



# New Community Activity on Citizens Observatories and Crowdsourcing

**Citizen GEOSS Workshop  
St Petersburg (Russia), 8 November 2016**

**José Miguel RUBIO IGLESIAS**

**Climate Actions and Earth Observation Unit**

**Climate Action and Resource Efficiency Directorate, DG Research and Innovation**

**EUROPEAN COMMISSION**

**[Jose-Miguel.Rubio-Iglesias@ec.europa.eu](mailto:Jose-Miguel.Rubio-Iglesias@ec.europa.eu)**

*\*The views expressed are those of the speaker and do not necessarily reflect the official opinion of the European Commission*

## Why a community activity on Citizens' Observatories and Crowdsourcing?

- **Mobile technologies have altered traditional relationship between producers and users (OSM)**
- **Citizens become "prosumers": producers and users of GI**
- **Different typologies and dimensions of citizen-generated content: citizen science, crowdsourcing, data mining.**
  - **One flavour of "citizen science" can be labelled as "Citizens' Observatories"**
- **Citizen-generated data can fill in important gaps in in-situ Earth observations, strengthen environmental capacities and trigger innovation**

# Citizens Observatories

## Definition(\*):

- **Communities of citizens sharing:**
  - 1) **Technological solutions (e.g. sensors, mobile apps)**
  - 2) **Community participatory governance methods aided by social media streams**
- **With the objective of:**
  - 1) **Complementing environmental observation systems**
  - 2) **Improving local decision-making**

## It is a win-win approach because:

- **Empower communities.**
- **Enhance our in-situ monitoring capability while limiting the charge on the public purse!**

**But official baseline in-situ observation networks are vital**

# Citizens' Observatories and GEO



- Several references in the GEO Strategic Plan for the 2<sup>nd</sup> decade (2016-2025)
- Highlight the role of EO, inc. Citizens' Observatories, to address global societal challenges (e.g. SDGs)
  - >> *From local to global scales, what co-design with the citizens in GEOSS?*
  - >> *What involvement in future GEOSS Work Programmes*
- Citizens' Observatories are also included as a component of the GEOSS information chain:
  - "(...) *observation systems which include ground-, air-, water- and space-based sensors, field surveys and citizens' observatories (...)*"
  - >> *What interoperability arrangements, open reuse cases and data management of volunteered data?*

# Citizens' Observatories and GEO



- The transitional WP 2016 for GEO includes COs within the Task **"GD-06: GEOSS non-space based EO Resources"**
  - *"(...) Explore how citizen science observation initiatives can contribute to filling non space-based observational gaps (...)"*
  - >> *What in situ observational gaps should be filled in by citizens' observatories?*
  - >> *Do we need a Community of Practice on citizens' observatories?*
- There is a strong potential for a specific community activity in the Work Programme 2017-2019: **"Citizens' Observatories and Crowdsourcing"** (will be included in the revision after GEO-XIII)
  - The activity should also be open to any initiative on citizen science and crowdsourcing from Europe and beyond

## **(Proposed) activities and outputs for 2017-2019**

- **Promotion and use of standards and best practices for data management, quality, curation and preservation for citizens' data**
- **Investigation of algorithms and best practices for integration of citizens' data with other in-situ sources (with FT on in-situ)**
- **Investigation on its potential to validate and calibrate RS data**
- **Collecting best practices for discovery and access to this kind of data through the GCI/GEOSS**
- **Addressing potential synergies with GEO initiatives (GEO-BON, GEOGLAM)**

## **(Proposed) activities and outputs for 2017-2019**

- **Promotion of case studies (Citizens' Observatories, etc.) within the GEO community**
- **Promotion of evidence-driven environmental governance using participatory approaches**
- **Research incentives to stimulate citizen participation within the observatories**
- **Build a GEO community of practice linking to existing initiatives such as Citizen Science associations**

