

Citizen Science and policy: A European perspective

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Outline



- The place of citizen science within environmental knowledge production & use
- Policy dimensions of citizen science: geographical, policy formation stage, mode of engagement
- Examples from EU and member state research
- Next steps in Citizen Science: **Doing It Together Science (DITOs)**

Eras of environmental information

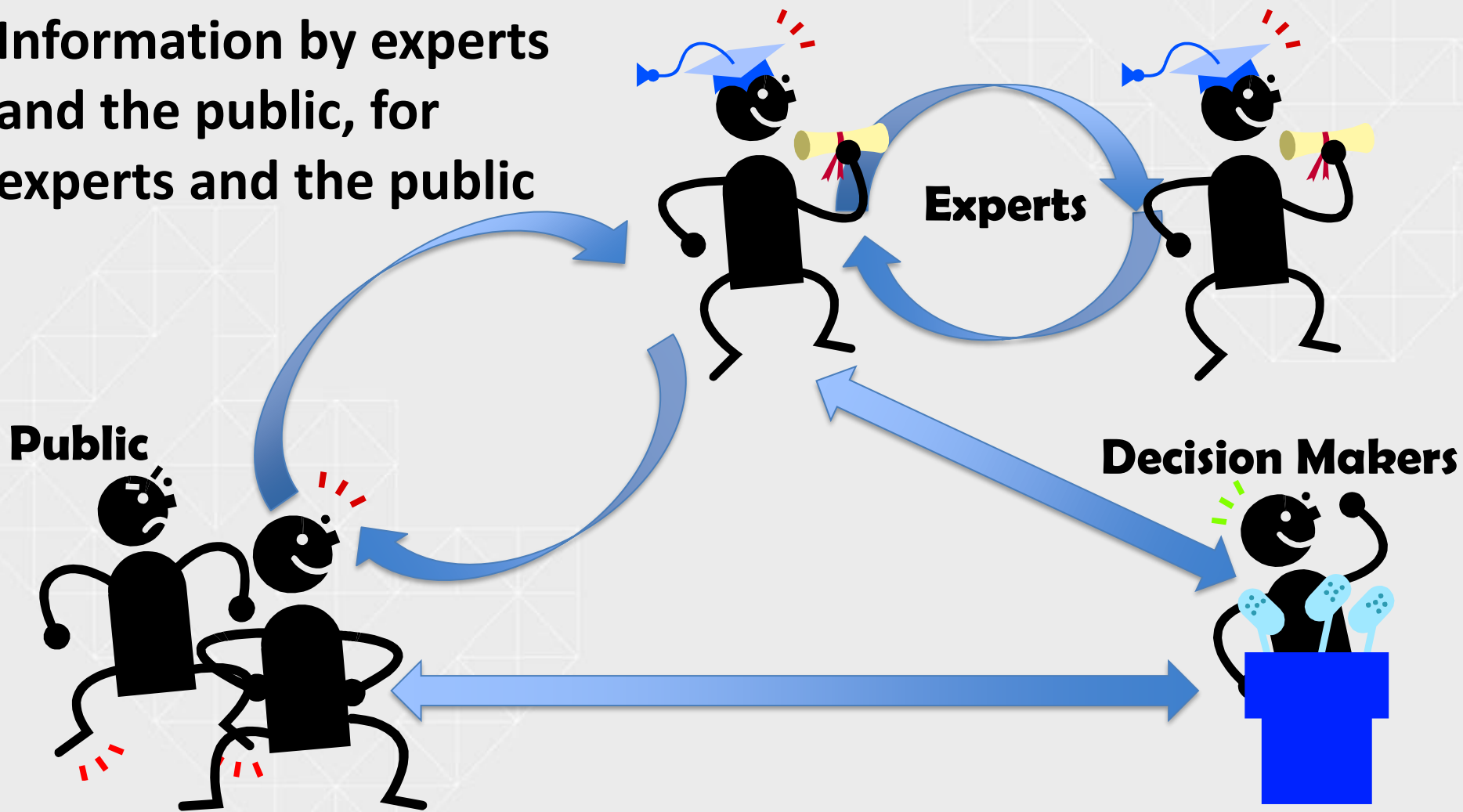
- Information has been central to environmental decision making since the emergence of the new environmental movement (1960s)
- Information flows between experts, policy makers, and the public
- Aspects of information: Fitness for purpose, reliability, quality, and accuracy play a role in directives and regulations (e.g. INSPIRE)

Third era: Since 2012



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Information by experts and the public, for experts and the public



