European Geosciences Union
GIFT – Geosciences Information For Teachers

Telling and Measuring Urban Floods: Event Reconstruction by Means of Public-domain Media

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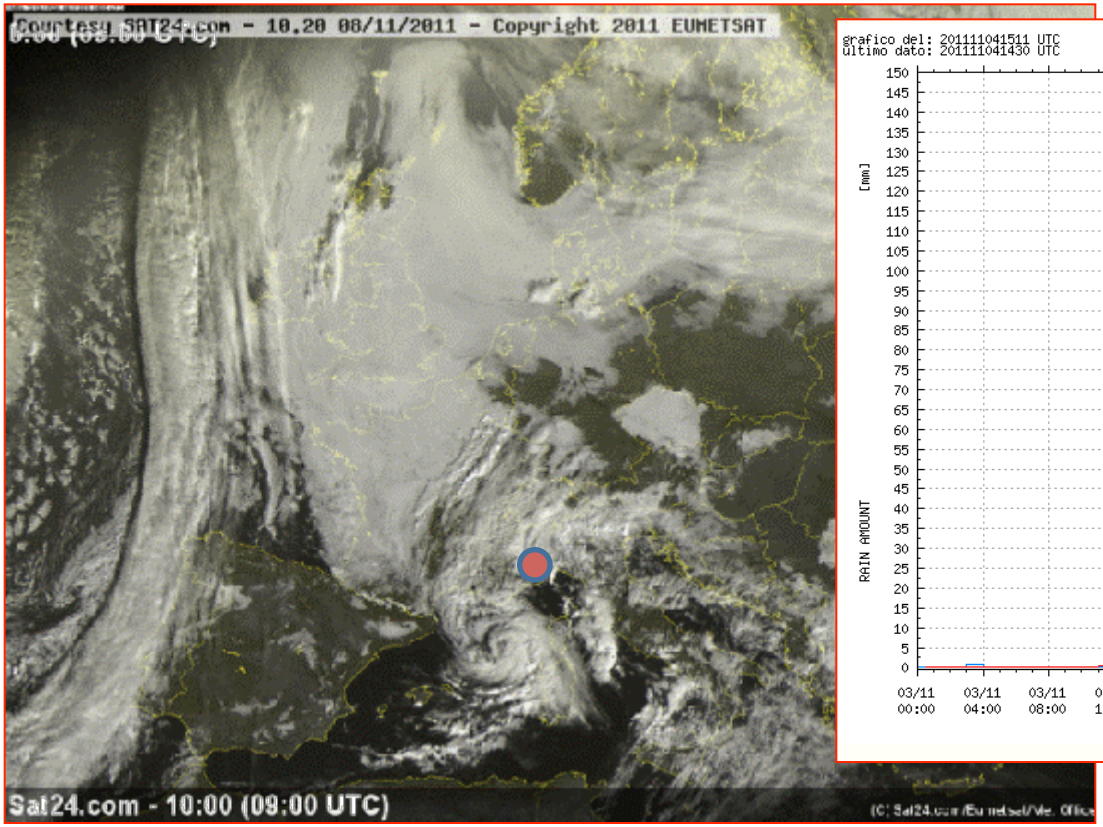
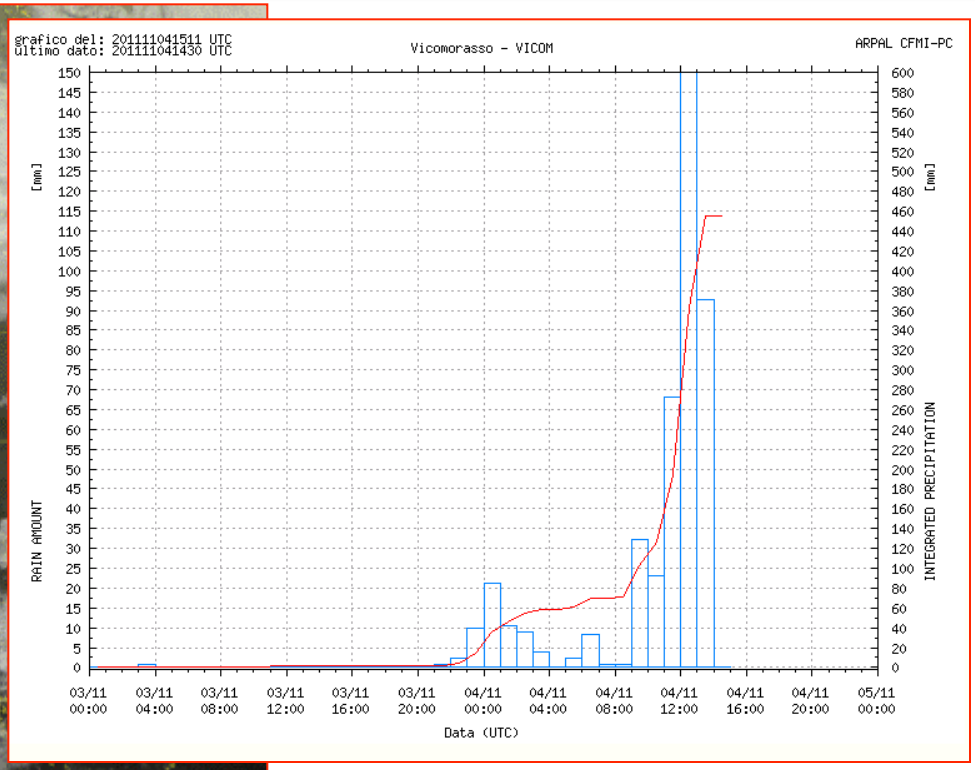
The Most Dramatic Flood in Italy in 2011: Genova 4.11.2011





