University of Dundee

Advancing in Citizen Science Interoperability by testing standard components between Citizen Observatories

Masó, Joan; Prat, Ester; Cobley, Andy; Matheus, Andreas; Julià, Núria; Jirka, Simon

Published in:
EGU General Assembly 2020

DOI:
[10.5194/egusphere-egu2020-18531](https://doi.org/10.5194/egusphere-egu2020-18531)

Publication date:
2020

Licence:
CC BY

Document Version
Publisher's PDF, also known as Version of record

[Link to publication in Discovery Research Portal](#)

Citation for published version (APA):

Masó, J., Prat, E., Cobley, A., Matheus, A., Julià, N., Jirka, S., Klan, F., Tsiakos, V., & Schade, S. (2020). Advancing in Citizen Science Interoperability by testing standard components between Citizen Observatories. In *EGU General Assembly 2020* [EGU2020-18531] European Geosciences Union. <https://doi.org/10.5194/egusphere-egu2020-18531>

General rights

Copyright and moral rights for the publications made accessible in Discovery Research Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from Discovery Research Portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying the publication in the public portal.

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

EGU2020-18531

<https://doi.org/10.5194/egusphere-egu2020-18531>

EGU General Assembly 2020

© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.

Advancing in Citizen Science Interoperability by testing standard components between Citizen Observatories

Joan Masó¹, Ester Prat¹, Andy Cobley², Andreas Matheus³, Núria Julià¹, Simon Jirka⁴, Friederike Klan⁵, Valantis Tsiakos⁶, and Sven Schade⁷

¹CREAF, Bellaterra (Barcelona), Spain (joan.maso@uab.cat)

²University of Dundee, Nethergate, Dundee DD1 4HN, United Kingdom

³Secure Dimensions GmbH, Waxensteinstraße 28 81377 München, Germany

⁴2North, Martin-Luther-King-Weg 24, 48155 Münster, Germany

⁵DLR Institute of Data Science, 07745 Jena, Germany

⁶Institute of Communication & Computer Systems (ICCS), 9, Iroon Politechniou str. Polytechnic Campus - DECE - office 2131 15773 Zografou, ATHENS GREECE

⁷Joint Research Center, Via E. Fermi, 2749, 21027 Ispra VA, Italy

The first phase of the citizen science Interoperability Experiment organized by the Interoperability Community of Practice in the EU H2020 WeObserve project under the Open Geospatial Consortium (OGC) innovation program and supported by the four H2020 Citizen Observatories projects (SCENT, GROW, LandSense & GroundTruth 2.0) as well as the EU H2020 NEXTGEOSS project has finalized with the release of an Engineering Report in the OGC website. The activity, initiated by the European Space Agency (ESA), EC Joint Research Center (JRC), the Wilson Center, International Institute for Applied Systems Analysis (IIASA) and CREAM wanted to covered aspects of data sharing architectures for citizen science data, data quality, data definitions and user authentication.

The final aim is to propose solutions for Citizen Science data to be integrated in the Global Earth Observation System of Systems (GEOSS). The solution is necessarily a combination of technical and networking components, being the first ones the focus of this work. The applications of international geospatial standards in current citizen science and citizen observatory projects to improve interoperability and foster innovation is one of the main tasks in during the experiment to achieve the final aim.

The main result was to demonstrate that OGC Sensor Observing Service (SOS) standard can be used for citizen science data (as already proposed in the OGC SWE4CS discussion paper) by implementing it in servers that were combined by visualization clients showing Citizen Science observations from different projects together. The adoption of SOS opened new opportunities for creating interoperable components such as a quality assessment tool. In parallel, an authentication server was used to federate three project observers in a single community. Lessons learned will be used to define an architecture for the H2020 COS4Cloud project. The second phase of the Interoperability Experiment has already started and developments and tests will be

conducted by participants in the next 9 months. Some open issues identified and document in the Engineering Report will be addressed in the second phase of the experiment, including the use of a Definitions Server and the adoption of the OGC SensorThings API as an alternative to SOS. The second phase will finalize in September 2020 with a presentation in the Munich OGC Technical Committee meeting. The call for participation and additional contributions will remain for the whole duration of the activity

How to cite: Masó, J., Prat, E., Cobley, A., Matheus, A., Julià, N., Jirka, S., Klan, F., Tsiakos, V., and Schade, S.: Advancing in Citizen Science Interoperability by testing standard components between Citizen Observatories, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-18531, <https://doi.org/10.5194/egusphere-egu2020-18531>, 2020