Citizen Science in the 3rd Era

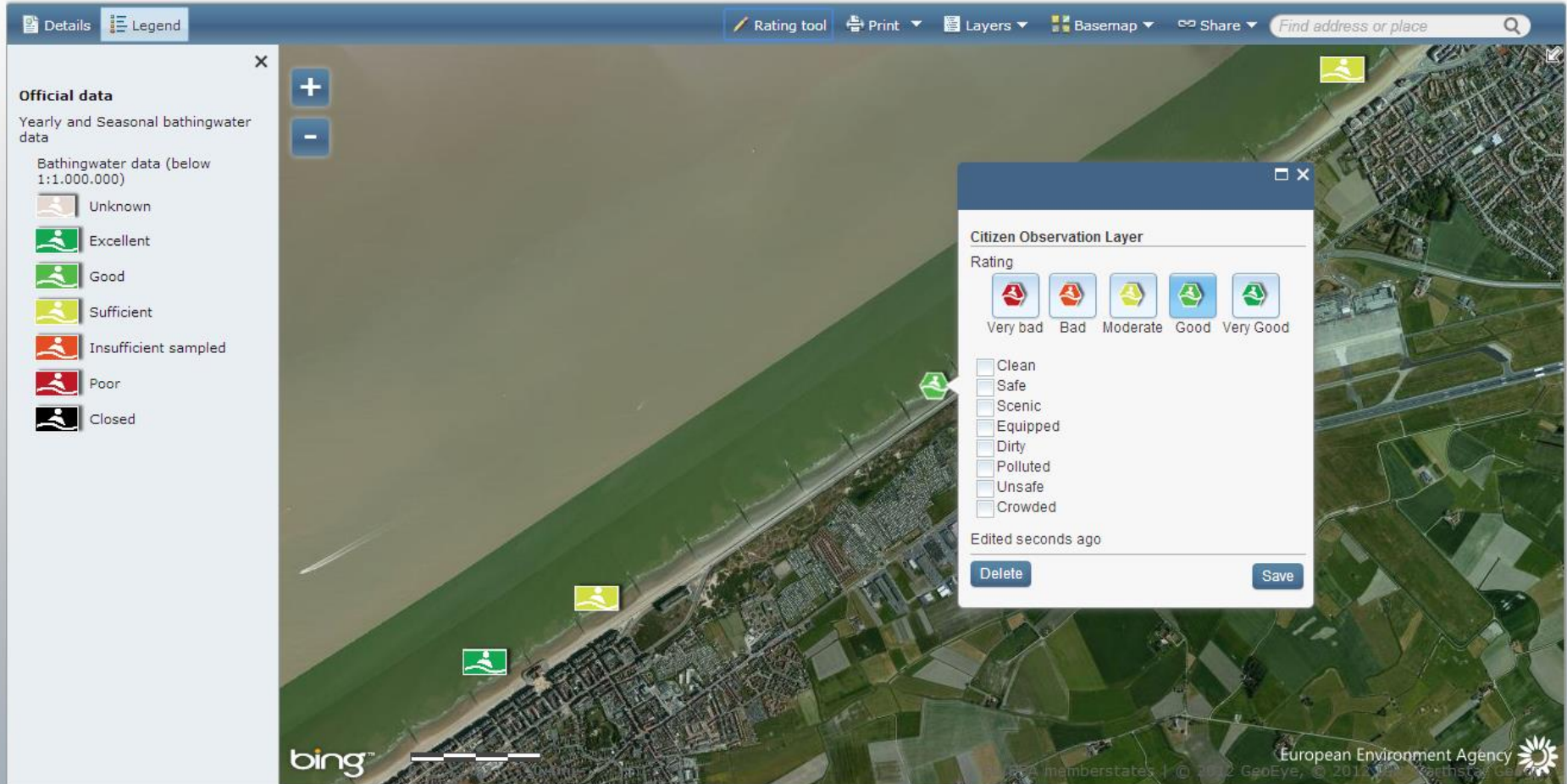
- Benefiting from societal transition (levels of education, longevity of healthy life, increase in leisure time) and technological changes (smartphones, web, data standards)
- Citizen Science increasingly accepted by scientists & decision makers
- Integrated in legislations and operational programmes (EEA, US EPA, Germany, UK)

European Environment Agency

- Prof. Jacquie McGlade, head of European Environment Agency, 2008 (Aarhus + 10):

'Often the best information comes from those who are closest to it, and it is important we harness this local knowledge if we are to tackle climate change adequately... people are encouraged to give their own opinion on the quality of the beach and water, to supplement the official information.'

WaterWatch - Bathing water quality for Europe



The screenshot shows the WaterWatch web application interface. At the top, there is a navigation bar with options: Details, Legend, Rating tool, Print, Layers, Basemap, and Share. A search bar on the right contains the text "Find address or place".

