



Reconfiguración de la Agricultura Chilena al 2030 en un escenario de cambio climático: aplicaciones de los instrumentos de información agroclimática

Hortus, Italy

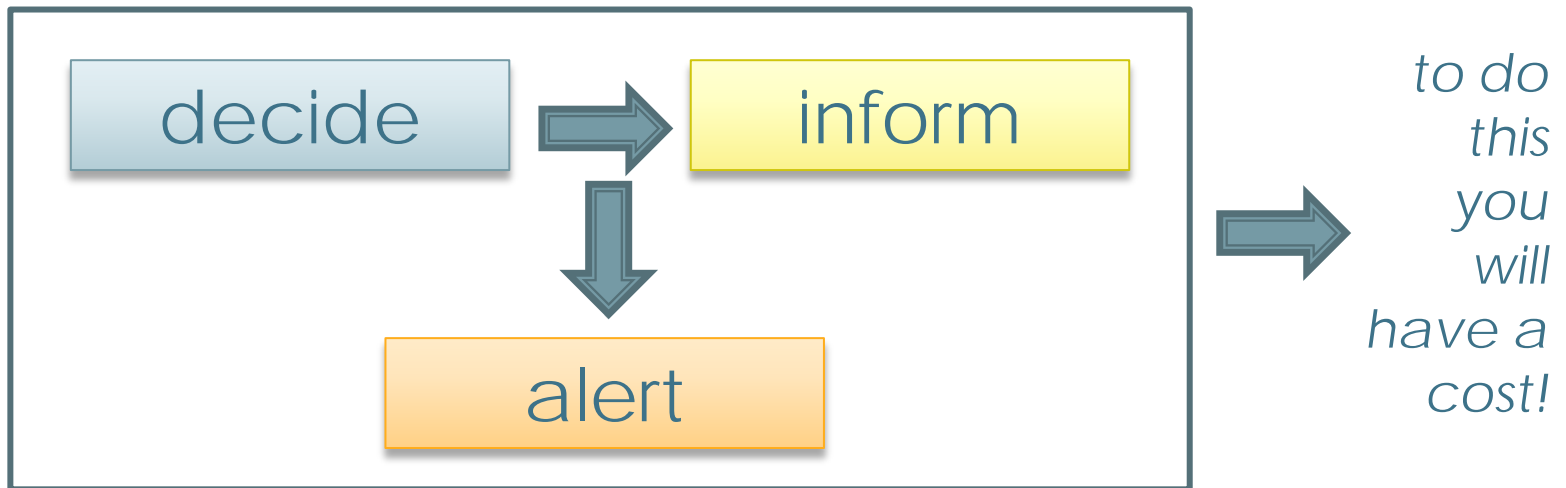
Integrated Web platform
for monitoring network

HMS-Web, integrated Web platform to manage monitoring systems

Hortus srl, founded in the 1987 by Mauro Reguzzoni (actual chairman), has more than twenty years experience in the production of custom software for data acquisition and management collected by monitoring networks.

All my professional experience is based on the conviction that for the Public Companies is very important:

- to be able to manage the information with a unique and integrated platform, easy to access, so you can:



without forget that you must have high quality data, specially for automatic collected data (that is very important for the scientific research)

HMS-Web, integrated Web platform to manage monitoring systems

Naturally, there is a cost to implement an integrated platform, but I am convinced that it is not a technology problem.

The really question is to take the decision to start the integration, identifying the:

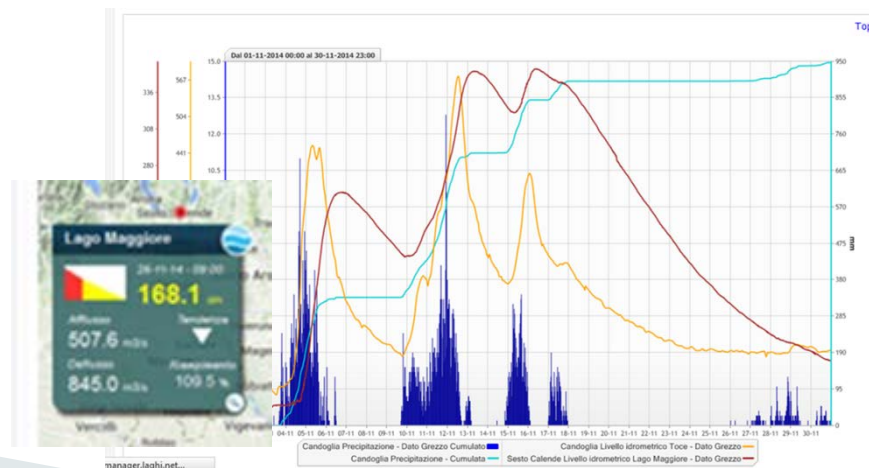
- different users
- standards for technologies
- design for DataBase
- common data representation

