Are Greenhouse Gases Changing ENSO Precursors in the Western North Pacific?

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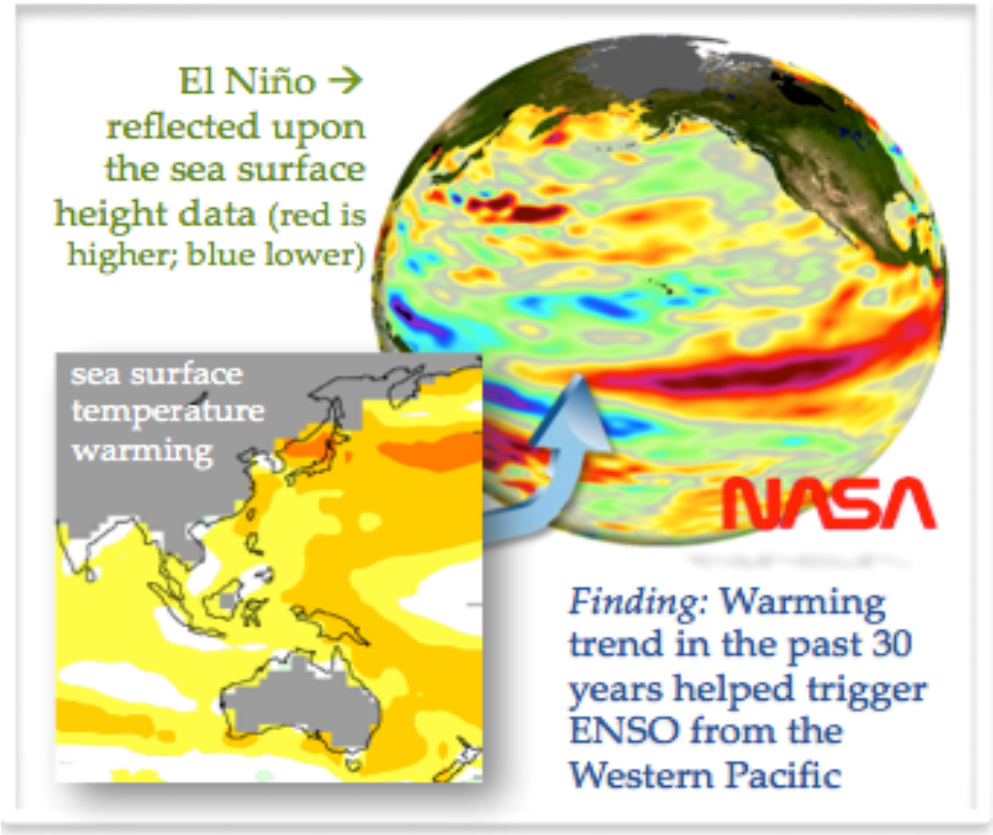
The El Niño--Southern Oscillation (ENSO) has more widespread global impacts than any other climate variability. ENSO forecasts are crucial to millions of people across the world and are used by planners in agriculture, insurance, government, disaster planning, disease control, etc. to help mitigate the impact of climate extremes. Despite decades of progress, forecasting ENSO events beyond several months is still challenging.

A recent study by Wang et. al. (Sept. 2013) has identified a new ENSO precursor pattern in the Western North Pacific (WNP), whose influence appears to be strengthening in recent decades. Since the mid-20th century, the WNP pattern has become more strongly linked to ENSO development. Modeling analysis suggests that greenhouse gas forcing is largely responsible for such a strengthened relationship between the WNP pattern and ENSO development. These results suggest increased confidence in climate predictions during the coming decades.



Wang, Shih-Yu, Michelle L'Heureux, Jin-Ho Yoon, 2013: Are Greenhouse Gases Changing ENSO Precursors in the Western North Pacific? *J. Climate, 26,* 6309–6322.doi: http://dx.doi.org/10.1175/JCLI-D-12-00360.1 (Sept 2013)