Precipitation Intensity

Tropical cyclone-like "Rolf"

Genova (Italy)

The Genova (Italy) flash flood event on 4th November 2011

Liguria (Italy)

Genova

'Rio Ferggiano' River Watershed

Reporter's name: 'Topolino'

Reporter's name: 'Gerryap'

YouTube

YOU reporter.it
News from You

The Most Dramatic Flood in Italy in 2011: Genova 4.11.2011

http://www.ilsussidiario.net

http://www.bergamosera.com

http://www.blitzquotidiano.it/

http://www.ansa.it/

A Simplified Reconstruction

A Simplified Reconstruction

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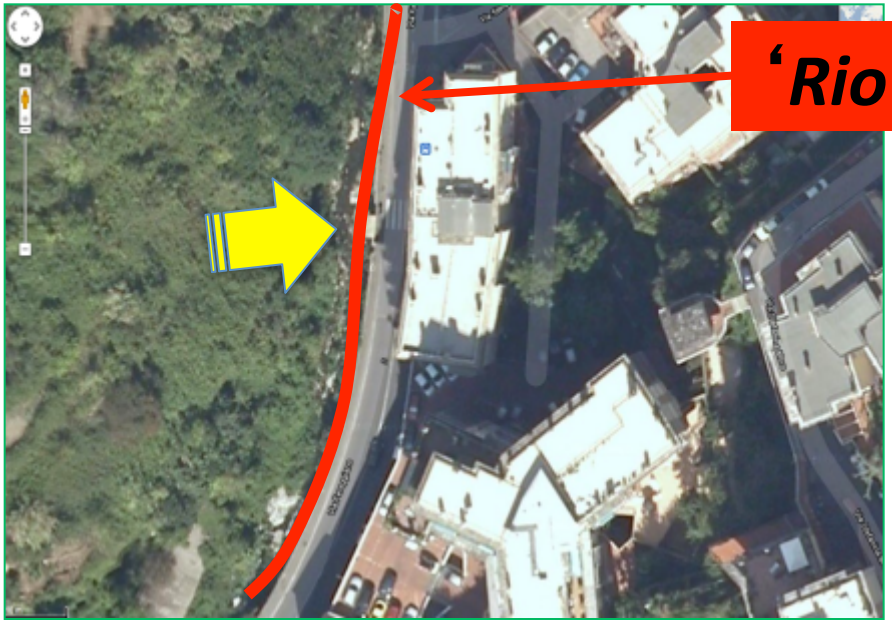
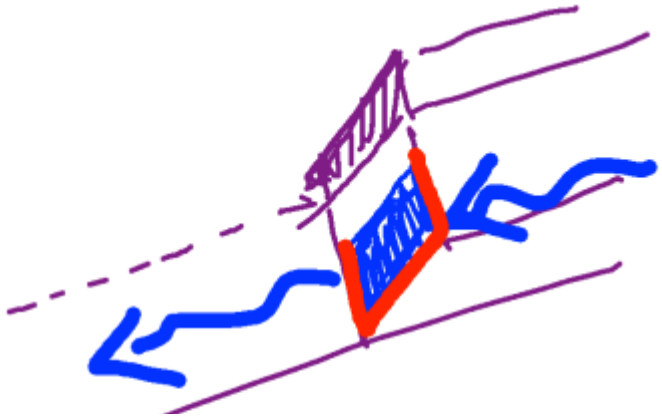


