
AKADEMIA GÓRNICZO-HUTNICZA
IM. STANISŁAWA STASZICA W KRAKOWIE

# INTEGRACJA DANYCH PRZESTRZENNYCH
# I GIFT
# W1

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# Dane przestrzenne

- Definicja
- Modele danych
- Formaty danych
- Układy współrzędnych
- Skala
- Źródła danych

CAD GIS?

# Dlaczego dane wymagają integracji?

# Oprogramowanie

- Quantum GIS, GRASS
- ILWIS

- GIS, przetwarzanie obrazów teledetekcja
  - Geomedia Professional, Geomedia Grid, Idrisi, PCI, Envi, (ArcGIS), ERDAS
- CAD
  - Microstation (AutoCad)

# Dane

- Dane geodezyjne
- LULC
- Obrazy teledetekcyjne
- NMT

# LULC

- Urban Atlas
  - The Urban Atlas is providing pan-European comparable land use and land cover data for Large Urban Zones with more than 100.000 inhabitants as defined by the Urban Audit. The GIS data can be downloaded together with a map for each urban area covered and a report with the metadata.

# What is the European Urban Atlas?

The European Urban Atlas is part of the local component of the GMES/Copernicus land monitoring services. It provides reliable, inter-comparable, high-resolution land use maps for 305 Large Urban Zones and their surroundings (more than 100.000 inhabitants as defined by the Urban Audit) for the reference year 2006. The GIS data can be downloaded together with a map for each urban area covered and a report with the metadata.

# Why was the Urban Atlas developed?

It was created to fill a gap in the knowledge about land use in European cities. The Urban Audit, a data collection of indicators on cities and their surroundings, showed that although a wide variety of socio-economic data is available for cities, inter-comparable land use data did not exist. To facilitate more evidence-based policy-making, the European Urban Atlas was designed to compare land use patterns amongst major European cities, and hence to benchmarking cities in Europe. It uses images from satellites to create reliable and comparable high-resolution maps of urban land in a cost-efficient manner.

# Who are the main stakeholders of the urban atlas?

The Urban Atlas is aimed at everyone who wants to compare a city in one country in Europe with a city in another country.  It provides relevant data for analysis related to transport, environment and land use.

# What are the benefits of the Urban Atlas?

The Urban Atlas has a legend designed to capture urban land use, including low density urban fabric, and a resolution that is 100 times higher than CORINE land cover. The maps of the Hague and Torino show how Urban Atlas brings cities and urban fringes into focus thans to its superior resolution. The higher resolution in combination with the street network allows for a wide range of additional analyses such as proximity to green space or train stations. The Urban Atlas provides a far more accurate picture of urban sprawl in the fringe of urban zones.

# Who is involved in the Urban Atlas?

The Urban Atlas is a joint initiative of the European Commission Directorate-General for Regional Policy and the Directorate-General for Enterprise and Industry with the support of the European Space Agency and the European Environment Agency. The Urban Atlas was executed by the French company Systèmes d'Information à Référence Spatiale (SIRS), who was awarded a contract through an open call for tender.

There is one zip archive per area, e.g. for Vienna: at001l_wien, which includes

The actual vector data in ESRI shapefile format (Reprojected to LAEA/ETRS89)

A PDF document with a high-resolution map of the area (Reprojected to LAEA/ETRS89)

A MS Word document with metadata and results of quality checks, referring to the original, non-reprojected data

Overview
Services
Land Monitoring
Marine Monitoring
Atmosphere Monitoring
Emergency Management
Security
Climate Change
Satellites
In Situ Data
Applications
Tenders & Grants
Projects
User Uptake
Library
Events
News
Newsletters
Publications
Links

# Land Monitoring

The Copernicus land monitoring service provides geographical information on land cover and on variables related, for instance, to the vegetation state or the water cycle. It supports applications in a variety of domains such as spatial planning, forest management, water management, agriculture and food security, etc.

The service became operational in 2012.

It consists of three main components:

- A global component;
- A Pan-European component;
- A local component.

The global component is coordinated by the European Commission DG Joint Research Centre (JRC). It produces data across a wide range of biophysical variables at a global scale (i.e. worldwide), which describe the state of vegetation (e.g. leaf area index, fraction of green vegetation cover, vegetation condition index), the energy budget (e.g. albedo, land surface temperature, top of canopy reflectance) and the water cycle (e.g. soil water index, water bodies). Read more...

