

## Map 10

**Short Title:** SO<sub>2</sub> emissions from domestic aviation, t/grid

**Full Title:** Map: Sulphur dioxide (SO<sub>2</sub>) emissions from domestic aviation (in tonnes per grid cell)

### Diffuse Sources / General information:

Map: Sulphur dioxide (SO<sub>2</sub>) emissions from domestic aviation (in tonnes per square kilometre per year)

The map shows the diffuse emissions of sulphur dioxide (SO<sub>2</sub>) to air from domestic aviation (below an altitude of 1000m) of the EU27 and EFTA countries per 5x5 km<sup>2</sup> grid cell for the reference year 2008, available in 2010. The diffuse emissions of Sulphur dioxide (SO<sub>2</sub>) are expressed in tonnes per grid cell.

### Diffuse Sources / Methodology:

#### Geographic Information System (GIS) overlay:

Emissions of Sulphur dioxide (SO<sub>2</sub>) 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 are allocated using GIS overlay techniques for distribution into grid cells with a spatial resolution of 5x5km<sup>2</sup>. The dataset is then transformed into vector polygons and projected into the E-PRTR WGS84 standard projection.

The methodology applied is described in detail in a methodology report.

#### 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: Sulphur dioxide (SO<sub>2</sub>) 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 1A3a(i)LTO) to below an altitude of 1000 m 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](#)). Emissions data used for the gridding procedure of SO<sub>2</sub> 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 is described in detail in a methodology report.

### Land use data

[CORINE Land Cover data](#) ([CLC<sub>2006</sub>](#), [CLC<sub>2000</sub>](#) and [CLC<sub>CH1990</sub> for Switzerland](#)) are merged in order to cover all EU27 and EFTA4 countries. Harbour location data are derived using CORINE Land Cover data (CLC<sub>2006</sub>, CLC<sub>2000</sub> class “1.2.3: Port areas”)

### 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