


# Evaluating citizen science at progress and impact level: what's the value for research funding policies?

A photograph of two women in a laboratory or office setting. The woman on the left, wearing a white button-down shirt and glasses, is holding a smartphone. The woman on the right, wearing a bright yellow t-shirt and glasses, is pointing at the screen of the phone. They appear to be engaged in a collaborative activity, possibly related to citizen science or research.

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Florian Heigl, Daniel Dörler, BOKU



# What is Citizen Science?

“general public engagement in scientific research activities when citizens actively contribute to science either with their intellectual effort or surrounding knowledge or with their tools and resources.”



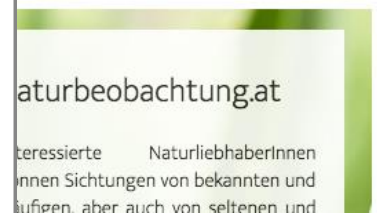
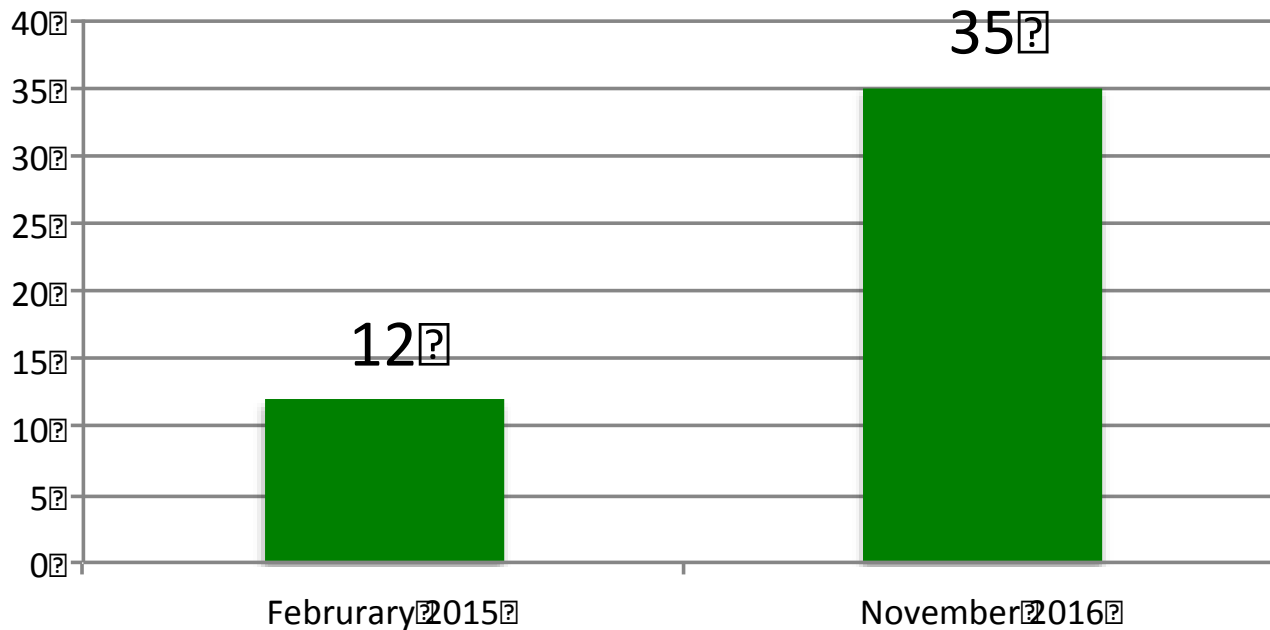
Whitepaper on Citizen  
Science for Europe  
(2014)