The Pan-European component is coordinated by the European Environment Agency and will produce 5 high resolution data sets describing the main land cover types: artificial surfaces (e.g. roads and paved areas), forest areas, agricultural areas (grasslands), wetlands, and small water bodies. The pan-European component is also updating the Corine Land Cover dataset to the reference year 2012. Read more...

The local component is coordinated by the European Environment Agency and aims to provide specific and more detailed information that is complementary to the information obtained through the Pan-European component. It focuses on "hotspots" which are prone to specific environmental challenges. The local component provides detailed land cover and land used information (over major European cities, which are the first type of "hotspots". This is the so-called Urban Atlas. Besides an update of the Urban Atlas, the ...onent will address biodiversity in areas around rivers (riparian areas). Read


Click on the picture to watch the video on the Copernicus Land Monitoring Service

Overview
Services
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Regional and local planning
Agriculture, forestry and fisheries
Health
Emergencies
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Tourism
Copernicus for Regions
Tenders & Grants
Projects
User Uptake
Library
Events

# Management of urban areas

More than a quarter of the European Union territory is directly covered by urban land use. This makes the management of urban areas a key component of any sustainable development policy.

Copernicus supports public authorities in designing and implementing policies related to the management of urban areas.

For instance, Copernicus can monitor the evolution of soil sealing and help cities to adapt their spatial planning policies. It can also help local and regional authorities monitoring the evolution of urban green areas or improving waste management practices (e.g. by detecting illegal landfills).

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Application examples:

- Exploring Copernicus Urban Atlas data potential for urban planning applications at regional and city level (Source *Window on GMES*)
- Satellite Earth Observation data provides regions with monitoring services to improve waste management practices (Source *GMES4Regions*)
- Designing more habitable cities (Source *ESA Briefs*)

**Green Scenarios**
- Control scenarios
- Gothenburg scenario

**Today's Forecasts**
- Reactive Gases
- Aerosols
- European Air Quality
- UV Index
- Ozone Layer
- CO2

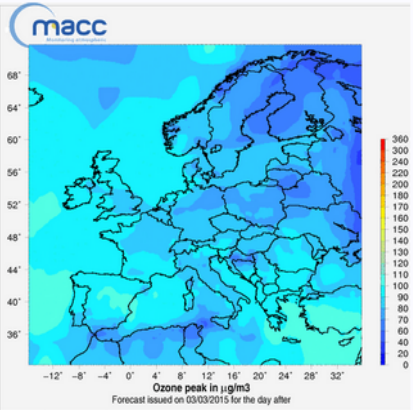
**Latest Analyses**
- European Air Quality
- Fire Monitoring
- Reactive Gases
- Aerosols

# Control scenarios

(•) **Forecasts** ( ) **Emission scenario impacts**

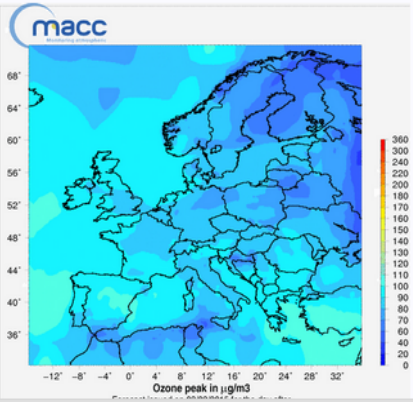
Pollutant Ozone ▾ Day D+1 ▾

## Ozone daily peak (reference)




Reference is the baseline scenario with the complete set of emissions for 7 pollutants: nitrogen oxides (NOx), carbon monoxide (CO), ammonia (NH3), volatile organic compounds (VOCs), sulphur dioxide (SO2), PM (PMcoarse and PM2.5). It will enable us to assess the impact of the emission reduction scenarios presented below.

## Ozone daily peak (stra)




The traffic oriented scenario is based on an hypothetic reduction of road traffic emissions throughout Europe by 30%. This reduction targets the following pollutants: nitrogen oxides (NOx), carbon monoxide (CO), ammonia (NH3), volatile organic compounds (VOCs), sulphur dioxide (SO2), PM. The 30% reduction assumption is fully theoretical but can be seen as representative of reducing by a half the number of vehicles used in Europe. The objective is to assess the impact of this "extreme" scenario. It should be noted that because of non linearities in atmospheric chemistry and complex ozone formation processes, increasing ozone levels can occur.

