

Elle Niño



Elle Niño Musician/Band

Timeline

Abo

El Nino Southern Oscillation (ENSO)





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ENSO Weather Impacts

El Nino



ENSO Weather Impacts

La Nina



ENSO Recent History



North Atlantic Oscillation (NAO)

<u>Positive Mode</u> Strong pressure systems (H & L) over Atlantic - "Guide" Jetstream between systems



Negative Mode

Weak pressure systems (H & L) over Atlantic - Allow Jetstream to meander



Winter (DJFM) NAO index updated to winter 2014/2015



ENSO NAO Comparison

/inter (DJFM) NAO index updated to winter 2014/2015



Why on earth is it called el nino? What does El Nino mean? I still don't understand what La Niña is or how that works.

How long of a period of time El Nino affects the weather? Is this a normal climate change that happens or is this rare? When were the first affects of El Nino felt? Does El Nino and La Nina cause the temperature to oscillate in an unstable way?

I still don't understand the rising of the cool water and how this has to do with el nino.

How much is the temperature difference between the east and west side of the ocean? How much does it have to be to cause a significant variation in weather? Why el nino always related to Indonesia??

Given the above, does climate change have the ability to dramatically change the currents and normal winds of Earth?

"Jet Streams" and what they refer to.

The jet stream and how it affects weather.

I don't understand why there are wetter than normal conditions in the middle of the country but drier than normal conditions surrounding it.

Why do trade winds move toward the East rather than the West?

Jet Streams



Climate Change Factors - Albedo Effects



- Increased ice and snow cover will lead to cooling
- Reduced ice and snow cover will lead to warming

Albedo & Causal Chains

What if Climate Cools? What Happens to Albedo?

Case 1: Start with Glaciers Case 2: Start with Vegetation



Average Annual Albedo (Reflectivity)







Greenhouse Effect - Trends

Greenhouse Gases (GHG) Concentration in Parts per Million 1958-1974 Scripps Inst. Oceanography 380 1974-2007 NOAA/ESRL Water Vapor (H₂O) Carbon Dioxide (CO₂) 360 Nitrous Oxide (N_2O) Methane (CH_4) Ozone (O_3) 340 320 Annual Temperature Anomaly (°C) 1960 1970 1980 1990 2000 2010 Year 0.75-— NASA Goddard Institute for Space Studies 0.5 -— Met Office Hadley Centre/Climatic Research Unit — NOAA National Climatic Data Center 0.25 -— Japanese Meteorological Agency 0.0 -0.25 -0.5 -0.75 1890 1910 1930 1950 1970 1990 2010

