

Geomatics for disaster management and survey

Tiziano Cosso

Genoa, 30 October 2013



Geomatics for.....

Wide range of application fields:

- ✓ Air navigation services
- ✓ Archaeological excavation and survey for GIS applications
- ✓
- ✓ Disaster informatics for disaster risk reduction and response
- ✓ Infrastructure management
- ✓ Land management and reform
- ✓ Natural resource monitoring and development
- ✓
- ✓ Urban planning
- ✓
- ✓ Meteorology
- ✓ Climate Change-Environmental Monitoring

Geomatics for.....

Wide range of application fields:

- ✓ Air navigation services
- ✓ Archaeological excavation and survey for GIS applications
- ✓
- ✓ **Disaster informatics for disaster risk reduction and response**
- ✓ Infrastructure management
- ✓ Land management and reform
- ✓ Natural resource monitoring and development
- ✓
- ✓ **Urban planning**
- ✓
- ✓ **Meteorology**
- ✓ Climate Change-Environmental Monitoring

In recent years....

two aspects influence the approach to geomatics

Open data and Crowdmapping



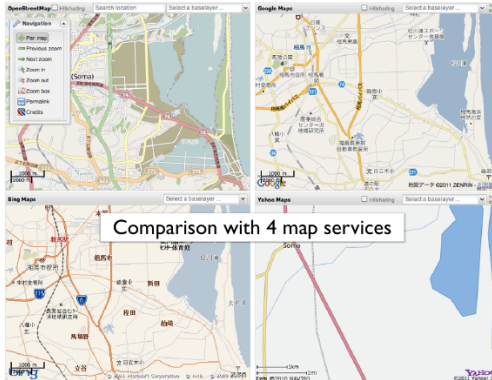
Data are updated and updatable
near real time

large amount of any kind of
sensors in our cities



there are many real-time
information that would be useful
to be gathered and organized

Open data and Crowdmapping



google map is considered....**historical map**

Sensor Observation Service

The SOS standard is useful when sensor data needs to be managed in an interoperable way. This standard defines a Web service interface which allows querying observations, sensor metadata, as well as representations of observed features. Further, this standard defines means to register new sensors and to remove existing ones. Also, it defines operations to insert new sensor observations.



Real time information and updated geographical data are useful for....