On the left side, there is a sidebar titled "Official data" with a close button (X). It contains the following information:

- Yearly and Seasonal bathingwater data
- Bathingwater data (below 1:1,000,000)
- Unknown (represented by a brown icon)
- Excellent (represented by a green icon)
- Good (represented by a green icon)
- Sufficient (represented by a yellow icon)
- Insufficient sampled (represented by an orange icon)
- Poor (represented by a red icon)
- Closed (represented by a black icon)

The main map area displays an aerial view of a coastal town. Several water quality data points are visible, represented by colored icons: a green icon (Excellent), a yellow icon (Sufficient), and a red icon (Poor). A "Citizen Observation Layer" dialog box is open over the map, showing the following options:

- Citizen Observation Layer**
- Rating**
 - Very bad (red icon)
 - Bad (orange icon)
 - Moderate (yellow icon)
 - Good (green icon)
 - Very Good (dark green icon)
- Clean
- Safe
- Scenic
- Equipped
- Dirty
- Polluted
- Unsafe
- Crowded

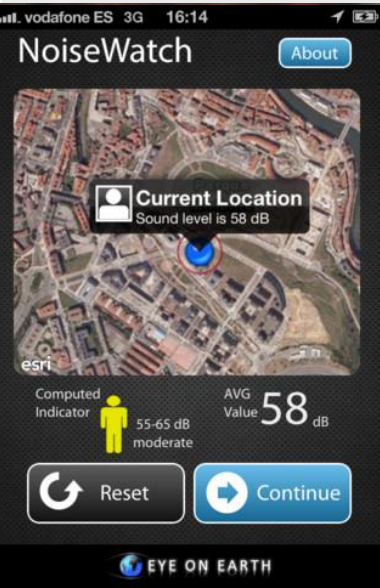
At the bottom of the dialog box, it says "Edited seconds ago" and has "Delete" and "Save" buttons. The Bing logo is visible in the bottom left corner of the map area, and the European Environment Agency logo is in the bottom right corner.

Policy dimensions



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- **Level of Geography** – scale or operation + jurisdiction / governance structure.
neighbourhood, city/town, regional, national, continental
- **Stage in policy formation** – evidence plays different role and use in different way: from identifying issues, formulating action, to implementation
- **Mode of engagement** – The degree of involvement that is required from a participant.
From passive sensing to active participation in the design of the process





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NOISY NEIGHBOUR?

Measure and share the noise levels you experience, all from your phone.
Download the free WideNoise app for iPhone and Android.

