

# Australian Citizen Science Association

## UNESCO Recommendation on Open Science and the contribution of Citizen Science

### Overview

- The **Australian Citizen Science Association** ([ACSA](#)) is Australia's peak body for citizen science innovation, advocacy, membership and best practice.
- ACSA, in collaboration with its international counterparts has been actively involved in [contributing](#) to the development of a draft [UNESCO Recommendation on Open Science](#).
- **Open Science** is about setting a new paradigm for science based on transparency, sharing and collaboration, providing access to all outputs of research, adopting new ways of conducting and evaluating research, and including social actors beyond the scientific community in the creation of knowledge and its use for decision and policy-making.
- **Citizen science** is recognised within the UNESCO Recommendation as one of the three key pillars of Open Science together with other pillars such as Open Access, and Open Data, Open Infrastructure and Openness to Diversity of Knowledge.
- More than ever in **challenging times**, such as impacts on jobs and health from COVID-19 and natural disasters, we need community engagement and trust in science to guide our recovery responses - with the collective intelligence of Open Science and citizen science providing an opportunity for the **Australian Government to maximise benefits** to the Australian community.

### Call to action

ACSA as the peak body for the Australian citizen science community, would like to begin a conversation with you and your department regarding the role that citizen science can play in the Australian Government's response to the draft UNESCO Recommendation on Open Science - so that we are both able to maximise the benefits that can flow from its implementation.

The briefing note attached provides some additional information on the draft UNESCO Recommendation (the Recommendation) which is expected to be ratified in November 2021. If Australia is a signatory to the Recommendation, as is anticipated, we believe it can influence Australia's current policy settings and policy frameworks on Open Science.

The Recommendation acknowledges the importance of engagement with the community to create the science of the future and to democratise knowledge. The Recommendation asks for commitments from countries such as Australia to:

- incorporate Open Science into national science technology and innovation policies and strategies and other national and regional policy frameworks for the public advancement of science; and
- Include citizen and participatory science as integral parts of Open Science policies and practices at the national, institutional and funder levels.

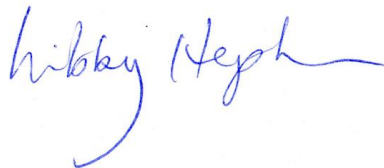
ACSA has identified a key gap in the current policy framework and that is the networks and “infrastructures” to effectively mobilise and resource the many local and national networks of citizen science practitioners. These citizen scientists may be building their [skills](#) in natural resource management, working with digital technologies, or learning how to collaborate in teams to address a challenge important to them or their community, whether it be tracking disease, reporting bushfire impacts or monitoring plastic pollution or discovering new galaxies in space. While we recognise and appreciate the support by the Australian Government’s Inspiring Australia for the national [Citizen Science Grants](#) to fund specific projects, resources are required to bring capability to open/citizen science to transform ad hoc projects into progressive and inclusive “ways of doing science” through network organisations such as ACSA.

We would also value an opportunity to discuss with your staff how ACSA can support your planning for your response to the Recommendation.

Regards,

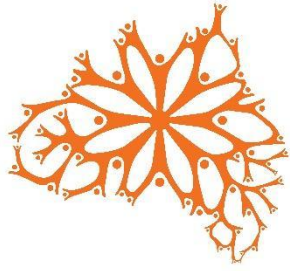
  
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## Purpose

To provide background to the upcoming UNESCO Recommendation on Open Science and how citizen science will be instrumental in maximising the anticipated outcomes from its adoption in Australia.

## Recommendations

1. Note the status and trends of citizen science globally are recognised in the Draft UNESCO Recommendation on Open Science.
2. Note that citizen science is a fundamental element of Open Science and can be leveraged in the Australian policy response to this initiative.
3. Note the Australian Citizen Science Association and its communities' expertise in key aspects of the Recommendation.
4. Note the contribution citizen science practitioners can make in developing the policy framework necessary to action the Recommendation.
5. Note the significant areas of potential partnership between government and citizen science to respond to this initiative.

## Background

*What are the key elements of the UNESCO Open Science Recommendation?*

The Recommendation is being developed through a two-year global consultative process which is expected to result in an agreed Recommendation ratified and adopted in November 2021.

The Recommendation is based on the understanding that science is a global common good and is also an internationally agreed fundamental human right which should be accessible to and bring benefit to humankind.

The core values of Open Science aim to open science to society, including the whole cycle of scientific research.

The key objectives and areas of action of the first draft of the Recommendation are:

- (i) promoting a common understanding of Open Science and diverse paths to Open Science;
- (ii) developing an enabling policy environment for Open Science;
- (iii) investing in Open Science infrastructures;
- (iv) investing in capacity building for Open Science;
- (v) transforming scientific culture and aligning incentives for Open Science;
- (vi) promoting innovative approaches for Open Science at different stages of the scientific process;
- (vii) promoting international cooperation on Open Science.

