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Federal Department of Home Affairs FDHA
Swiss Federal Statistical Office FSO

Factsheet – Statistical activity and published results

Swiss Land Use Statistics– Basic statistics on land use and cover

Description

The Swiss Land Use Statistics provide detailed, reliable information on the current situation and trends in land use and land cover in Switzerland. They are an essential tool for long-term monitoring of Switzerland's territory. The results make it possible to assess the extent to which land use developments align with the goals of Switzerland's spatial development policy and the principle of efficient land use. The Land Use Statistics provide data in table and geodata formats. The Land Use Statistics are used, for example, to calculate the redistribution of federal funds to the regions ("fiscal equalisation") and to determine the distribution of federal compensation for regional passenger transport services. In addition, the Swiss Land Use Statistics provide input for national programmes (Greenhouse Gas Inventory, Swiss Landscape Monitoring Network, Spatial Monitoring Switzerland, Biodiversity Monitoring Switzerland, Hydrological Study Areas, etc.) and for certain indicator systems (MONET, Cercle Indicateurs, SDGs).

Landscape attributes:

46 categories of land use in four main domains and ten classes:

- Settlement and urban areas: industrial and commercial area, building area, transportation area, special urban area, recreational area or cemetery
- Agricultural areas: orchard, vineyard and horticulture areas, arable land, meadows, farm pastures, alpine agriculture
- Wooded areas: forest, brush forest, woods
- Unproductive areas: rivers, lakes and unproductive land

27 categories of land cover, which are divided into six main areas:

- Artificial land
- Grass and herb vegetation
- Brush vegetation
- Tree vegetation
- Bare land
- Watery areas

The matrix comprising 46 land use categories and 27 land cover categories forms the Swiss Land Use Statistics Standard Nomenclature (NOAS04). It is easy to understand and is the only FSO nomenclature adapted for general purposes.
The 72 basic categories of the current Land Use Statistics can be broken down into either 27 or 17 classes and into four main areas, namely settlements and urban areas, agricultural areas, wooded areas and unproductive areas.

Methodology

The high-resolution aerial photographs provided to the FSO by the Federal Office of Topography (Swisstopo) are overlaid with a grid of sampling points at 100 metre intervals, so that the statistics can be based on a total of 4.1 million sampling points. As part of the interpretation process, each individual point is classified with a specific land use and land cover. Since 2022, the visual interpretation of aerial images has been supported by the ADELE (Area Statistics Deep Learning) AI application. This tool enables the automatic classification of some observed features that have not changed since the previous survey.

Data used:

- High-resolution aerial images produced by the Federal Office of Topography
- Various basic geodata subject to the Federal Act on Geoinformation (SR 510.62) and classified as access level A in accordance with Article 21 of the Geoinformation Ordinance (SR 510.620), used as auxiliary data to support the interpretation of aerial imagery

Degree of regionalisation:
Switzerland, cantons, districts, communes, hectares, any spatial units (building zones, protected areas, hydrological catchment areas, biogeographical regions, etc.)

Periodicity:
Every twelve years for the first three surveys: (1985, 1997, 2009), thereafter every 9 years.

Reference period:
Six-year cycle of aerial images by the Federal Office of Topography: 1979/85, 1992/97, 2004/09, 2013/18, 2020/25

Quality of statistical data:
The smaller the spatial unit analysed and the rarer the feature, the greater the statistical error. For smaller areas, such as communes, the error can be minimised by reducing the level of detail, i.e. by increasing the thematic aggregation of the characteristics.

Revision policy

A revision of the methodological principles is not planned.

A revision of the already published data may be carried out if new, more precise data would improve the quality of the data in the time series. Such a revision takes place when new data is published.

Legal basis

Ordinance of 30 April 2025 on Federal Statistics (SR 431.011)
Ordinance of 21 May 2008 on Geoinformation (SR 510.620)

Organisation

Federal Statistical Office, FSO
Geoinformation Section, GEO

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