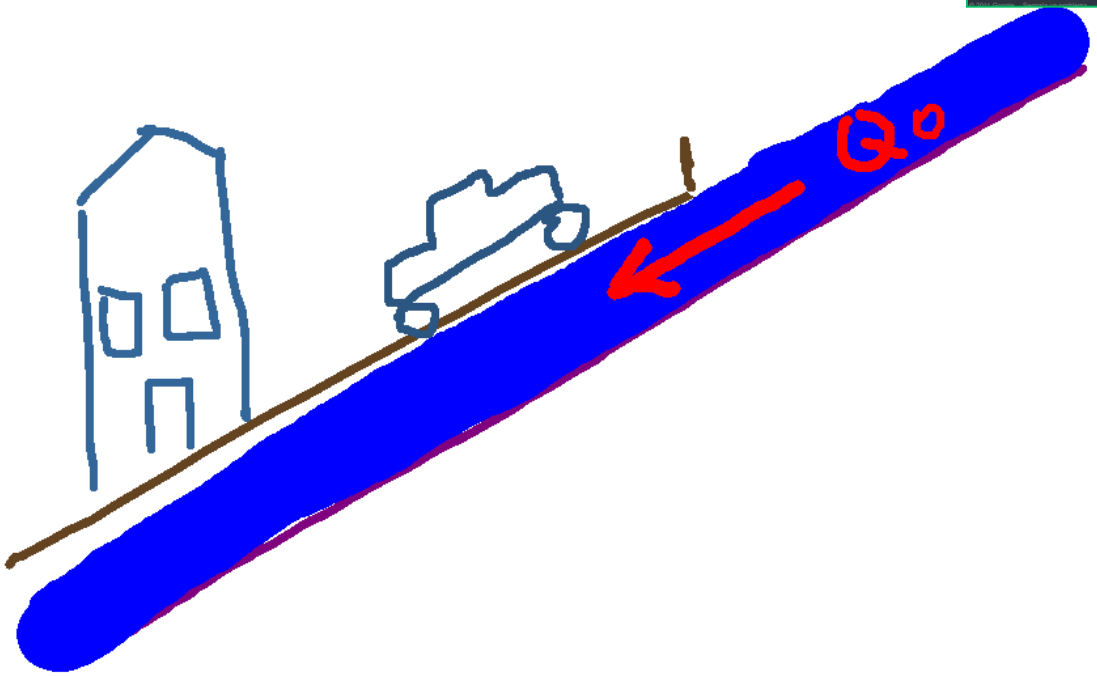
‘*Rio Fereggiano*’

