OPEN DATA CHALLENGE

Addressing environmental challenges requires help from everyone, and Citizen Observatories aspire to deeply engage citizens to gather data and information about the environment to support better decision-making, invent new services and to make change.

WeObserve is opening data from four Citizen Observatories to create new digital transformation opportunities by using open data for products and services for wide social good.

We invite you to take part in the Open Data Challenge and to innovate new service prototypes using citizen generated data.

There are a few key events that make up our Open Data Challenge: Team registration, Challenge themes and opportunities, Guidance from a mentor, submission and demonstration at a final event. Each of these events are free and open to all.

The Challenge

With the acceleration of climate change, biodiversity loss, deforestation, or unprecedented pollution, addressing environmental challenges has never been more urgent. More people now than ever before directly experience the increased pressures on our planet. They are calling for better protection for local issues that have an impact in their lives, from extreme events such as flooding and wild-fires to pollution. At the same time, people have global concerns related to risks, such as food scarcity or the wise use and regeneration of natural resources.

Environmental data is needed to address these issues. As a result of citizens coming together with scientists and other stakeholders there is a growing amount of high-quality and open data to apply to these challenges. There are opportunities to merge open datasets from local governments and data from these citizen science projects to produce new and exciting data products.

We see innovation potential in the development of technologies, services and models, for example on land management, biodiversity trackers, pollution monitoring, agriculture and disaster response. There are also opportunities to support people's values by removing barriers, such as conflicting attitudes and responsibilities, lack of time, trust or space, or providing training and incentives to solve local issues through pro environmental action. It is clear that we all have a role to play and there is a great deal that needs to be done.

Themes

The WeObserve ODC has 6 main challenge areas:

1. Ecosystem monitoring: Phenology, biodiversity and land cover

Recently, citizen scientists have noticed a change in the cyclic and seasonal patterns of wildlife highlighting the effect of climate change. Farmers and food growers are reporting that planting and harvesting times are changing for their crops. Mapping and noting these changes can be used to bring pressure on local and global governments to act and can help local communities decide that the time to make a change is now.

2. Public infrastructure management - soil moisture, water drainage and flood mapping

From monitoring the human impacts on water cycles, to the management of drains and drainage mapping, and the amount of water in the soil can have dramatic consequences. Combining soil moisture with rainfall prediction, or the speed and height of rivers and canals will lead to insights about water and waterways management and can help prevent disastrous flooding events.

3. Community-Based Disaster Management: Flood, Fire, Drought, Heatwave Services, Landslide

Communities are vulnerable and exposed to increasingly severe weather conditions. In a fast-moving environmental emergency, such as flooding, landslides, heatwaves or air pollution, data needs to be continuously updated. Citizen Observatories are increasingly making accurate, relevant and up-to-the-minute data available which can ground-truth satellites and create services for a more complete and responsive picture of disaster mitigation and response. There are new opportunities for multinational organizations such as emergency responders, local and national governments, refugee organizations and environmental groups to engage. New services can help to address this topic.

4. Regenerative food growing: Yields, sustainable practices and natural pest control

Agriculture is facing severe challenges in the 21st century, from extreme weather events, to increased pests and disease, as well as soil and biodiversity collapse. Water demands are a crucial concern. According to the UN Food and Agriculture Organisation, around 70% of freshwater is used in farming. Many small farmers across the world are not familiar with, or able to afford sensing technology to monitor the effectiveness or sustainability of their practices. They do not have the resources or knowledge to extract actionable insights from relevant open datasets. There are opportunities to benefit small farmers using citizen science datasets to adopt more sustainable food growing practices, from integrated pest control to effective irrigation techniques thus saving water.

5. Pollution monitoring and health: Water quality, air quality

Raising awareness of water and air quality within communities has led to political changes in local and regional governments. Communities have gathered data about pollution in their local environment to provide evidence to the government and apply pressure to bring about change. However, air and water pollution data requires integration with other datasets to fully realise the potential to support decision-making as well as improving the daily lives and health of affected people.

6. Engaging young people on open data and climate: Education

Over the last two years, the world has witnessed the raised voices of young people demanding action on the climate crisis. Digital natives are networking and engaging with their surroundings in ways never seen before. Open data can offer novel ways to support young citizens' interest and involvement in environmental monitoring and developing environmental stewardship, e.g. monitoring and seeking solutions on air quality around their schools. There is an opportunity to generate innovative ideas that enable young people to learn about open data while fostering their understanding and interest in environmental monitoring and active citizenship.

7. Other: Innovative applications of WeObserve data e.g. COVID19

There are additional possibilities to use WeObserve datasets for novel developments. We therefore welcome applications that fall outside of the suggested six themes.

Why You Should Participate

- When you participate in the Open Data Challenge, you will work in a team and learn more about environmental challenges as well as sharpening your skills – whether those are soft skills or technical!

- You'll be directly helping to make a difference, demonstrating citizen's data can be used for new solutions, and potentially solving environmental problems. Throughout the Open Data Challenge, you will have access to mentors who can guide you along the way.

- There are up to two €5,000 cash tenders available based upon the work that teams or individuals complete, submit and demonstrate in the Open Data Challenge.

Objectives

- To find new approaches and solutions to environmental challenges through the use of one or more WeObserve Citizen Observatory open datasets. You may combine with additional datasets from other sources.

- To produce innovative applications, services, including visualisations. The focus of the demonstrators can be local or global, urban or rural.

- To showcase a solution for using open data for social good through our themes for the benefit of the public, environmental or challenge relating to climate change.

