

## Production process of the Corine land cover accounting time series (20m)

The Corine land cover accounting time series (20m) was produced using a “reversed” method. The background data used in the process was the National High Resolution Corine Land Cover status layers (20m) 2000-2018 and the National Corine change layers 2012-2018, 2006-2012 and 2000-2006. Each change layer pixel includes information about what the class was in the previous production year and what it has changed to in the proceeding status layer. The change layers have been modified to remove false changes that appear while comparing the Corine land cover status layers. These false changes are caused by the changes in the technical characteristics of Corine land cover data, the evolution in CLC update methodology and in quality of input data.

The process was started by resampling the Corine Land Cover status layers 2000 and 2006 as well as the change layer 00-06 from 25x25m resolution to 20x20m. The accounting data layer of Corine land cover 2012 was then created by “reversing” the pixel values of the Corine land cover status layer 2018 to the values of the 2012 status layer according to the Corine change layer 12-18. In the change layers, the forest classes have not been classified to the 4<sup>th</sup> level (instead to 3<sup>rd</sup> or 2<sup>nd</sup> levels). To recreate these higher level values, the same background datasets were used as in the production of the CLC status layers. Also, some values were extracted from the CLC2012 status layer. As a result of this process, an accounting layer of the CLC 2012 was produced. Next, using the same method, this dataset was “reversed” with the Corine change layer 06-12 to create a new accounting CLC2006 layer and further an accounting CLC 2000 layer (with Corine change layer 00-06).

The 46 classes of the Corine land cover accounting time series are mostly coherent with the national Corine Land Cover status layer of 2018. There were a few exceptions: The urban fabric classes “1211: Commercial units” and “1212: Industrial units” appear in the 12 and 18 CLC status layers as separate, but as one class in 00 and 06 status layers (1210: Industrial and commercial units). In the accounting time series data these were combined also in CLC 12 and CLC 18 datasets, as the information to distinguish the two classes for years 00 and 06 wasn't available. The same applies to “1311: Mineral extraction sites” and “1312: Open cast mines” which were combined to “1310: Mineral extraction sites” as well as “2311: Pastures” and “2312: Natural pastures” which in 00 and 06 data appear only as “2310: Pastures”. In the earlier reference years (status layers 2000 & 2006) the class for abandoned crop land was divided to two classes depending on tree growth, but later (2012 & 2018) these were all considered as one class “2431 Arable land outside farming subsidies”. This was also done in the accounting time series datasets.

In some cases, the previous landcover class was not possible to conclude from any data source available. This was the case in the northernmost western Lapland area of Käsivarsi, where the class “Transitional woodland/shrub above the coniferous forest boundary” was used in the year 2000 and 2006 status layers. These areas were given a NoData value (9999).