



Project

The ESA GMES Service Element **GSE Land Information Services** joins the three ESA GSE projects that had already worked on land applications in the first GSE stage:

- **SAGE**: water pollution, water abstraction, agro-environmental indicators and soil sealing indicators.
- **GMES Urban Services (GUS)**: urban mapping and monitoring services;
- **CoastWatch** (land part): integrated coastal zone management.

The skills and consortia have been merged in order to provide a joint portfolio of mature GSE Land Information Services.

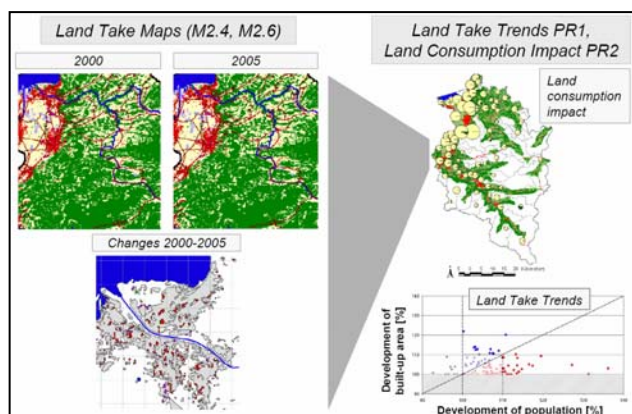
By integrating such information into existing infrastructure, models and management tools, international and national public institutions are enabled to fulfil their increasing reporting and management obligations in an improved way.

User Group

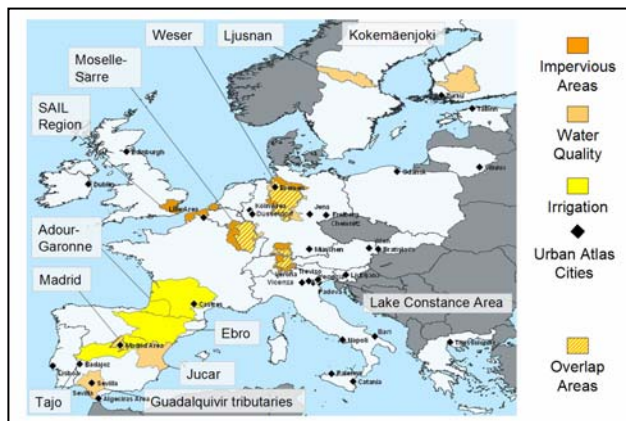
This requires a close co-operation with the end-users on all levels of the production chain. Thus, a pre-requisite of all GMES services is the willingness of all partners to jointly implement, test and apply such services.

Lead by the ETC-TE, about 90 user organisations involved in GSE Land and the European Commission's Integrated Project geoland team across the fragmented European user community for land information services.

This self-governed user network one of the new backbones of the geoland Core Service and Regional Observatories and the GSE Land activities. It will review and endorse the service specifications based on user requirements and the utilisation results, set the requirements and guidelines for the production processes in order to assure harmonised interoperable products and services across GMES.



GSE Land Service Example – Land Take Monitoring



GSE Land Services Roll-Out

Service Provider Network

An open service provider network acts as a temporary association. It is being set-up to define and develop supply side working practices and implement and monitor a formal supplier qualification schemes in order to ensure guaranteed quality of the geoland/GSE Land portfolio.

Together with the User Group, the service provider network shall act as an interest group directly interacting with the Commission services and the GMES bodies in order to support the structured implementation of operational GMES Land services.

Portfolio & Roll-out

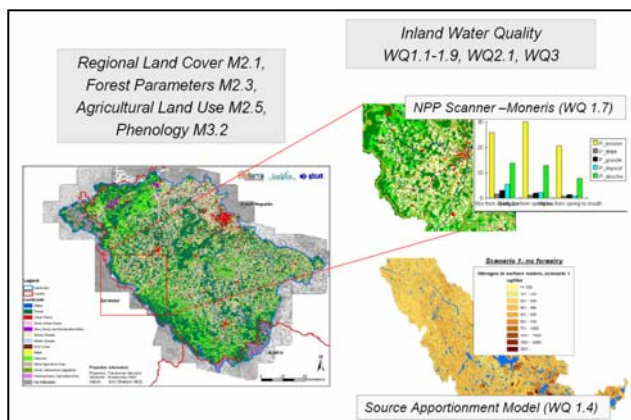
The GSE Land Information Services portfolio has been structured into common mapping services (core service) approach on three levels of scale; and a portfolio of geo-information services:

The **European Urban Atlas** will cover more than 50 European cities and agglomerations, providing a sound geo-information basis in support of the European Urban Audit implemented by DG Regio and DG Environment, and local urban planning activities.