## Contributors (as of November 2016)

Name	Affiliation	GEO Member / PO
<b>Steffen Fritz</b>	IIASA	IIASA
<b>Linda See</b>	IIASA	IIASA
<b>Ian McCallum</b>	IIASA	IIASA
<b>Inian Moorthy</b>	IIASA	IIASA
<b>Joan Maso</b>	CREAF	Spain
<b>Athanasia Tsertou</b>	ICCS	European Commission (through EU funded project)
<b>Luigi Ceccaroni</b>	1000001labs	-
<b>Jose Miguel Rubio Iglesias</b>	European Commission	European Commission
<b>Suvodeep Mazumdar</b>	University of Sheffield	European Commission (through EU funded project)
<b>Drew Hemment</b>	University of Dundee	European Commission (through EU funded project)
<b>Uta Wehn</b>	UNESCO-IHE	European Commission (through EU funded project)
<b>Alena Bartonova</b>	NILU	European Commission (through EU funded project)

**We welcome any contribution!!!!**



# FP7 funded Citizens' Observatories



"Pioneer" projects started in late 2012, covering different thematic areas:

1. **CITI-SENSE** "Development of Sensor-based Citizens' Observatory Community for Improving Quality of Life in Cities",

<http://citi-sense.nilu.no/>



2. **WeSenseIt**: "Citizen Observatory of Water"

<http://www.wesenseit.eu/>



3. **COBWEB**: "Citizen Observatory Web"

<http://cobwebproject.eu/>



4. **Citclops**: "Citizens' Observatory for Coast and Ocean Optical Monitoring" <http://www.citclops.eu/>



5. **OMNISCIENTIS**: "Odour Monitoring and Information System based on Citizen and Technology Innovative Sensors",  
<http://www.omniscientis.eu/>



Cluster website: [www.citizen-obs.eu](http://www.citizen-obs.eu)

# H2020 funded Citizens' Observatories Citizens' Observatory

Four new Innovation Actions kick off in Autumn 2016, with a focus on land cover and land use:

1. **LandSense** "A Citizen Observatory and Innovation Marketplace for Land Use and Land Cover Monitoring"
2. **GROW** "The GROW Observatory"
3. **GroundTruth2.0**: "Environmental knowledge discovery of human sensed data"
4. **Scent**: "Smart Toolbox for Engaging Citizens into a People-Centric Observation Web"



**CO Cluster Workshop 24-25/11 (Brussels)**

# Coordination and Support Action for Citizens' Observatories

There is a need to create a citizens' observatories knowledge base

## Coordination and Support Action for Citizens' Observatories (SC5-19-2017)

- To **bring citizens' observatories and related communities together** to highlight **best practices**, identify barriers and synergies, promote **standards**, facilitate **integration**, stimulate a gradual uptake by public authorities.
- **Social innovation** opportunities, sustainability approaches, **data management and interoperability** to be addressed
- Coherent approach towards **GEOSS and Copernicus**
- Consortia to include a broad range of stakeholders (public, private, citizens)
- **Should bring Europe to a leading role in the integration and uptake of citizens' information in GEOSS.**

Deadline: **07/03/17**, single stage - Suggested size 1 Mio, only one project to be funded

## Other CS related EO topics in H2020

### SC5-18-2017: Novel in-situ observation systems

#### Research and Innovation Action

- To develop **lower and cost in-situ observing systems** building on latest technical developments that can be adapted to operational environments.
- Can consider concepts such as **Citizens' Observatories, UAVs, disposable sensors.**
- Quality standards and data exchange interoperability are prominent criteria
- **Links to GEO initiatives and Copernicus** should be established, improving their in-situ components
- Should create **new opportunities and market development** for Earth observation commercial sector in Europe

Deadline: **07/03/17**, single stage

Suggested size **4-5 Mio**, More than 1 project to be funded



# Join us!

**Jose Miguel Rubio Iglesias**  
**(Jose-Miguel.Rubio-Iglesias@ec.europa.eu)**

