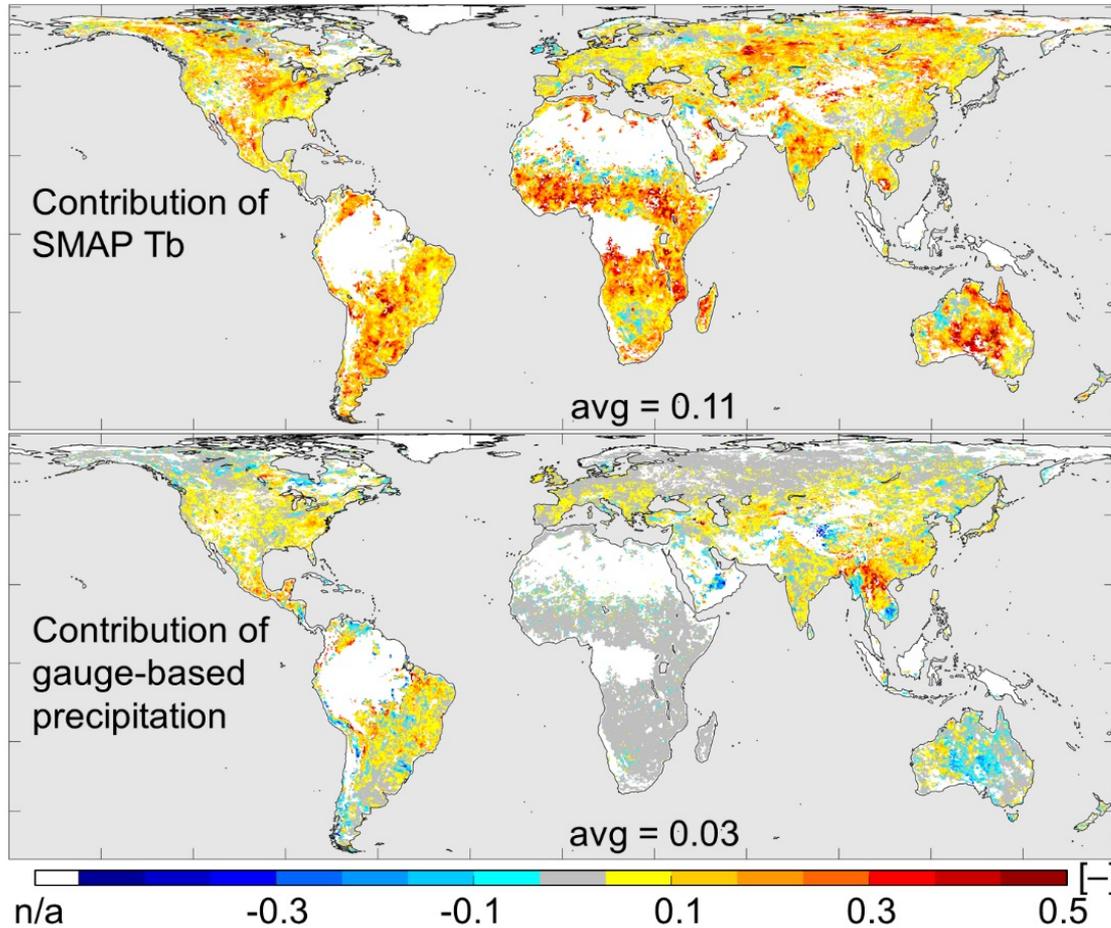# Impact of SMAP brightness temperature data and gauge-based precipitation on the skill of the SMAP L4 Soil Moisture (L4SM) product

Surface soil moisture skill difference between the L4SM product and L4SM simulations (top) without SMAP Tb and (bottom) without gauge-based precipitation. Skill is measured as anomaly time series correlation and estimated using independent ASCAT retrievals as Instrumental Variable. Red shading indicates that using SMAP Tb observations (or gauge-based precipitation data) increases the skill of the L4SM product relative to not using these data.