Inundation

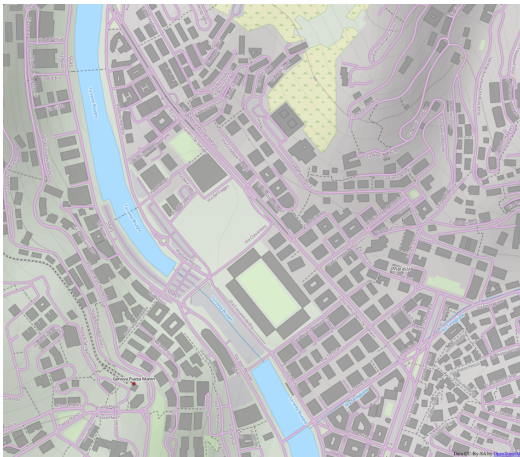


Genoa critical area



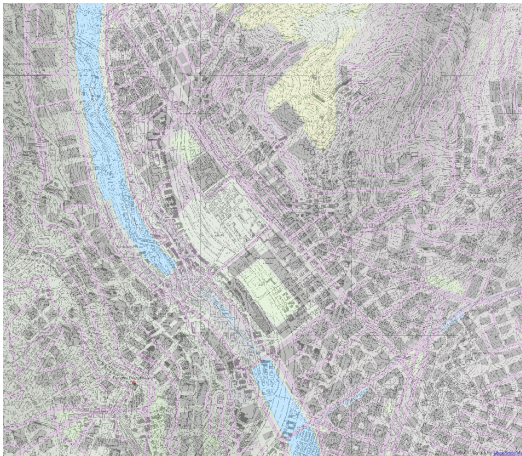
Aerial image

Genoa critical area



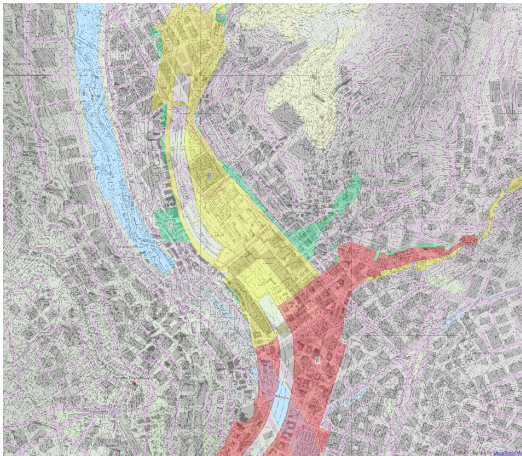
Opendata from Openstreetmap

Genoa critical area



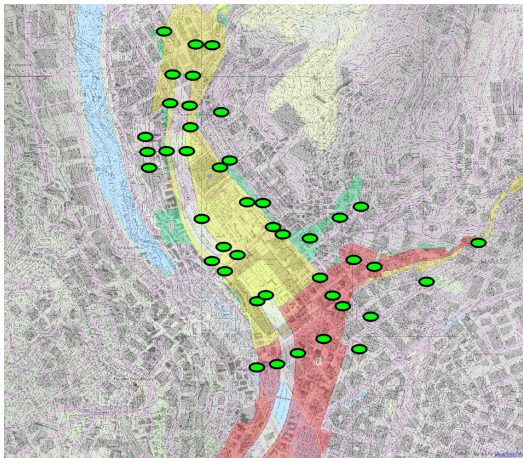
Technical cartography

Genoa critical area



Flood risk map

Genoa critical area



Sensors

The storm is arriving....

The storm is arriving....



The storm is arriving

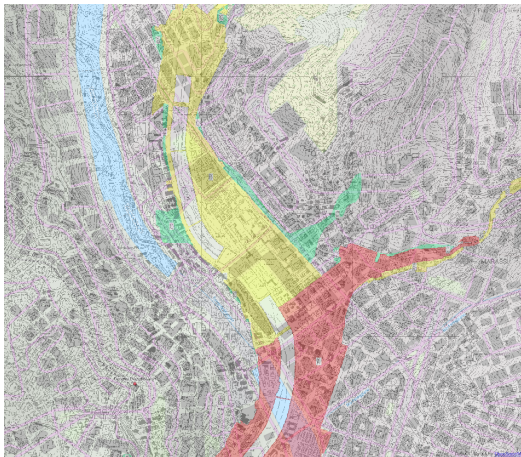
Istituto Scienze della Terra
SOS
Sensor Observation Service



The storm is arriving....

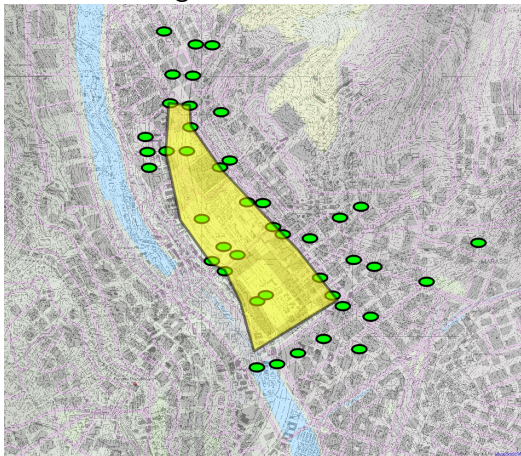


We have to close some roads very quickly



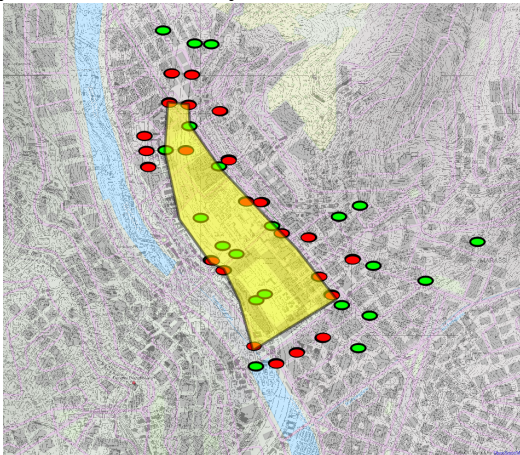
We have to close some roads very quickly

I can digitize the area to close



We have to close some roads very quickly

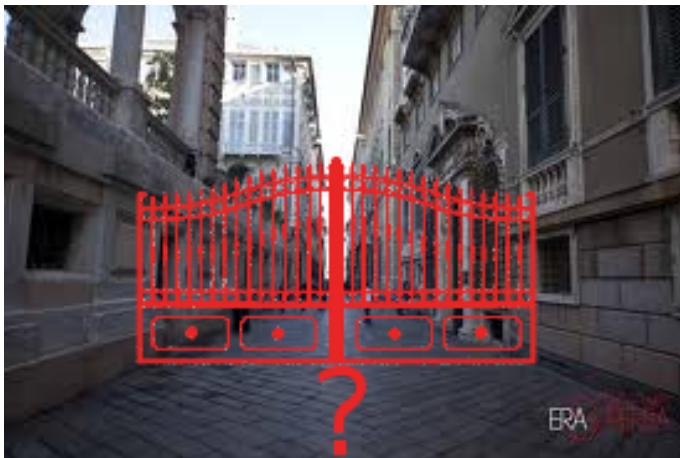
The system automatically switch on the sensor to close



We have to close some roads.....very quickly



We have to close some roads.....very quickly



We are evaluating different solution to create virtual gate

Inundation with empty roads

Thanks for the attention



Via Greto di Cornigliano 6r
16152 Genova
roberto.marzocchi@gter.it

www.gter.it



Quest' opera è distribuita con licenza Creative Commons Attribuzione - Condividi allo stesso modo 3.0 Unported.