



H-SAF soil moisture products based on METOP-ASCAT scatterometer data

Stefan Hasenauer (1), Wolfgang Wagner (1), Barbara Zeiner (2), Alexander Jann (2), Patricia de Rosnay (3), and Clement Albergel (3)

(1) Vienna University of Technology (TU-Wien), Institute of Photogrammetry and Remote Sensing, Vienna, Austria (sh@ipf.tuwien.ac.at, +43.1.58801.12299), (2) Central Institute for Meteorology and Geodynamics (ZAMG), Vienna, Austria, (3) European Centre for Medium-Range Weather Forecasts (ECMWF), Reading, United Kingdom

In order to serve the needs of the hydrology community, EUMETSAT's "Satellite Application Facility on for Support to Operational Hydrology and Water Management" (H-SAF) produces new satellite-derived products at an operational level. In this contribution, we introduce the product generation and product characteristics of the value-added soil moisture products derived from the Advanced Scatterometer Instrument (ASCAT) on-board the METOP satellite, which will be available well into the 2020 timeframe.

Users of H-SAF benefit from operational, near-real time surface and root zone soil moisture products ranging in different spatial resolutions and with distinct temporal characteristics. Firstly, the 25 km surface soil moisture product is available with nearly full daily global coverage, referring to the moisture content in a thin surface layer. It is produced by using the multi-incidence angle viewing capability that allows for the derivation of global backscatter characteristics based upon a change-detection approach. This product is available in near real-time and further serves as input for the generation of the 1 km downscaled surface soil moisture product over Europe following a statistical disaggregation approach, where the relationship between the mean surface soil moisture content of a small-scale local area (derived from ENVISAT ASAR data) and its regional-scale mean (derived from METOP ASCAT data) is exploited. Secondly, the Root Zone Profile Soil Moisture Index is generated by assimilation of surface soil moisture data into ECMWF's Integrated Forecasting System. This product is available on 4 soil layers at daily steps.

This contribution presents the product generation chains and product characteristics of abovementioned H-SAF soil moisture products, and gives insight into the latest validation activities and application fields.