

Colorado

# CAFÉ SCIENTIFIQUE

Tuesday 13 December 2011

at the Wynkoop Brewing Company

<http://www.wynkoop.com/>

Corner of 18<sup>th</sup> and Wynkoop in LoDo, Denver

About a block from Light Rail. Thirteen minutes by foot from Auraria.

## What can models tell us about El Niño in the 21st Century?

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The wind usually blows strongly from east to west along the equator in the Pacific. This piles up water in the western part of the Pacific. In the eastern part, deeper water (colder than the sunny surface water) gets pulled up from below to replace the water pushed west. So the normal situation is warm water in the west, cold in the east. In an **El Niño**, the winds pushing the water west weaken. Some of the warm water piled up in the west slumps back down to the east, and not as much cold water gets pulled up from below. So the water near South America gets *warmer*, a hallmark of an El Niño. The warmer ocean then makes the winds weaker, and El Niño grows. El Niño is one part of the **Southern Oscillation**, which is the see-saw pattern of reversing surface air pressure between the eastern and western tropical Pacific; when the surface pressure is high in the east it is low in the west, and vice-versa. Because the ocean warming and pressure reversals are, for the most part, simultaneous, scientists call this phenomenon the El Niño/Southern Oscillation or **ENSO** for short.

I'll talk about weather and climate modeling, what the issues are, how good our observations are, and what this all says about El Niño.

***EVERYONE IS WELCOME.*** There's no charge. The Wynkoop is generously providing the facility; we buy our own drinks. It is first come, first seated, and seating is limited so that everyone can take part in the discussion, which starts at 6:30 in the Mercantile Room (no food service there). Come before 6 PM to leave yourself time to get something to eat, or stay and eat afterwards. We end around 8 PM.

The Colorado Café Scientifique is organized by an informal group of faculty from CU and institutions up and down the Front Range, as well as science fans from industry, government and elsewhere. We welcome your input, including ideas for speakers and topics. Bring them with you to the next Café, or e-mail them and any questions to [John.Cohen@UCDenver.edu](mailto:John.Cohen@UCDenver.edu)

**Essential information about the topic and the event on our Web site at:  
<http://CafeSciColorado.org>**