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The use of H-SAF soil moisture products for event-based hydrological modelling in Liguria (north of Italy)

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Event-based hydrological modelling disregards some hydrological processes that during an event resulted neglectable. A reliable initial condition of model is fundamental for discharges prediction and, consequently, for flood risk mitigation. Satellite observations can be exploited to estimate soil moisture and these can be used to enhance the predictions of hydrological models.

The aim of this work is to equalize the initial soil moisture of hydrological model through a statistical model. The current study investigates how these two operational soil moisture (SM) products provided by the H-SAF can improve the simulation during the flood event.

The analysis is conducted for some events with different initial conditions and different modelling of soil moisture, evaluating where remote sensing provides better performance. The analysis of hydrographs through Nash–Sutcliffe model efficiency coefficient contains useful indication for flood forecasting system, particularly in this case where a continuous modelling approach is not implemented.

Which session would you like to present in?

1. Impacts of hydrological uncertainty, hydrological forecasting and modelling

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