A Simplified Reconstruction



River

River



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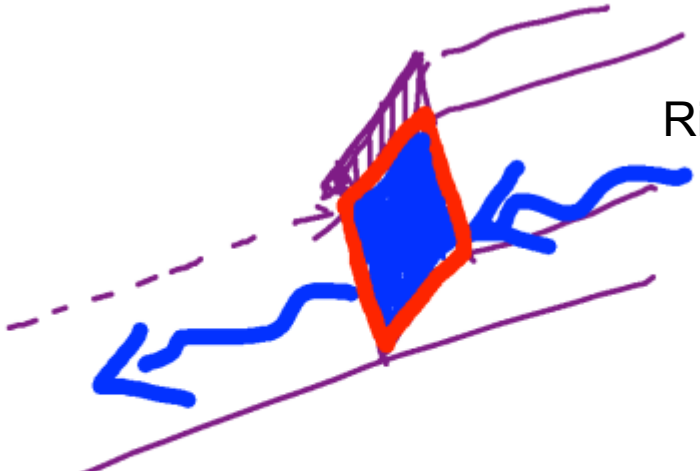
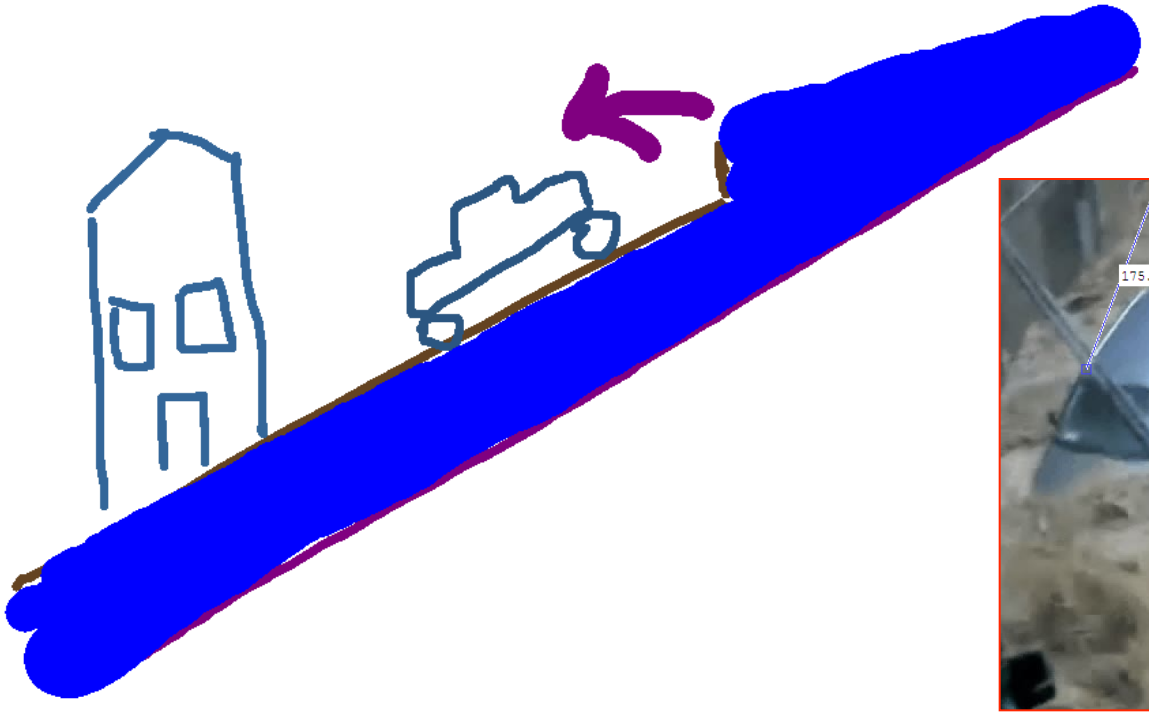
A Simplified Reconstruction



