Indigeo: scientific infrastructure of spatial data and information on the environment

URL: http://indigeo.fr/

Purpose of application
indigeo, is a Spatial Data Infrastructure (SDI) dedicated to scientific research and observation of the environment. It consists of a metadata catalog and a spatialized data server backed to a map viewer.

It is at the initiative of the research lab LETG of CNRS, the Observatory for Earth Sciences of Brest (IUEM) and relies on the Brest Iroise LTER Site (ZABrI)

Geographic extent
Indigeo mainly covers the marine shoreline of Brittany (west France), stretches from the harbor of Brest to Iroise sea, from watersheds to the islands (Sein, Ouessant, Molène) on an area about 6690 km² of which 3730 km² in sea. However, these limits are not fixed and some data are outside this area for example coastal zone of Guinea-Bissau.

Target audience
Researchers, students, coastal resource managers, planners and decision-makers from administrative institutions

Data included (general categories)
Number of data sets (December 2014): 184 metadata record and published datasets
Information on:

- coastal vulnerability and risks (50)
- climate change, ecological state and eco-system perspectives (46)
- management, uses and conservation (88)

Distinguishing features
Spatiotemporal data
- Indigeo presents spatiotemporal data through which it is possible to navigate thanks to the advanced viewer features. Example: http://zabri.indigeo.fr/geocms/zabri-fsuziscn

Temporal data series
- Indigeo allows to view time-series data in graphical form through which it is possible to navigate thanks to the advanced viewer features. Example: http://zabri.indigeo.fr/geocms/zabri-qwnwxqbe

Technology used (web GIS, server, database, content management system?)
- WebGIS: georchestra, geoCMS
- Database: geoserver, geonetwork, postgresql 9.3 / postgis 2
- Server: Nginx Server with Apache Tomcat 6 and Unicorn Ruby server
Other: geoAuth, manageGraph (highcharts library)

Atlas support (financial/institutional)
Indigeo has been produced and is maintained by the UMR LETG of CNRS in collaboration with the IUEM observatory. Funding for work comes from CNRS

Challenges encountered
- Working together from several locations and institutions
- Develop new features for scientific purpose
- Metadata management
- Interoperability with other SDI
- Constantly changing technology
- Constantly evolving web standards
- Securing long term funding commitments

Lessons learned
- Importance of setting up a training plan
- Fit skills and availability of multipliers in the research units
- Available time for people in charge of this issue in units
- Communicate with users about new information and features

Future directions (ongoing and future improvements?)
Governance
- Establishment of a western scientific SDI steering committee
- Develop interaction with other research labs and observatories

Skills transfer
- Establishment of a two-level training plan:
  - User level (all research staff)
  - Professional level (multipliers in teams)

Developments
- Optimization of ergonomics (interrogation, mapping, metadata ...)
- Integration of new ways of viewing data (multiplicity of ways of representing graphs with highcharts, temporal raster, 3D, ...)
- Web Services Process (provision of specific geoprocessing ...