www.noisemap.org



WIDENOISE

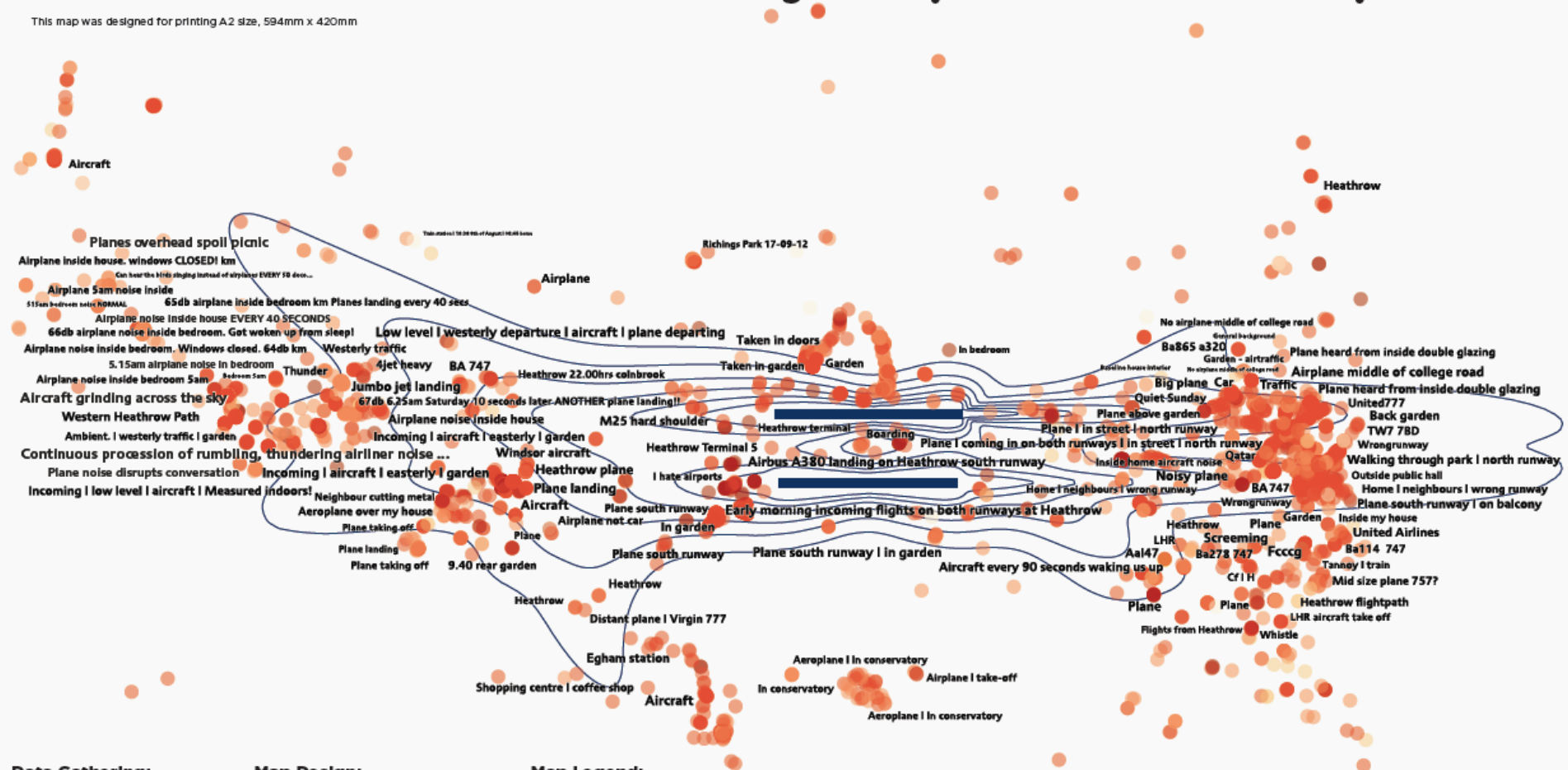
www.promogroup.co.uk

020 7978 6399



WideNoise Community Experience Map

This map was designed for printing A2 size, 594mm x 420mm



Data Gathering:

This map was created from data collected using the freely available Smartphone application - WideNoise www.widetag.com/widenoise

The app allows users to take short sound measurements which are geolocated and add meaningful descriptions with a textual

Map Design:

The goal of this map is to capture the dynamics and thematics of the WideNoise dataset around Heathrow Airport. Each coloured dot represents a single sound measurement made by a local WideNoise user. The colour of the dots is an indication of the noise level at that time and location. The text snippets on the map are tags added by users to describe their experience at that point. The texts have been removed to avoid repetition and non-

Map Legend:

- 0 - 22 dB
 - 22 - 44 dB
 - 44 - 66 dB
 - 66 - 89 dB
 - 89 - 111 dB
- 2011 Heathrow Airport Standard Noise Contour (www.gov.uk)
-
- Heathrow Runway



WIDENOISE

This project was carried out by the Extreme Citizen Science research group (UCL) as part of 'EveryAware' (FP7 FET Open grant no.265432)

Hyper Local



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- *Geographical scale*: neighbourhood
- *Policy stage*: Implementation, raising issues
- *Policy domain*: environmental monitoring
- *Engagement*: participatory sensing, civic/community science
- *Data and information*: ad-hoc, local systems (paper, spreadsheets). Offering centralised system can streamline sharing

[PROJEKT](#)[PROJEKTPARTNER](#)[DATENVERWERTUNG](#)[KARTE](#)[STECHEMÜCKEN](#)

MÜCKENATLAS

Deutschland kartiert die Stechmücken



» [Startseite](#) » [Karte](#)

Karte der Sammler

Was Sie sehen und Benutzung

Auf dieser Seite finden Sie eine deutschlandweite Kartendarstellung mit den Fundpositionen der jeweiligen Sammler. Sie können mit der Maus auf einen orangen Punkt (●) in der Karte klicken, um Fangdatum, Fundort und Name bzw. Pseudonym des Sammlers zu erfahren.

Mit Hilfe der Auswahlliste(n) können Sie den Ausschnitt auf ein Bundesland bzw. nach erfolgter Auswahl auf einen Kreis einpassen. Nutzen Sie diese Möglichkeit, wenn relativ viele orange Punkte in einem bestimmten Gebiet liegen.

Letzte Änderung der Karte: 21.04.2015 14:58:18 » [Liste der bisherigen Einsendungen](#)

Darstellung (79 Fundorte)

Jahr: 2015 ▾

<< [Alle Bundesländer anzeigen](#) >> ▾



Regional



- *Geographical scale*: regional
- *Policy stage*: discovery/Implementation
- *Policy domain*: ecology/public health
- *Engagement*: ecological observations
- *Data and information*: research institution, with potential for QA, centralised analysis and regional sharing of information



sauvages de ma rue



SAUVAGES DE MA RUE | BIODIVERSITÉ URBAINE | PARTICIPER | RÉSULTATS | SAUVAGES DE MA VILLE | ACTUS&DOCS

rechercher...