River



River

More Accurate Reconstruction

12.30 pm

12.15 pm

11.30 am

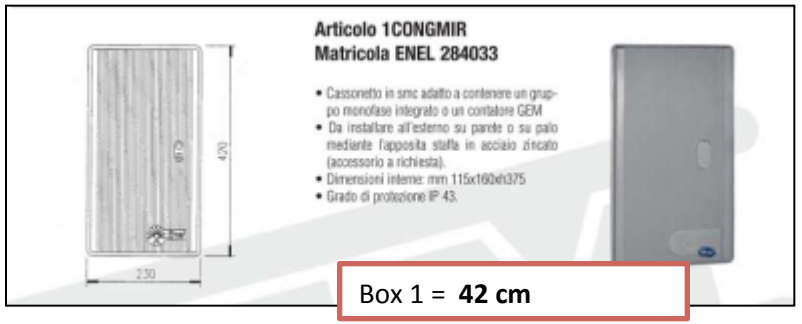
12.53 pm

One example

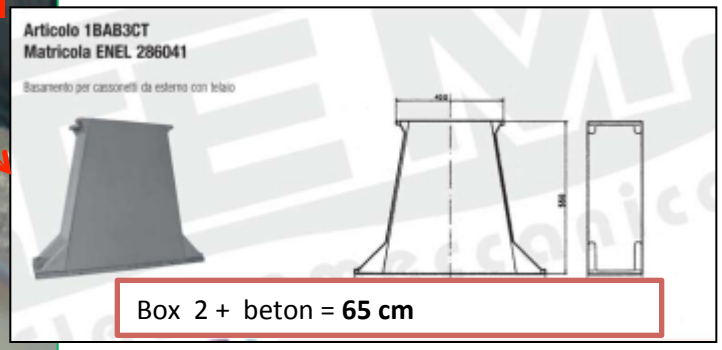
Estimated Height of the Flow

Picture from amateur's video

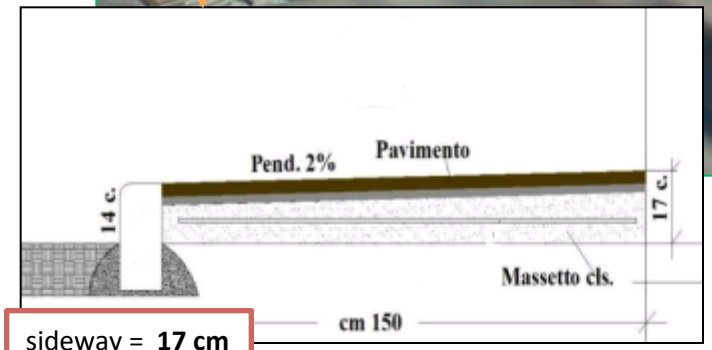
Standard Electric Point



Box 1 = **42 cm**



Box 2 + beton = **65 cm**



sideway = **17 cm**

Height ≈ 17 + 42 + 65 = **124 cm**

One example

Estimated Speed of the Flow

Picture from 'Gerrap'

Start time

End time

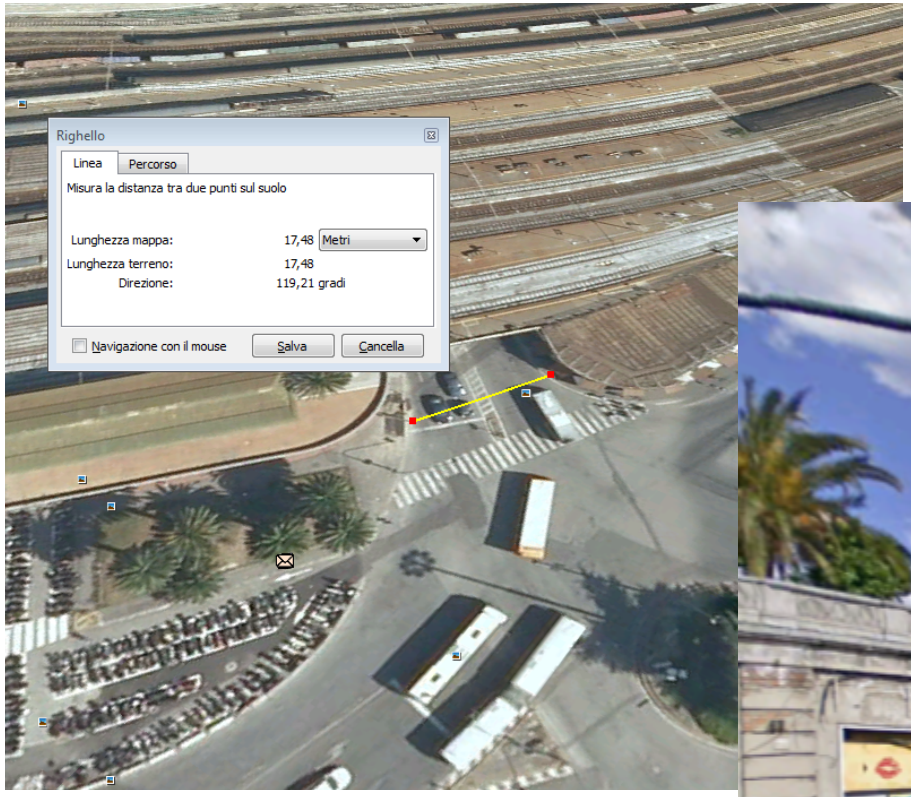
$V \approx 1$ m/s

Picture from Street View

Powered by Google Maps

One example

Estimated Street Width



Width ≈ 18 m

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Dangerous Behavior!

