Forest and People - Urban Settlements

Background

Objective of these calculations is the assessment of urban and forested land in the vicinity of European settlements. The amount of forest within a certain distance of a city is an important factor for the attractiveness of the city and its recreational value. From the environmental point of view the presence of forest as a producer of fresh air is important for a city. The application of a unified methodology ensures the comparability of results.

The amount of forests and urban land has been calculated for all settlements of the GISCO database for which land cover data is available. The settlements have been grouped into 3 classes according to their number of inhabitants. Two distances of 25 and 50 km have been analysed.

Concept

Objective of the analysis is the assessment of forest, urban area and other land cover classes in 25 km and 50 km buffer zones around European settlements. Statistics are provided by country and settlement size.

The settlements from the GISCO database are grouped into three classes according to the number of inhabitants:

- less than 100.000 inhabitants - 4123 out of 6661 selected - (CL1)
- 100.000 to 500.00 inhabitants - 621 out of 6661 selected - (CL2)
- over 500.000 inhabitants - 110 out of 6661 selected - (CL3)

Concentric rings (buffers) of 25 and 50 km are created around each settlement (centre points) in each of the three classes. The buffers are overlaid with the land cover data set and the land cover in these buffers is determined. The area statistics are calculated.
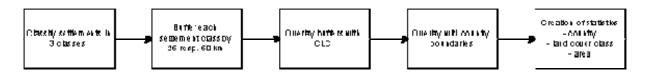
For statistics see annex 27.

Data input

The continuous land cover data set LCALL250 has been utilised for the calculations.

The GISCO settlements database was used for identification and classification of the settlements.

The GISCO countries (NUTS regions) were used for reporting per country.

Actions

Step 1:

Select the settlements form the GISCO database and classify them into three classes according to number of inhabitants.

Step 2:

Create a separate coverage for each of the 3 selected sets of settlements.

Step 3:

Buffer the each of the settlement data sets by 25 and 50 km.

Step 4:

Convert the buffer data sets (polygon) to a grid data set with the same resolution as the land cover data set (250 m).

Step 5:

Combine the buffer grid with the country grid and the land cover data set. Output is a data set which contains land cover data only for the areas where there is a buffer (settlement). In addition the data set contains information about the country in which the settlement (buffer) is located.

<u>Step 6:</u>

Calculation of statistics. All urban classes are summarised into one class, all forest classes are summarised into a second class. The rest is summarised in a third class.

Class name	Class codes	Code in statistics file
urban	1.1.1, 1.1.2, 1.1	1
forest	3.1.1, 3.1.2, 3.1.3, 3.1	3
rest	all other land cover classes	9

Table 8: Recoding table for urban statistics

For each of the settlement classes (inhabitants) and the buffer sizes (25 / 50 km) a separate statistics file has been created. That file contains the land cover code, the country and the area (in km^2) covered by a particular land cover class.

<u>Created data sets:</u>

– settlements according to size (3 coverages)

– buffers around settlements (25 and 50 km) in vector and grid format

– land cover data in each buffer, combing with information about the country it is located in (grid data)

– 6 statistics files (cl1lc25.dbf, cl1lc50.dbf, cl2lc25.dbf, cl2lc50.dbf, cl3lc25.dbf, cl3lc50.dbf)