

GeoVille/Gisat to provide pan-European geo-referenced data sets to the European Environment Agency

Introduction

The objective of the European Environment Agency (EEA) is to support sustainable development and help achieve significant and measurable improvement in Europe's environment, through the provision of timely, targeted, relevant and reliable information.

To meet this goal the EEA operates a Geographic Information System (GIS) for the analysis of geospatial data. Very little of the information required by the EEA is available today in consistent spatial databases covering the whole area of interest to the EEA. On the contrary, if at all, most geospatial data is available from different sources and with little harmonisation between themes and countries, thus making it difficult to find the right data and moreover to use the data for analyses of comparable results across Europe.

In order to report progress in Greenhouse gas emissions or to assess the effects of climate change the EEA needs concise information. To maximise the use of existing information and to provide access to it, the EEA and the European Commission (EC) are developing components of the new system helping to reach this goal.

GMES – the Global Monitoring for Environment and Security - uses satellites and other sensors on the ground, floating in the water or flying through the air, to monitor our natural environment. The information provided through the GMES initiative will help the EEA and the EC understand better how, and in what ways, our planet may be changing, why this is happening, and how this might influence our daily lives.

SEIS – the Shared Environmental Information System - is a collaborative initiative of the EU and the EEA with the aim of moving away from paper-based reporting, to a shared system where information is managed as close as possible to its source and is made easily available to users in an open and transparent way. Based on technologies such as the internet and satellite systems it will make environmental information more readily available and easier to understand for policy makers and the public.

INSPIRE – the Infrastructure for Spatial Information in the European Community - is an EC initiative to set standards and build a framework that enable the European member states and its administrations to provide interoperable geospatial data and to make them available. INSPIRE is the backbone of SEIS.

Services and Data required by EEA

In order to achieve its mission (the provision of timely, targeted, relevant and reliable information) the EEA has requested services through a public bid for the provision of consultancy services and the provision of licences for (existing and future) pan-European geo-referenced data sets to fulfil this mandate.

The datasets required will come on the one hand from the different environmental data centres, but equally important from other sources of general reference data and other thematic areas than the environment, partly coming from public administrations at different hierarchical levels as well as private organisations (as the road network data from EuroGeographics and TeleAtlas).

In a public bid, GeoVille/Gisat's data fusion offer, combined with its experience with regard to GMES service provisions for land applications, was able to convince and best meet EEA's requirements.

Fulfilling pan-European data requirements

Being partners in the European Topic Centre on Land Use and Spatial Information (ETC LUSI), GeoVille and Gisat work with European-wide environmental data sets managed by the European Environment Agency (EEA) with a proven track record in data processing and analysing the territorial and environmental dimension of issues like urban sprawl, territorial cohesion policy, rural development or mountain areas.

GeoVille's proposal to the EEA, which was submitted together with the Czech geoinformation company Gisat, a long-time partner in the various joint GMES activities, was mainly based on datasets which already proved their value in support of the EEA data needs. By combining several existing data sources, like transport infrastructure and high resolution layers describing, for example green urban areas, small water bodies, built-up areas including the degree of soil sealing (imperviousness), the forest layer and other – still to be defined – high resolution layers of the Land Monitoring Core Service (LMCS), GeoVille/Gisat is able to offer an innovative approach to satisfy EEA needs for timely consistent, European-wide land cover information on short term.

An important part of this work will be related to making the different data sets geometrically and thematically consistent to each other, as most of them were created independent from each other.

High resolution layers could be the bridge between European coverage and timeliness requirements and national accuracy and detail demands. The integration of such high resolution maps with additional (in-situ) information are a big step forward and will lead to further enhancement of spatial characterisation of the land as used in the EEA integrated assessment framework based on LEAC.

The following services and supplies will be provided through GeoVille/Gisat to EEA:

- maintenance services for products currently used by EEA
- maintenance services for data sets listed in the annexes of the INSPIRE directive
- updates and processing of geospatial data sets
- extension of area coverage of data sets
- documentation of data sets, including data quality, use conditions and processing steps applied during data "manipulation" of derived data sets
- consultancy services.

Perspective of EEA's geospatial data needs

In the meantime, EEA and Member States need to continue discussing how to extract most useful synergies from national and European data creation activities within the context of GMES, INSPIRE and SEIS initiatives.

When working on land cover issues, we also must not forget the global activities which will have a growing impact on European efforts in the future. The GlobCorine project is a first step towards using medium resolution satellite data to create information that is – to a certain extent – compatible with CLC.

In addition, all the information already created by the EEA should not be ignored and activities doubled or repeated. The EEA has spent much time and effort e.g. on the creation of an improved database on rivers and river catchments or dams. Data from EuroGeographics, TeleAtlas or any other source should not replace these data, but should be used to improve the data content, building on the current data sets and in a way consistent to other related activities run by the EEA in the spatial data domain.



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GeoVille Group is a private sector enterprise located in Austria and Luxembourg. GeoVille Group specialises in products and services related to Earth Observation (EO) and Geographic Information Systems (GIS) applications.

GeoVille is Europe's leading company in using satellite data for spatial planning applications

Our environmental services provide the bridge from technical know-how - merging geospatial explicit data with statistics - to the analysis of what on-going processes and trends mean for the environment.



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Gisat is a privately run SME company based in Prague, Czech Republic, providing full portfolio of 'state-of-the-art' remote sensing and geoinformation services worldwide.

Gisat represents the centre point for all clients interested in satellite data applications and is ranked among the main European service providers with focus to environmental, agriculture and spatial planning domains.

Close collaboration with the potential users made the results of the projects concluded so far successful stories how the EO & GIS technology can help during decision making.
