

## **Evaluation of decadal variability and changes of rainy season rainfall over the Amazon simulated by CMIP5**

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Dry season length is one of the most critical climate factors that influence tropical rainforest ecosystem. Observations have shown that dry season length has become longer due to late wet season onset in the Amazon. However, CMIP3 models either fail to capture or substantially underestimate this change. Such a bias is likely in part contributed by uncertainties in large scale atmospheric circulation, lack of representation of aerosols-cloud interaction, land surface processes and land use in these models. Many CMIP5 models have made significant improvements in physical representations of these processes. We will analyze CMIP5 historical ensemble simulations to determine whether these models can better reproduce the observed change in dry season length and wet season onset dates. If so, whether the improvement is contributed by better representations of the aforementioned processes.