HMS-Web, integrated Web platform to manage monitoring systems

In particular manner, if we speak about hydrological resource, we must know that we are speaking of:

- complex systems, with many variables
- different interest to use the water, often impossible to share
- the new condition due to the Climate Change, in Europe we are observing that the intensity of rain is modifying

so is always more important to inform in opportune and appropriate manner, don't forget that often we have different users (not all are engineers).



Lago Maggiore
November 2014
950mm
accumulated rain

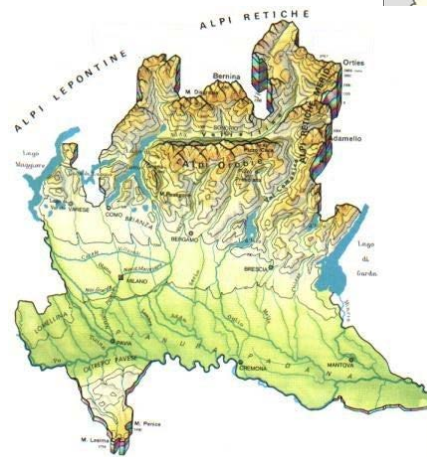
HMS-Web, integrated Web platform to manage monitoring systems

This presentation want to show how it is possible to integrate:

- monitoring stations of different producer
- different "information provider" using standard FTP and Web Services

into an unique platform with many functionalities.

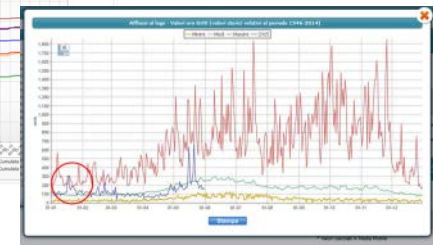
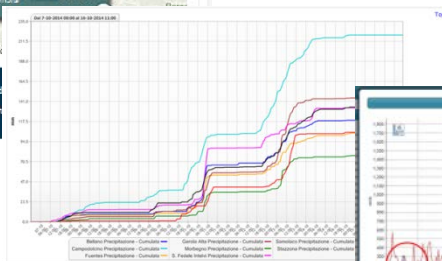
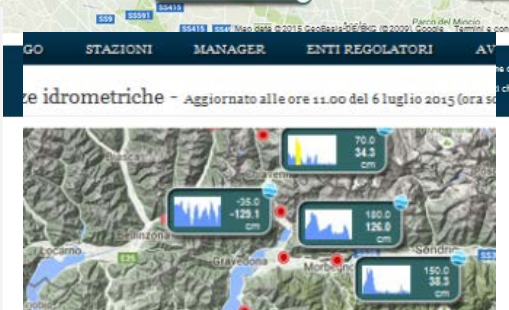
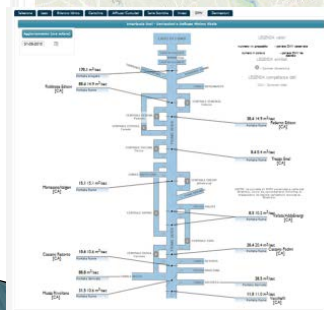
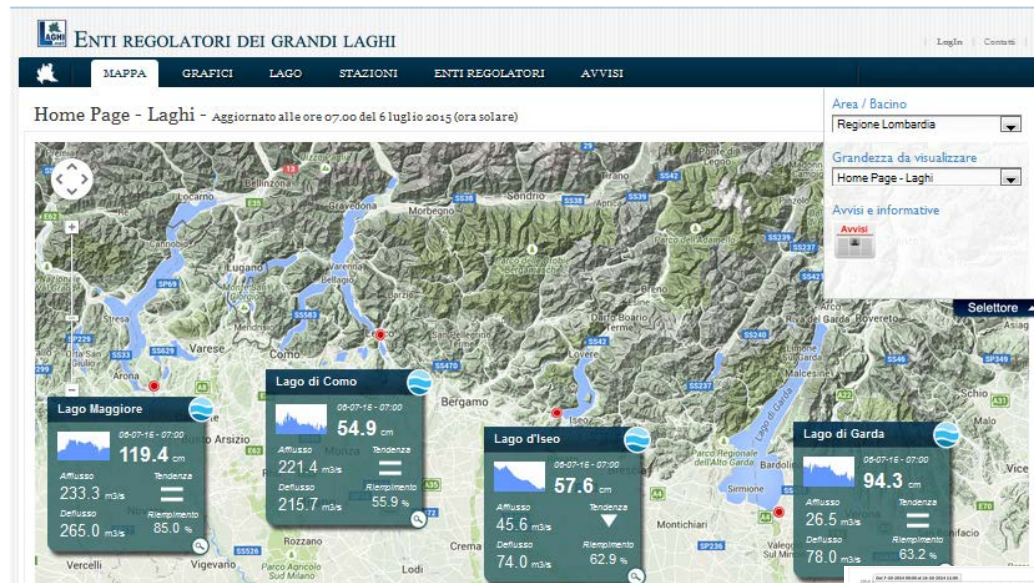
In the following slides, I present one real example implemented in Italy by the Governement Agency:



