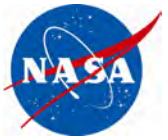
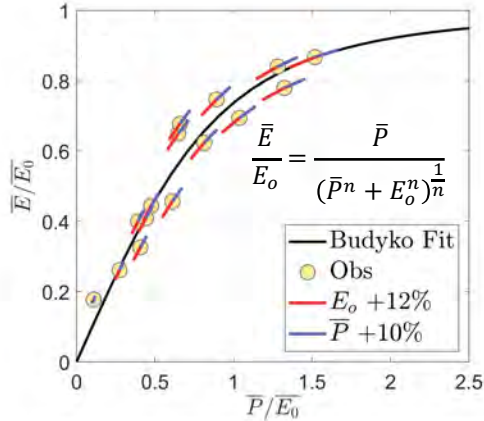


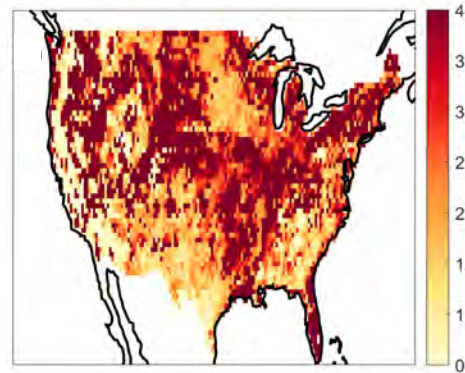
The Budyko Relation from SMAP



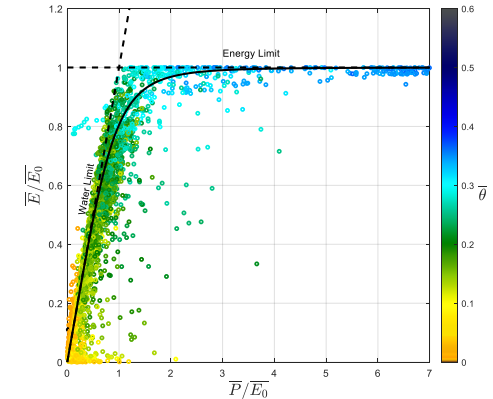
Parameter estimation at one SMAP pixel



Map of the calculated Budyko parameter n



A single continent-wide Budyko parameter



Problem: The common Budyko framework — a simple, but powerful predictor of hydrological responses to climate — requires location-specific observational data to make predictions.

Finding: Water-balance accounting from SMAP and precipitation observations allows us to estimate potential evaporation (E_o) and daily time series of evaporation (E). This evaporation data can then be used to estimate the required empirical parameter from the Budyko relation.

Impact: Knowledge of the Budyko parameter allows us to make watershed-level predictions about future streamflow, evaporation, and aridity.