



ECSA & EU-Citizen.Science webinar:

Lessons and insights from WeObserve

30 March 2021, 14:00-15:30 CEST



The project WeObserve has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 776740.

WeObserve in a nutshell

Gerid Hager (IIASA)



WeObserve

H2020 CSA, 2016-2021

VISION

Citizen Observatories are an integral component of managing environmental challenges and empowering resilient communities

MISSION

To move citizen science into the mainstream by building a sustainable ecosystem of Citizen Observatories and related activities



Distretto delle Alpi Orientali



WeObserve “sister” projects



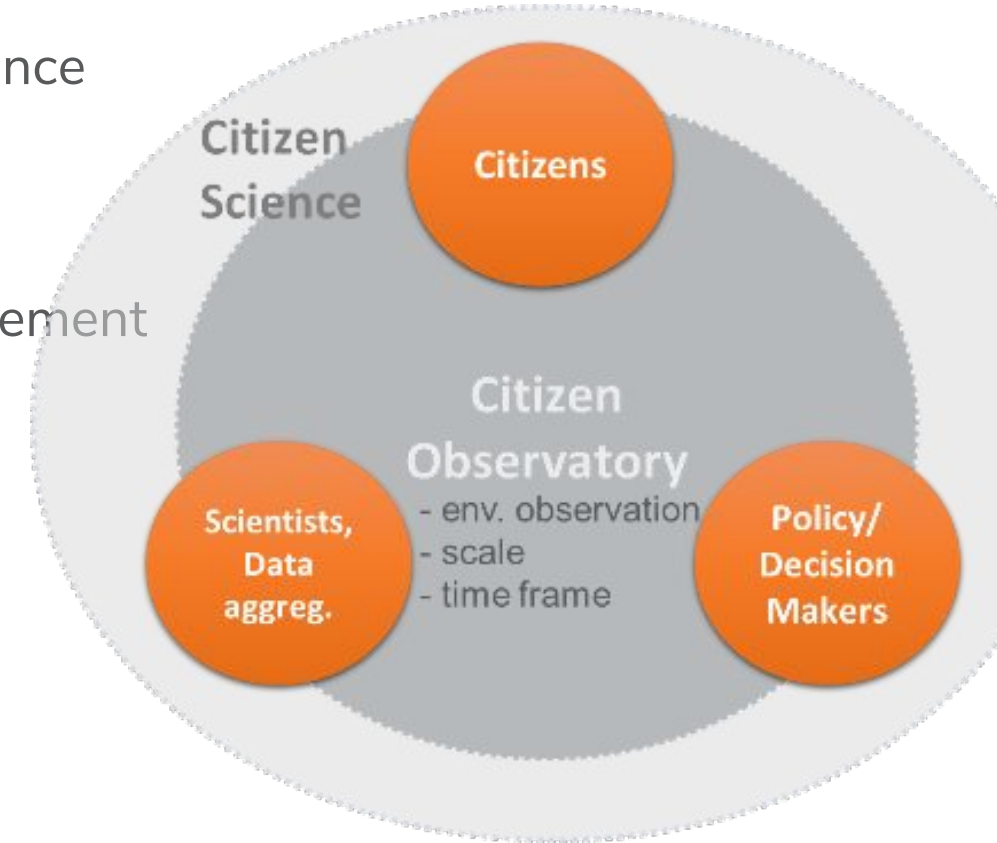
FP7 - WeSensIt



Horizon 2020

Evolution of Citizen Observatory concept

- COs as particular form of citizen science
 - Environmental monitoring, management and governance
 - Place-based participation of citizens
 - Societal relevance beyond science
 - Actions across a network of stakeholders and involvement of policy makers and authorities
 - Use of web and mobile applications
 - Multi-directional flow of data and information
 - Longer-term, or defined timeframe to address a specific issue/situation
 - Range of CO models: contributory, collegial, or collaborative, co-designed



Source: Engage and Impact CoP Inception reports (2018)

WeObserve Objectives

1. Develop **communities of practices** around key topics to **assess the current CO knowledge base and strengthen it** to tackle future environmental challenges using CO-driven science.
2. **Extend the geographical coverage of the CO knowledge base to new communities** and support the **implementation of best practices and standards** across multiple sectors.
3. **Demonstrate the added value of COs in environmental monitoring mechanisms** within regional and global initiatives such as **GEOSS, Copernicus and the UN SDGs**.
4. Promote the **uptake of information from CO-powered activities** across various sectors and **foster new opportunities and innovation** in the business of in-situ Earth Observation.