**User Support**
- Documentation
- Validation
- E-learning
- Mailing Lists
- Operational Info

**Services**
- Air Quality & Atmospheric Composition
- Climate Forcing
- Ozone Layer & Ultra-Violet Radiation
- Solar Radiation
- Emissions & Surface Fluxes

ACCESS CATALOGUE

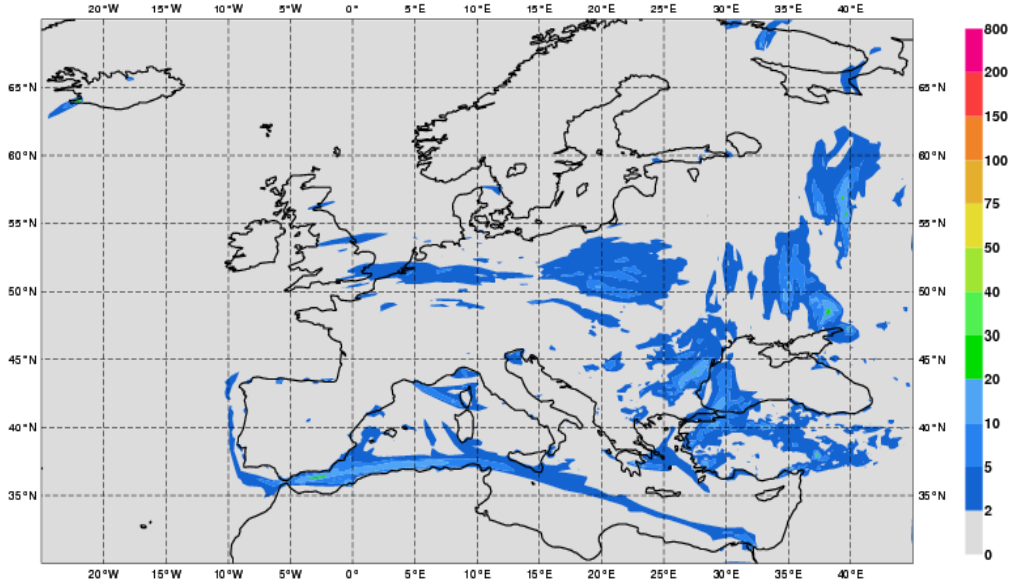
macc Monitoring atmospheric composition & climate

opernicus

METEO FRANCE



Tuesday 3 March 2015 00UTC MACC-RAQ Forecast t+000 VT: Tuesday 3 March 2015 00UTC
Model: ENSEMBLE MEDIAN Height level: Surface Parameter: Sulphur Dioxide [ µg/m3 ]

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-014 -013 -012 -011 -010 -009 -008 -007 -006 -005 -004 -003 -002 -001 000 001 002 003 004 005 006 007 008 009 010 011 012 013 014 015

| Forecast base time | Model | Level | Parameter |
|---|---|---|---|
| Tue 3 Mar 2015 00 UTC | ENSEMBLE | Surface | Sulfur Dioxide |

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# Urban Atlas

- Metodyka

Mapping Guide for a European Urban Atlas

This document contains the product description, mapping guidance and class description for the product "Urban Atlas".

ITD_0421_Mapping_guide_Urban_Atlas_I1.02.pdf (PDF document)

249.79 KB Download file

Urban_Atlas_2006_mapping_guide_v2_final.pdf (PDF document)

2.74 MB Download file

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srtm - Szukaj w Google | Shuttle Radar Topography

srtm.usgs.gov/index.php

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## Shuttle Radar Topography Mission

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### Mapping The World In 3 Dimensions

Under agreement with NASA, the USGS EROS Data Center distributes and archives SRTM data in accordance with a joint partnership Memorandum of Understanding between NASA and NGA.

SRTM Data is available is now available in a "finished" grade version for both DTEDŽ and SRTM Raster formats. See Obtaining "Finished" SRTM Data for more information about search and ordering.

To learn more about retrieving "unfinished" or research grade data from the Seamless environment, see Obtaining "Unfinished" SRTM Data for more information.

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For more information on SRTM visit JPL's SRTM website.

Jet Propulsion Laboratory

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Pokaż wszystkie pobrane pliki...

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