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Jicheng Liu 7-5 NOAA Soil Moisture Operational Product System (SMOPS): Version 2 Xiwu Zhan, Christopher R. Hain, Li Fang and Zhenpeng Li

Global soil moisture is one of the critical land surface initial conditions for numerical weather, climate, and hydrological predictions. Since it is not practical to provide global maps using ground measurements, land surface soil moisture remote sensing has been a hot research topic in the last several decades. As a result, a number of soil moisture products have been produced from different satellite sensors with different spatial coverage and quality. To make good use of all available soil moisture products, a Soil Moisture Operational Product System (SMOPS) has been developed at National Oceanic and Atmospheric Administration (NOAA) to produce a one-stop shop for all operational soil moisture products from different satellite sensors. To increase the spatial coverage of daily soil moisture retrievals, SMOPS also provides a soil moisture data layer that merges soil moisture retrievals from multiple satellites in addition to the individual soil moisture retrievals from each of the available satellites.

SMOPS has been operationally running at NOAA NESDIS since 2012. In this first version of SMOPS product, soil moisture products from Soil Moisture and Ocean Salinity (SMOS), the Advanced Scatterometer (ASCAT) on EUMETSAT's MetOp-A satellite and WindSat on Coriolis satellite are used to produce the blended product. SMOPS will be upgraded to Version 2 in early 2015 that will improve the SMOPS product in following ways: 1) A new SMOS soil moisture product will be produced using NOAA's own retrieval algorithm to reduce the time latency in using SMOS data; 2) Soil moisture product from ASCAT on MetOp-B satellite will be ingested in the system; and 3) The updated CDF with longer time range will be used to produce the blended product.