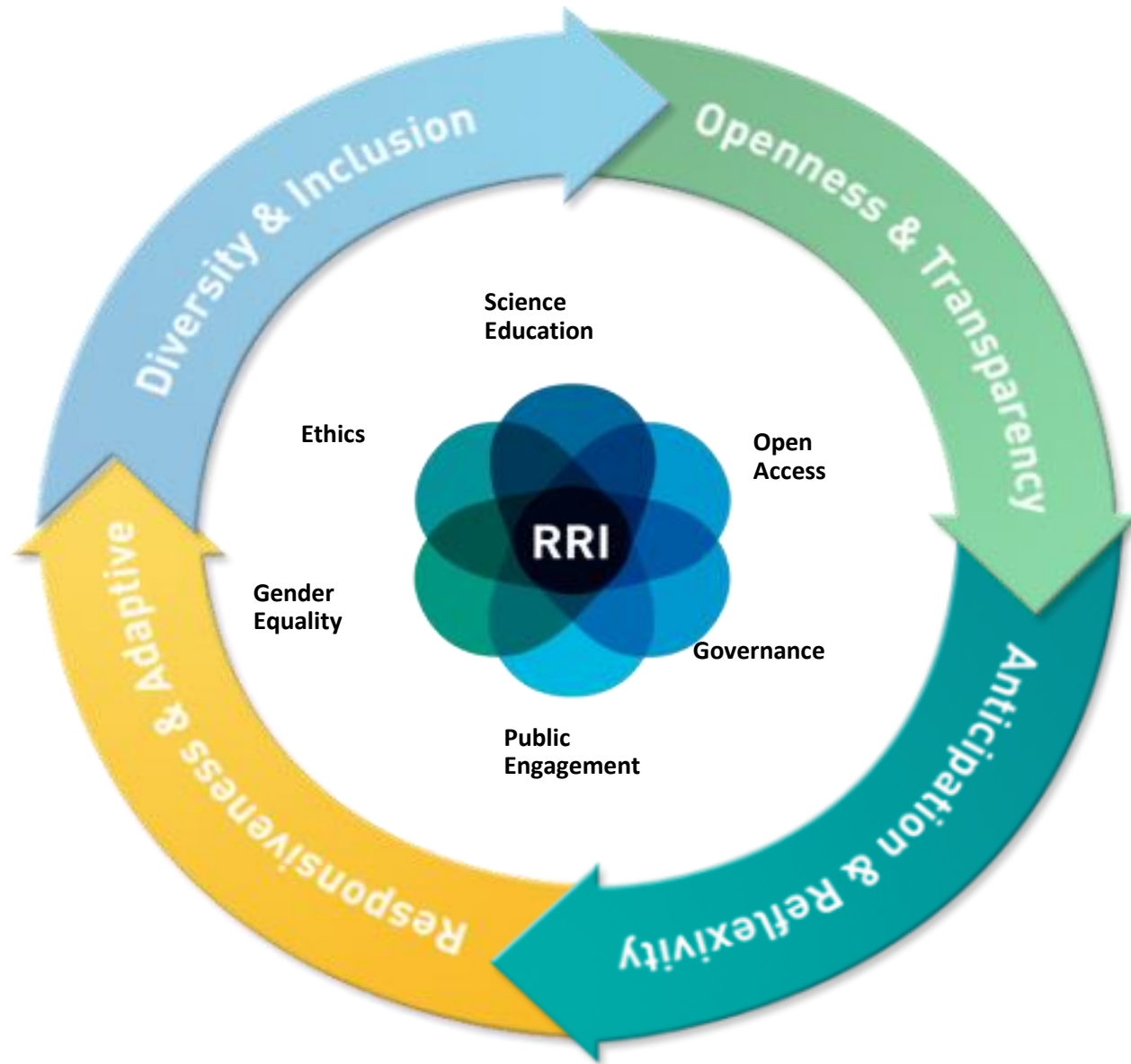
# Citizen Science – BOOM?