Regione Lombardia, Italy

HMS-WEB software platform (North Italy Lakes Regulators)

Since 1999 deals design, implementation and management of the web platform www.laghi.net which is a recognized reference for the hydrological monitoring of the Lakes of the north of Italy.



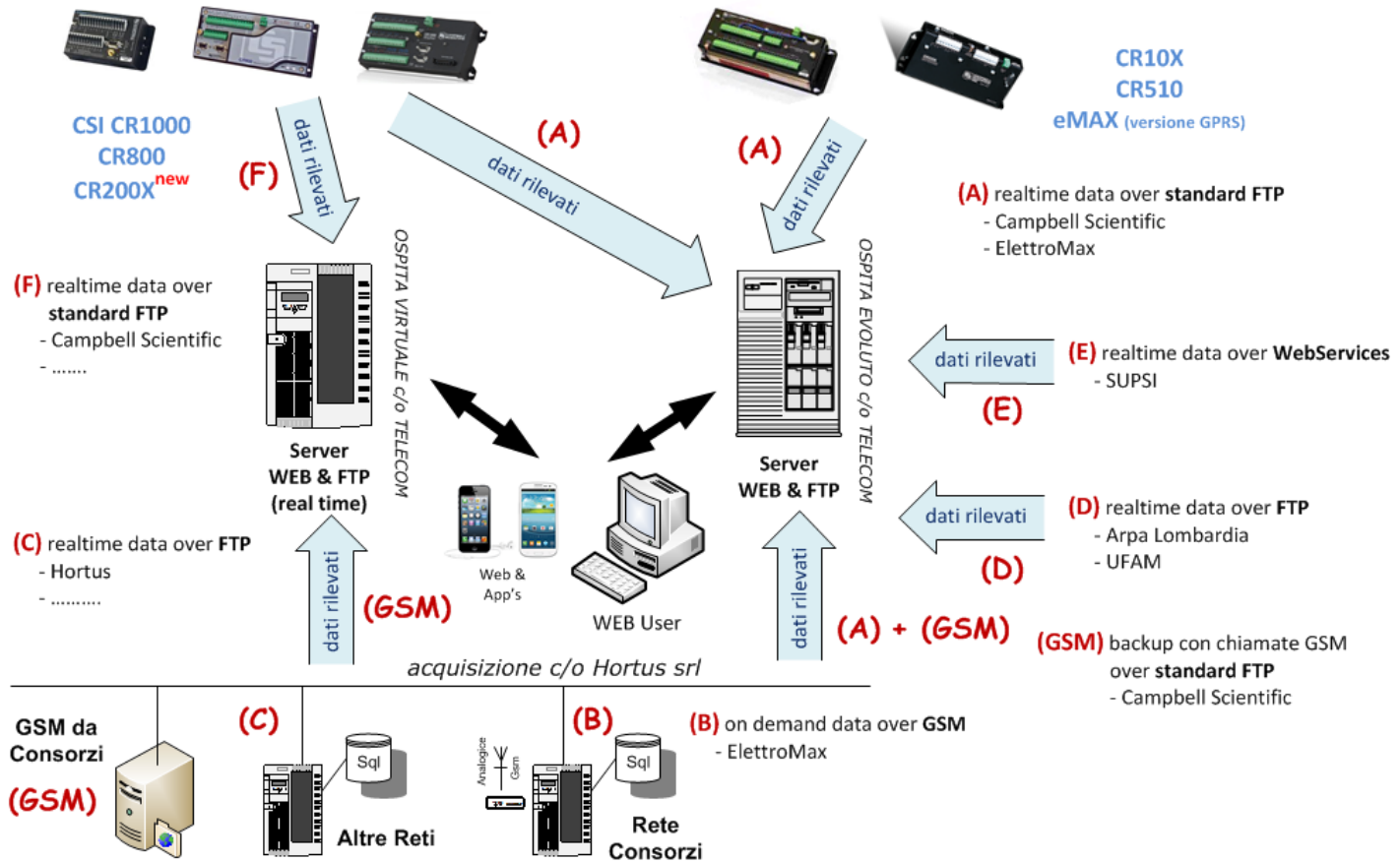
HMS-WEB software platform (North Italy Lakes Regulators)

