El Nino and La Nina-Data Driven

EES: 2.3.1 & 2.5.2

Activity: In this activity you will use NOAA data to understand what constitutes El Nino and La Nina conditions, the effects of each condition, and how scientists can predict the onset of either an El Nino or La Nina event.

Part 1. General Information
Navigate to: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensocycle/enso_cycle.shtml and answer each of the following questions for general information about El Nino and La Nina.

1. What is climate variability?
2. What are El Niño and La Niña?
3. What happens during El Niño and La Niña?
4. What are ENSO, the Southern Oscillation, and ENSO-neutral?
5. Why do El Niño and La Niña occur? How often do they occur and how long do they last?
6. Can you list characteristics of El Niño and La Niña, and how they differ?
7. Why are El Niño and La Niña strongest during December-April?
8. How do El Niño and La Niña influence the U.S. Winter weather patterns?
9. How do El Niño and La Niña influence U.S. temperature and precipitation in each month?
10. How and where does El Niño typically impact global weather?
11. How and where does La Niña typically impact global weather?
12. How do scientists detect El Niño and La Niña and predict their evolution?
13. Why is predicting El Niño and La Niña so important?
14. Is there a relationship between El Niño/La Niña and global warming?
15. What technology is used to detect, monitor, and predict El Niño and La Niña events?
16. How are sea surface temperatures monitored?
17. How are the data buoys used to monitor ocean temperatures?
Part 2: Present Conditions
Navigate to:
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ensofaq.shtml#present

Open the El Nino/ENSO Diagnostic Discussion PDF.
1. What is the date of the discussion?

2. Is there an alert/watch posted? If so what is it?

3. Summarize the current conditions discussed in the report.

Part 3: Forecasts
Navigate to:
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ensofaq.shtml#present

1. Are we in an El Nino or La Nina now? What evidence supports this?

2. What is the latest US outlook?

3. What are the latest SST predictions?

4. Based on the forecast, what will the weather in NC be like?

5. Will this year have a bad hurricane season? Why?


7. At the equator, what is the highest SST? Where is it?

8. Is this SST typical or an anomaly? If it is an anomaly, by how much is the SST different?

9. Based only on today’s buoy data, is the current forecast supported or refuted? Why?