

EUNIS Habitat types per Bio-geographic Region

Background

From the standpoint of nature conservation and biodiversity it is important to know the distribution of different habitat types within the bio-geographic regions of Europe.

Methodology

Scientific references

Moss, D. (1998): EUNIS habitat classification - Cross references between the EUNIS habitat classification and (i) Annex I of the EU habitat Directive (92/43/EEC) and (ii) the CORINE land cover nomenclature.- Draft version, European Environment Agency

Concept

By spatially overlaying the bio-geographic regions data set and the extended CORINE land cover database the spatial distribution of each CORINE land cover class within a bio-geographic region as well as their percentage within each region can be assessed. By aggregating the CORINE land cover classes to EUNIS habitat types, the percentage of EUNIS habitat types per bio-geographic region can be calculated.

The output data set contains information only for those areas which are present in both data sets, the land cover database and the bio-geographic regions data set. This means that areas of the biogeographic regions for which no land cover is available are not represented in the statistics.

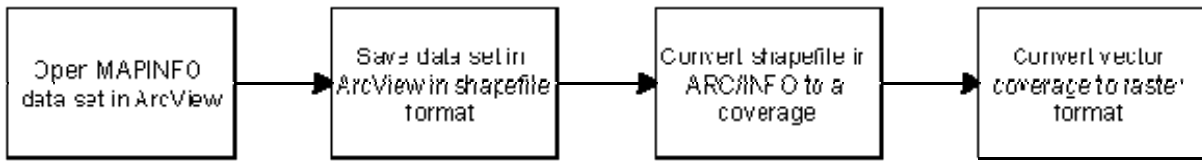
Data input

The data sets used for this map are the extended CORINE land cover database (LCALL250) and the bio-geographic regions - as received from the European Topic Centre for Nature Conservation on 13/5/98 from Marc Roekarts. The original MAPINFO data set was converted to an ARC/INFO grid data set (1 km grid cell size) for further processing.

Action

Step 1:

Conversion of the original MAPINFO data set into an ARC/INFO grid data set (1 km). This included reading the MAPINFO file in ArcView, converting it to an ESRI shapefile, conversion of the shapefile to an ARC/INFO coverage and subsequent vector to raster conversion. A cell size of 1 km was chosen.



ArcView commands:
MIF to SHAPE
import tool -
default options

ArcView commands:
Convert to SHAPE
- default options

ARC/INFO commands:
shapearc - with
default options

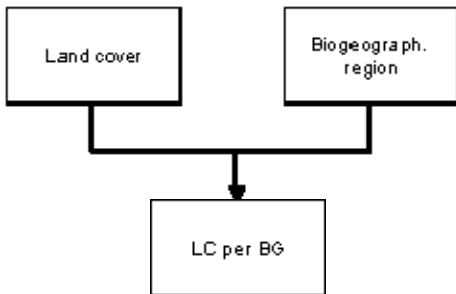
settolerance fuzzy
= 1.847

clean
regionpoly

ARC/INFO command:
polygrid with
1000m output cell
size
convert entire data
set

Step 2:

The two input grids (extended land cover and bio-geographic regions) are overlaid and a new grid data set is created (bglcall). In the overlay process the input grid size of 250 m of the LCALL250 data set is automatically resampled to 1 km. This new data set contains a combination of existing land cover classes per bio-geographic region.



ARC/INFO grid:

- bglcall = combine (lcall250, bgv4gr)
- no other options used

Step 3:

Aggregation of land cover classes to EUNIS habitat types. The area in square kilometres of EUNIS habitat types per bio-geographic region is calculated. Ocean and sea (CORINE land cover class 5.2.3) is considered as far as this class is mapped in the CORINE land cover database; normally CORINE land cover is mapped for the land part of a country and open water is not considered in the mapping.

The attribute file of the resulting data set is exported to a dBase file and imported in Access and Excel.

In Access a table is prepared which is required for drawing the different pie charts in the main window of the map. This table can be found in Annex 2 and shows the number of raster cells (km²) per bio-geographic region and EUNIS habitat type.

In Excel a table with statistical data concerning both the CORINE land cover classes and EUNIS habitat types per bio-geographic region was made. The results can be found in Annex 3.

Step 4:

Map making process:

Main window:

The main window shows EUNIS habitat types and the outlines of the bio-geographic regions. The percentage of each EUNIS habitat type per bio-geographic region is shown in the pie charts at the bottom of the map. The location of the pies is defined by a separately created point coverage (bgpt).

The size of the spots was calculated with an empirically developed formula:

$$\text{size} = (\text{total number of pixels} / 10000)^{1/4}$$

With this formula the difference between big and small values was reduced which makes the pie charts more suitable for presentation on the map.

Side window:

The inset map shows the spatial distribution of the different bio-geographic regions in different colours.

Created data set:

- Land cover area per bio-geographic region