



localised environmental and health information services

direct newsletter

November 2010

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Lenvis mid-term seminar

by Schalk Jan van Andel (UNESCO-IHE)

In October, the lenvis mid-term seminar was held at UNESCO-IHE in Delft, the Netherlands. This international seminar, including the presence of various end-users, aimed at showing the intermediate results, the lenvis platform and lenvis services developed. The seminar was attended by about 40 people. In his opening address the rector of UNESCO-IHE stressed the need for up-to-date environmental and health information services, not only for the European community, but also, and maybe even more so, in the communities of developing countries. The most inter-active part of the seminar consisted of a pavilion that contained 5 presentation booths with demonstrations and hands-on try out of a number of lenvis services and the lenvis portal. The following demonstrations were given at the Pavilion:

- lenvis Portal - selecting services to customise portal sites of home page, water, air and health domain
- Health domain P2P and BI services, including air quality - hospitalisation relationships for prediction of health risks
- Air quality domain prediction service and model on demand service

- Bathing water quality domain inland bathing water website and portal web-parts for public and professional users.
- Bathing water quality domain coastal zone data and modelling services. Modelling on demand.
- Mobile phone android applications for inland bathing water quality general information and data and text feedback
- Mobile phone i-phone web-parts for coastal zone bathing water quality information



Impressions of the pavilion sessions.

Feedback was collected on Flip-overs and summarised plenary at the end of seminar. The platform and services were received well. The overall recommendation from the seminar is to focus coming activities on integration of the services with eachother and with the platform.

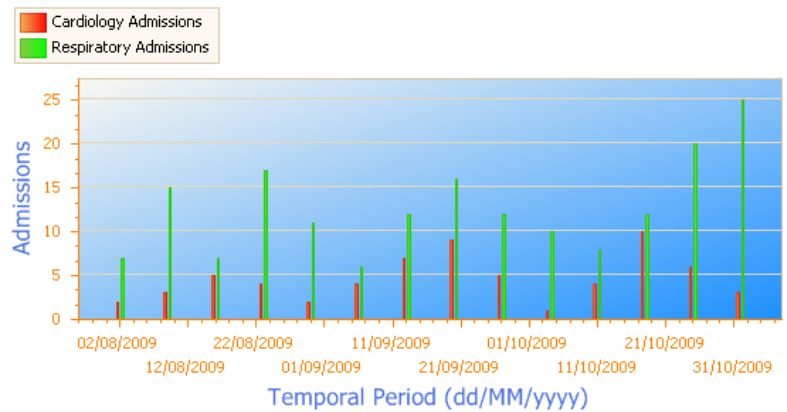
Lenvis at Milan Bicocca: health impact assessment modelling

By Daniele Toscani (University of Milano Bicocca)

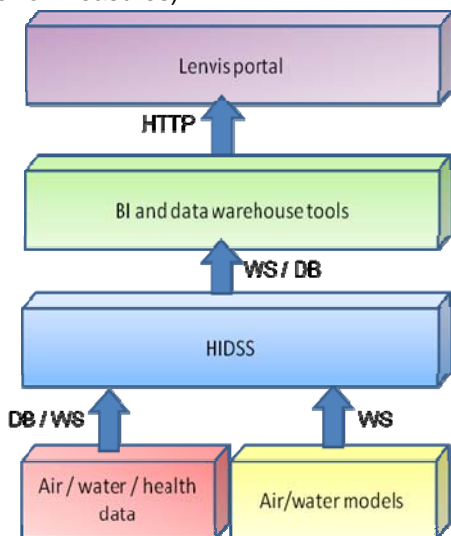
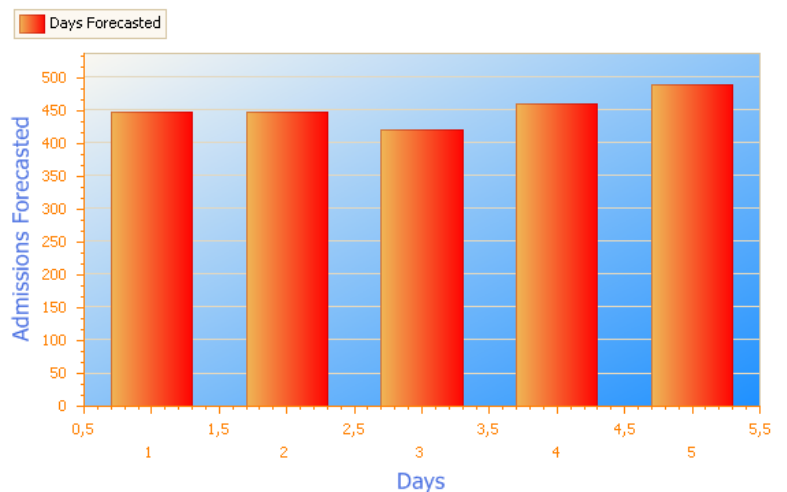
The University of Milano Bicocca is performing the methodological studies and the software implementation of the framework for health modelling. It is now available the first prototype of the framework for health impact assessment, a set of software components that implement models for statistical data analysis and forecast of short term health effects of pollution on the human health. One of its key components is the infrastructure to support dynamic queries and constraints: a framework to access distributed and heterogeneous data sources, which acts as dynamic ETL (Extract, Transform, Load) allowing to perform queries without specifying the source of the data, but only the type of data needed and the constraints that the results have to satisfy. The integration of ETL mechanisms with data analysis and modelling will be the HIDSS (Health Impact Decision Support System). Based on this, LENVIS will provide to all users the presentation of health indicators and querying over data, through graph of time series, and the forecast of health indicators, represented by the number of people admitted to hospital or doing complaints due to diseases related to pollution. To professional users, it will be provided the information about the model used for the prediction (type of models, rules that the model encodes...), its statistics on effectiveness / reliability (e.g. significance level of forecasts, error measures).

