

*****Please note the special date and time****

ATS/CIRA Colloquium

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**Biosphere-atmosphere interactions and
seasonality in the continental Tropics**

Monday, February 22, 2016

**ATS room 101; Discussion will begin at 3:30 pm
Refreshments will be served at 3:00 pm in the weather lab**

The seasonal cycle in the continental Tropics remains poorly understood. Climate models for instance do not reproduce the main features of tropical climates and exhibit major deficiencies in the Amazon with incorrect phase of photosynthesis and evapotranspiration.

In this presentation I will present how the diurnal and seasonal cycles of the hydrologic cycles are intertwined, using the weak temperature gradient approximation and in situ observations. These results will emphasize the role of early morning fog as a key switch and regulator of rainforest seasonality.

We will then show that we can quantify the feedbacks between the biosphere and the atmosphere using new statistical techniques and remote sensing products. This highlights regions of strong biosphere-atmosphere interactions (important on sub to seasonal time scales) and how plants regulate the surface hydrological cycle (transpiration) through either stomata closure or xylem cavitation (embolism in the xylem bringing water to the stomata).

Link to colloquium videos and announcement page: <http://www.atmos.colostate.edu/dept/colloquia.php>