

Poster #1-47**Benchmarking and Parameter Sensitivity of FATES Predictions of Ecosystem Structure and Function at Barro Colorado Island, Panama**

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Projecting tropical forest dynamics and feedbacks under global change requires models that can simultaneously predict changes to ecosystem structure and function in a consistent way. The Functionally Assembled Terrestrial Ecosystem Simulator (FATES) is a dynamic vegetation model, for use in DOE's Energy Exascale Earth System Model (E3SM), developed to explore these interrelated dynamics. Here we show an assessment of model predictions of ecosystem structure (plant size distributions and functional composition) and function (ecosystem carbon, water and energy fluxes, and plant vital rates) at a testbed site in Barro Colorado Island, Panama. We compare these predictions to in situ observations and explore the sensitivity of these predictions to model parameter values as informed by plant trait observations across Panama.