

Atlas of the lagoon of Venice Summary

URL: <http://www.silvenezia.it>

Purpose of application

The Atlas of the lagoon is a web portal which allows access to environmental geographical data about the lagoon of Venice produced by a multitude of public bodies.

Geographic extent

Although the lagoon is the area of main interest for the Atlas, environmental data relative to its catchments basin and coastal waters are also included.

Target audience

The key objective of the Atlas is to bring together and organise the information held by separate data producer bodies, so that a variety of users (citizens, professionals, and various institutions) could refer to a single, shared information base.

Data included (general categories)

Number of data sets: approximately two hundreds (every month new datasets are added, especially through WMS protocols).

Information on:

- **Base Maps** e.g.: main morphological elements, imageries from several years, national and regional topography;
- **Biosphere** e.g.: habitat of the lagoon, coastal vegetation and habitats, distribution of seagrasses in the lagoon of Venice, fish farms, survey of ecological status of small islands, diffusion of invasive macroalgae;
- **Atmosphere** climate (maps of air temperature, rainfall and winds in the lagoon and its catchment areas)
- **Hydrosphere** e.g.: tides and waves; model of temperature, salinity of the lagoon of Venice
- **Lithosphere** e.g. depth of the lagoon in the years, sedimentology, etc.
- **Protected areas** protected areas (Natura 2000 areas, RAMSAR, IBA, etc.); boat speed limits
- **Anthroposphere** nature and historic routes, historical military fortifications, public transport lines in the lagoon; pollutant emissions from major industrial plants (from the EEA database EPRTR)
- **Special projects** georeferenced photographs taken by astronauts from the International Space Station; maps of biogenic reefs off the coast of Venice; morphological evolution of the Lagoon.

Distinguishing features

The possibility for users to find, in a unique single portal, relevant environmental data produced by a variety of bodies (EEA, Italian Ministry of Environment, research institutes, local authorities, etc.).

Technology used (web GIS, server, database, content management system?)

- **WebGIS:** Pmapper at present (GeoNode presently in developing phase)
- **Database:** PostgreSQL, PostGIS
- **Server:** Ubuntu, Apache, Tomcat; Map engines: Mapserver, Geoserver
- **Other:** CMS: Drupal.

Atlas support (financial/institutional)

The Atlas of the lagoon has been produced and is maintained by the City of Venice (Environment department) staff and external consultants, with the formal collaboration of the Institute of Marine Sciences of the Italian Council for Research (CNR-ISMAR). Other collaborations are expected to be formalised within 2011.

Funding for work on the Coastal Atlas come mostly from the City of Venice. The Veneto Region financed a project to map biogenic reefs of the coast of Venice, which has been included in the Atlas.

Challenges encountered

- Setting up data sharing agreements among the several data owners
- Critical gaps in existing information relevant to lagoon and coastal issues
- Constantly changing technology.

Lessons learned

- Good relationship with research institute to use environmental data for purposes different than scientific only;
- Importance of collaboration among data providers for sharing data;
- Communicate with stakeholders and potential partners about the potential of the Atlas (a conference on the Atlas was held in Venice on 3 Feb 2011).

Future directions (ongoing and future improvements?)

Planned improvements to the Atlas include:

- Setting up data sharing agreements among the bodies working in the lagoon area, both for data and technology sharing
- Define clearer data use license policy
- Continue the cooperation with Institute of Marine Sciences to promote a network of GeoNodes
- Join the ICAN prototype
- Upgrading Atlas technology (from MapServer to GeoServer, from Pmapper to GeoNode)
- Developing user friendly web applications and, in general, giving special attention to general public

- Spreading Atlas at local schools as a learning tool
- Adding new data and updating the existing data layers
- Improving interactions with users (e.g. collection of users naturalistic observations).