## projects



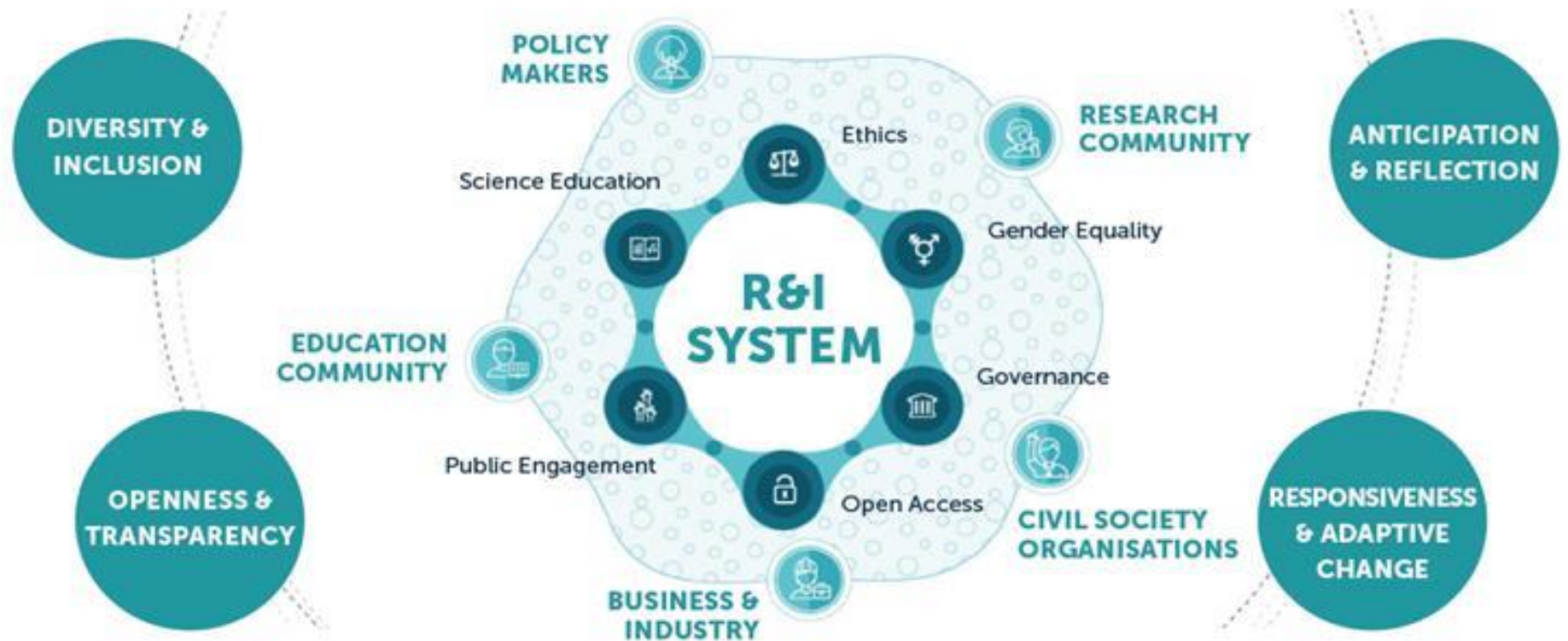


# Citizen Science - RRI

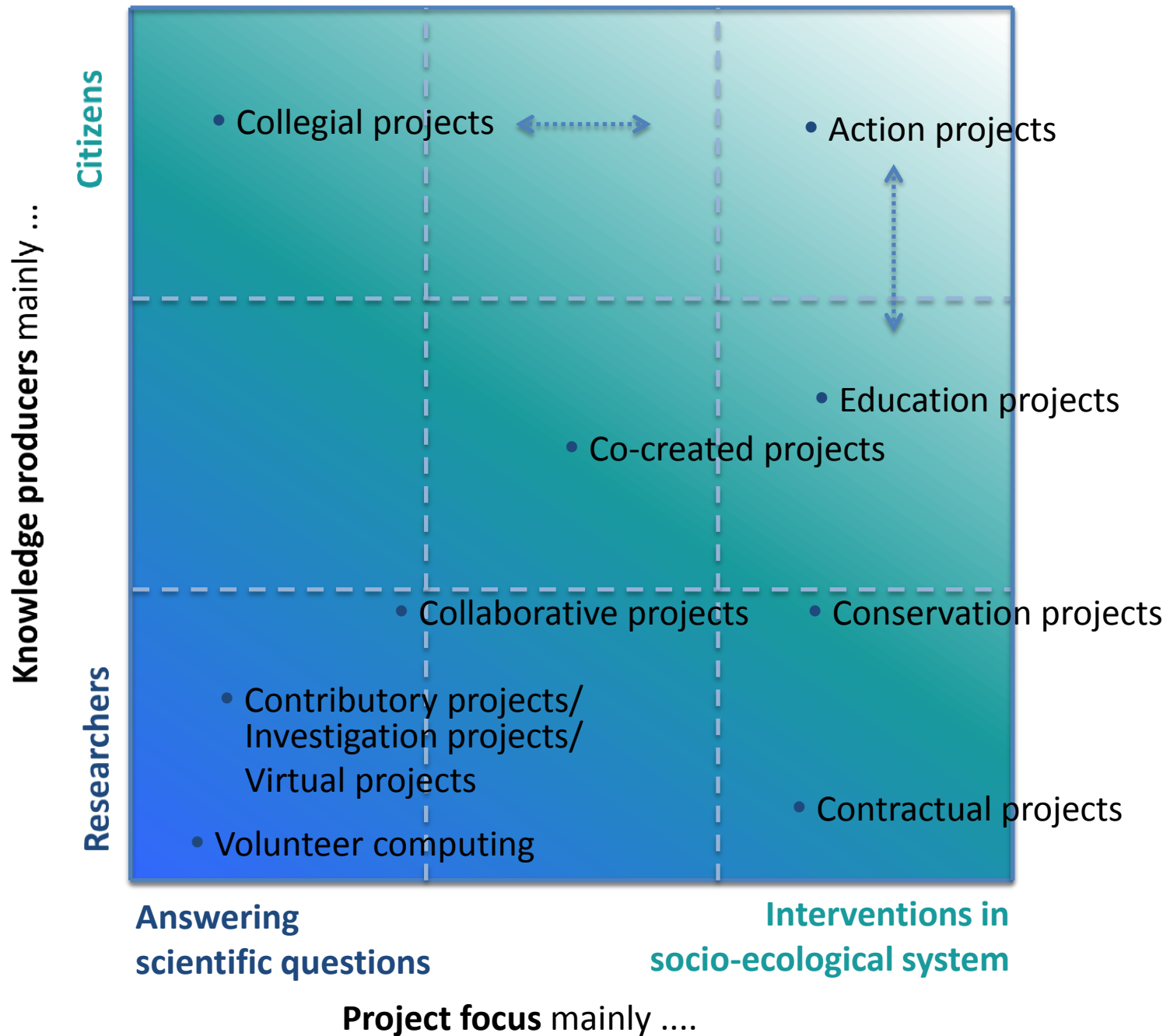




# Citizen Science – Responsible Research and Innovation









# Science-driven Citizen Science

Galaxy Zoo is a **Zooniverse** project. | Our Projects

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CLASSIFY STORY SCIENCE **GALAXY ZOO** DISCUSS PROFILE LANGUAGE

## Few have witnessed what you're about to see

Experience a privileged glimpse