



## **Automated snow cover mapping and monitoring over Eurasia with polar orbiting and geostationary satellites**

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Availability of observations in the visible, near-infrared, shortwave infrared and infrared spectral bands from polar orbiting and geostationary satellites makes possible snow and ice mapping and monitoring at high spatial resolution. However because of clouds snow maps derived from these data lack continuity. Cloud-caused gaps in snow maps hamper the analysis of temporal variation of snow cover distribution and substantially reduce their value for numerical applications, particularly for numerical weather prediction and hydrological models. A possible solution to this problem consists in a synergy of visible and infrared data with satellite observations in the microwave. Microwave measurements can also provide information on the snow cover, though at coarser spatial resolution, and they are much less affected by clouds.

In the presentation we will describe automated snow identification algorithms based on data from NOAA AVHRR and Meteosat Second Generation (MSG) SEVIRI and will discuss potentials for improving the maps of snow cover by combining satellite observations in the visible/infrared with microwave measurements from DMSP SMM/I instrument. The results of snow cover mapping over Eurasia during 2004-2005 and 2005-2006 winter seasons will be analyzed. To assess the accuracy of snow maps, snow retrievals are compared to reports from ground stations and to NOAA operational interactive snow cover analysis data.