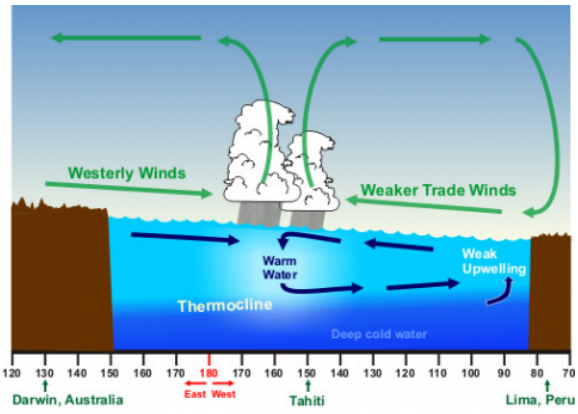
Eight month long pattern- An El Niño Review



If you were hoping to visit Indonesia or Australia, you can pretty much forget that as they will suffer a drought as El Niño events disrupt global atmospheric circulation. And you should consider bringing an overcoat as higher latitudes of North and South America and those living away from the ocean may experience longer, colder winters because of El Niño.

You should feel proud of yourself, Drippy, you are vital part of El Niño and your impact on weather is significant. However, El Niño usually only lasts 8-10 months. And ultimately you are going to have to do it again as you get swept up into the atmosphere and become part of the water cycle. The good news is that you are probably going to be able to join some of your friends as there is very little new water in the world. Indeed, some scientist say the water molecules were created more than 4.5 billion years ago and have been recycled since that time. So, Drippy, you have had quite an interesting past so stick around, because we need you.

Let's review: Normally, sea surface temperature is about 14°F higher in the Western Pacific than the waters off South America due to the trade winds blowing from east to west along the equator allowing the upwelling of cold, nutrient rich water from deeper levels off the northwest coast of South America.

Also, these same trade winds push water west which makes it higher in the Western Pacific. The average sea-level height is about 1½ feet higher at Indonesia than Peru. This increase of depth, perhaps 450 feet higher, of warm water pushes the thermocline down, while it rises in the east and allows the winds to help pull up cold water the rich in nutrients.

The shallow Eastern thermocline allows the winds to pull up water from below, water that is generally much richer in nutrients than the surface layer. When this flow is reversed or not as active the trade winds decrease in strength. The result is the normal flow of water away from South America decreases and ocean water piles up off South America. This pushes the thermocline deeper and a decrease in the upwelling of cold water. The sea surface temperature increases and El Niño is born.

See Alignments to State and Common Core standards for this story online at:
http://www.awesomestories.com/asset/AcademicAlignment/Eight-month-long-pattern-An-El-Ni-o-Review-The-Little-Boy-Who-Can-Change-the-Weather-El-Ni-o

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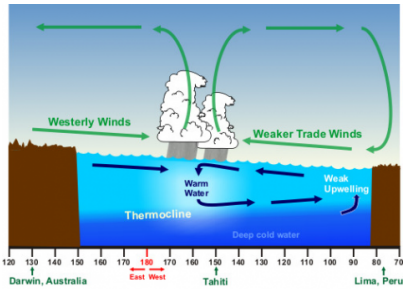
Media Stream



El Niño Conditions
Ocean Service NOAA, National Weather Service
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