of the distant universe as observed by the SDSS, the Hubble Space Telescope, and UKIRT

**GALAXY ZOO**  
QUENCH



### Classify Galaxy

To understand how to classify them according to you may even be the one you're asked to classify

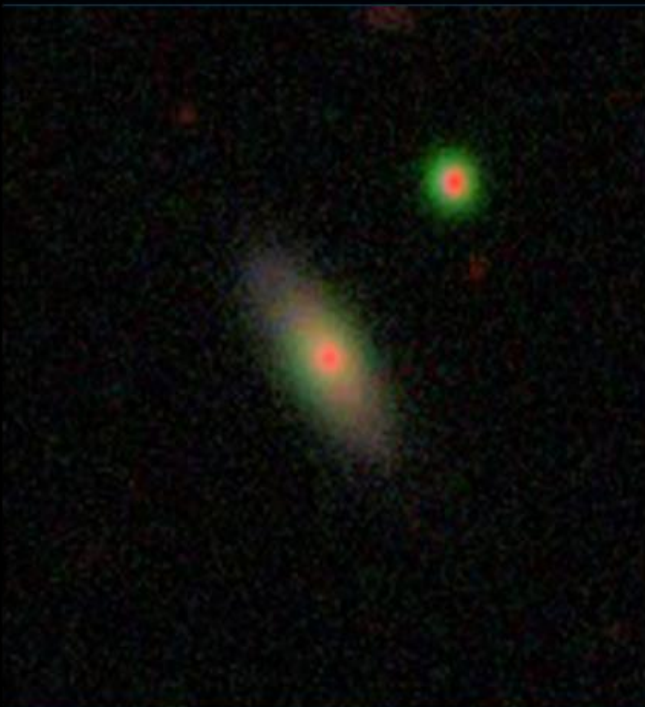
[Begin Classifying](#)

### How Do Galaxies Look?

**Classify**


 **SDSS**  **Invert**

[Examples](#) [Restart](#)




**SHAPE**


Is the galaxy simply smooth and rounded, with no sign of a disk?



