From contributory to collegial

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GROW OBSERVATORY

From contributory to collegial:

A model to foster citizen-led open data innovation in Citizens' Observatories

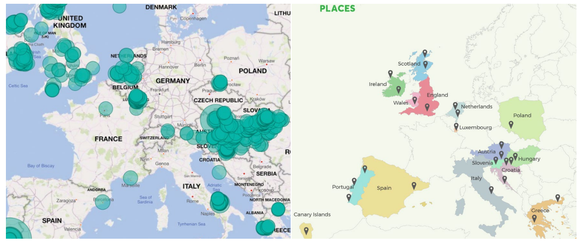
Citizens' Observatories

Citizens' Observatories (COs) are a development put forward by the European Commission. However COs can combine the potential of bottom-up citizen science (CS) with low cost technologies to achieve local innovation and environmental monitoring at scale.

GROW Observatory

GROW Framework

GROW demonstrated how CS can help validate Sentinel-1 satellite soil moisture datasets at continental scale. GROW developed 24 communities in 13 EU member states, reached 7.8 million people. 17,400 people in 182 countries took part in a GROW online course. 8 GROW communities deciding to carry on post project funding [1]



Discovery, Sensing and Awareness

Whilst GROW's main starting point for satellite validation can be considered a contributory CS project [2], the design-led activities informed by the GROW Framework (see left), and resources created to train and empower participants to make sense of their own data, and carry out their own experiments, led to the emergence of collegial CS activities across a number of communities [3].

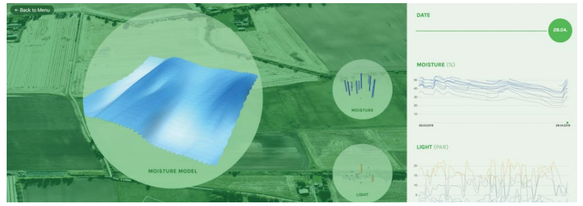
Participants were able to access datasets and learn how sensors works and to interpret their own and aggregated collective sensor data.

GROW ran several Insight Workshops and free Massive Open Online Courses to support participants across a wide continuum of expertise, time and level of interest, to enable them to develop their knowledge and skills in creating their own experiments, exploring citizen sensing and gaining actionable insights from data to create positive change.

GROW Participants co-designing ideas for future Citizens' Observatories.

Innovation and Advocacy

GROW triggered opportunities for open science and innovation, catalysed by participatory methodologies and open data, which increased networks and knowledge exchange activities within and amongst the members of the GROW Places. Several Community Champions and superusers accessed and used their data in novel and highly contextual ways, the emergence of local data use is a key indicator for social innovation.



Soil Moisture Map

Farmers in El Hierro (Spain) were able to save up to 30% of water through learning to monitor soil moisture.

For example a forester working in the National Park in the Evros Delta (Greece), started to explore how to combine GROW sensor data with other GIS data to monitor and better understand the behaviour of migratory birds in relation to soil moisture and to inform policy making. Farmers in El Hierro island (Spain), used the data to reduce their level of irrigation, saving water and money.

GROW Community Champions at a DIY sensor training session in September 2019

From Contributory to Collegial

The GROW Observatory experience demonstrates that with adequate training, community facilitation and an open data approach, COs and more widely CS contributory projects can give way to a positive *leaky pipeline* effect, this can at the same time address top down scientific objectives and promote social innovation through local contextual experimentation, data use and empowerment at a community level.

References:

[1] GROW, 2020. GROW Summary report.
Available: https://growobservatory.org/GROW-Summary-Report.pdf

[2] Shirk, J.L., Ballard, H.L. et al., 2012. Public participation in scientific research: a framework for deliberate design. Ecology and society, 17(2).

[3] Woods et al., 2019. Deliverable 1.4 Mission outcomes. Deliverable to the European Commission.
Available: https://discovery.dundee.ac.uk/en/publications/grow-observatory-mission-outcomes

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