



## **Spatial Variability of Seasonal Snow Cover in a Mediterranean Subcatchment, Turkey**

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Predicting and understanding the spatial variability of snow-related quantities plays an important role in catchment hydrology. Modelling the spatial variability of these quantities is complicated by the interrelated nature of the processes involved. The snow cover is also critical in the ecosystem via its effect on the surface energy and water balance. Therefore, its accurate representation is essential to a better understanding of climate effects on the hydrological cycle.

The aim of the study is to estimate the spatial variability of seasonal snow cover using process-based modelling and remote sensing techniques in Seyhan Watershed, Turkey. Digital Elevation Model (DEM), land cover, geology, soil, Hydrological Response Units (HRUs) maps and meteorological time series will be utilized as main modelling entities. The model outcomes then will be validated using snow measurements and snow cover maps derived from LANDSAT and MODIS images acquired between 2000 and 2012. A quantitative analysis of the snow cover on complex topography in the study region will be carried out to reveal natural snow variability. The study concludes with the remarks on the future of distributed snow modelling and use of remote sensing data to improve model validation. It will also address the issues of spatial variability in snow cover and the processes responsible for this variability.

**Key Words:** Snow Modelling, Turkey, Remote Sensing, Snow Cover, Mediterranean.