Smooth



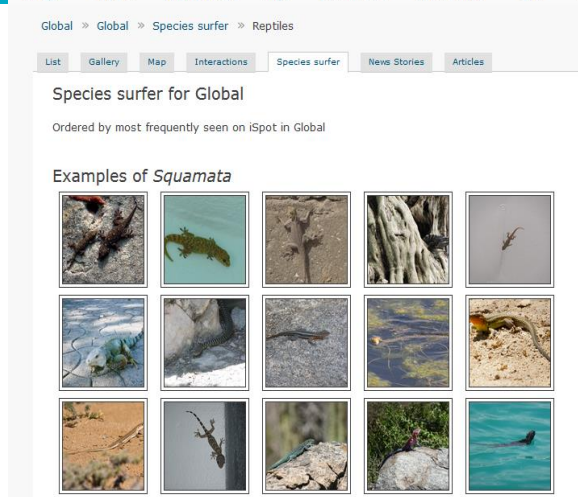
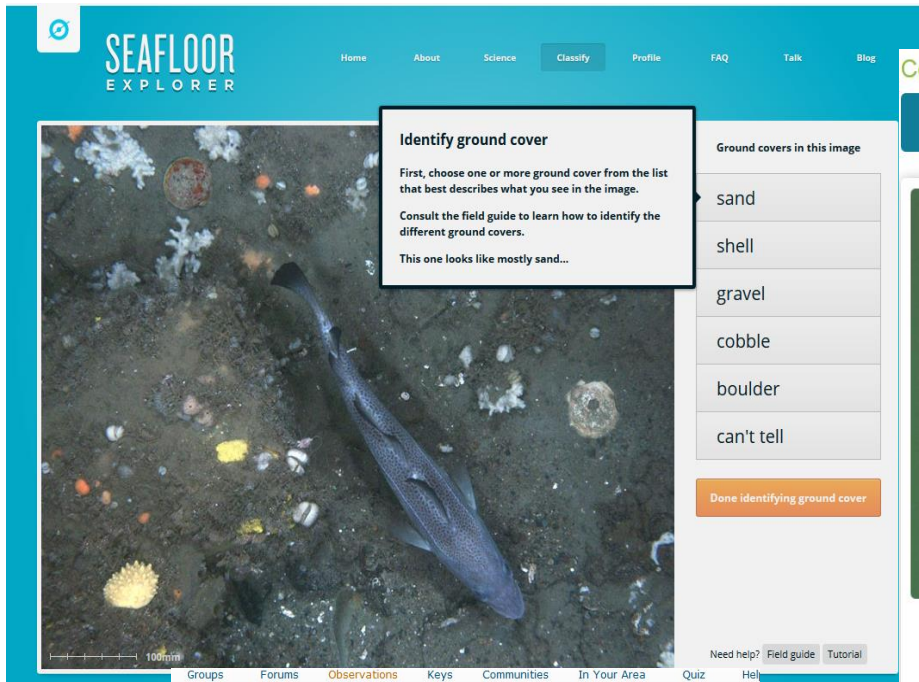
Features or disk



