# Land take in the Alpine region: the data perspective

## *Summary*

Tobias Chilla & Markus Lambracht, Friedrich-Alexander-Universität Erlangen-Nürnberg


### Background

As part of its 2021-2022 Mandate, the Spatial Planning and Sustainable Development Working Group of the Alpine Convention contributed to the “Implementation Pathway Spatial Planning 1 IP_S3: Defining Alpine wide guidelines for minimised land-take and sealing” of the Alpine Climate Target System. Step 1 “Define land-take/sealing and the need to stop both” involved an overview of the data situation regarding land take in the Alpine region.

The variety of concepts and associated terminology have resulted in a complex situation that might be difficult to understand for those not familiar with the topic. In addition, the data situation and data availability can be characterised as diverse and non-harmonised on the transnational scale. The paper provides an overview of theoretical concepts, an explanation of data origins but also a comparison of the data situation at different levels and in different national contexts.

### Results

The results show clear differences between the various concepts of ‘land take’. In order to structure the topic, it is helpful to differentiate between the quantitative and the qualitative perspective. With regard to data collection, two survey methods are employed: Remote sensing (in some cases closely connected to *In situ* investigation) and secondary statistical information. The main difference between these two approaches is their location on the territorial level. While remote sensing data covers large spatial perimeters in a harmonized

manner, it is mostly of limited resolution. In contrast, statistical information are often limited to national contexts and borders due to survey methods and data availability.

The paper provides an overview of the currently available survey methods and data providers on European level and so for the Alpine region as well. More concrete, it reflects on CORINE Land Cover (CLC/CLC+), Copernicus High Resolution Layer (HRL) and the Land Use and Coverage Area frame Survey (LUCAS). On the domestic level, there are several national statistical information (e.g. agricultural statistics, building statistics or land use/cover monitoring approaches) and regional monitoring systems (e.g. ALKIS in Germany, Tiris in Tyrol/Austria).

Data variety of available data is large, and the collection methods and national adaptations in the field of land use monitoring are diverse. The major problem remains the availability of harmonised data.

## Conclusion

The topic of land take and land use is currently high on the agenda in many political and scientific contexts. This leads to vital dynamics in the field of data resolution (e.g. CLC+ database, HRL database), data harmonization (e.g. INSPIRE directive, EAGLE concept) and *dynamic* data (e.g. comparable time series), which is more meaningful than *status-quo* data. Thus, for the time being, there is no tool available, which could provide a comprehensive monitoring basis in terms of land take on the pan-Alpine, fine-scale level.