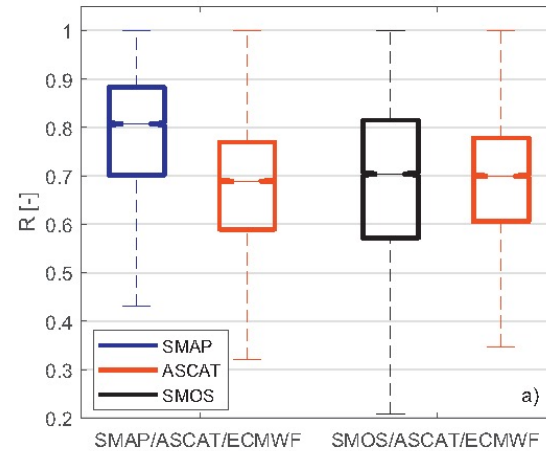# Evaluation of Three Global Soil Moisture Products Using Triple Collocation Shows SMAP Superior
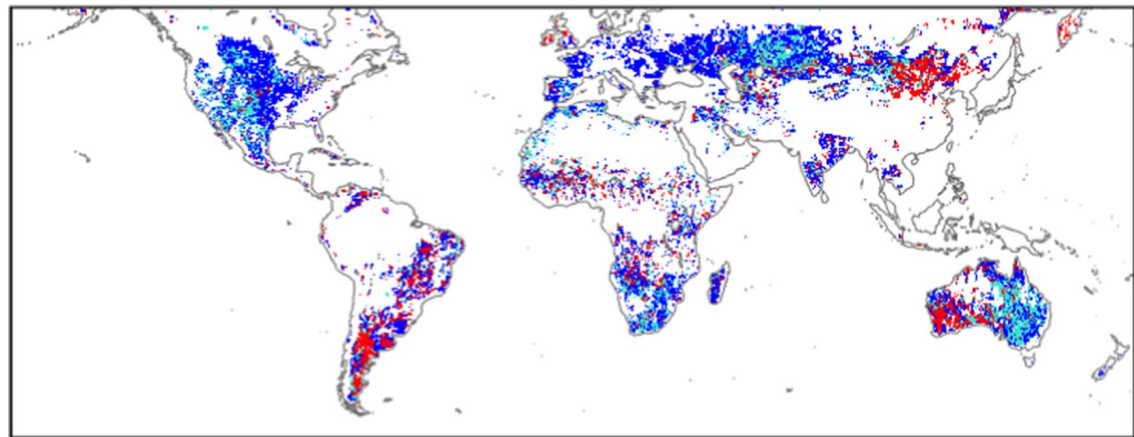
Problem: Global-scale surface soil moisture products are currently available from multiple remote sensing platforms, inc. Soil Moisture Active Passive (SMAP) mission, Soil Moisture Ocean Salinity (SMOS), and Advanced Scatterometer (ASCAT)

Finding: The Triple Colocation analysis confirms the overall advantage of SMAP with a global average anomaly temporal correlation (R) of 0.76 over SMOS (0.66) and ASCAT (0.63).

The distribution of TC-estimated correlation values obtained globally illustrates the overall superiority of SMAP (median of ~0.8) to SMOS and ASCAT (median of ~0.7)

Impact: SMAP is the best-performing product over the majority of applicable land pixels (52%), although SMOS and ASCAT each shows advantage in distinct geographic regions.

Chen, Crow, Bindlish, Colliander, Burgin, Asanuma, Aida, 2018: Global-scale evaluation of SMAP, SMOS and ASCAT soil moisture products using triple collocation, *Remote Sensing of Environment*.