Format

The Open Data Challenge is a competitive online event and tender for teams or individuals to innovate using open environmental data from Citizens Observatories.

Explanatory videos will give participants more detailed information on the descriptions, features and datasets relating to the challenges.

During the challenge, participants will be able to engage with expert mentors online. Mentors are familiar with specific datasets and can help guide participants with technical and data queries.

Two tenders, each to the value of €5,000, will be awarded to winning entries. The winners must commit to demonstrate the results at a public event on 14 -16 October 2020, Berlin.

Apply!

https://docs.google.com/forms/d/1ri0bHLqG3Ac4RdxJwYeOXnDot1DryD8INZKWBY3bTBA/viewform?edit_requested=true&pli=1

Criteria and Evaluation Process

The following criteria will be taken into account, each with a scale of 1-5, and each submission will be awarded a maximum score of 15. The winning entries must demonstrate:

- Solution and Data: An experimental proof of concept that can be interacted with to demonstrate functionality, with a Technology Readiness Level of 3. It should use one or more WeObserve datasets at the heart of the concept. Datasets can be combined with other data. Uphold FAIR Principles for any resulting datasets or code. The result should be a new, original solution including a service, mobile or web application, visualisation or demonstration of applying data science by linking datasets for the generation of new insights.

- Concept: The idea should address one of the thematic challenge areas provided or outline a new one. The concept must clearly communicate why the solution matters and who it benefits. It needs to have beneficial social impact, such as meaningfully improving the lives of people, environment or the planet.

- Team and Market: The team should be clearly defined and indicate who will use the product or service and why, including a description of all relevant stakeholders. The team must be available and able to commit to providing a demo and a publication for documentation purposes at the WeObserve conference and other WeObserve communication and dissemination channels.

Teams/individuals are free to focus on a single WeObserve dataset, or combine this with additional datasets from other sources. The focus of the demonstrators can be local or global, urban or rural or you can address a broader environmental issue or challenge relating to climate change.

Teams/individuals should be aware of the United Nations Sustainable Development Goals (SDGS) and should attempt to address some of these goals in their application. For more information on these goals see here.

Eligibility Criteria

- The tender is open to all legal entities (i.e. natural or legal persons, including international organisations) or groups of legal entities.

- Applications are welcome from all. Diverse and inclusive teams are positively encouraged.

Exclusion Criteria

Participants will be excluded if they:

- were involved in the preparation of the tender documents.

Application Process

The tender application will be judged through submission of projects as follows:

Phase 1

Register your interest here.

Following registration you will receive information about the challenge, including access to data and mentors.

Note: teams/individuals are expected to adhere to license for the use of datasets.

Phase 2

Submit your project for the tender, as follows:

- A 10 minute (maximum) video introducing your concept and demonstrating the solution.
- Software artefacts, either by file upload or via a github repository.
- Completion of project information (via a supplied webform).

We will notify you on the outcome of the selection process.

Phase 3

Demonstration by individuals or teams (represented by a maximum of two members) will be invited to WeObserve Conference in Autumn 2020, which will include participation in one compulsory day to present the solution at a live demo.

- Publication of final documentation of the idea and prototype, this will be made publicly available by the WeObserve project.

Winning Tenders

Teams/individuals will be notified about the outcome of the selection process in Phase 2 by email. Tender awardees will be offered a follow-on call to outline preparation for the demonstration event. The payment will be issued in two-stages:

Stage 1: €2000 payment upon signing the tender contract when selected. The winning teams are expected to use the funds to develop their concept, to increase its technology readiness level and to fund travel to the final event venue in Berlin.

Stage 2: €3000 payment upon delivery of demo presentation and final documentation at conference. The winning teams will present their concepts at a conference, exact date to be confirmed. Individuals/teams will be expected to fund their travel and accommodation; however, the conference fee is provided.

Evaluation Process

Phase 2

Two individuals/teams will be invited to develop their applications and awarded an initial payment of €2000. The final demos will be evaluated during the final event by a jury of experts from within and outside the WeObserve consortium.

Individuals/teams that present a demonstration at the final event will continue to participate in the final stage of the tender. If their demo is successfully evaluated, they are entitled to claim the final payment of €3000.

Timeline

Activity	Dates
Launch event on WeObserve website & Registration Opens	15/05/2020
Registration Closes	~~15/06/2020~~ extended to 21/06/2020
Deadline for participants to upload demos	17/07/2020
Winning teams/individuals will be contacted.	By 31/08/2020
Demonstration by winning teams/individuals at a WeObserve event (date and format to be confirmed depending on travelling restrictions)	15/10/2020

Who's Behind This

H2020 WeObserve is opening datasets from four Citizen Observatories projects: Ground Ttruth 2.0, GROW Observatory, Landsense, Scent who have mobilised citizens to collect data across Europe. Information about the WeObserve project and partners can be found here: https://www.weobserve.eu/about/wo/

Contacts

For more help with your application or any other information you require: odc-request@lists.weobserve.eu .

Information can be found at: https://www.weobserve.eu/marketplace/opendatachallenge/

Bios

Inian Moorthy, Research Scholar, International Institute for Applied Systems Analysis

Joan Masó, Researcher, Ecological and Forestry Applications Research Centre

Valantis Tsiakos, Scientific Project Manager, Institute of Communication and Computer Systems

Andy Cobley, Senior Lecturer University of Dundee, School of Science & Engineering

Read bios here.

- END OF DOCUMENT -