Main system functionalities :

- unified database (distributed and accessible with WebServices) with historical data since 1946 and real time since 1987 (several data feed for hydrologic information)
- automatically receive data via FTP, IP sockets, Web Services
- web front-end for data management with synoptic and geo-referenced representation in Google Map[©]
- enhanced alarms management with a sophisticated notification system (SMS, eMail, XML Text Message)
- enable to monitor the platform functionality through the integrated **Network Management System** (automatically evaluate the functioning of the remote monitoring stations)

HMS-WEB software platform (North Italy Lakes Regulators)

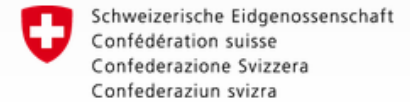
Flusso dati in modalità GPRS (Socket & FTP) e FTP da altri server + **BACKUP** (Socket & FTP & GSM)



HMS-WEB software platform (North Italy Lakes Regulators)

More than 200 real time monitoring stations of :

- Enti Regulatori Grandi Laghi
- Arpa Lombardia
- Arpa e Regione Piemonte
- UFAM, Ufficio Federale Ambiente Svizzero
- SUPSI, Scuola Superiore Universitaria di Lugano



SUPSI



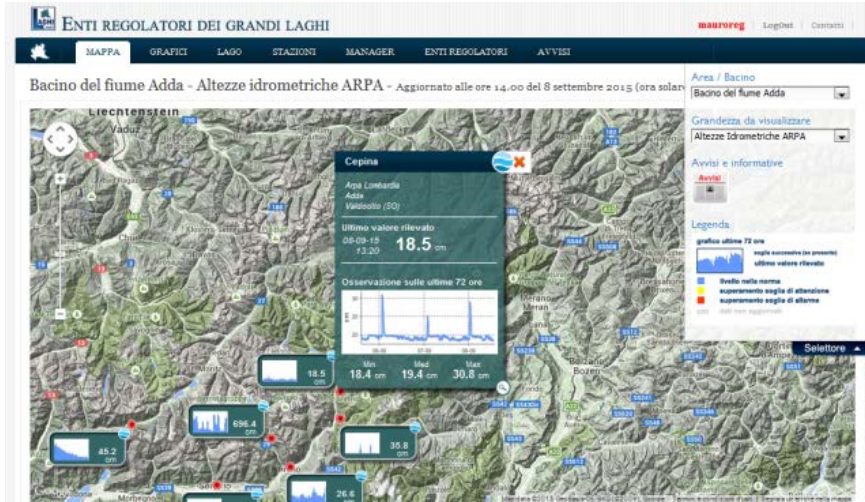
Sponsor by



HMS-WEB software platform (North Italy Lakes Regulators)

Different environment for the same data :

- hydrometric levels of Adda river in Cepina (nivel rio Adda in Cepina)



 ENTI REGOLATORI DEI GRANDI LAGHI



 ARPA LOMBARDIA
Agenzia Regionale per la Protezione dell'Ambiente

HMS-WEB software platform (North Italy Lakes Regulators)

Synoptic view for :

