

Satellite inspired hydrology in an uncertain future: a H SAF and HEPEX workshop



Contribution ID: 85

Type: **Oral presentation**

HSAF Precipitation products

Monday, 25 November 2019 15:40 (20 minutes)

Precipitation is the most important variable in Earth hydrological budget being the major component of water cycle. For this reason, the better understanding of the spatial and temporal distribution of precipitation, and its quantification, is fundamental for any hydrological and climatological application. Although surface precipitation gauges are considered the standard devices for precipitation measurements, in many areas they are sparse or not available. This, combined with the temporal and spatial variability of precipitation occurrence, phase, and intensity, makes monitoring and estimation of global precipitation very challenging.

Meteorological satellites provide a unique opportunity for global precipitation monitoring.

Within HSAF precipitation products are mainly based on the exploitation of current (AMSU-MHS, SSMIS, ATMS, AMSR-2, GMI) and future, (e.g., MWI, MWS) microwave radiometers on board a constellation of Low Earth Orbit (LEO) satellites. The goal is to achieve the best temporal and spatial coverage by converting microwave radiation measurements, directly related to emission/scattering properties of liquid/solid hydrometeors, into surface precipitation rates. For near-real time monitoring and applications, products based on a combination of geostationary infrared observations with passive microwave (PMW) are also delivered.

Which session would you like to present in?

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Session Classification: HSAF products and quality assessment

Track Classification: HSAF and HEPEX joint workshop on "Satellite inspired hydrology for an uncertain future"