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Is the Amazon Rainforest Drying Out?

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Abstract
Hotter droughts are the emerging characteristics of recent climate conditions, causing increased aridity over many land areas, broad-scale die-off, and pervasive mortality in forest ecosystems globally. Using a suite of eco-hydrological measurements from satellite observations combined with ecosystem data assimilation model, we show the Amazon forests, under recent changes in climate, have been consistently losing water in vegetation from increased leaf temperature. These long-term changes have caused a decline in evapotranspiration with consequences of changing the seasonality of precipitation by increasing the dry season length and delaying the wet season arrival. Three severe droughts (2005, 2010, 2015), occurring on the background of this long-term warming have an unprecedented legacy resulting in longer delays in recharging of water storage and recovery of forests after drought induced disturbances (4-5 years after each drought). The paper discusses the evidences of eco-hydrological changes pointing to the drying of forests of Amazonia