- lakes and rivers hydrometric levels and flow



← nivel y caudal
↓



HMS-WEB software platform (North Italy Lakes Regulators)

Synoptic view for :

- accumulated precipitation with different duration (lluvia acumulada)
- air temperature



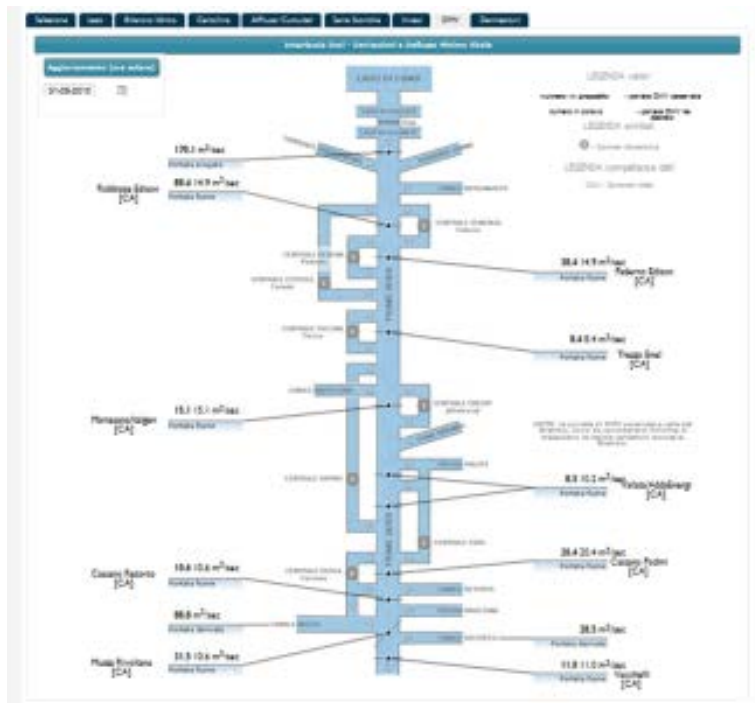
← lluvia y temperatura
↓



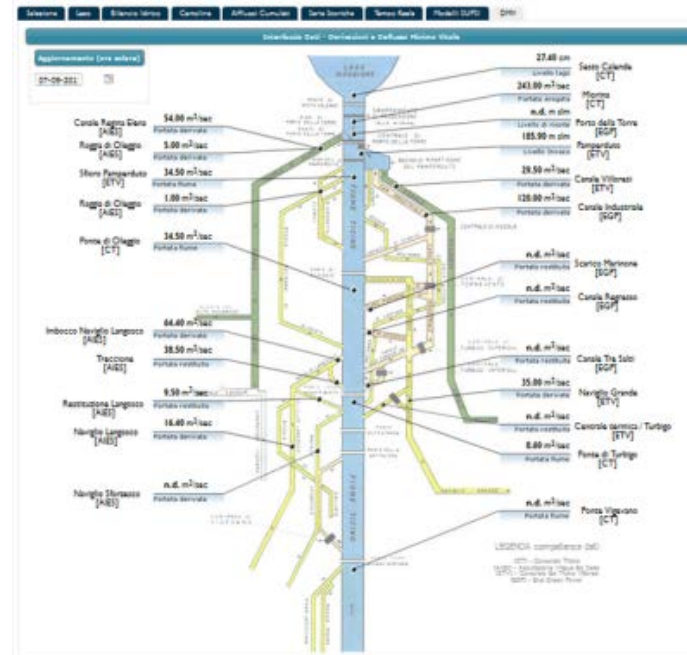
HMS-WEB software platform (North Italy Lakes Regulators)

Synoptic view for :

- flow for irrigation use and environmental preservation (riego y caudal ecológico)