This development has required a continuous data collection, to improve the services, and the implementation of data transfer technologies from case studies (Bari and Milan) to the LENVIS network. The development of health impact models and their integration with business intelligence tools in the LENVIS portal is going to terminate, ready to start the evaluation with end users.

Cardiology and Respiratory Admissions over the Threshold in the selected day



Cardio-vascular Admissions Forecasting

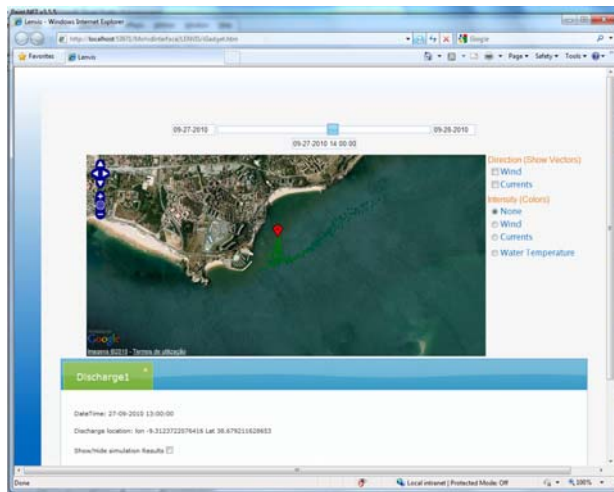


Portuguese case study products

By Paulo Leitão (Hidromod)

On September 30th 2010, during the Lenvis seminar in Delft, Hidromod and IST formally presented to the Dutch end users the products resulting from the Lenvis platform implementation in the Portuguese case study. In the core of these products is the beach Water quality forecasts published in a daily base. These forecast result from daily runs of the MOHID hydrodynamic and water quality model, meteorological forecasts from MM5, stream data from automatic hydrometric stations installed in the streams, catchment models (MOHID Land and SWAT), wave models (Wave Watch III and SWAN) and historical data (faecal contamination and discharges). A methodology to forecast the probability of contact between a bather and contaminated water masses was developed by IST. Using the New Bathing Water Directive (Directive 2006/07/CE) quality limits were established. Based in these limits, traffic light type water quality warnings (red – bad, yellow – sufficient, green – good) are disseminated via the Lenvis Portal (Beach Lisbon Quality gadget). The result from the Lenvis platform implementation were some products focused in the professional users and others in the general public. For the professional users three products were developed:

- Interface with access to all the time series and grid data services available in the Lenvis network;
- Interface to manage, in operational mode, sewer models and simulate this way the impact of Combined Sewer Overflow and emergency discharge events;
- Web service oriented modeling tool to simulate the impact of faecal discharge events. Via a webgis interface, this tool allows professionals to simulate several discharge scenarios in minutes (see figure).



lenvis case study beaches west of Lisbon

Red dot: discharge point. Green plume: contaminated water (rainbow colormap - green corresponds to a contamination in the order of $1e3$ MPN/100 ml).

For the general public, a web page focused in the surfing community was developed (<http://www.SurfersOracle.com>). The idea of this web page is to publish detailed physical (e.g. significant wave height, air and water temperature, etc) and water quality forecasts for each beach of interest. A pilot trial is underway to disseminate this information via SAPO web information services. SAPO (<http://www.SAPO.pt>) has the second most used search engine in Portugal (just behind Google) and manages several information channels via web, mobile phones and TV. The trial will be focused in SAPO surfing (<http://oceanlook.sapo.pt>) and beach users (<http://praias.sapo.pt>) channels.

Announcements

Events

- Project-programmers meeting - Lisbon, 13-16 December 2010

