**The Impact of El Niño and La Niña**

This exercise is designed to illustrate how sensitive the Earth's climate system is to ocean surface temperature. In your reading, you were introduced to a unique ocean-climate condition called El Niño & La Niña or ENSO. These conditions lead to important climatic effects all over the globe.

*First* you need to know how El Niño/La Niña is defined. On September 30th, 2003, the National Oceanographic and Atmospheric Administration (NOAA) and other researchers reached a consensus to more clearly define these events.

In the Equatorial Pacific Ocean (120W-170W, 5N-5S), “Normal” sea surface temperatures are defined as the average temperature over years 1971-2000.

El Niño exists if sea surface temperatures measured over a 3-month period are 0.5° warmer than *normal.*
La Niña exists if sea surface temperatures measured over a 3-month period are 0.5° cooler than *normal.*

Using the information found on the web pages below, answer the following questions.

**Part A. What is El Niño**? Write a BRIEF summary describing wind circulation and characteristics of the Pacific Ocean during El Niño events.

<http://www.pmel.noaa.gov/tao/elnino/nino-home.html>

1. Review the map linked below. Summarize the impact on North American climate (Dec-Feb) due to El Niño according to this map?
<http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/impacts/warm.gif>

1. Using the same map, what is the impact on Australia's conditions (Dec-Feb)?

 **Part B. What is La Niña**? Write a BRIEF summary describing wind circulation and characteristics of the Pacific Ocean during a La Niña event.

<http://www.pmel.noaa.gov/tao/elnino/nino-home.html>

1. What is the impact on North American climate (Dec-Feb) due to La Niña according to this map?
<http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/impacts/cold.gif>
2. Using the same map, what is the impact on Australia's conditions (Dec-Feb)?

**Part C. What are Current Conditions**? <http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/>

Summarize recent conditions? Is El Niño or La Niña present?