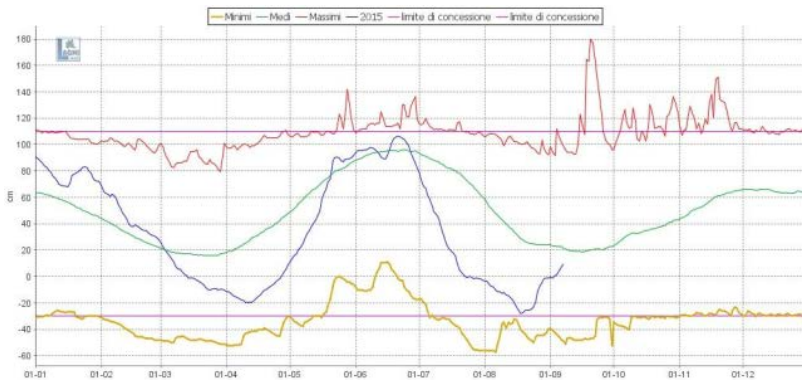
← riego y caudal ecológico ↓



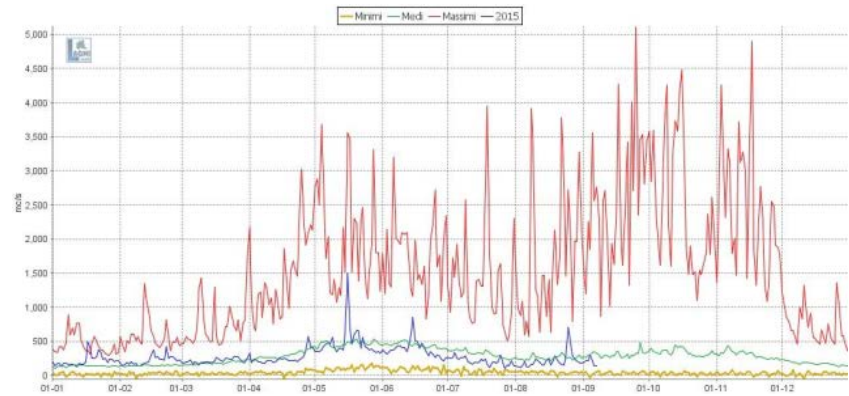
HMS-WEB software platform (North Italy Lakes Regulators)

Historical and statistics view for :

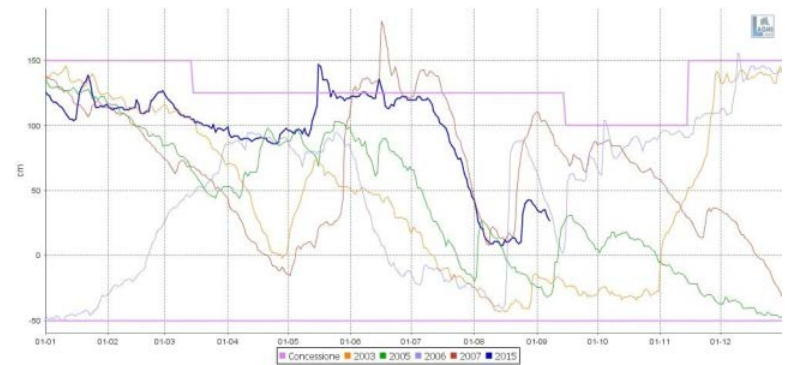
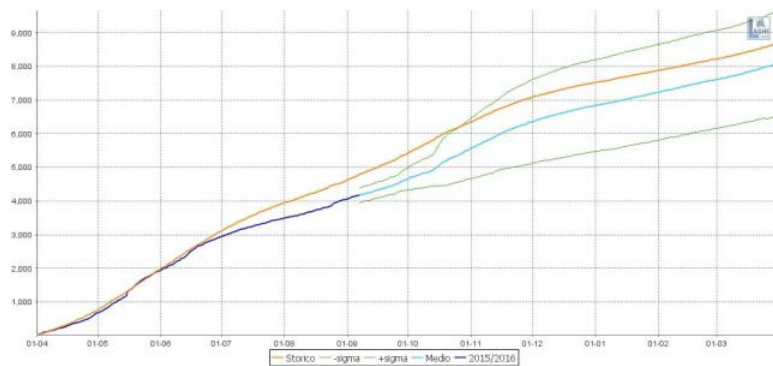
- lakes and rivers hydrometric levels and flow (nivel y caudal)
- accumulated water inflow (aflujo acumulado)



