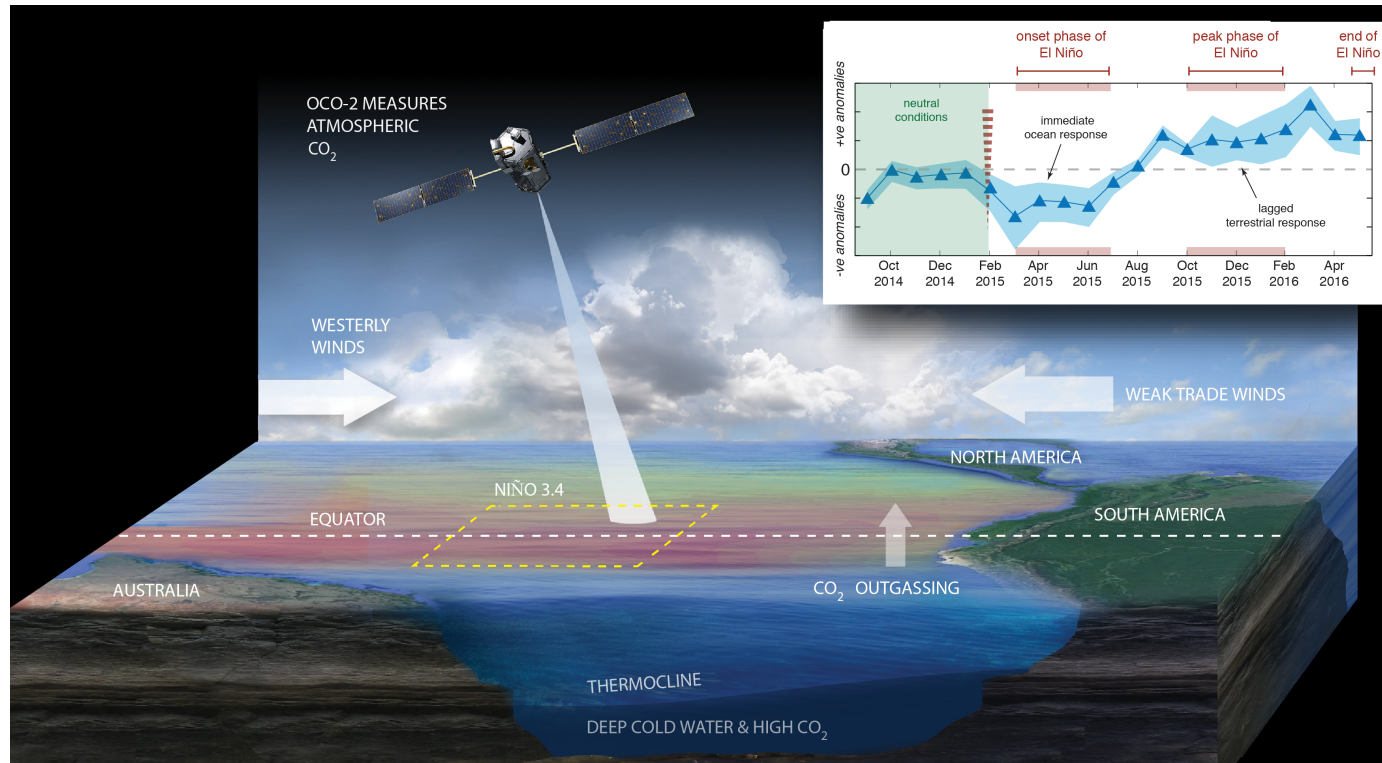


NASA's Carbon Sleuth Tracks the Influence of El Niño on Atmospheric CO₂



Science Question: How much does El Niño influence the global carbon cycle?

Finding: NASA's OCO-2 mission monitored changes in global atmospheric CO₂ concentrations during the 2015-2016 El Niño event. We saw clear evidence of a two-phased response – an initial decrease in CO₂ concentrations over the tropical Pacific Ocean, specifically during the early stages of the El Niño, followed by a rise in CO₂ concentrations during the later stages of the El Niño.

Impact: The tropical Pacific Ocean does play an important role in modulating the changes in atmospheric CO₂ concentrations during El Niño events—a phenomenon inferred but not previously observed.

Why It Matters: Disentangling the timing of ocean and terrestrial responses is the first step toward interpreting their relative contribution to the global atmospheric CO₂ growth rate, and thereby understanding the sensitivity of the carbon cycle to climate forcing on interannual to decadal time scales.