Map 05

Short Title: NO_X emissions from domestic aviation, t/grid

Full Title: Map: Nitrogen oxides (NO_X) emissions from domestic aviation (in tonnes per grid cell)

Diffuse Sources / General information:

The map shows nitrogen oxides (NO_X) emissions to air from domestic aviation (below an altitude of 1000 m) of the EU27 and EFTA4 countries per 5x5 km^2 grid cell for the reference year 2008, available in 2010.

Diffuse emissions of nitrogen oxides (NO_X) are expressed in tonnes per grid cell.

Diffuse Sources / Methodology:

Geographic Information System (GIS) overlay:

Emissions of nitrogen oxides (NO_X) to air from domestic aviation (below an altitude of 1000m) are distributed according to the reporting of the countries to the Convention on Long-Range Transport of Air Pollution (CLRTAP), using the location of airports (GISCO), land use information, and domestic landing and take-off cycles (GISCO). The emissions have been 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 from domestic aviation is dependent on the spatial distribution of airports across Europe and their landing and take-off cycles.

Diffuse Sources / Source Data:

Map: Nitrogen oxides (NO_X) emissions from domestic aviation (in tonnes per grid cell)

Emissions data

Emission data used are national totals including the release from civil domestic aviation (NFR 1A3aii(i) LTO) to below an altitude of 1000 m for the year 2008. These data are based on data sets officially reported as national emission totals by countries to the Convention on Long-range Transboundary Air Pollution (CLRTAP). Emissions data used for the gridding procedure of NOx are national totals from the CLRTAP Nomenclature For Reporting (NFR). All emissions from Domestic aviation are considered as diffuse releases in the E-PRTR Register. The methodology applied and data used in is described in detail in a methodology report.

Administrative boundaries data

EUROSTAT GISCO Administrative units and Statistical units

Airport location data

Airport locations from EUROSTAT GISCO transport networks data (2009 geo data set on airports)

Activity data of domestic aviation

Activity data from EUROSTAT for 2008 on domestic LTO cycles at airports are used

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. Harbour location data are derived using CORINE Land Cover data (CLC$_{2006}$, CLC$_{2000}$ class "1.2.3: Port areas")