↑ nivel del día / aflujo acumulado ↓



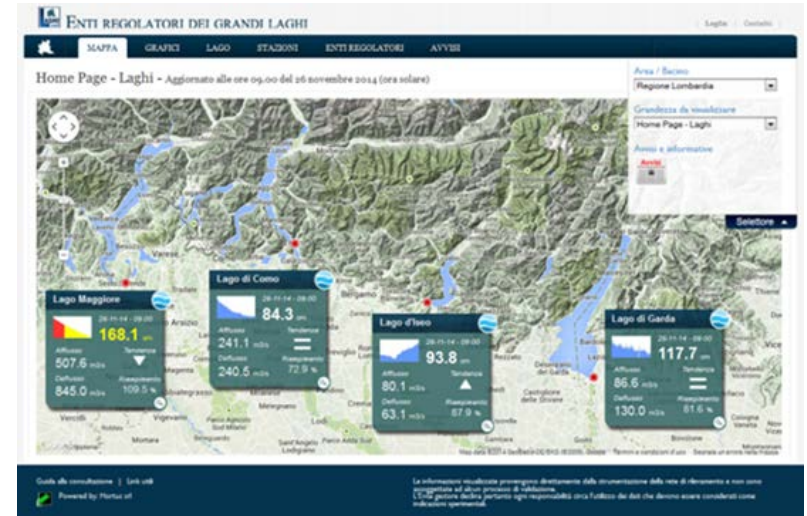
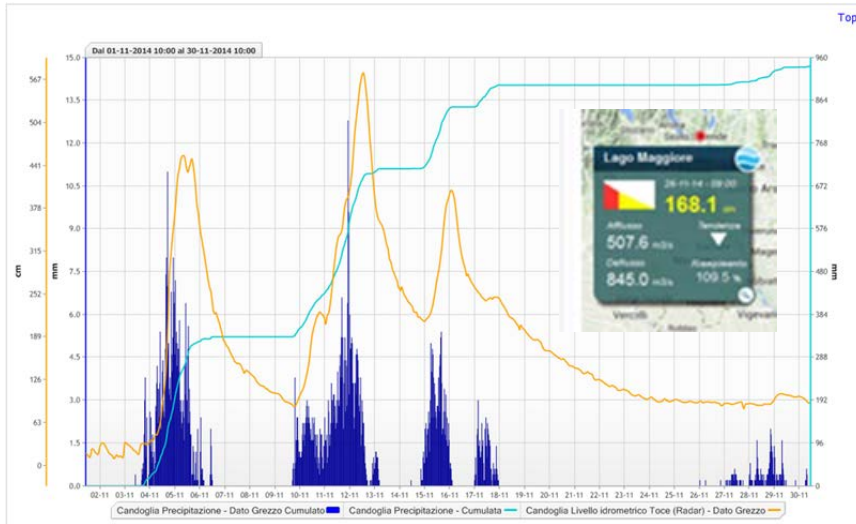
↑ aflujo del día / nivel años árido ↓



HMS-WEB software platform (North Italy Lakes Regulators)

Alert view :

- lakes and rivers hydrometric levels and flow (nivel y caudal)

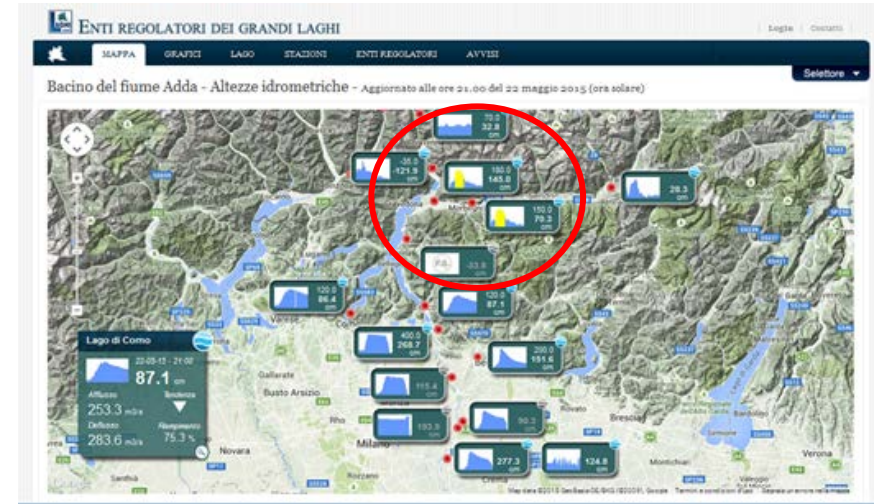
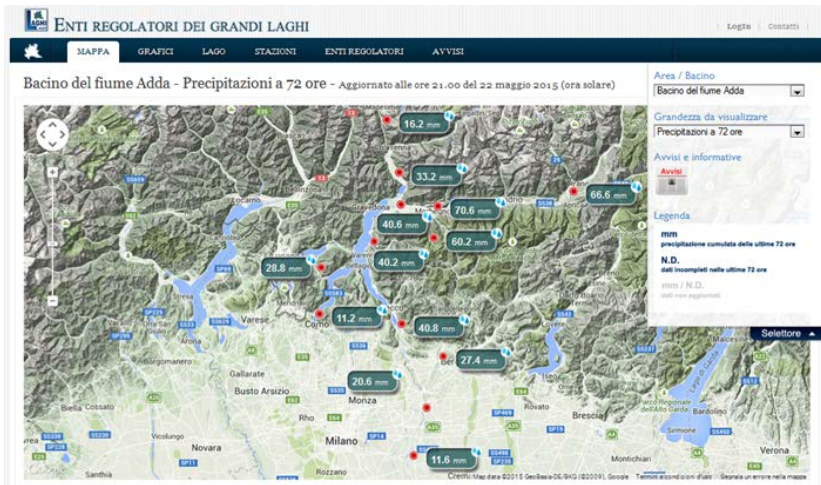


