SMOS soil moisture validation with dense networks: preliminary results

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Abstract Validation is important for passive microwave remote sensing of soil moisture from earth orbit. Soil moisture products from the recently launched Soil Moisture Ocean Salinity (SMOS) satellite are evaluated here using data from the first few months following launch. Soil moisture estimates are compared to data from a set of dense in situ soil moisture observing networks distributed across the USA, each of which approximates the size of a SMOS footprint. In situ data from these sites have been calibrated and verified through field campaigns and applied to validating other satellite products. Results show that the SMOS products are reasonable at this stage of validation; however, there are indications that improvements can be made through a careful review of the in situ and alternative satellite product comparisons.

Key words soil moisture; validation; SMOS; AMSR-E