

VENICE  
7 - 10 June 2016  
Palazzo Labia  
Campo San Geremia  
**CONFERENCE  
PROGRAMME**

# CITIZEN OBSERVATORIES FOR WATER MANAGEMENT



Citizen Observatories for Water Management

OSSERVATORI  
DEI CITTADINI  
PER LA GESTIONE  
DELLE ACQUE

Autorità  
di Bacino  
dei Fiumi  
Isonzo,  
Tagliamento,  
Livenza,  
Piave,  
Brenta-Bacchiglione



Organized By



*Autorità di Bacino*

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The official language of the conference is English,  
with simultaneous translation in Italian

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7 JUNE 2016

## 9.00 Welcome and greetings

Italian Authorities

**Andrea Tilche**

Head of Climate Action and Earth Observation Unit, DG Research and Innovation (European Commission)

**Mauro Grassi**

Manager of the Italian Ministerial Unit on hydrological risk and hydraulic infrastructures

**Francesco Baruffi**

Technical director of the Alto Adriatico Water Authority

## 10.00 Overview of the potential application of the Citizen Observatory

The role of Citizen Observatories in Crisis management and disaster resilience

**Michele Ferri (Alto Adriatico Water Authority)**

Citizen Observatories: From Uncertain Data To Optimal Models of Environment

**Dimitri Solomatine (UNESCO-IHE)**

## 10.50 Break

## 11.10 Overview of the potential application of the Citizen Observatory

Citizen Observatories as support for environmental monitoring and catchment management

**Steven Loiselle (Earthwatch Institute / University of Siena)**

Social dimensions of citizen observatories

**Uta Wehn (UNESCO-IHE)**

Understanding outcomes for natural resource policy and management in U.S. citizen observatories

**Kris Stepenuck (Citizen Science Association)**

Innovation with participation – Citizen Science for society, policy and science

**Johannes Vogel (European Citizen Science Association)**

## 13.00 Lunch time

### 14.00 EXHIBITION ITINERARY

**A new challenge in the water management:  
the Citizen Observatory  
in the Eastern Alps Hydrographic District**

### 14.00 INVITATION-ONLY EVENT

**#italiasicura presents: guidelines for the design of interventions mitigating hydrogeological risk**

With the participation of:

**Mauro Grassi and Gian Vito Graziano**

The Italian Ministerial Unit on hydrological risk and hydraulic infrastructures

**Massimo Mariani**

The Italian Council Engineers - CNI

**Maurizio Savoncelli**

The Italian Council of Surveyors - CNGeGL

## Citizens Observatories and Environmental Monitoring

**Chairman: Steven Loiselle (Earthwatch Institute / University of Siena)**

**15.00** FreshWater Watch: Using Citizen Scientists to Monitor Water Quality

N. Bailey (Earthwatch Institute)

**15.20** The Crowd4Sat Project: Augmenting Satellite Observations with Crowdsourcing

S. Mazumdar (Sheffield University)

**15.40** CrowdWater: evaluating the value of citizen collected data for hydrological predictions

H.J. van Meerveld (Department of Geography - University of Zurich)

**16.00** Developing environmental awareness: a Citizen Observatory model

H.Y. Liu (NILU - Norwegian Institute for Air Research)

**16.20** Panel discussion

**16.30** Adventure and science: harnessing the skills of outdoorspeople to study global microplastics pollution from source to sea

M. Kautz (Adventurers and Scientists for Conservation)

**16.50** Local community river monitoring contributes to improved water quality

M. Letswalo (ImproChem)

**17.10** Riu.Net application: citizen science in rivers

I. Verkaik (Freshwater and Ecology Management, Universitat de Barcelona)

**17.30** The ACRONET Paradigm, a new Open Hardware solution for environmental monitoring

A. Fedi (ACROTEC Srl)

**17.50** Panel discussion

## New approaches for data capturing and validation

**Chairman: Hendrick Huwald (Ecole Polytechnique Fédérale Lausanne)**

**15.00** Monitoring and measuring river flows using image analysis: from concept to operational applications

R. Pozzani (TENEVIA)

**15.20** Monitoring the Tiber River through an image-based gauge-cam station

S. Grimaldi (Tuscia University)

**15.40** Open Hardware Raindrop Arrival Rate Sensor for Citizen Science

E. Veenhoven (Disdrometrics BV, TU Delft)

**16.00** Sensing technology for citizen observatories: the WeSenseIt project

H. Huwald (EPFL)

**16.20** Panel discussion

**16.30** Real-Time Rainfall Detection Employing Microwave Satellite Broadcasting Links Observations

D. Caviglia (DITEN - Genoa University)

**16.50** Low-cost sensors for distributed surface-atmosphere heat exchange monitoring – a novel component of citizen observatories

