

## **Snow cover mapping using multi-temporal Meteosat-8 data**

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((Please note that this is a contribution to the ISPRS special session on Polar and Alpine Research))Meteosat-8 is the first geostationary satellite that possesses channels at all bandwidths that are of use for snow mapping, and therefor offers new possibilities for multi-temporal snow mapping and/or snow mapping in short time intervals. At present, we are developing a fully automatic algorithm that makes use of both spectral and temporal information and that can produce snow cover maps several times per day in real-time. First tests with Meteosat-8 data have shown that pixel-based, single-image classification maps surface snow cover reasonably well. When the sky is (partly) overcast, the result improves significantly when sequences of images are used, because this increases the change of observing cloud-free surface pixels. Unfortunately, some optically thick clouds with frozen tops are mapped as snow, because they have exactly the same spectral signature as snow. However, their development in time often makes such clouds clearly recognisable to the human eye. At the moment we are therefor developing an algorithm for improved snow mapping that identifies these clouds by looking at the temporal context of the pixels.