Key Challenges



AWARENESS

Generating awareness to build and sustain a critical mass to support citizen science

What are COs and how can I participate?
What is the use and why should we support it?



ACCEPTABILITY

Showcasing the added value of citizen-driven science to decision and policy makers

What value can we gain and does it help us to tackle problems? Can we trust the data? Are the methods suitable and ethical and do they comply with regulation?



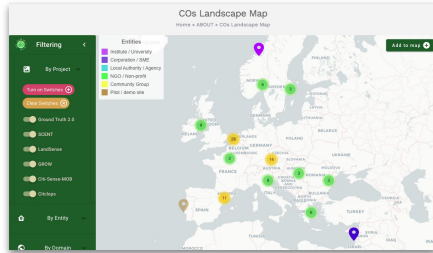
SUSTAINABILITY

Creating an ecosystem that can support and scale-up citizen science to various sectors

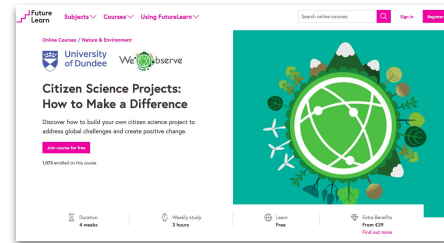
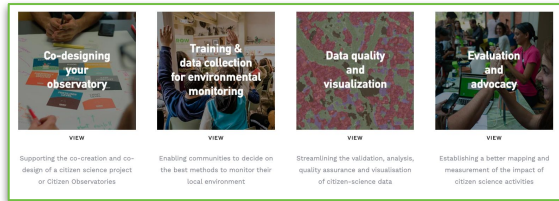
How can a CO be sustained? What is required for tech maintenance, community building, transition governance and ongoing funding?



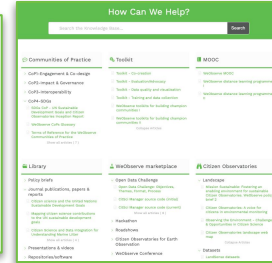
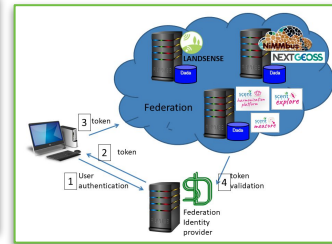
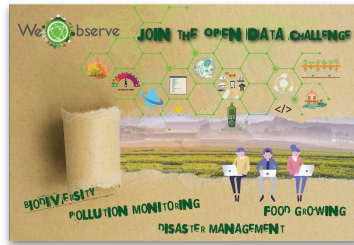
WeObserve activities



4 Communities of Practice
Citizen Observatory Landscape
Topical workshops, Roadshow events and
WeObserve conference



WeObserve Toolkit
WeObserve MOOC (Online course)
3 Challenges at INSPIRE hackathon



Interoperability experiment
Open Data Challenge
WeObserve Cookbook
WeObserve Publications
WeObserve Roadmap
WeObserve Knowledge base



WeObserve ECSA webinar, March, 2021

Webinar today

- **WeObserve Communities of Practice: how to 'do' CoPs and some reflections** - Uta Wehn (IHE Delft), Joan Maso (CREAF), Dilek Fraisl (IIASA)
- **Accelerating the uptake of Citizen Observatories through MOOCs and open data challenges** - Mel Woods (University of Dundee)
- **Data interoperability and standardisation: using interoperability experiments and hackathons to address data-related challenges in citizen observatories** - Joan Masó (CREAF), Valantis Tsiakos (ICCS)
- **WeObserve key outputs and achievements** - Gerid Hager (IIASA)
- **Q&A session** - Margaret Gold (Citizen Science Lab, Leiden University)



Key achievements and outputs

Gerid Hager (IIASA)



Key achievements

- Improved coordination between existing environmental COs at regional, European and international levels.
- Largely expanded geographical coverage and uptake of the CO knowledge base as well as data management and preservation strategies.
- Improved collaboration with SMEs and achieved greater awareness and use of COs by environmental, disaster risk and emergency managers and decision makers.
- Enhanced the integration and uptake of citizen science and Citizen Observatories in GEO/GEOSS and into the SDG framework.



