



Snow Cover Mapping - Central Europe

Polar View's Snow Service in Central Europe provides daily snow cover data as input relevant for flood forecasting and water management. The service uses two different processing chains for optical and microwave data. The outputs consist of Earth Observation (EO) based snow cover maps, snow line delineation and snow water equivalent from joined observation and spatial water balance modelling. These products are operationally provided via FTP transfer to end users. The users of the service can then employ this data for operational flood forecasts, early warning systems and global change research.

Access to Polar View snow monitoring products is provided to registered users via FTP pull. For example data and access to demo products, please contact Florian Appel (appel@vista-geo.de) or Dr. Heike Bach (bach@vista-geo.de).

Service Provider

Vista GmbH is a value adding company working in the field of remote sensing applications in hydrology and agriculture. The main application areas in which Vista is active are yield estimation of agricultural crops, modelling of evapotranspiration, runoff and ground water recharge, advanced land use classification using GIS-tools, monitoring of snow cover and water bodies,

and precipitation and soil moisture observation for flood modelling and forecast. In order to fully utilize remote sensing data and to gain valuable information from images, process models and GIS-methods are necessary tools. The combined application of these methods is Vista's special know-how.

Geographical Coverage

Central Europe – main focus areas are the catchments of the Mosel (France / Germany), the Upper Rhine and Neckar (Swiss / Germany) and the Upper Danube (Austria / Germany). This area includes the Northern Alps and will be extended to the complete Alpine area in future.

Current Users

The flood forecast and information centres (German state authorities) of Rheinland-Pfalz (LUWG) and Baden-Württemberg (LUBW) receive daily information about the snow situation. Further datasets were provided for the German Weather Service (DWD) and the University of Munich (LMU).

Benefits and Impacts of the Service

In comparison to measurements of sparsely distributed station networks, satellite data allows us to monitor the state and dynamics of the snow cover in sufficient temporal and spatial resolution (e.g. snow covered area, wet snow / melting snow). The utilization of EO products can also help to fill the gap in data availability of transboundary catchments.

The products from EO can be derived in Near-Real-Time and integrated automatically to operational flood and run-off forecasts by the end user. They are then able to control and update the runoff model.

Training Available

Training is available upon request.

Technical Specifications

Platforms: Earth observation data assimilated in the water balance model PROMET

Sensor: ENVISAT ASAR NOAA AVHRR

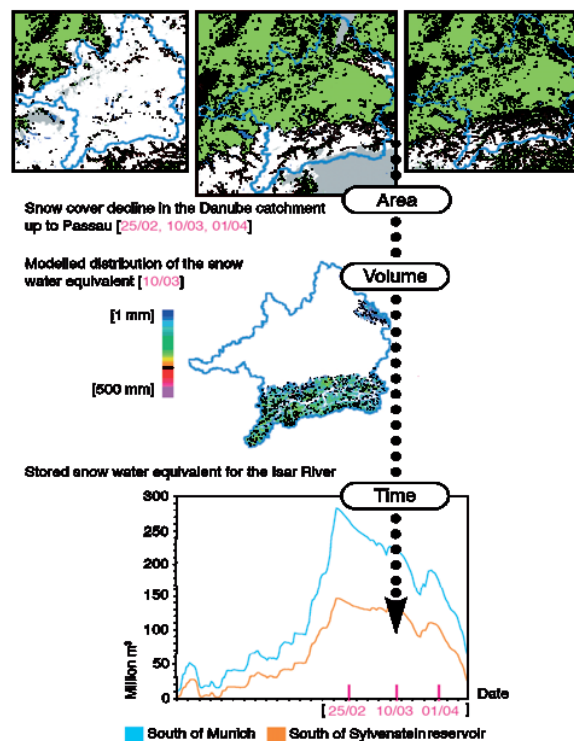
Spatial Coverage: Central Europe / Alps

Spatial Resolution: 1 km

Availability of Data: SCA maps from EO approx. every 3 days / SWE maps daily

What is Polar View?

Polar View offers integrated monitoring and forecasting services in the Polar Regions as well as mid-latitude areas using satellite earth observation data to support improved decision-making, planning and adaptation to climate change. Polar View is funded by the European Space Agency (ESA) under the GSE programme, which promotes the utilization of satellites for public good and in support of public policy. Polar View's services take the form of enhanced sea ice information (charts and forecasts), snow maps and glacier and iceberg monitoring data. We also provide monitoring services of lake and river ice, ice-edge and coastal erosion. Polar View services support safe and cost-effective marine operations, improved water management and marine environmental security.



Joined observation and modelling of the snow cover provides area and volume of stored water for every point and time of the investigation area

Contact Information

Florian Appel / Dr. Heike Bach
Vista Remote Sensing in Geosciences
D-80333 Munich / Germany

phone +49 89 5238 9803
appel@vista-geo.de
bach@vista-geo.de