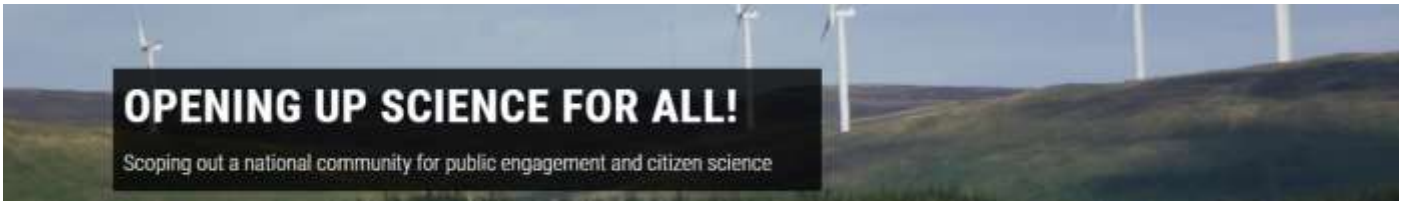

Environmental Citizen Science – Main points

Muki Haklay, lecture on Environmental Citizen Science

- Environmental citizen science is a well-established and extensive area of citizen science
- There is a clear trend in types of projects during different periods
- Terminology is complex and can be overlapping
- The Biological Records Centre is a symbiosis of science body with volunteering societies
- There are hundreds of local and national biological recording programmes and organisations, some with very long histories of running these programmes
- Monitoring data are required for many aspects of human activity and for understanding the state of the physical and biological environments
- Environmental citizen science has developed over the years, adopting new technologies and modes of engagement
- It is also an area of important challenges: from training participants in identifying species to ensuring that devices in participatory sensing produce meaningful data

Alan Jones, lecture on Earthwatch's environmental citizen science projects

- Earthwatch is an international environmental charity, engaging people in research, based on a model of citizen science
- Earthwatch brings people and professional scientists together, deliver transformational experiences around the world, to promote the understanding and action necessary for a sustainable environment
- Earthwatch uses a 'head, hands, heart' approach
- Earthwatch runs three types of projects: 'expedition model' projects, corporate projects and public projects
- Examples of public citizen science projects are Earthworm Watch, FreshWater Watch and Capturing Our Coast
- Projects typically involve a training session and are targeted at different audiences
- Projects must be supported by web platforms and social media communications
- As participants are largely self-selecting, this means motivated volunteers but can also pose challenges in terms of geographic spread of data collection

Alan Jones, Earthworm Watch case study lecture

- Earthworm Watch is a mass-participation citizen science project: www.earthwormwatch.org
- It aims to map variability in earthworm numbers across the UK in relation to soil properties
- Methodology is paired plots – co-variance between paired plots accounts for differences in levels of effort between participants
- 3 types of earthworms: surface-feeding, soil-feeding, deep-living earthworms
- Over a quarter of people registered returned data which is a very good return rate
- Earthwatch uses a project framework for impact: science – engagement – action
- What have we learnt about earthworms:
    - Earthworms love vegetable patches
    - Sandy soils do not support earthworms
    - Carbon-rich soils may support greater numbers of soil-feeding earthworms
- Data sharing is important, so license agreement set up with public sharing databases (Indicia and Biological Records Centre)