

## Detection of land-use/land-cover change in the Hohe Tauern National Park using an object-oriented classification approach

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### Abstract

Land-use/land-cover change reflects environmental as well as social changes. High mountain environments such as the Hohe Tauern Range are very sensitive to these changes. An excellent resource to analyse land-use/land-cover on different spatial and temporal scales is provided by remote sensing data. This study uses Landsat Multispectral Scanner (MSS), Thematic Mapper (TM) and Enhanced Thematic Mapper Plus (ETM+) images from the 70s to the present, historic orthophotos and GIS data to analyse the spatial pattern and its spatial temporal changes of land-use/land-cover. The aim of the study is to develop a generally applicable method to detect change in high mountain environments. Because of the high spatial diversity in high mountain environments, an object-oriented approach is used to classify the remote sensing data. Object-oriented classification is based not only on spectral but also on spatial information and allows avoiding "salt-and-pepper" effects in the classification. After a post-classification application it is foreseen to identify parameters and/or indicators to evaluate ongoing land-use/land-cover changes and their variability in space and time.

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