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Contrasting ecosystem-scale fluxes from pasture and native tree plantation in Panama

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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 not yet fully understood how ecosystems in the tropics will respond to a changing climate. Thus, an improved understanding of the energy and greenhouse gas exchange processes in tropical ecosystems is needed.

Ecosystem-scale fluxes were measured continuously by two eddy covariance flux towers in Sardinilla, Central Panama (9.3° N, 79.6° W, 70 m a.s.l.) in a native tree plantation with a high degree of species diversity (planted in 2001) and an adjacent, traditionally grazed pasture. Diurnal cycles are analysed to assess differences in the driving factors of ecosystem fluxes, seasonal differences of energy and CO_2 fluxes and their interdependency with land use. First results from nearly two years of continuous measurements will be presented and discussed.