Key achievements in numbers

- **4 CoPs, 500+ sign-ups, ~70 active participations, 6 CoP forums and ~40 individual presentations** during regular CoP meetings
- **2000+ MOOC learners, ~110 countries worldwide, 750+ downloads** of open source tools and resource; Open for another full year on FutureLearn, soon available on EU-Citizen.Science platform
- **Publications**
 - **14 journal publications** (5 published, 1 in press, 3 submitted, 5 in preparation):
30k+ article accesses, 100+ citations
 - **20+ policy documents, conference papers and posters, other reports** and more:
900+ unique views, 600 downloads (WeObserve Zenodo)
- **60+ WeObserve events, conferences and invited presentations**, including at EuroScience Open Forum (ESOF), Americas Symposium, UN World Data Forum, UN Science-Policy-Business Forum on the Environment (in the second project half alone)



Officially launching today...



Explore the WeObserve Cookbook

Start using the Cookbook by selecting a topic that you are interested in

Find out more about the Cookbook here!



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 776740



WeObserve Cookbook

- Groups or individuals who are leading or will lead Citizen Observatory projects and initiatives.
- Provides **best practice examples** and **guides users through resources** such as tools, scientific papers, training materials and networks. Includes **key references and additional resources**, to dive deeper into topics and application of tools.
- Covering around **30 pages** and **topics** within **four overarching themes**:
 - Getting to know and understand Citizen Observatories
 - Creating and running a Citizen Observatory
 - Achieving impact with Citizen Observatories
 - Ensuring sustainability of Citizen Observatories

I want to generate insights and results from our data and knowledge
by visualising & interpreting the data

Home » I want to generate insights and results from our data and knowledge by visualising & interpreting the data

[← Back to the start of the Cookbook](#)

Why is it relevant?

It's important that you can deliver a clear message to stakeholders or policy makers in order to affect any changes that your Citizen Observatory has suggested. Engaging visualisations are one important way to do that.

How can this be done?

A picture is worth a thousand words – this old saying also applies to Citizen Observatories, where data visualisation can help you and your participants to explore and understand data and to communicate results quickly and in an engaging way. Nevertheless, when it comes to extracting meaningful information from data and interpreting the data, scientific knowledge may be required so that data interpretation is accurate and meaningful. Data visualisations, besides communicating results, can also be used as a tool for data interpretation by helping to detect gaps, errors, or inconsistencies in your datasets.

Types of data visualisation

Mapping and visualising location-based data

There are many tools available to map location-based data and visualise it easily. Some cost money such as [Tableau](#), [PowerBI](#), [Spotfire](#) etc. whilst others are free such as [Grafana](#), [Rawgraphs](#), and [Apache Superset](#). With these, you can quickly produce a map like this one and, also quickly see if sensors are out of place (i.e., in the ocean). Sharing a graph like this with participants can encourage them as they can see the progress of the project.



Calibrated Moisture %



Temperature C



Image: The GROW Observatory map of soil sensors across Europe

Useful Resources

► **WeObserve MOOC**, [enrollment is now open](#): The online course [Citizen Science Projects: How to make a difference](#) on FutureLearn addresses data analysis and visualisation in more depth including many more examples, discussing biases in data visualisation and providing datasets for you to experiment with.

► **VIDEO**: [“How we did it: Visualising Data”](#) provides more examples of data visualizations from four Citizen Observatory projects

✂ **TOOL**: [WeObserve Toolkit for data quality and visualisation](#): a selection of tools that can help you with all aspects of citizen-generated data management, including validation, analysis, quality assurance and visualisation

✂ **TOOL**: The [Data Postcard](#) tool is designed for community members and citizen science practitioners wanting to share the data they collect. It is a creative way to visualise and share data from a citizen science project.