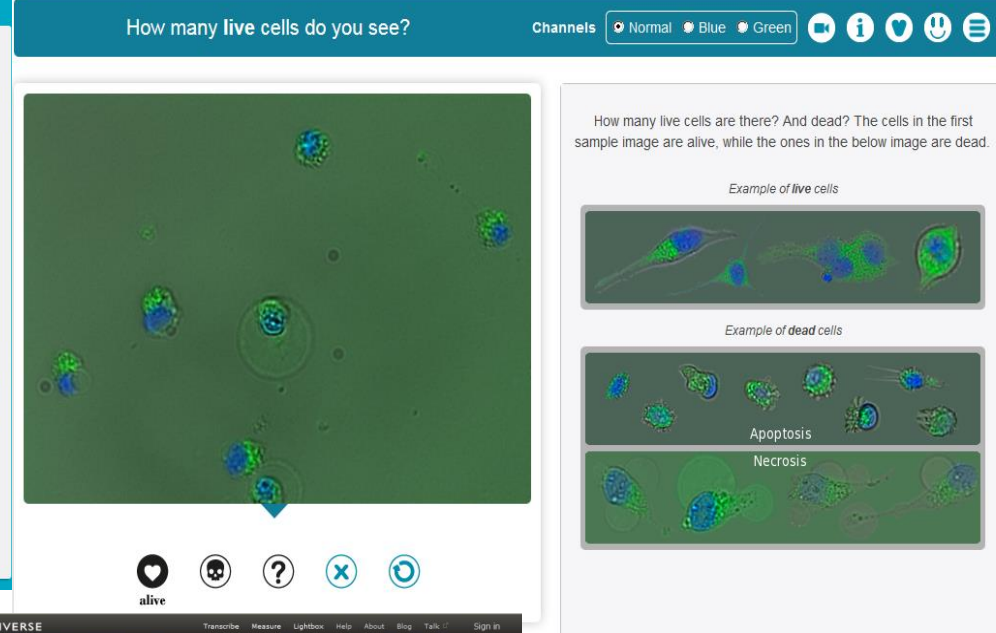
Star or artifact



# Science-driven Citizen Science



## Cell Spotting: Contribute





# Citizen-driven Science

www.noisemap.org

SOCIETIC - Google Dr... FP7identity - Google... Login required - Empl... ZSI Links

## NOISY NEIGHBOUR?


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

The **Heathrow Association for the Control of Aircraft Noise (HACAN)** has teamed College London (UCL) to focus on areas under flight paths and close to Heathrow communal noise map. We are asking local residents to record their personal experience with this tool gives communities something they can do themselves to combat fears and Get in contact with us if you want to find out more:

ucnoisemapping@gmail.com, 07427350018, Twitter: @ucnoisemapping

You can download Widenoise from the [Apple App Store](#) and the [Android Market](#) the noise around you and submit your results right from the app.

Available on the App Store



## iWitness Pollution Map

**BUCKET BRIGADE**  
Clean Air, Justice, Sustainability.

A Project of Louisiana Bucket Brigade and the Gulf Monitoring Consortium

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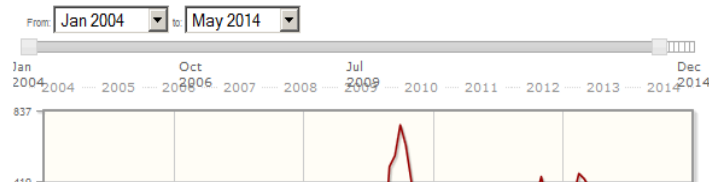
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### Health Complaint?

- To call or text your report, dial 504-272-7645 with a description of where you are, what you smell, see, hear and feel.
- To call the Louisiana State Police Hazmat Hotline, dial 1-877-925-6596
- To call the Louisiana Department of Environmental Quality, dial 1-888-763-5424
- To call the National Response Center, dial 1-800-424-8802

↓ CATEGORY FILTER [ HIDE ]

