

# Why FAIR?

## Developing Community Guidelines for Consistently Curating and Representing Dataset Quality Information

13 July 2020

**Shelley Stall**

**AGU Sr. Director, Data Leadership**

**sstall@agu.org @ShelleyStall**

**<https://orcid.org/0000-0003-2926-8353>**

## **AGU's position statement on data affirms that**

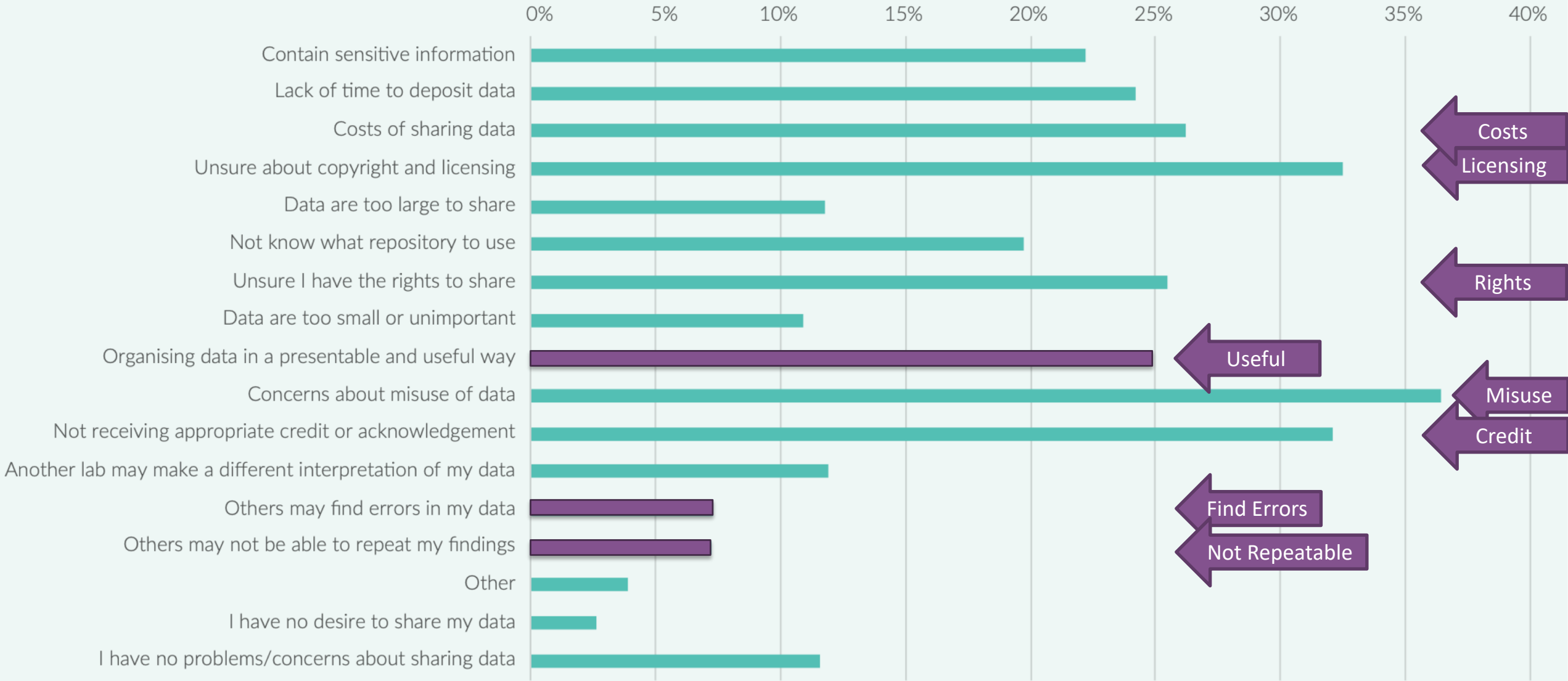
**“Earth and space science data are a world heritage, and an essential part of the science ecosystem. All players in the science ecosystem—researchers, repositories, publishers, funders, institutions, etc.—should work to ensure that relevant scientific evidence is processed, shared, and used ethically, and is available, preserved, documented, and fairly credited.”**

"The biggest barrier to research data sharing and reuse seems to be **a matter of trust**, and in particular **trust in what others may do** with researchers' data if it is made openly available."