The **Water Quality** (Diffuse Pollution) services will cover a number of key European catchments, some of them transboundary in Sweden, Finland, Germany, the Czech Republic, France, parts of Luxemburg and Belgium, and Spain.

Land Take Trends and **Land Take Impact** services monitor and predict soil sealing and identify potential conflicts with other uses resp. designated areas for nature or leisure. These services exploit synergies of a common land use / land cover mapping basis, and offer an interoperable portfolio with the "Water Quality Services".

The water consumption by agriculture is monitored and predicted by the **Irrigation** services focussed on the Mediterranean areas of Europe, being implemented for Spain and southern France during the course of this project.



GSE Land Service Example: Water Quality (Diffuse Pollution)

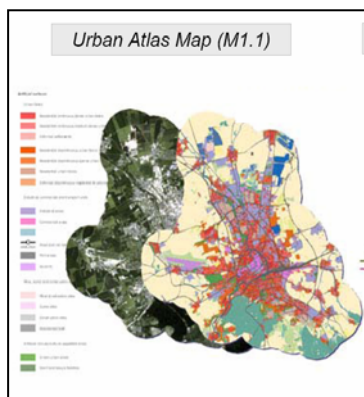
Nature Protection Services and a range of further downstream applications are foreseen as optional extensions to GSE Land.

Qualification & Validation

The qualification scheme developed for the GSE Land Information Services will be lead by the users, coordinated through ETC-TE. It consists of three pillars:

Standards & Validated Services: Product and service specifications jointly developed and validated by user organisations, service providers and scientists.

Qualification of service providers based on training and production chain requirements agreed with user organisations and formally checked by external auditors.



GSE Land Service Example: Urban Atlas

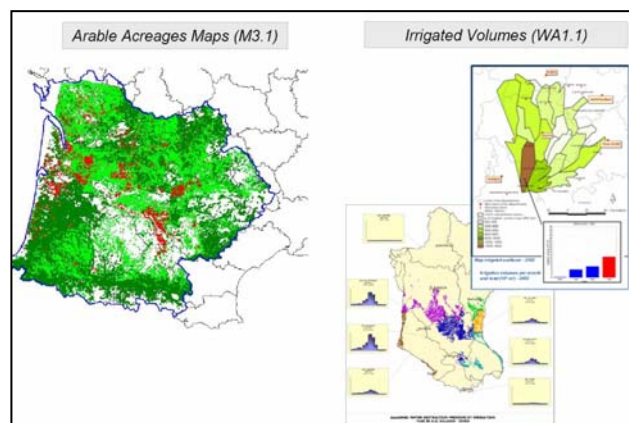
Quality Control / Quality Assurance implemented by a network of national user experts coordinated by ETC-TE using a statistical approach taking benefit of the producer-side QA protocols and using off-site field data provided by LUCAS and user-side surveys.

Towards Sustainability

Through the implementation of two interest groups designed to bridge across a number of “land related” GMES activities we hope to have better impact on the GMES process and the structured implementation of operational services.

The European Commission “Core Service Land Monitoring” as part of the fast track services described by the recent Communication “GMES: From Concept to Reality” aims to establish a European-wide basis for downstream geo-information services. The first to be funded by the Commission with member state participation and in-kind contributions, the latter to be covered by member states within their local mandate to implement European and national policies.

Such a common core service, covering about 50 – 70% of the total service costs, is expected to substantially ease the up-take of downstream services by local, regional and national member state institutions. Already now a large number of these local stakeholders invest into GMES through parallel activities synchronised with GSE Land, substantial in-kind contributions, and first operational calls.



GSE Land Service Example: Irrigation

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