Map 08

Short Title: SO_2 emissions from road transport, t/grid

Full Title: Map: Sulphur dioxide (SO_2) emissions from road transport (in tonnes per grid cell)

Diffuse Sources / General information:

The map shows the diffuse emissions of sulphur dioxide (SO_2) to air from road transport of the EU27 and EFTA4 countries per 5x5 km^2 grid cell for the reference year 2008, available in 2010. Diffuse emissions of sulphur dioxide (SO_2) are expressed in tonnes per grid cell.

Diffuse Sources / Methodology:

Geographic Information System (GIS) overlay:

Emissions of sulphur dioxide (SO_2) to air from road transport are distributed according to the data reporting of the countries to the Convention on Long-Range Transport of Air Pollution), using the road network density and traffic density (derived from TREMOVE and TRANS-TOOLS transport models (CLRTAP) and the GISCO data set. The emission allocation into highway, rural and urban activities has been derived from the TREMOVE model. 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 reasons for the differences are:

- The emissions from road transport are dependent on the density of the road network.
- The emissions from road transport are allocated by road class-specific mileages of different vehicle categories.
- The emissions from road transport not covered by traffic volume are dependent from the population density.

Diffuse Sources / Source Data:

Map: Sulphur dioxide (SO_2) emissions from road transport (in tonnes per grid cell)

Emissions data

Emission data used are national totals including releases from passenger cars (NFR 1A3bi*)*, from light duty vehicles (NFR1A3bii), from heavy duty vehicles (NFR1A3biii), as well as from mopeds and motorcycles (NFR1A3biv) into air from road transport 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 transport sector emissions are considered as diffuse emission sources in the E-PRTR Register.

Activity data derived using transport models

TREMOVE: road type and pollutant specific split factors

TRANS-TOOLS: road network and traffic density data

Road network

Eurostat, GISCO: Road network from EuroRegional Map v31: Transport (TRANS)

Population data

JRC Population density disaggregated with Corine land cover 2000 and 2006: European Population Density Map 2000 and 2006

EUROSTAT GISCO - Statistical information on population data per administrative unit (NUTS3 level) for Switzerland (publicly not available).

EUROSTAT GISCO - Degree of Urbanization