Accueil > Sauvages de ma Rue > Présentation

SAUVAGES DE MA RUE

Présentation

Fondateurs

Partenaires

Mécène

PRÉSENTATION



Sauvages de ma rue est un programme de science citoyenne: c'est à la fois un projet pédagogique animé par [l'association Tela Botanica](#), et un projet scientifique du [laboratoire CERSP](#) du MNHN.



Une biodiversité à découvrir dans vos villes [Photo Bernard Faye | © MNHN].

Country scale



- *Geographical scale*: country
- *Policy domain*: education / environmental awareness / environmental monitoring
- *Engagement*: environmental and ecological observation, participatory sensing
- *Data and information*: national NGOs or research organisations, linked to national information systems & national decision making

Scale & Policy



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- Geographical scale – as the geographical scope increases, the role of the individual participants in the scientific process diminishes
- Citizen science is especially effective at the local, city, and national level - organisational structures, transport networks, ICT abilities.
- Technology can scale up of existing activities, help in coordination, standardisation, information sharing

case
study
series
vol 4

Citizen Science and Policy: A European Perspective

by Muki Haklay

W | Wilson Center COMMONSLAB

CROWDSOURCED GEOGRAPHIC INFORMATION USE IN GOVERNMENT

A report prepared for the World Bank
Global Facility for Disaster Reduction and Recovery



THE WORLD BANK



GFDRR

UCL



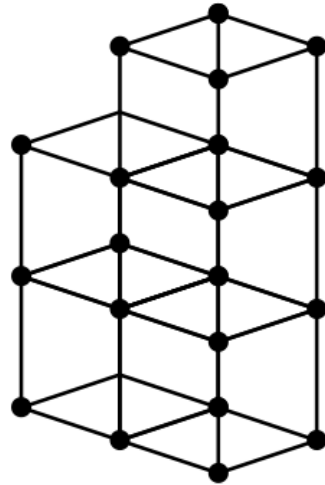
UCL ENGINEERING
Change the world

Analysis outcomes



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- Need to increase European capacity in coordinating, initiating, and using citizen science across geographical scales and policy areas.
- Coordinated effort can increase the visibility of citizen science – both for the wider public & to policy makers.



doing it
together
science



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 709433



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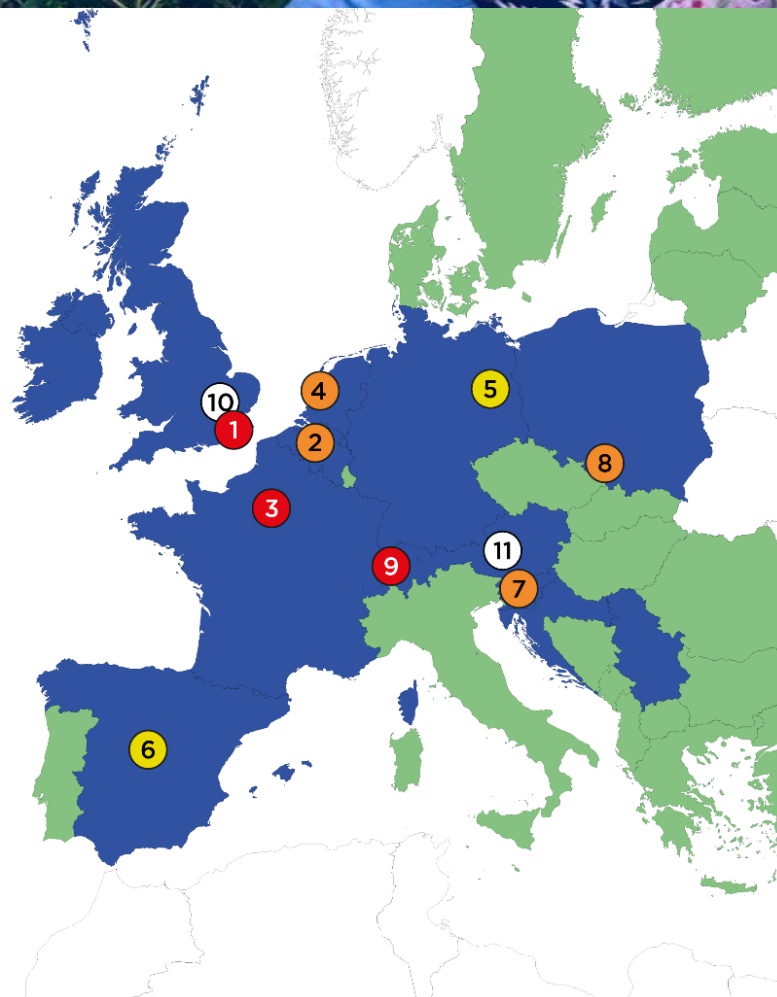
11 Partners
10 countries
500 events
290,000 participants
+1,300,000 online

In 36 months...