T. Brauchli (EPFL)

**17.10** Qualitative and quantitative citizen monitoring on vegetation habitats, based on photogrammetry technique

S. Fabbri (University of Bologna)

**17.30** SCENT, Smart Toolbox for Engaging Citizens into a People-Centric Observation Web

A. Tsertou (Institute of Communication and Computer Systems)

**17.50** Panel discussion

**18.00**  
Closing time

## Communities involvement in Integrated Catchment Management

**Chairman: Mariani Massimo - President of the European Council of Civil Engineers**

**9.00** Citizen hydrology in River Contracts for water management and people engagement at basin scale

A. Balbo (Studio Majone Ingegneri)

**9.20** The pioneering Adige river flood risk map (1892): private or public risk transfer?

R. Ranzi (University of Brescia)

**9.40** Global system for hydrological monitoring and forecasting in real time at high resolution (GH2MF2)

E. Ortiz (Idrologia e Ambiente Srl)

**10.00** MySnowMaps: snow maps display and snow data crowdsourcing

M. Dall'Amico (MobyGIS Srl)

**10.20** Panel discussion

**10.30** Giving value to popular knowledge for monitoring natural hazards

G. Quinti (CERFE)

**10.50** European Projects dealing with Integrated Coastal Zone Management: experiences of the Regional Environmental Protection Agency of Friuli Venezia Giulia (Italy)

I. Scroccaro (ARPA Friuli Venezia Giulia)

**11.10** Veneto Region 10 years experience on sedimentation management projects

B. De Fanti (Veneto Region)

**11.30** Financial Analysis of the MARSol DEMO Sites

M. Balzarini (SGI Studio Galli Ingegneria)

**11.50** Panel discussion

### 12.00 Exhibition itinerary

Increasing Resilience in the Eastern alps Hydrographic District

## Citizen observatories: stakeholder motivations and impacts

**Chairman: Uta Wehn (UNESCO-IHE)**

**9.00** Combining science, learning and environmental observations – Lessons learned from a Finnish science education project

A. Harjanne (Finnish Meteorological Institute)

**9.10** Empowerment at all costs? Citizens' Observatory in practice

S. Grossberndt (NILU - Norwegian Institute for Air Research)

**9.20** Beyond 'data drones': Citizen scientists' concerns and motivations

W. Ganzevoort (Institute for Science, Innovation and Society - Radboud University)

**9.30** Who's in and why? Stakeholder incentives for participatory monitoring in river management

L. Verbrugge (Institute for Science, Innovation and Society - Radboud University)

**9.40** Panel discussion

**10.05** Interactive session: Identification of viewpoints on citizen science using Qsorts

M.M. Rutten (TU Delft)

**10.55** A framework for analyzing the impact of ICT-based citizen science initiatives

M. Gharesifard (UNESCO-IHE)

**11.05** Public involvement in knowledge generation: the societal value and potential of citizen science in the Dutch water sector

S. Brouwer (KWR Watercycle Research Institute)

**11.15** What you sow is what you reap: a comparison of Citizen Observatories on their implementation and societal results

K. Anema (UNESCO-IHE)

**11.25** Panel discussion

**12.00 INVITATION-ONLY EVENT**  
**New solutions for territory monitoring**  
**With the participation of:**  
**Luca Finotto**  
 Technical Manager at CAE S.p.A  
**Andrea Crestani**  
 Director ANBI VENETO  
 (Italian National Association of Reclamation,  
 Irrigation and Land Improvement)

