Map 21

Short Title: CO emissions from domestic shipping, t/grid

Full Title: Map: Carbon monoxide (CO) emissions from domestic shipping (in tonnes per grid cell)

Diffuse Sources / General information:

The map shows the diffuse emissions of carbon monoxide (CO) to air from domestic shipping of the EU27 and EFTA4 countries per 5x5 km^2 grid cell for the reference year 2008, available in 2010. Diffuse emissions of carbon monoxide (CO) are expressed in tonnes per grid cell.

Diffuse Sources / Methodology:

Geographic Information System (GIS) overlay:

Emissions of carbon monoxide (CO) to air from domestic shipping are distributed according to the data reporting of the countries to the Convention on Long-Range Transport of Air Pollution (CLRTAP), using the location of the harbour from EUROSTAT (GISCO harbour location data), the land use information (from CORINE land cover), territorial waters, coastal shipping routes (spatial pattern), and navigable inland waterways. The emissions are allocated using GIS overlay techniques for distribution into grid cells with a spatial resolution of 5x5km². The dataset is then transformed into vector polygons and projected into the E-PRTR WGS84 standard projection.

Comparability

Considerable spatial variation is apparent. The main reason for the difference is:

  ➢ The spatial pattern of emissions is dependent on the navigation routes and the spatial density of vessel traffic

Diffuse Sources / Source Data:

Map: Carbon monoxide (CO) emissions from domestic shipping (in tonnes per grid cell)

Emissions data

Emission data used are national totals including releases from National Navigation (NFR 1A3dii), Agriculture/Forestry/Fishing (NFR 1A4ciii) into air from domestic shipping for the year 2008. These are based on data sets officially reported as national emission totals by countries to the Convention on Long-range Transboundary Air Pollution (CLRTAP). All emissions from domestic shipping are considered all as diffuse releases in the E-PRTR Register.

The methodology applied and data used is described in detail in a methodology report.

Administrative boundaries data

EUROSTAT GISCO Administrative units and Statistical units: Country boundaries and boundaries of administrative units (NUTS3)

Maritime boundaries and territorial waters data

VLIZ 2010 maritime boundaries geodatabase, version 5
EEA maritime boundaries (territorial waters)

Harbour location data

Ports location from EUROSTAT GISCO transport networks data (2009 geo data set on ports)

Activity data of domestic shipping

TRANS-TOOLS river network traffic volume data
Voies Navigables d'Europe (VFN)

information on accessibility of inland waterways
EUROSTAT statistical information on harbour movements

Land use data

CORINE Land Cover data (CLC$_{2006}$, CLC$_{2000}$ and CLC$_{CH1990}$ for Switzerland) are merged in order to cover all EU27 and EFTA4 countries. Considered Corine Land Cover classes are classes a "Water courses (511)" and "Water bodies (512)".