European Citizens reached in their **native language** through **primary partner** activities.

European Citizens reached in their **native language** through **dissemination** activities.

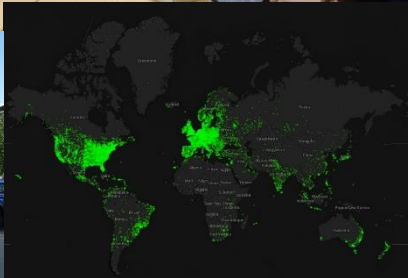
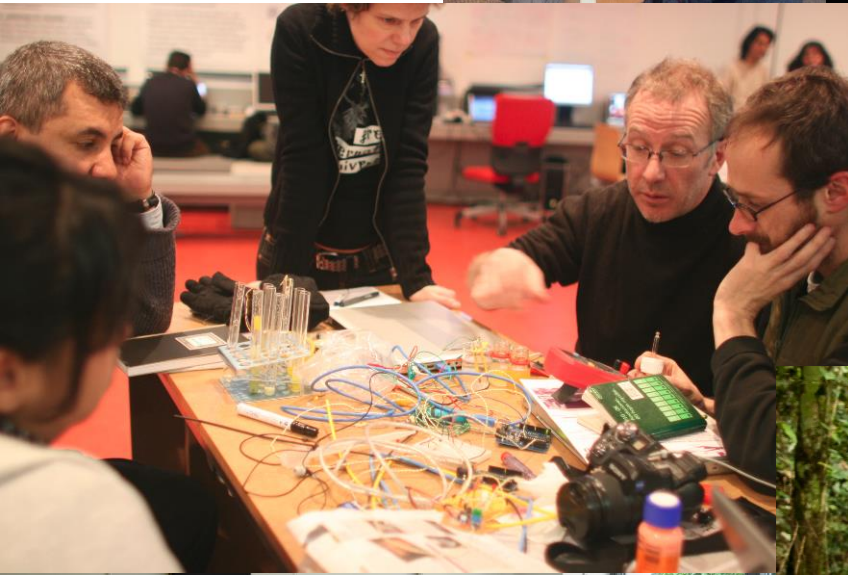
- 1 UCL *Research*
- 2 RBINS *Civil Society*
- 3 UPD *Research*
- 4 WS *Civil Society*
- 5 ECSA *Policy*
- 6 MP *Policy*
- 7 KI *Civil Society*
- 8 ECO21 *Civil Society*
- 9 UNIGE *Research*
- 10 TK *SME*
- 11 EUT *SME*