↑ nivel del rio, lluvia acumulada y aflujo al lago ↑

HMS-WEB software platform (North Italy Lakes Regulators)

Alert view :

- lakes and rivers hydrometric levels and flow (nivel y caudal)



↑ lluvia acumulada 72h y nivel del rio ↑

HMS-WEB software platform (North Italy Lakes Regulators)

Alert view :

- lakes and rivers hydrometric levels and flow (nivel y caudal)

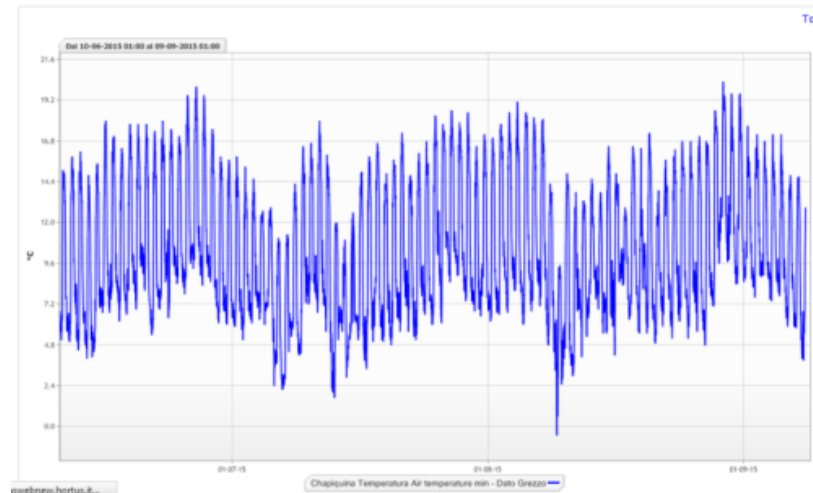
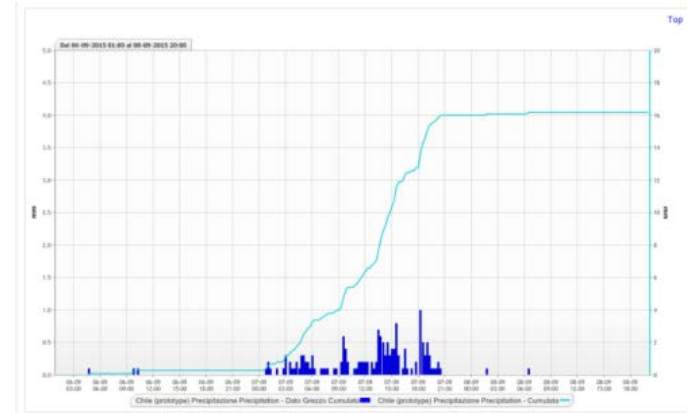


nivel del lago

HMS-WEB software platform, the experience in Chile

In June we installed for INIA :

- a prototype (for GPS data transmission system) in La Platina – Santiago
- a satellite data transmission system for a remote site in Chaipiquina - Putre



HMS-WEB software platform (North Italy Lakes Regulators)

You can free access to the web platform at link:

<http://www.laghi.net>

Thank you for the attention
Muchas gracias por la atención