



Mechanisms of 2005, 2010 and 2015 drought events in the Amazon and projections of future meteorological droughts

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This study performs a comparative assessment of the physical mechanisms underlying the three recent drought events in the Amazon in 2005, 2010, and 2015, using large regional climate model ensemble (HadRM3P, climateprediction.net/weatherathome). Drawing on the HAPPI (Half a degree Additional warming, Prognosis and Projected Impacts) experiment, this study also investigates changes in extreme drought events, and if/how the physical mechanisms leading to extreme droughts shift in a 1.5 °C and a 2 °C warmer world compared with pre-industrial conditions. Identifying similar or divergent mechanisms leading to extreme droughts under present and future climate scenarios, is important in improving our understanding of the vulnerability of the Amazon to the combined pressures of deforestation and global warming.