



## **Hydrology SAF - the status of the project after two years : activities and preliminary results**

**R. Sorani**

H-SAF Project Manager, Dipartimento Protezione Civile (roberto.sorani@protezionecivile.it)

The Hydrology SAF (Satellite Application Facilities) is the last in terms of time decided by the EUMETSAT Council in support of hydrology and water resources. Initiated in September 2005 the project has, in its development phase, the main objective to focus on: - precipitation - soil moisture - snow parameters - utilisation of these parameters in hydrological models and NWP.

The baseline programme has been defined as split into four sectors, the first three focusing on the generation of new satellite products (precipitation, soil moisture and snow parameters), the fourth to carry out an independent activity to assess the value of the new products in operational hydrology and water management.

For each of the three product generation sectors the project identifies the envisaged products and the satellite data sources, and describes the operational chain that will be developed by the main contributing Country (Italy for precipitation, Austria for soil moisture, Finland for snow) for generating the core products. The experience of the main contributors is briefly recounted, the satellite data to be used are listed and described, the system architecture is outlined, the processing methods to be used are described and the product calibration/validation procedures to be adopted are outlined. Additional contributions from other Countries, generally in the areas of cal/val and developments intended to improve products quality also are mentioned. In the cases of soil moisture and snow there are contributions also to the development of the “core” products, from ECMWF and Turkey respectively. For the hydrological validation programme, though still establishing a leading entity (Poland), the work structure does not have a “core”, but rather is split into a series of experiments based on a number of test sites covering several climatic and morphologically different areas in Europe. The

experience of the participating hydrological units is briefly recounted.

The objective of the Development Phase is not limited to the generation of new products “theoretically” useful for hydrology, but also intend to demonstrate that operational hydrology actually draws benefit from the new products: otherwise, there will be little case for a future Operational Phase.

The development plan aims at making the new products (in their initial version) routinely available after the first 2-3 years, so as to enable starting the hydrological validation programme, to last 3-2 years, as soon as possible. The initial version of the product generation methodologies will be based on what is already nearly-consolidated, leaving further developments to progressively take place in the second part of the Development phase.