📄 **Data visualisation applications**:

- **Matplotlib**: For those of you with programming experience, Matplotlib is a popular choice for data visualization, and can be easily integrated in Jupyter notebooks.
- **Leaflet**: Leaflet is an open-source JavaScript library for mobile-friendly interactive maps. It works efficiently across all major desktop and mobile platforms, can be extended with a variety of plugins and it is well documented.
- Other free tools: [Grafana](#), [Rawgraphs](#), and [Apache Superset](#)

You may also be interested in...

I want to generate insights & results from our data & knowledge...

www.weobserve.eu/weobserve-cookbook





ROADMAP for the uptake
of the Citizen Observatories'
knowledge base



Outline the dynamic landscape of Citizen Observatories and provide actionable pathways for research and innovation to further advance their capabilities and impacts in the future.



WeObserve Roadmap

- **Practitioners** (research institutions, civil society organisations, public authorities and others) for conceptualising and directing key aspects and R&I plans for future Citizen Observatories and related projects;
- The **European Commission**, to support shaping Horizon Europe funding calls under the European Green Deal agenda;
- **National funding agencies** of EU member states to learn about Citizen Observatories and identify suitable scenarios for funding Citizen Observatories nationally.

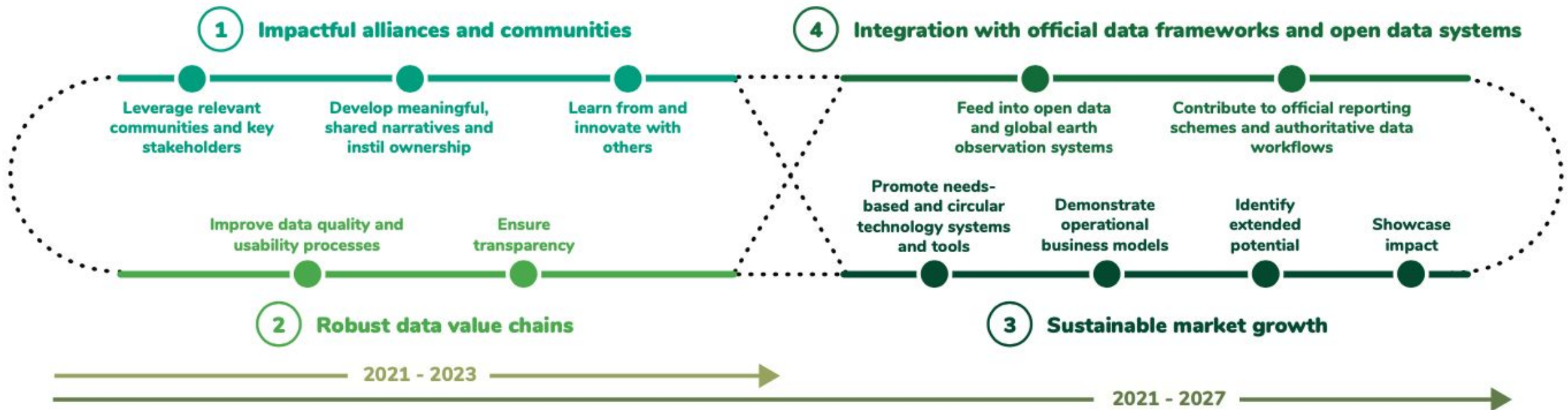


WeObserve ECSA webinar, March, 2021



WeObserve Roadmap

- **Citizen Observatory landscape** overview (past, present and future)
- **Research and innovation roadmap**: four main areas, 11 pathways and 35 actions, short-term (2021-2023) and medium-term (2021-2027) time horizon
- **Recommendations** to future funders of Citizen Observatories