As well as improving open data and access, the Recommendation also promotes the open engagement of societal actors, openness to diversity of knowledge and situated openness (taking into consideration the requirement for privacy in certain circumstances particularly in regard to indigenous needs and knowledge systems). Good practice, scientific rigour, equity and fairness and a recognition of collective benefit and openness to all scholarly knowledge and enquiry are all important elements.

### *Citizen science is explicitly referenced as an Open Science enabler*

Citizen Science is referenced in the draft Recommendation as a primary mechanism to open science to society, by providing accessibility to science throughout the entire cycle of scientific research. Investment is encouraged to develop new participatory methods and validation techniques to incorporate and value inputs from the broader public, including citizen scientists. Citizen science is also referenced as a tool to facilitate engagement with the broader society. The draft Recommendation (iii) “Investing in Open Science infrastructure and services”, encourages investment in platforms for exchanges and co-creation of knowledge between scientists and society, including through organisations conducting Citizen Science and other participatory research.

As Open Science has been emerging and developing over the last few decades, so too has the global movement for citizen science, which now boasts huge engagement and a high level of expertise and sophistication across multiple sectors and geographies. Citizen Science and civic engagement have been identified as central pillars of Open Science by UNESCO and we are keen that Australia maximises the opportunities to develop the value and impact that citizen science can have to support the adoption and implementation of the Open Science UNESCO Recommendation.

### *Citizen science as part of Australian policy delivery on Open Science*

The proposed Recommendation on Open Science provides opportunities for a new approach in Australian science-society-policy interactions and implementation. Examples of national policy agendas where citizen science has a role include the recently released Australia Strategy for Nature. Specifically, it commits to reporting on: Number of people contributing information through citizen science programs (2B); and Number of citizen science programs providing robust data on Australia’s nature to public information sets (11B). Citizen science is also explicitly referenced in State of the Environment Reporting, the [Climate and Disaster Resilience Report](#) and the [NSW Bushfire Inquiry](#).

Australia’s science policy agenda already aligns to many of the objectives and outcomes in the Recommendation including: boosting innovation in science (e.g. support for e-infrastructures and standards for discovering and aggregating data, including citizen science generated data; digital businesses and entrepreneurs supporting citizen science); Principles of open data (e.g. FAIR-findable, accessible, interoperable and reusable data). Implementation of the Public Sector Data Management Project; Closing the Gap (e.g. Indigenous businesses leveraging their natural and cultural assets in an emerging citizen science tourism market).

Citizen science strategies in Australia include:

- Queensland’s Citizen Science Strategy <https://www.chiefscientist.qld.gov.au/strategy-priorities/queensland-citizen-science-strategy>
- [NSW Natural Resources Commission](#)
- Citizen science for the [Eyre Peninsula](#); and
- The former NSW Office of Environment and Heritage (now DPIE) [OEH Citizen Science Strategy](#) and [Position Statement](#).
- See also Chief Scientist 2015 [Citizen Science Occasional Paper](#)

### *How citizen science can be integrated into Australia’s policy response to Open Science*

From the citizen science perspective, we are keen to see that Australia’s response to this initiative is not limited to those technical aspects of Open Science such as Open Access and Open Technology. To deliver the full potential of this initiative, those aspects of opening science to society, and science being more able to benefit from the value of community engagement at greater scales and across geographies is fundamental. Citizen science needs to be built into the policy framework for Open Science from the beginning.

We have the expertise and understanding developed over decades and across the scientific spectrum to be able to contribute to the consideration and actioning of this initiative and we seek the opportunity to contribute to your work in this respect.

*Citizen science is a growing and connected community in Australia and internationally*

There are now Citizen Science Associations on all continents and the Citizen Science Global Partnership (CSGP) which has a global co-ordinating role through its networks and communities of practice and its developing role with global agencies such as the United Nations. The ACSA is one of the foundational members of CSGP and is contributing at a high level to this global initiative.

ACSA works closely with its three sister [associations](#): the United States [Citizen Science Association](#), the [European Citizen Science Association](#), and the emerging CitSciAsia. Most recently ACSA has been collaborating on a global scale to help advance citizen science for a sustainable world and is working with the [United Nations](#) to advise on how citizen science can be used to address the UN's Sustainable Development Goals, and now co-chairing the global [Community of Practice on citizen science and Open Science](#) at the invitation of UNESCO. Most recently citizen science has been referenced in the UN Decade on Ecosystem Restoration.

*Relevant links*

[UNESCO First Draft Recommendation on Open Science](#) - November 2020

[UNESCO Recommendation on Open Science website](#)

[Global Citizen Science Perspectives on Open Science](#)

[ECSA Conference 2020 Global perspectives on Open Science and Citizen Science](#)