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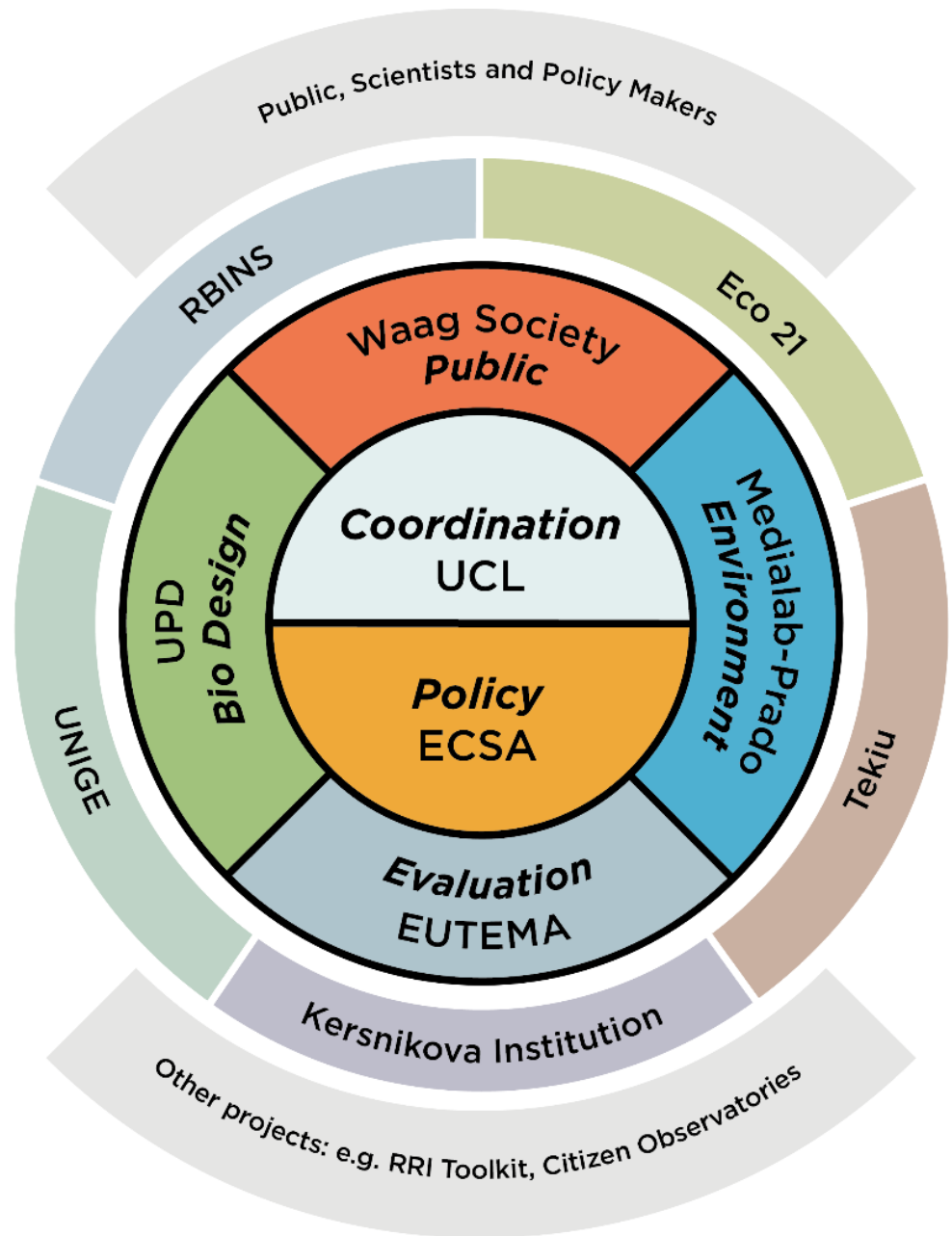


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UCL coordinating, with ECSA growing in capacity & size over the life-time of the project

Four partners leading on critical areas

Five partners with cross engagement across civil society, SME, research, art & museums



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1000s of Europeans active in DIY biology

40,000 participants in British Trust of Ornithology

150,000 members of World Community Grid

1M people have taken part in Zooniverse

3M yearly visitors to the London Science Museum

500M EU Citizens



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- Deep public engagement in scientific knowledge production through citizen science;
- An 'escalator' that allows people to enter at a level of engagement that matches their needs, interests, and abilities, while also encouraging them to move beyond;
- Strengthening of European cooperation through capacity building of the European Citizen Science Association;
- Participatory activities, with a strong focus on cross-European fertilisation and knowledge sharing between hubs and activity centres.
- Particular effort towards engaging currently excluded groups