- **Iain Hrynaszkiewicz, Publisher, Open Research, PLOS**, "Building Trust to Break Down Barriers" in the  
The State of Open Data Report 2019

Science, Digital; Fane, Briony; Ayris, Paul; Hahnel, Mark; Hrynaszkiewicz, Iain; Baynes, Grace; et al. (2019): The State of Open Data Report 2019. Digital Science. Report. <https://doi.org/10.6084/m9.figshare.9980783.v2>

Problems/concerns respondents have with sharing datasets







## FAIR, CARE, TRUST – Inflection points

**FAIR (2016) - The FAIR Guiding Principles for scientific data management and stewardship**

<https://www.nature.com/articles/sdata201618>

**CARE (2018) - CARE Principles for Indigenous Data Governance**

<https://www.gida-global.org/care>

**TRUST (2020) - The TRUST Principles for digital repositories**

<https://www.nature.com/articles/s41597-020-0486-7>



## FAIR, CARE, TRUST

**FAIR** – Findable, Accessible, Interoperable, and Reusable: the FAIR Principles support the **reuse of scholarly data** and other digital objects.

**CARE** – Collective Benefit, Authority to Control, Responsibility, Ethics:

CARE Principles are **people and purpose-oriented**, reflecting the crucial role of data in advancing Indigenous innovation and self-determination.

**TRUST** - Transparency, Responsibility, User focus, Sustainability and Technology: the TRUST Principles provide a common framework of **best practice in digital preservation** by all stakeholders.

# Big Picture for AGU...

## Earth, space and environmental science researchers must have:

- **Credit** for datasets and software created to support research that benefits promotion/tenure
- **Discovery and access** to digital products
- **Share Best practices developed by community**
  - Data management
  - Metadata, Vocabulary
  - Workflow, Provenance
  - Indigenous Data
  - Data Management Plans and Workbooks, etc...

## Earth, space, and environmental science authors must provide:

- Datasets and digital outputs **preserved** in appropriate repositories
- **Citations** with persistent identifiers
- Availability Statements describing access and relationship to paper
- Digital outputs **with needed metadata** that allows for understanding and quality determination

<https://www.agu.org/Publish-with-AGU/Publish/Author-Resources/Data-for-Authors>

# Data for publication

Guidelines to support author compliance with open data standards

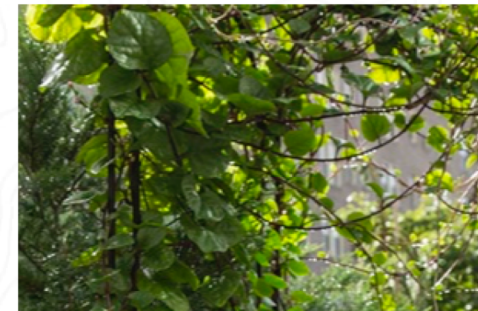
## WHAT IS NEEDED

The data that supports your research and the visualizations in your paper must be deposited in a trusted repository that practices the FAIR principles. When identifying the most appropriate repositories for your data, please consider the following prioritization. We recommend a repository that specializes in the data for your scientific domain as this will maximize the probability that the deposited data will be interoperable and reusable. If that is not available for your data type, next is your institutional repository, your computing center, and finally a general repository.

Data availability statements   Data citations   Repository selection   Modeling data

### Data availability statement examples

For each dataset that supports your research, both a citation and a data availability statement must be present. The data availability statement for each data set must be included in the Acknowledgments section of your paper indicating where readers can access the data. See the information on data citation for additional guidance. The availability statement should include an in-text citation, licensing information, and access restrictions. Statements to the effect of "data available from authors" are not acceptable.



## Journal Specific Guidance Goal:

Guide authors and other researchers to community developed guidance and support services provided by repositories or informatics communities like ESIP and other international resources.

that [supports discovery, preservation and citation](#) and accessibility.

By partnering with your repository early you get the benefit of incorporating your data management tasks during your research, when it is much easier, then waiting until the very end when you may be constrained by resources to prepare for publication.



# Thank you

**Shelley Stall**

**AGU Sr. Director, Data Leadership**

**sstall@agu.org**

**@ShelleyStall**

**<https://orcid.org/0000-0003-2926-8353>**

