

A photograph of the ocean surface under a bright, low sun, likely at sunrise or sunset. The sky is a gradient of orange and yellow, and the water is a deep blue with visible ripples and small waves. The horizon line is straight and divides the image roughly in half.

# **Ocean Surface Water Exchange and Upper Ocean Salinity Balance**

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**Jet Propulsion Laboratory**



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Conservation Equations

Local Changes

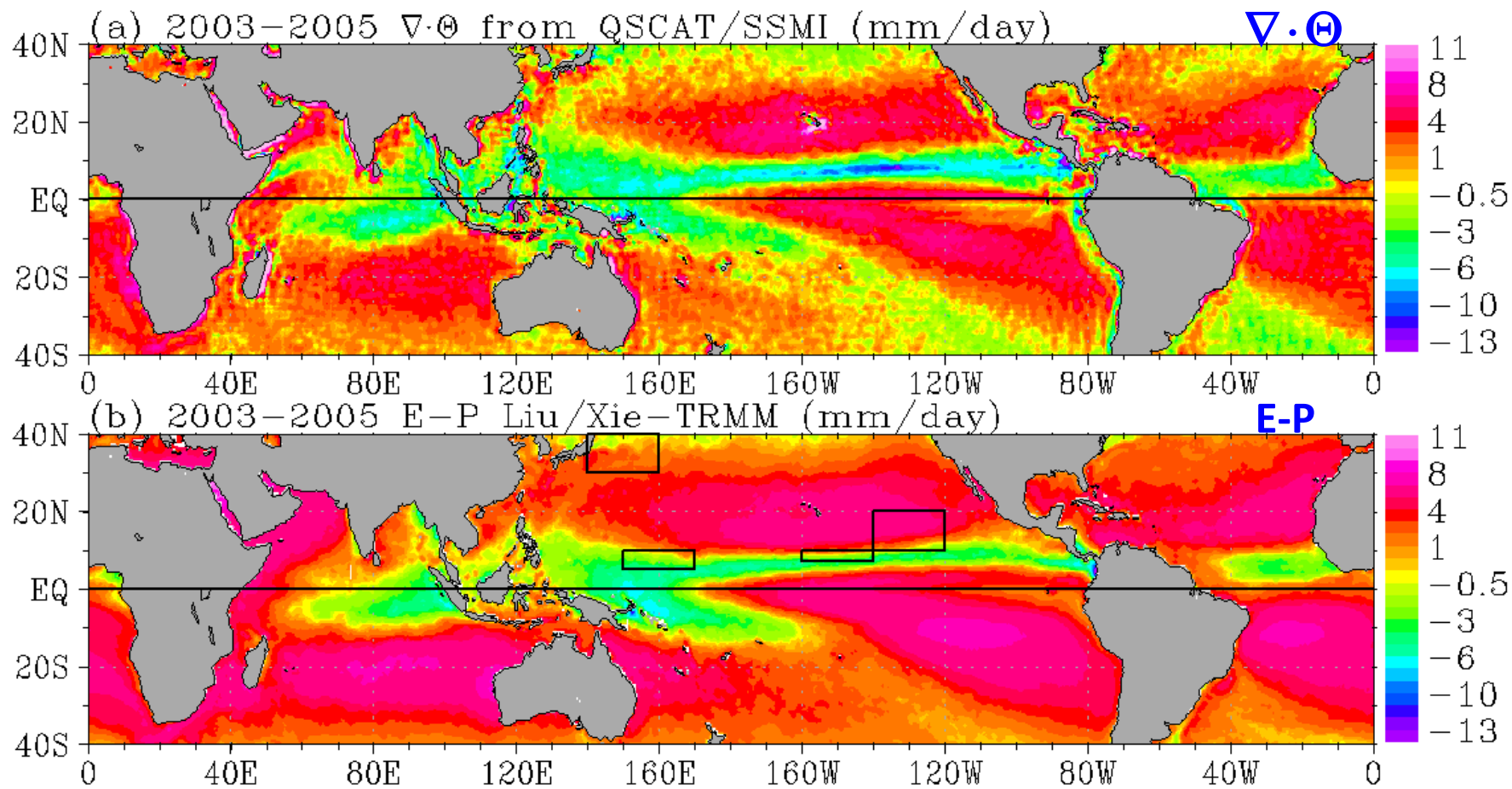
Enso Signals

# HYDROLOGIC BALANCE

$$\frac{\partial W}{\partial t} + \nabla \cdot \Theta = E - P$$

$$\Theta = \frac{1}{g} \int_0^{p_0} q U dp$$

$$W = \frac{1}{g} \int_0^{p_0} q dp$$



$$E - P = \frac{h_0}{S_0} \left( \frac{\partial S}{\partial t} + \mathbf{V} \cdot \nabla S \right)$$