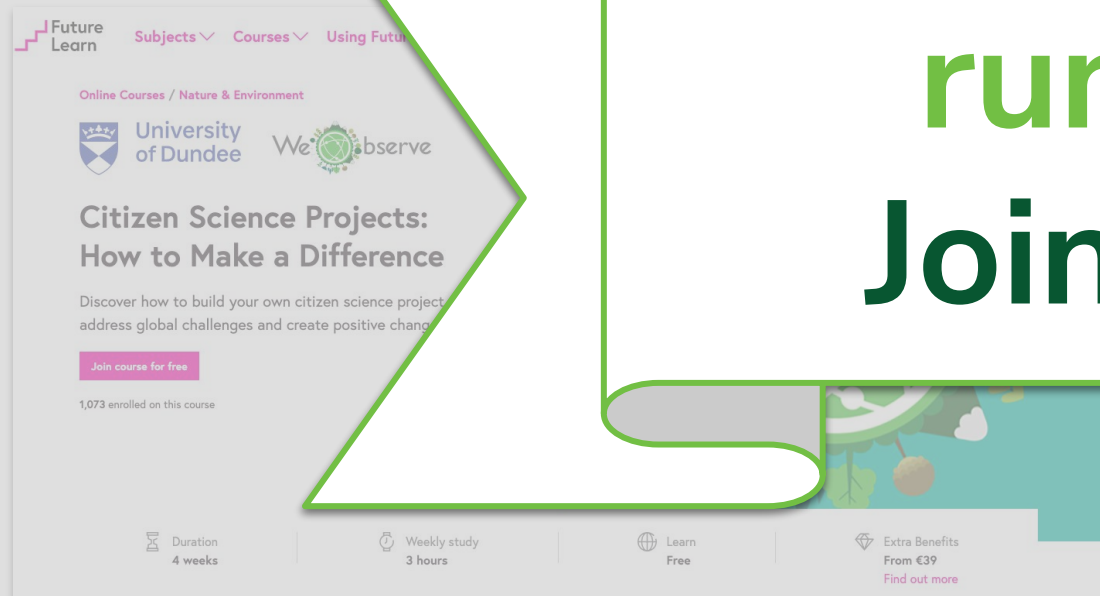
WeObserve Zenodo



WeObserve MOOC

Communities of Practice

**Still up and
running
Join now!**



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University of Dundee WeObserve

Citizen Science Projects: How to Make a Difference

Discover how to build your own citizen science project, address global challenges and create positive change.

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1,073 enrolled on this course

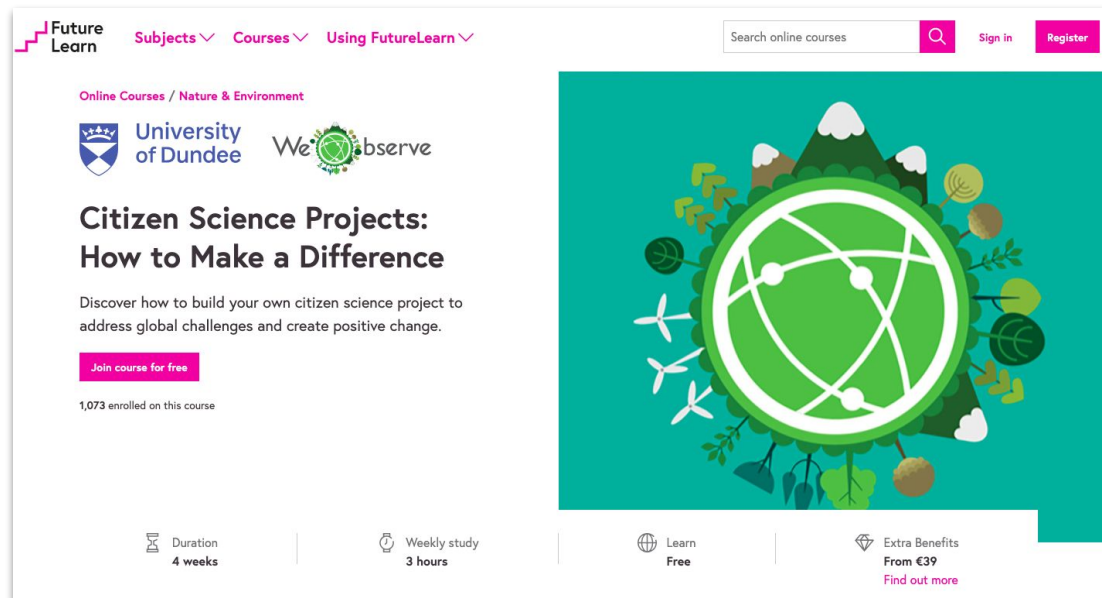
Duration 4 weeks

Weekly study 3 hours

Learn Free

Extra Benefits From €39 [Find out more](#)

WeObserve MOOC



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Communities of Practice



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Thank you!

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