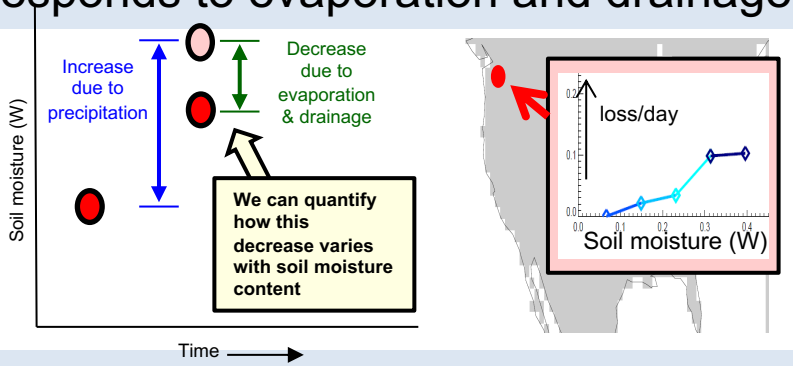
Soil Moisture Loss Estimation

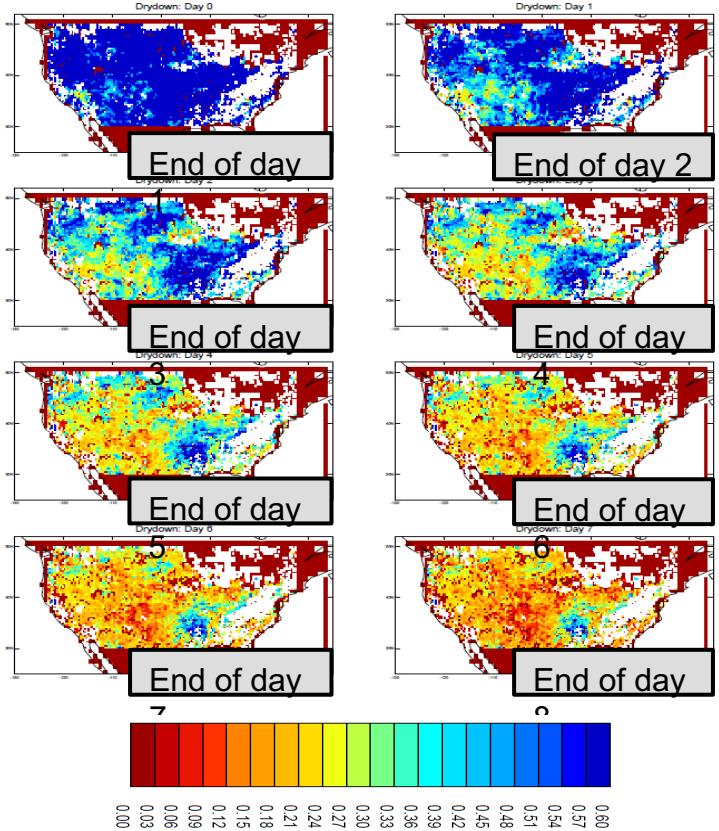
Problem: Can SMAP data be used to characterize how near-surface soil moisture responds to evaporation and drainage?



Finding: Spatial distributions of soil moisture loss function (loss from evaporation and drainage) can be extracted from collocated SMAP and precipitation measurements for summertime.

Impact: Derived loss functions are highly valuable for: 1)Improved precipitation estimation, 2) "Filling in" of missing data; accurate forecasts of soil moisture several days into the future, and 3) Characterization of hydrological behavior.

Loss function experiment: wet the soil everywhere and examine



Koster, Reichle, Mahanama, 2017, A Data-Driven Approach for Daily Real-Time Estimates and Forecasts of Near-Surface Soil Moisture, *Journal of Hydrometeorology*.