Poster #9-12

Carbon, Water, and Energy Land-Atmosphere Exchanges in Wet and Seasonally Dry Forests in the Amazon

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For over two decades, the Large-Scale Biosphere-Atmosphere Experiment in Amazonia (LBA) has been studying surface fluxes between the atmosphere and the biosphere in the Amazon biome. A network of towers is used for micrometeorological measurements across climatic and ecological gradients. Observational data show different behaviors between the equatorial part of the Amazon in the North (wet) and the Southern part (seasonally dry). Mechanisms such as deep root systems and hydraulic redistribution are evolutionary strategies allowing vegetation to take advantage of increases in surface radiation during periods with lower precipitation. However, there seems to be a physiological limiting factor, given that in these drier periods there are parts of the Amazon where carbon assimilation and evapotranspiration increase, while in other parts this is not the case. Comparing and integrating observational results into modeling work, including some of these mechanisms, has improved the predictive capacity of the models. This poster will show some of these results and discuss ongoing and future work in the Amazon within the context of the LBA Program.