



Interactions between carbon and water vapor fluxes in Panama

S. Wolf, N. Buchmann, and W. Eugster

ETH Zurich, Institute of Plant Sciences, Zurich, Switzerland (sebastian.wolf@ipw.agrl.ethz.ch)

Tropical ecosystems are particularly sensitive to changes in environmental conditions and have a significant impact on the global climate due to biophysical and biogeochemical feedbacks. It is still unclear how precipitation variability and soil moisture will develop under future climatic conditions, with large implications on ecosystems in the tropics. Thus, an improved understanding of the interactions between carbon and water vapor fluxes in the tropics is needed.

However, continuous measurements of these fluxes in tropical regions are sparse in general and only few localities exist in Central America. Our two eddy flux towers were established in Sardinilla, Central Panama (9.3° N, 79.6° W, 70 m a.s.l.) to measure carbon and water vapor fluxes continuously over an afforestation with native tree species and an adjacent, traditionally grazed pasture. Our objective is to understand the variability of carbon and water vapor fluxes, their environmental drivers and their interaction in these two ecosystems.

First results from nearly two years of continuous operation will be presented and discussed, focusing particularly on seasonal transition periods and the effects of a prolonged dry season caused by a strong ENSO event (La Niña) in 2008.