

Environmental and GIS datasets of Finnish Environment Institute SYKE

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The Finnish Environment Institute SYKE is a research and expert organization, which is dedicated to studying phenomena relating to environmental changes, and developing related change management solutions. The Data and Information Centre of SYKE compiles and manages data systems. Operating under the Data and Information Centre, the Geoinformatics Unit is responsible for the Finnish Environmental Administration's geographical information systems and remote sensing data. As well as maintaining geographical data systems, unit also works to develop new systems and techniques to improve the management of this data.

Environmental administration has collected, stored and used nationwide environmental data since the early 1970s. The most important environmental data systems are Environmental Information System (HERTTA), The Compliance Monitoring Data System (VAHTI) and Geographical Information Systems. HERTTA consists of various subsystems including information on monitoring of water quantity and quality, environmental protection, biological diversity, land use and environmental loading. VAHTI contains data on pollution loading, water and air pollution control, waste management and noise abatement.

Geographical Information Systems consists of over 50 nationwide GIS databases. Own data production by SYKE covers major themes needed in protection and management of the environment like protected sites (Natura2000 sites, Nationally designated sites), hydrography (River network, Lake database, River basins and catchments), geology and elevation (Groundwater, Bathymetry), land cover and use (Corine2000&2006 LU/LC, Land Use plans, Land Use Regulations plans) and environmental monitoring facilities (Area management/restriction/regulation zones and reporting units, Natural risk zones, Sea regions, Bio-geographical regions, Habitats and biotopes, Species distribution).

In addition to traditional observations, data is also collected into the systems using remote sensing methods. Available systems include those used to monitor i. a. harmful algae blooms, surface water temperatures and melting snow. In the field of environmental research, more and more emphasis is put on combining data obtained from different data sources. Information and datasets needed are produced by integrating satellite observations with GIS data-sets and field measurements. These products are assimilated with conventional measurements and also used in different environmental models.

The majority of information in data systems and spatial data produced by the State Environment Administration is available free of charge to customers through the OIVA service, which is the environmental and geographical information service for experts. OIVA includes information on water resources, surface waters, ground waters, species, environmental load and land use, alongside environmental GIS data. Content can be downloaded from the OIVA service as nationwide packages, or data on a given area can be retrieved using the LAPIO map user interface. Registration and acceptance of the terms of use are required in order to use the service.

The GIS data-sets are also being edited to comply with the requirements laid down in the INSPIRE directive through, for instance, supplementing the metadata and harmonisation of the data content with neighboring states. In addition, the data will be disseminated as standard-compliant interface services (viewing and downloading). Some of the INSPIRE related GIS data-sets are already achievable by WMS interface services.