Safety Information for the Inhabitants

Click on the icons to get information

Safety information

Amateur video

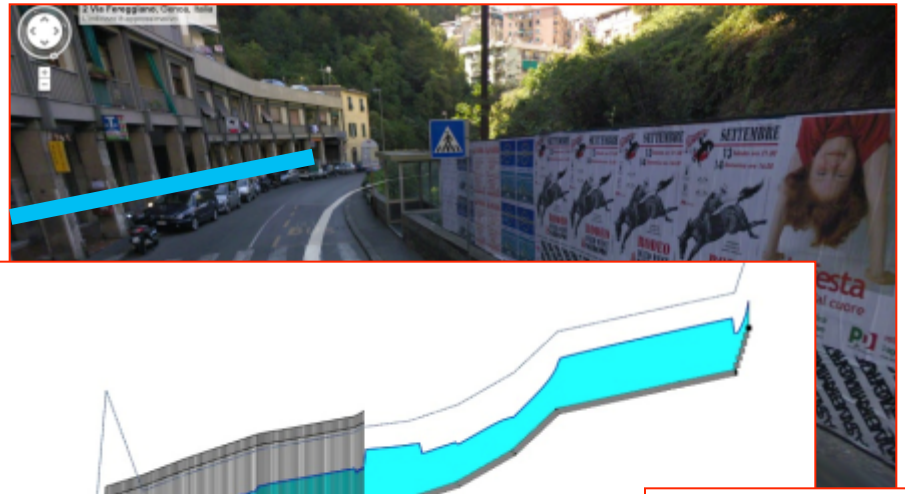
Information

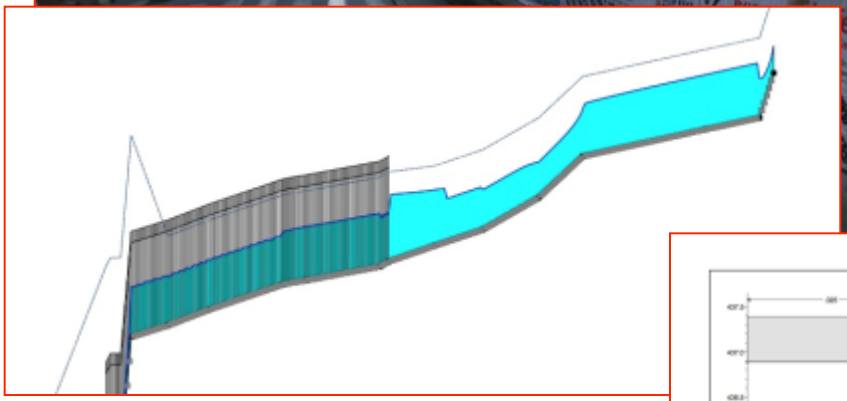
Name
Geographical coordinates
Time of recording
Video title
Address

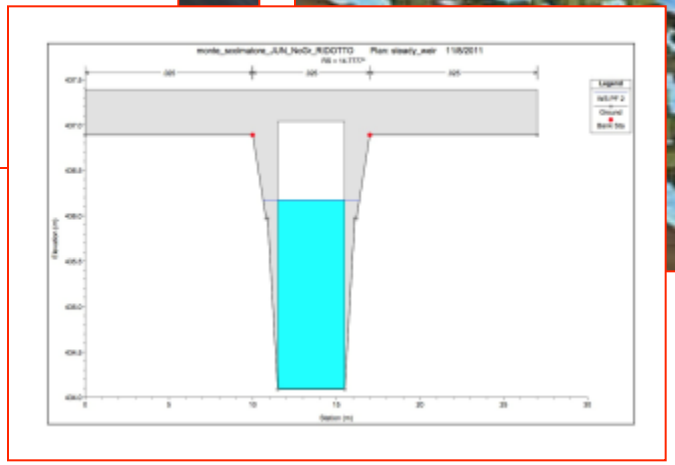
This information is available at www.idrologia.org