13.00 Lunch time

**Methods and Technologies at the service of Citizens: data integration, data assimilation techniques, water modeling**

**Chairman: L. Alfonso (UNESCO-IHE)**

**14.00** Information Theory-based Design of Optimal Dynamic Rainfall Networks

L. Alfonso (UNESCO-IHE)

**14.20** Operational activity and perspectives in the storm surge disaster preparedness within the North Adriatic coastline, lagoons and river deltas

M. Ferla (ISPRA)

**14.40** Comparison between passive and active social sensors of precipitation for flood forecasting

J.C. Chacon-Hurtado (UNESCO-IHE)

**15.00** Hydraulic model of the Mestre-Venice combined sewer system

A. Peschiuta (Veritas Spa)

**15.20** Assimilation of streamflow observations from an heterogeneous network of distributed sensors in hydrological modeling

M. Mazzoleni (UNESCO-IHE)

**15.40** Dat@resQ: an open source software for hydrological applications and the rational management of water resources

S. Garbin (University of Padua, i4 Consulting)

**16.00 Panel discussion**

**Chairman: J.P. Lobo-Ferreira (LNEC)**

**16.10** Robust flood forecasting by Support Vector Machines and hydrometeorological monitoring networks

G. Fattoruso (ENEA)

**16.30** A pervasive data assimilation system for wastewater processing plant protection

S. De Vito (ENEA DTE-FSN-DIN)

**16.50** Sharing of technological solutions: key lessons learned from the Portuguese participation in H2020 Piano Project

J.P. Lobo-Ferreira (LNEC)

**17.10** Proactive analysis (FMEA) for the quality control of drinking water. A simplification and sharing tool

C. Bonifazzi (Department of Biomedical Sciences - University of Ferrara)

**17.30** "Managing crOp water Saving with Enterprise Services – the MOSES Project" - An Example of Technology Integration & Multi Actors Approach

M. G. Scarpino (Serco S.p.A., ESRI Italia)

**17.50 Panel discussion**

**Citizens engagement in Crisis Management**

**Chairman: Sergio Olivero (SiTI - Security & Safety Department)**

**14.00** The Water Crime project – Malicious threats against water safety and security

M. Migliorini (SiTI - Security & Safety Department)

**14.20** Prevention & Mitigation measures against ground water contamination

R. Sethi (Turin Polytechnic)

**14.40** The information, communication and community engagement in case of natural disasters affecting water Crime project

G. Todesco (Scientific Police of Turin)

**15.00** From territory's observation to flooding maps

D. Galiazzo (Vicenza Municipality)

**15.20** The flooding event of November 2010 in Bacchiglione river (ITALY)

P. Martini (Pro.Gest. Srl)

**15.40** Deriving fuzzy flood extents from geo-tagged photographs using Boolean models and smartphone technology

B. Evans (Department of Geography and Earth Sciences, Aberystwyth University)

**16.00 Panel discussion**

**Chairman: Fabio Ciravegna (Sheffield University)**

**16.10** Participatory early warning and monitoring systems for natural hazards in a Nordic context

P. van der Keur (Geological Survey of Denmark and Greenland)

**16.30** Implementation of a Citizen Observatory of Water in the WeSenselt project

C. Bagnasco (Quinary spa)

**16.50** Engaging Citizens and Communities for Emergencies

S. Mazumdar (Sheffield University)

**17.10** Evaluation of flood emergency protocols using agent based approach

C. Viavattene (Middlesex University)

**17.30** Forecasting Acqua Alta in the city of Venice and the use of social media data

M. Zander (Wageningen University)

**17.50 Panel discussion**

**18.00** Closing time

**20.00** Social Dinner: Special Night in Venice

# 9 JUNE 2016

## 9.00 1966 Flood Observers: 50 years from the flood

### Welcome and Greetings at the Special Event

Barbara Degani

Undersecretary of State (Ministry for the Environment and the Protection of the Land and Sea)

### 9.30 Luigi D'Alpaos - The 1966 flood in the Veneto Region

University of Padua

Roberto Ranzi - Hydrological Aspects of the 4 november 1966 flood in the Adige River: keeping the memory alive.

