. These serious weather impacts make El Niño prediction very important. Prediction will help save lives and reduce damages.

Procedure A:


2. Briefly explain in your own words the connection between El Niño and Drought. What country experienced a serious El Niño-caused drought at the beginning of the 20th Century?

3. Study Figure 1 - El Niño Effects Map from the NOAA Climate Prediction Center and Figure 2 - U.S. Drought Outlook.

4. Think about the weather in the United States today and the Drought Forecast compared to the Effects Map. Do you think the United States is currently or will soon experience El Niño
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Educational Activities

Is El Niño Coming?

WARM EPISODE RELATIONSHIPS  DECEMBER - FEBRUARY

WARM EPISODE RELATIONSHIPS  JUNE - AUGUST

Figure 1 - El Niño Effects Map produced by the NOAA Climate Prediction Center.
Figure 2 - U.S. Drought Outlook produced by the NOAA Climate Prediction Center.
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Educational Activities

1. Did El Niño events only happen in the past, or do El Nino events still occur? Do you think El Niño is an important area for scientific study today? Why or why not?

2. How can El Niño effect life in the earth’s oceans?

3. List three ways El Niño have an impact on human cultures around the world today.
   - Impact #1:
   - Impact #2:
   - Impact #3:

4. What did this project teach you about how scientists use data to better understand our world and predict our future climate?