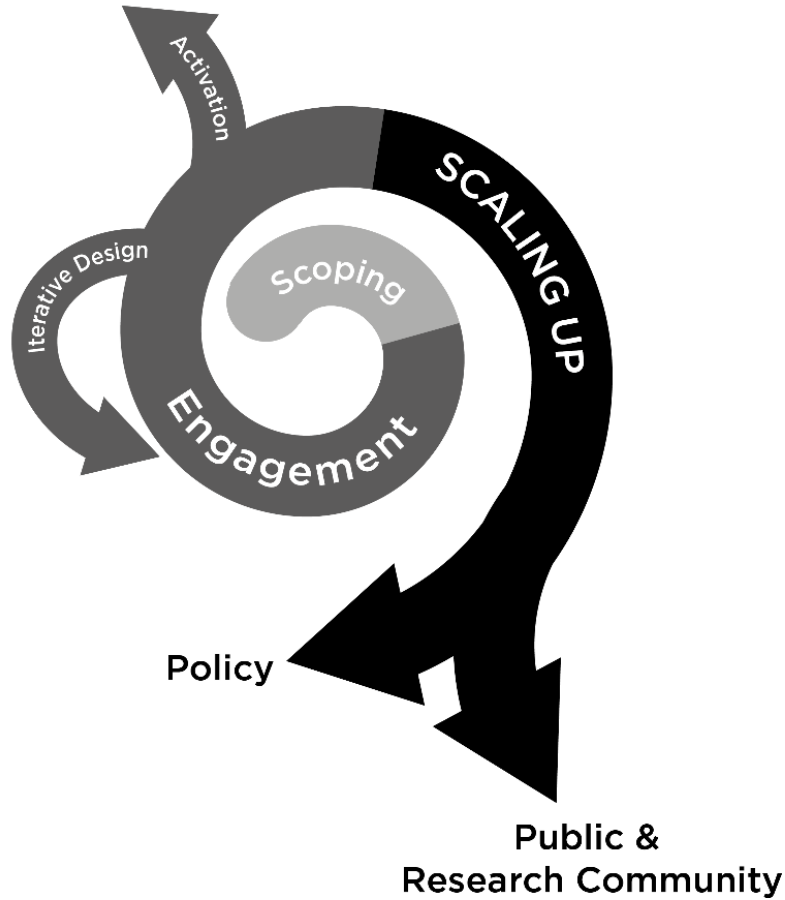


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Seed initiatives



WP6

Co-ordination, Support and Management

WP5

Evaluation

WP1

Biodesign

WP2

Environmental
Sustainability

Events related to
Biodesign which
are targeted at
members of the
**public and
researchers**

Events related to
**Environmental
Sustainability**
which are targeted
at members of the
**public and
researchers**

WP3

Public Engagement
and Capacity
Building

WP4

Policy Engagement
for RRI

Events related to
Biodesign which
are targeted at
policy makers

Events related to
**Environmental
Sustainability**
which are
targeted at
policy makers



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doing it together science



European Research Council
Established by the European Commission
Supporting top researchers from anywhere in the world

Citizen Sense



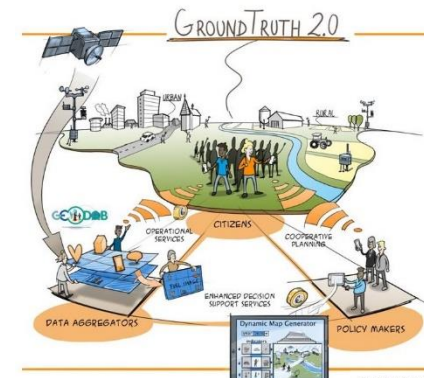
Citizen Sciences

Crowdland

ECSAnVis



COST Action CA15212
Citizen Science EU



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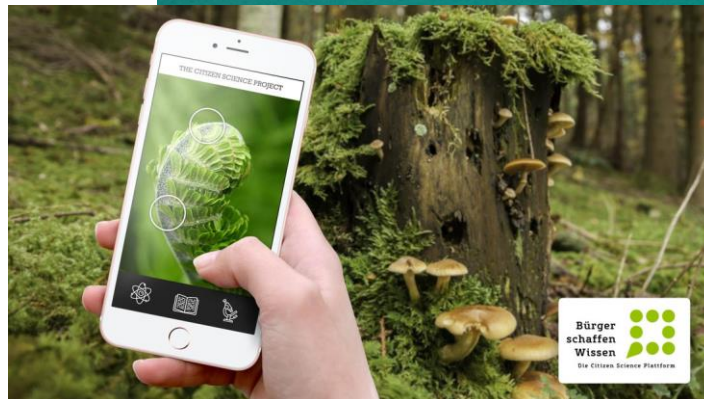
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DITOs is part of a wider discourse :

- Open Science
 - Open Data
 - Open Access
 - Open Innovations
 - Responsible Research & Innovation (RRI)
 - Skills (STEAM)
 - Citizen Science
- See **TogetherScience.eu**



**CITIZEN
SCIENCE
DAY**



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Active engagement with policy-makers

Discovery

Trips... Tailor-made international visits and exchanges for decision makers to facilitate **knowledge transfer** and **network building**

Local and European level

Roundtables Dialogues with affected stakeholders to discuss policy issues at both local and pan-European scales

Perspectives on Citizen Science Conference and Pan-European Policy Forum

Workshops, talks, “unconference” activities that bring together multiple stakeholder groups



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Discovery Trips for DITOs



Bringing policy makers, industry representatives, opinion leaders to consortium events:

- Exposure to latest trends in DIY science
- Provision of high-quality analysis and audio-visual materials
- Facilitating interactive discussions between decision makers and grassroots
- Collectively exploring citizen science policies that support Responsible Research Innovation (RRI) and current policy priorities



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Upcoming policy events for DITOs

Art & Science Policy Workshop (part of Ars Electronica Festival)

Focus on network building and funding

Linz, Austria: 8 September 2016

Local Stakeholder Seminar (in partnership with Nesta)

Focus on citizen science and responsible innovation

London, UK: 18 October 2016

European Stakeholder Roundtable

Focus on Responsible Research and Innovation (RRI)

Berlin, Germany: 8 November 2016

Discovery Trip for policy makers:

Focus on Biodesign and Innovation

Paris, France: early March 2017



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