University of Brescia

## 10.30 Break

## 10.50 Round Table: Citizen Observatories for flood management. Learning from the past

### Chairman: Giovanni De Luca (RAI Veneto)

Gaia Checucci

General Director - Department of land and water protection (Ministry of Environment and protection of land and sea)

Gianpaolo Bottacin

Assessor for Civil Protection and Environment (Veneto Region)

Sara Vito

Assessor for Environment and Energy (The Autonomous Region of Friuli Venezia Giulia)

Massimo Gargano

General Director ANBI (The Italian National Association of Reclamation, Irrigation and Land Improvement)

Achille Variati

The Union of Italian Provinces (UPI)

## 12.20 Exhibition itinerary

Photo exhibition of the 1966 flood

## 13.00 Lunch time

**CQWM**  
2016  
Citizen Observatories for Water Management

## Resilience and Territorial Safety

**Chairman: Fernando Nardi (University for Foreigners of Perugia)**

**14.00** Creating Resilient Landscapes to Floods and Droughts in the European Alps via Citizen Science Diagnostics

C. de Jong (LIVE, University of Strasbourg)

**14.20** Building community capacities for flood risk mitigation: the CAPFLO project

M. Parés (Institut de Govern i Politiques Públiques - Universitat Autònoma de Barcelona)

**14.40** A Web-GIS decision support framework for evaluating first level inspections of hydraulic structures: Key lessons

V. J. Cortes (TU Delft)

**15.00** Road hydraulic vulnerability and risk: setting up a standard evaluation procedure

G. Grossi (Brescia University)

**15.20** Understanding and communicating weather risk: users perception and landscape observation

E. I. Cristofori (TriM - Turin Polytechnic)

**15.40** The use for early warning of models simulating the physical processes resulting in debris flow phenomena occurrence

C. Gregoretti (TESAF UNIPD)

### **16.00 Panel discussion**

**16.10** Protection of cultural heritage from hydrogeological risk

C. Cacace (ISCR MiBACT)

**16.30** Integrated systems for real time irrigation management and flood forecasting

G. Ravazzani (Milan Polytechnic)

**16.50** Flood Risk: Communication and Resilience – The WebGIS READY

S. Manfreda (University of Basilicata)

**17.10** Internet of Things integration solutions in water governance, decision making and crisis management

M. Sieprawski (SoftwareMind)

**17.30** Perception and management of risk for pedestrians and vehicles in urban flash flooding

F. Castelli (University of Florence)

## Public participation mechanisms

**Chairman: Kris Stepenuck (Citizen Science Association)**

**14.00** Stakeholder engagement in cities: findings and opportunities from the OECD report “Water Governance in Cities”

O. Romano (OECD)

**14.10** Mountain river basin management plans and river area management plans

N. Marangoni (Civil Protection Agency – Autonomous Province of Bolzano)

**14.20** Towards participatory planning for flood risk management in Sicily: the experience of the Simeto Valley River Agreement

A. Cancelliere (University of Catania)

### **14.30 Panel discussion**

**14.55** Active public participation in the field of flood risk management in Slovenia – practical cases and experience

L. Stravs (Ministry of the Environment and Spatial Planning of Republic of Slovenia)

**15.05** Close and local water monitoring: Citizen Science tools to evaluate and monitor river health to support management processes

M. Graham (GroundTruth)

**15.15** The Water Public Policies Observatory: an experience of cogeneration of knowledge for citizen action

V. Cabello (Universidad de Sevilla)

**15.25** Co-development of a citizens’ observatory to enhance local citizen decision making: lessons from the WeSenselt project

S. McCarthy (Middlesex University)

### **15.35 Panel discussion**

**16.00 WORKSHOP:** How to develop a volunteer water monitoring program

Kris Stepenuck (Citizen Science Association)

**17.50**  
Closing remarks and preview of the technical visit

**Chairman:**  
**Francesco Baruffi (Alto Adriatico Water Authority)**

**18.30**  
Closing time

**8.30**

Departure from Venice

10.00

Technical Visit to the control room of the city of Vicence

**12.30**

Lunch time

13.30

Demonstration of the technologies, techniques and equipment in support of a citizen observatory (City of Vicenza)

**16.30**

Closing time

17.30

Arrive in Venice

All the logistic is organized by the Secretariat of the event