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Remote sensing information on precipitation in Poland – radar and ATS datasets as a validation sources for H-SAF satellite precipitation products – case study analysis.

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Proper understanding, interpretation and application of various precipitation information sources is crucial for human economy. Precipitation events inflicting water management and resulting in flood danger are more and more common in Poland as we are facing progressing climate changes. Correct recognition and validation of satellite precipitation products is in focus of attention for both meteorologists and hydrologists.
Network of over a thousand Automatic Telemetric Stations (ATS) collects precipitation information from all over the country in the near-real-time mode. Meteorological radar network consists of eight devices covering whole Poland and providing unified precipitation field using different precipitation products from which Surface Rainfall Intensity (SRI) is used on operational basis. Both systems provide quality spatial and temporal distribution of meteorological information for purposes of scientific studies as well as operational meteorology.
The main goal of EUMETSAT Satellite Application Facility in Support to Operational Hydrology and Water Management (H-SAF) is to provide satellite products in near real time mode to be useful for operational hydrology. Among them, the pre-operational precipitation products based on both passive microwave sensors (conical and cross track scanning) and IR sensors calibrated by MW have been available since 2009 for cooperating teams for detailed validation before release of operational products. One of the products, PR-OBS-3, is to be validated with use of both radar and ATS datasets.
In the presentation, the ability of the H-SAF PR-OBS-3 product to reproduce the precipitation patterns will be discussed on the base of quantitative and temporal relations with radar and ATS precipitation information datasets (as ground based sensors) within chosen case analyses. Radar precipitation information used for the very first time to validate H-SAF satellite product in Poland will be introduced. Finally, the quality of the satellite products in estimation of precipitation accuracy will be presented.