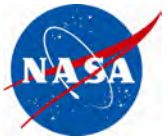
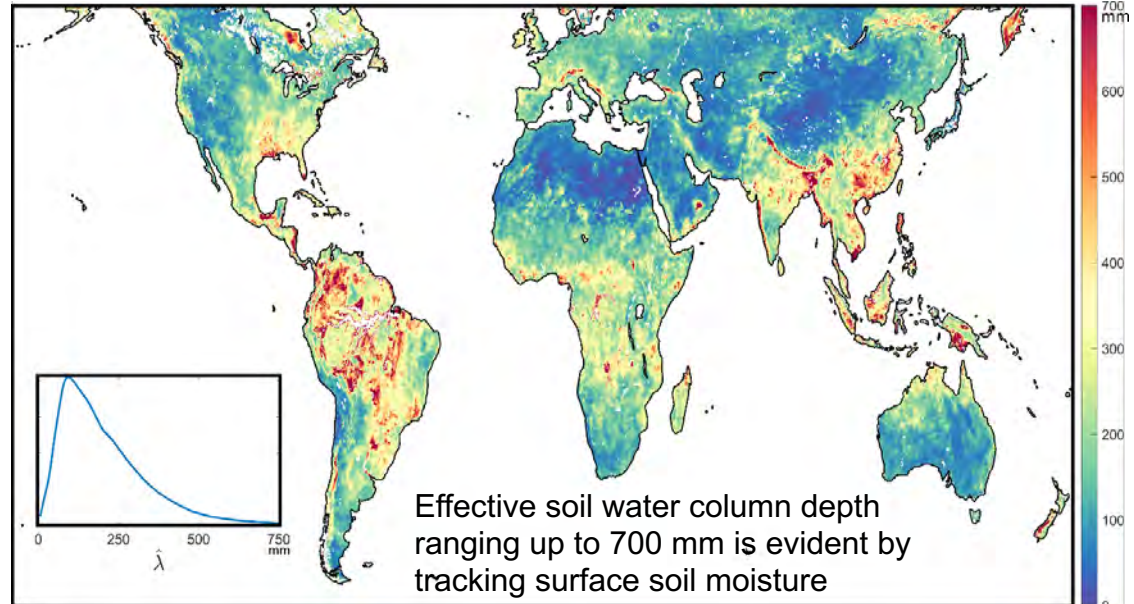
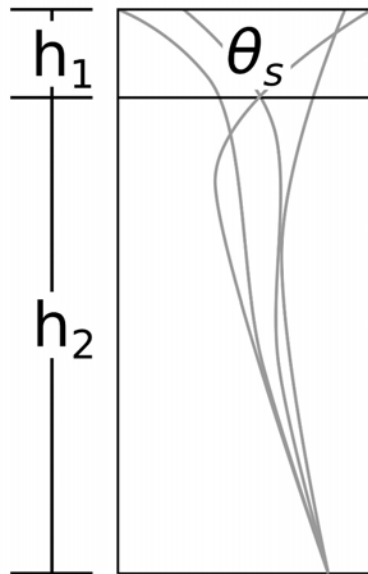


SMAP Observations of the Surface Reveal Hidden Subsurface Processes Below



Problem: While SMAP only “senses” the moisture in the uppermost portion of the soil (h_1), that moisture is physically and statistically linked to an evolving profile of deeper moisture (h_2). How much of the soil column can the surface reveal?

Finding: Surface and subsurface soil moisture are more coupled in regions with highly variable precipitation, but persistent soil moisture states.



Effective soil water column depth ranging up to 700 mm is evident by tracking surface soil moisture

Impact: Surface soil moisture dynamics from SMAP allow global quantification of the differing physical scales/rates of unseen subsurface hydrology.