ALL CATEGORIES

CHEMICAL ACCIDENTS

BP OIL SPILL

OIL IN THE WATER

OIL ONSHORE

WILDLIFE

ODOR

HEALTH EFFECTS



# How to evaluate?

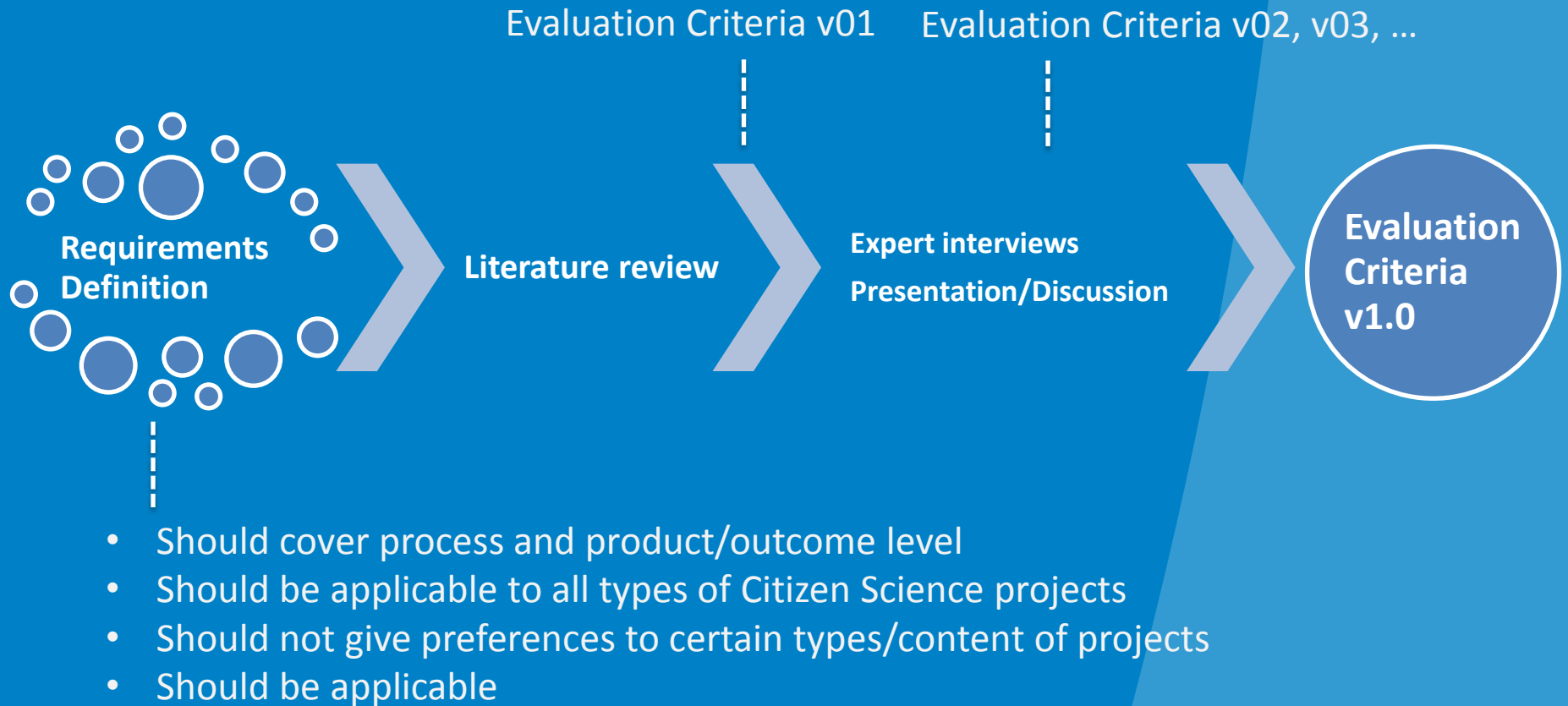


# Approaches to evaluation

Focus	Indicators	Actors
Learning	Improved skills, knowledge gain Personal development Behaviour change, attitudes, motivation	Participants, focus on Citizens
Scientific	Number of papers published Number of citations, number of grants Size and quality of scientific database Number of thesis	Participants, focus on Scientists
Socio-ecological	Enhanced social capital, community capacity building Economic impact (job creation)	Community
Communication	Identification of audience, Understanding needs of audience, Collaboration with communication experts	Proposers, reviewers



# METHODOLOGY





Does the project have an authentic and clearly defined scientific objective with social relevance?...

## Evaluation criteria

### Scientific dimension

How is the data management plan?...

#### Process and feasibility

- Scientific objectives
- Data & systems
- Evaluation & adaptation
- Cooperation & synergies

#### Outcome and impact

Are the activities designed to involve different target groups at different levels? Is the training material adapted to the target groups?.....

### Citizen scientist dimension

- Degree of involvement
- Target group alignment
- Facilitation & communication
- Cooperation & synergies

- Knowledge resources

- Knowledge & Attitudes
- Behaviour & ownership
- Motivation & engagement

### Socio-ecological dimension

- Dissemination & Communication
- Target group alignment
- Active involvement
- Cooperation & synergies

- Societal impact

Are Citizen Scientists actively involved in dissemination? Is the project seeking cooperation with relevant civic society stakeholder?...



# Evaluation

Are citizen scientists participating in publications or is their engagement recognized? Did the project contribute to adult education and life-long-learning?....

	Process and feasibility	Outcome and impact
<b>Scientific dimension</b>	<p>Does the project foster new collaborations amongst societal actors and groups? ...</p> <ul style="list-style-type: none"> <li>• Cooperation &amp; synergies</li> </ul>	<ul style="list-style-type: none"> <li>• Scientific knowledge and publications</li> <li>• New research fields &amp; structures</li> <li>• New knowledge resources</li> </ul>
<b>Citizen scientist dimension</b>	<p>Has the project increased the collective capacity? Changes in lifestyle?...</p> <ul style="list-style-type: none"> <li>• Participation &amp; involvement</li> <li>• Alignment</li> <li>• Communication</li> <li>• Cooperation &amp; synergies</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge &amp; Attitudes</li> <li>• Behaviour &amp; ownership</li> <li>• Motivation &amp; engagement</li> </ul>
<b>Socio-ecological dimension</b>	<ul style="list-style-type: none"> <li>• Dissemination &amp; ...</li> </ul> <p>Does the project contribute to social innovation or to higher awareness and responsibility for the natural environment?.....</p>	<ul style="list-style-type: none"> <li>• Societal impact</li> <li>• Ecological impact</li> <li>• Wider innovation potential</li> </ul>



## ANNEX FOR THE ASSESSMENT PROCEDURE:

### Notes and questions for the members of the Top Citizen Science (TCS) expert panel

As equal opportunities and equal treatment are key priorities in the Top Citizen Science funding initiative, the evaluation of proposals must not account for any criteria extraneous to research and citizen science (e.g. age, gender, etc.) to the applicants' disadvantage.

