

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



Contribution ID: 36

Type: **Oral presentation**

### **Characterization and monitoring of heavy precipitation events in the Mediterranean area using the H-SAF precipitation products**

*Tuesday, 26 November 2019 14:00 (20 minutes)*

The Mediterranean region is often impacted by heavy precipitation events, responsible for damages and sometimes casualties. Because of its peculiar geographical characteristics, ground-based observations (e.g. rain-gauges and radars) cannot be fully exploited for the monitoring, characterization and forecasting of severe events, in particular during their offshore development. Therefore in the last decades satellite observations, both over geostationary and LEO platforms, have been recognized as a powerful tool to overcome the limitations of ground-based observations.

In this study we analyze severe events that have recently affected the Mediterranean area, by exploiting the Global Precipitation Measurement (GPM) mission active and passive MW measurements. We also analyze MW and MW/IR H SAF precipitation product capabilities to estimate and monitor the precipitation throughout the evolution of these events. We highlight how the H SAF products, specifically developed for the European area, and thus tailored for the Mediterranean region, show better performances than algorithms designed for global application. We also show how the use of a MW radiometer constellation, in conjunction with other satellite and ground-based observations, allows for the characterization of precipitation structure and microphysics of severe systems in the Mediterranean area, in support of operational forecasting activities in a climate change perspective.

#### **Which session would you like to present in?**

1. Remote sensing, hydrological modelling and data assimilation

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**Session Classification:** Session 1: Remote sensing, hydrological modelling and data assimilation

**Track Classification:** H SAF and HEPEX joint workshop on "Satellite inspired hydrology for an

uncertain future”