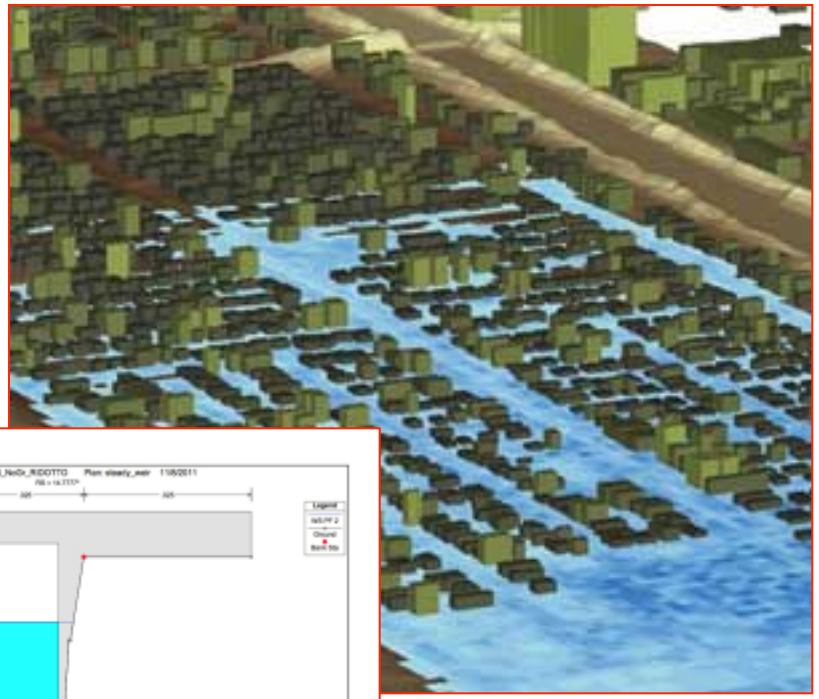
Future Research

Using amateur videos for 2D hydraulic modelling in urban areas









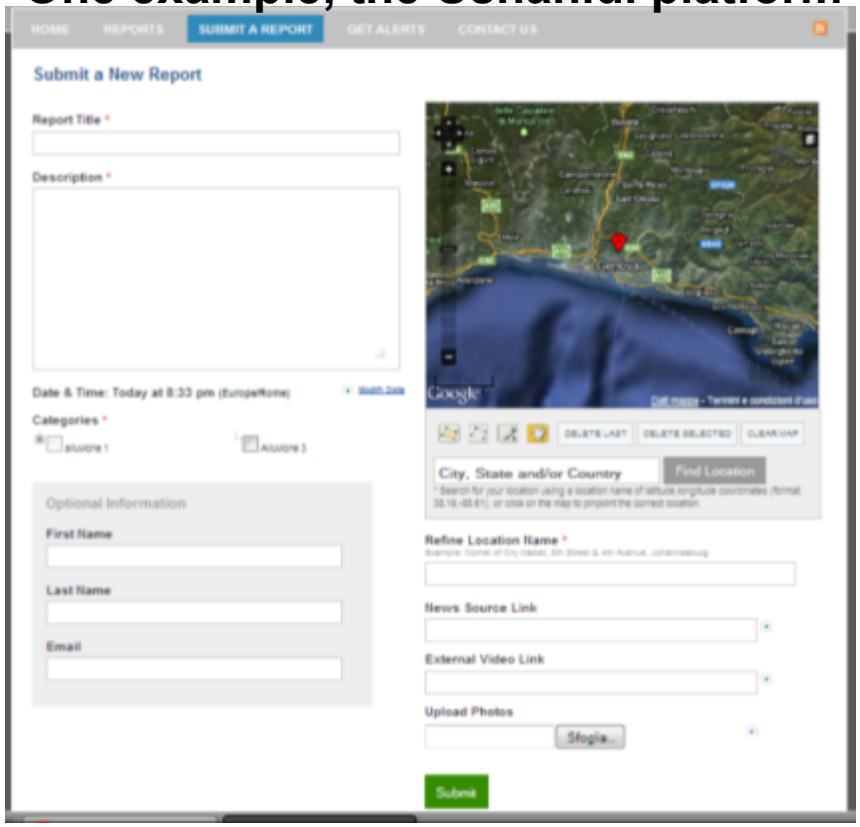
http://www.esri.com

Powered by Google Maps

Future Research

Platforms to increase information for the public

One example, the Ushahidi platform



Ushahidi http://www.ushahidi.com/

1. To improve accessibility to videos and images in order to warn people on how to behave in floods.
2. Easy upload videos and images
3. Easy location of the reporter
4. Tools to determine easily height and speed water

THANK YOU FOR YOUR ATTENTION