On the basis of the defined requirements for proposals, panel members are to consider the following aspects of each application in their decisions:

#### 1. Quality of the project

##### a. Quality of additional TCS expansion project:

- How is the expansion project positioned in relation to state of the art in international research and CS activities?
- Are the TCS expansion project's goals described clearly?
- Quality of "Additional value of TCS expansion project":
  - Compatibility with main project: To what extent is the TCS expansion project a meaningful expansion/complement to the main project?
  - Insights to be gained: What additional substantive research insights – which would not be possible without the participation of citizens – will the expansion project generate?

##### b. Methods, work plan and time schedule

- To what extent do you consider the methods envisaged for the TCS expansion project and the planned use of technologies to be appropriate?
- Are the work plan and time schedule clearly defined and appropriate?

#### 2. Quality aspects – Interactions with citizens and handling of data

- a. Are the definition, planned selection procedures, scope, qualifications and the like suitable for the target group addressed?
- b. What is your assessment of the communication plan for the envisaged target group as well as the planned methods of involvement?
- c. What is your assessment of the added value and personal benefit that citizens can derive from this project?
- d. Will the quality of data be ensured appropriately?
- e. How would you assess the applicant's consideration of data protection/privacy issues?

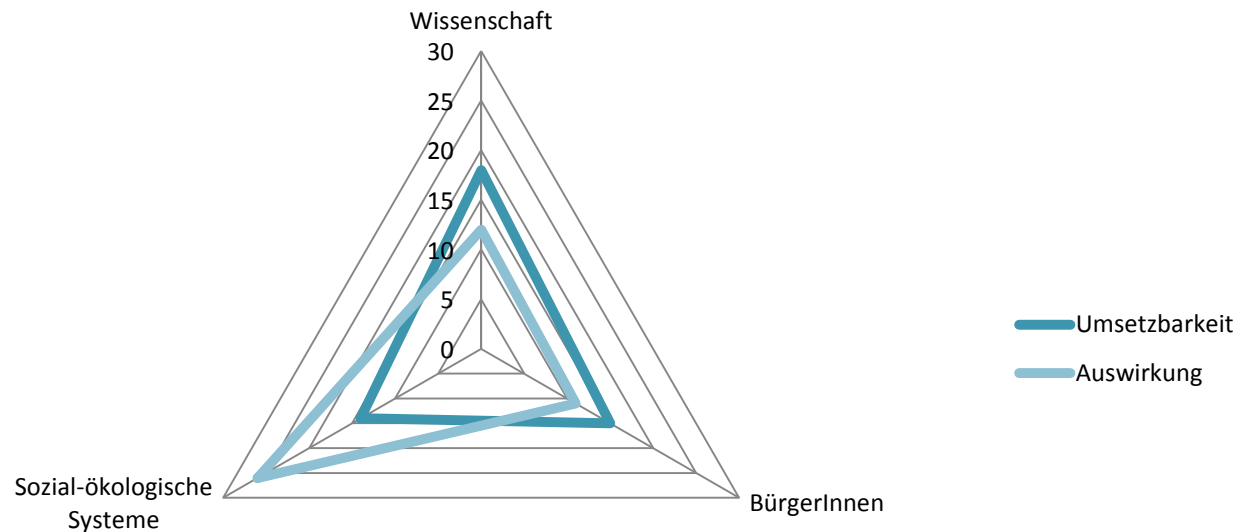
# How to apply for policy makers

- Evaluation criteria
- Guidelines for proposers



# How to apply for projects

CAPTOR: Collective Awareness Platform for Tropospheric Ozone Pollution



- Self-assessment tool
- Guidelines for project planning and monitoring



# QUESTIONS?

**C I T I Z E N S   A R E . . .**



**R E S E A R C H**