



Contribution ID: 45

Type: **Poster presentation**

## **Towards a HEPEX-HSAF testbed for the development of data assimilation techniques in combination with remote sensing data for improving operational flow forecasting systems**

Flow forecasting systems are in operational use widely. They are based today on a modelling chain where the output of numerical weather prediction models forms the input of conceptual distributed or semi-distributed hydrological models. Furthermore, statistical meteorological data pre-processing and hydrological post-processing procedures round up a modelling chain. In some systems hydrodynamic models for flood routing are embedded. With the growing availability of meteorological forecast ensembles the hydrological ensemble technique strengthened. Within these modelling systems the assessment of the initial states of the hydrological system like snow water content, soil moisture, groundwater levels etc. and their surrounding uncertainty is underrepresented. This can be attributed partly to the missing operational availability of data with appropriate temporal and spatial accuracy, and to the complexity of data assimilation techniques. In addition some software issues have to be solved. The data of EUMETSAT H SAF offers among other data provider a wide range of data products which have the potential to bridge this gap. With this initiative it is planned to set up a testbed for a medium range river basin in Germany which should serve for optimizing the use of remote sensing data in combination with appropriate data assimilation techniques.

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

1. Remote sensing, hydrological modelling and data assimilation

**Primary author:** Mr KRAHE, Peter (Bundesanstalt für Gewässerkunde)

**Co-authors:** Mr KLEIN, Bastian (Bundesanstalt für Gewässerkunde); Mrs KUNKEL, Asta (Bundesanstalt für Gewässerkunde); Mr KYRISH, Alex (University of Siegen); Mr MEISSNER, Dennis (Bundesanstalt für Gewässerkunde); Mr ALVARADO MONTERO, Rodolfo (Deltares); Mr REGGIANI, Paolo (University of Siegen); Mr SCHWANENBERG, Dirk (Kisters AG); Mr WEERTS, Albrecht (Deltares)

**Presenters:** Mr KRAHE, Peter (Bundesanstalt für Gewässerkunde); Mrs KUNKEL, Asta (Bundesanstalt für Gewässerkunde)

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