

WISE – Water Information System for Europe

Description

WISE 'Water Information System for Europe' <http://water.europa.eu/> is a shared information system providing water related information available on European level. It stands for modernising and streamlining the collection and dissemination of information related to European water policy. The formal reporting framework for WISE is the European Water Framework Directive.

In its current version WISE delivers web-based information on

- My neighbourhood
- European waterbodies at risk and / or highly modified
- Waterquality (nitrates, phosphates, ammonium, BOD) in rivers and lakes
- Urban waste water treatment
- European bathing water status

As a shared information system of water-related data WISE is combining multiple spatial reference data from different sectors (landcover/landuse, digital elevation model, river networks, catchments, administrative boundaries and statistics).

Implementation of the system is based on ISO and OGC standards. IT tools are freely available. WISE is also the water related component of the European Directive on 'Infrastructure for Spatial Information in Europe (INSPIRE)'



WISE example average nitrate concentration and stations per water catchment in North-western Europe

Added value

WISE demonstrates how multi-national information on the environment can be stream-lined, harmonized, quality assessed and made public available for mutual benefits using state of the art information technology. As such WISE is a good practice example for how information can be organized in GEOSS on global level and can be part of an operational global network on water quality (GEO task WA-07-01)

Relevance to GEO

WISE is linked to a number of SBAs of the GEO Workplan, especially to 'Water Resource Management', 'Management and Protection of Ecosystems' and 'Sustainable Agriculture'. The IT-component of WISE is linked to the GEO tasks 'Enabling Deployment of a GEOSS Architecture (AR-07-01)' and 'GEOSS Architecture Implementation Plan (AR-07-02)'. The information hosted in WISE is the European contribution to 'Global Water Quality Monitoring (WA-07-01)'. As such WISE covers both operational managing of environmental data and IT solutions for making it available for public use.

The most important issues for GEO are:

- The concept of a shared information system as it might be used for Geoportal. This means data should be stored at different nodes and information should be shared between all participating nodes.
- Setting up of an interoperable system: For the sake of information sharing and exchange all participating nodes have to be interoperable, data should be exchangeable and services should be able to access and process data from different nodes.
- Following the subsidiarity principle: Data should be maintained at the most appropriate level and shared between all other levels.
- Transparency (open): It should be possible to discover easily data and services. User should be able to determine data's fitness for use and the conditions of usage should be clearly described

Participants

WISE is a joint activity from European Environment Agency (EEA), its 32 Member States organized in the European Environment Information and Observation Network (EIONET) 24 of them are also GEOSS members, the Joint Research Centre (JRC), Eurostat and the European Commission (DG-Environment). EEA and European Commission are a participating organization of GEO.

Current Status and Next Steps

WISE is an operational web based service where users can view and download maps and related information on water quality being collected by European and international bodies. The sharing of water-related data will enhance efficiency of data use and improve quality of assessments. WISE is thereby the water-related component of a wider Shared Environmental Information System (SEIS) currently under development following the concept of interoperable distributed data bases (Web 2.0).

Next steps include:

- Future data integration along the WISE implementation plan in the water domain (e.g. including water quantity and management)
- Providing the water related information for assessments based on the more integrated ecosystem approach
- Fully developing the water data centre to act as a model implementation for the shared information system SEIS