

Citizen science workshop

To help identify future opportunities for UK governmental bodies to get involved with citizen science, the UKEOF Citizen Science Working Group (CSWG) held a workshop in October 2018 with representatives of UKEOF partners. It identified the broad opportunities that exist and also what it could do to help partners realise them. This briefing is for anyone with an interest in citizen science, especially those in government organisations in the UK.

The workshop was attended by Rob Grew (EA), Kieran Hyder (CEFAS), Johan Schutten (SEPA), Patrick Bell (BGS), Helen Roy & Jodey Peyton (UKCEH), Jon Parr (MBA), Katherine O'Boyle (Met Office), Hilary Geoghegan (U. Reading), Michael Pocock & Victoria Barlow (UKEOF), Kate Heveron (NE), Alan Cameron (SNH), and Dylan Lloyd (NRW). The workshop was facilitated by James Barlow (Beechlight Ltd, james@beechlight.co.uk).

What is the future of citizen science?

What is UKEOF's role?

Citizen science (CS) is a great way of providing monitoring data and information, engaging people and ultimately empowering them to take an active role in their local environment. It's fast moving and vibrant and there are opportunities for governmental bodies in the UK to get involved to help address both existing and future challenges.

Opportunities for Citizen Science

1. **Trust.** CS can be a powerful way to re-build trust in science and thus in UK scientific organisations and regulators. Self-measured evidence is more trusted by people and thus organisations that facilitate this and use this data are more trusted.
2. **Local evidence.** Communities and citizens will increasingly need their own local evidence to support environmentally sound decision-making. This is partly because of a push towards localness and devolved decision making by UK and devolved governments. CS could play a key role here, but this will need a focussed, new approach by the UKEOF's Citizen Science Working Group partners and others, and will probably require extra resources. Co-design of CS with communities will be important.
3. **Access.** CS needs to evolve to ensure that everyone has access or can be involved. CS should be for all; not just the middle class with spare time. There is a great opportunity to involve a much wider part of society. Next generation citizens are learning and exploring evidence online in much more visual ways.
4. **Business science.** The volume of data from businesses is expanding rapidly. Working with businesses that directly or indirectly measure environmental parameters such as air temperature (e.g. in cars) or soil moisture (e.g. by farmers) will provide new opportunities. This is not currently always considered as CS but 'crowd sourced' data like this is available in large volumes and is spatially extensive. However it is un-planned (as a monitoring network) and so exposed to the same data and statistical issues as some CS data. There is an opportunity to share methods for analysis of both types of 'crowd sourced' data (citizen science and from business) and to explore potential ways of making more of this freely available.

List continued overleaf

5. **'Internet of things'**. Opportunities exist to connect devices and sensors to vehicles or even domesticated and wild animals, and so provide monitoring data from important places that might otherwise be hard to sample. There are data privacy aspects to this, but high potential for useful contributions to science, so it could be seen as an opportunity for large tech companies to demonstrate their 'social responsibility'.
6. **Innovation of citizen science**. CS is a huge opportunity for organisations and to fully take advantage of the benefits, we need continued innovation in the practice of CS. We need to create new partnerships with those outside of our communities who will positively disrupt our thinking and practice. As we innovate, we will need to think broadly and not be limited by our current definitions of 'citizen science'.
7. **Funding**. Continuing funding pressure on government organisations is creating more interest in CS as a cost-effective alternative to traditional monitoring. While there are likely to be opportunities to expand CS work, CS is not without cost. However, the unique characteristics of CS and its role in engaging and empowering people mean it can contribute to a wide range of objectives and therefore also potentially attract a wider range of funding.
8. **Combining with traditional monitoring**. CS can be used as a partial alternative to traditional monitoring. CS can augment traditional monitoring or provide different data in different ways. However, because there is no direct control over observer density and timings, we need further development on properly combining these data sources.

The continuing role of the UKEOF Citizen Science Working Group

To help partners and the wider community, the working group will:

1. Raise the profile of CS in partner organisations by buddying / 'presenting' within each other's organisations. Where practical it will also promote joint projects or management of activities and will consider whether each organisation would benefit from a CS champion.
2. Continue to identify and promote best practice from the UK, EU and further afield.
3. Invite guests to disrupt our thinking. Do we have the right people to take the next innovative steps? Who is missing?
4. Continue to develop practical guidance. This will include briefing notes for partners on the best opportunities from business science, on how best to combine CS with other data, and how to use CS to address issues of trust.
5. Work together to share resources and focus on activities that will be of most interest to our members and our organisations.



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ABOUT UKEOF

UKEOF works to improve coordination of the observational evidence needed to understand and manage the changing natural environment. It is a partnership of public sector organisations with an interest in using and providing evidence from environmental observations. Contact us at office@ukeof.org.uk

UKEOF PARTNERS

British Geological Survey; UK Centre for Ecology & Hydrology; Department for Agriculture, Environment and Rural Affairs (Northern Ireland); Department for Business, Energy and Industrial Strategy; Department for Environment, Food and Rural Affairs; Economic and Social Research Council; Environment Agency; Forestry Commission; Joint Nature Conservation Committee; Met Office; Natural England; Natural Environment Research Council; Natural Resources Wales; Office of National Statistics; Scottish Environment Protection Agency; Scottish Government; Scottish Natural Heritage; UK Space Agency; Welsh Government.

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