



# Open data: A publisher's perspective

Lauren Cadwallader, Jan 2024

# What is PLOS?

Every country. Every career stage.  
Every area of science. **Hundreds of thousands of researchers choose PLOS to share and discuss their work.** Together, we collaborate to make science, and the process of publishing science, fair, equitable, and accessible for the whole community.



# Why is data sharing important to publishers?

Data sharing:

- helps verify research results
- makes research more trustworthy
- makes the whole research process more efficient
- increases visibility and citations



# Data sharing at PLOS is mandatory

PLOS ONE

advanced search

Introduction

Minimal Data Set Definition

Acceptable Data Sharing

Methods

Acceptable Data Access

Restrictions

Unacceptable Data Access

Restrictions

FAQs

PLOS Data Advisory Board

## Data Availability

The following policy applies to all PLOS journals, unless otherwise noted.

### Introduction

**PLOS journals require authors to make all data necessary to replicate their study's findings publicly available without restriction at the time of publication. When specific legal or ethical restrictions prohibit public sharing of a data set, authors must indicate how others may obtain access to the data.**

When submitting a manuscript, authors must provide a Data Availability Statement describing compliance with PLOS' data policy. If the article is accepted for publication, the Data Availability Statement will be published as part of the article.

Acceptable data sharing methods are listed [below](#), accompanied by guidance for authors as to what must be included in their Data Availability Statement and how to follow [best practices in research reporting](#).

PLOS believes that sharing data fosters scientific progress. Data availability allows and facilitates:

- Validation, replication, reanalysis, new analysis, reinterpretation or inclusion into meta-analyses;
- Reproducibility of research;
- Efforts to ensure data are archived, increasing the value of the investment made in funding scientific research;



# Data sharing

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What is stopping  
researchers from  
sharing their data?

1

Lack of time and/or resources

2

Lack of skills

3

Lack of suitable infrastructure

4

Lack of incentives



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**OpenWASHdata.**

# Tangible benefits of sharing your data and code

**1**

**Increases your citation advantage**

**2**

**3**

**4**

# Citation advantage

Articles that share data in a repository have a 25% higher citation rate on average than articles where data is available on request or as Supporting Information.



Colavizza G, Hrynaszkiewicz I, Staden I, Whitaker K, McGillivray B (2020) The citation advantage of linking publications to research data. PLoS ONE 15(4): e0230416. <https://doi.org/10.1371/journal.pone.0230416>





# Tangible benefits of sharing your data and code

1

Increases your citation advantage

2

**Allows you to easily find and reuse your own data**

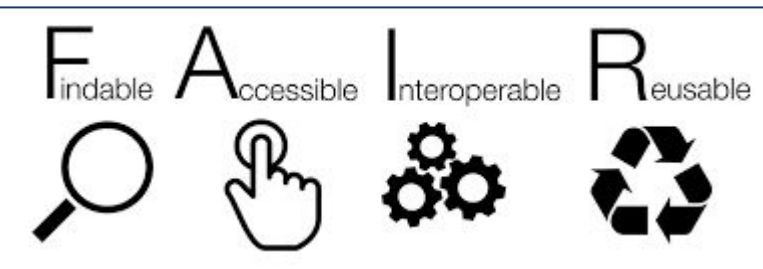
3

4

# Use your own data

Research in other disciplines<sup>[1]</sup> has shown that the person who is most likely to use your data in the first 2 years after you publish it is...**YOU**

You also benefit from the work put in to making your data findable and reusable.



Sangya Pundir, CC-BY-SA 4.0

<sup>[1]</sup>Piwowar HA, Vision TJ. 2013. Data reuse and the open data citation advantage. PeerJ 1:e175. DOI: 10.7717/peerj.175



# Tangible benefits of sharing your data and code

1

Increases your citation advantage

2

Allows you to easily find and reuse your own data

3

**Means others can understand and reuse your methods, data, analysis etc.**

4



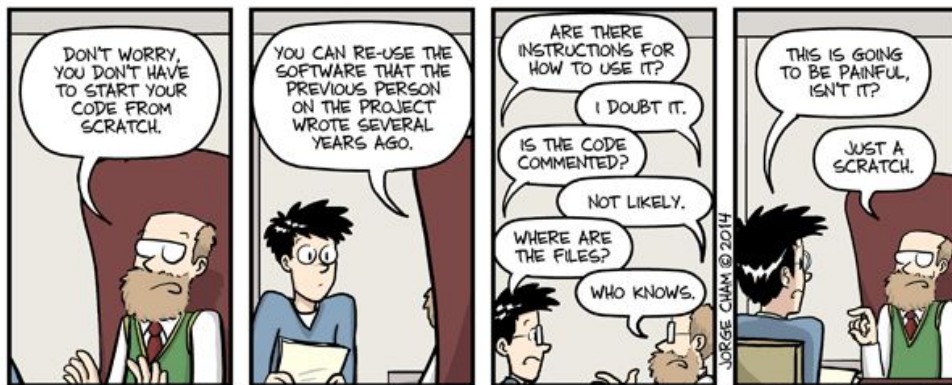
# Understand and reuse

Sharing methods, including computational methods, are important to aid understanding of your research<sup>[1,2]</sup>

Less than 50% of researchers think the information in an article is sufficient for reproducing someone else's work<sup>[2]</sup>

If someone doesn't understand it, they can't reuse it.

1. Cadwallader L, Hrynaszkiewicz I. 2022. <https://doi.org/10.7717/peerj.13933>
2. LaFlamme M, Harney J, Hrynaszkiewicz I. 2024. <https://doi.org/10.7717/peerj.16731>



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**Get credit/recognition**

# Credit/recognition

More and more funders and institutions are placing value on non-traditional shared research outputs

- Data
- Code
- Preprints
- Protocols
- Preregistration

BILL & MELINDA  
GATES *foundation*





# PLOS journals recognise good data sharing practices with the Accessible Data feature

Abstract

Introduction

Methods and materials

Results

Discussion

Conclusion

Supporting information

Acknowledgments

References

Reader Comments

Figures

✓ Accessible Data

See the data

This article includes the Accessible Data icon, an experimental feature to encourage data sharing and reuse. [Find out how research articles qualify for this feature.](#)

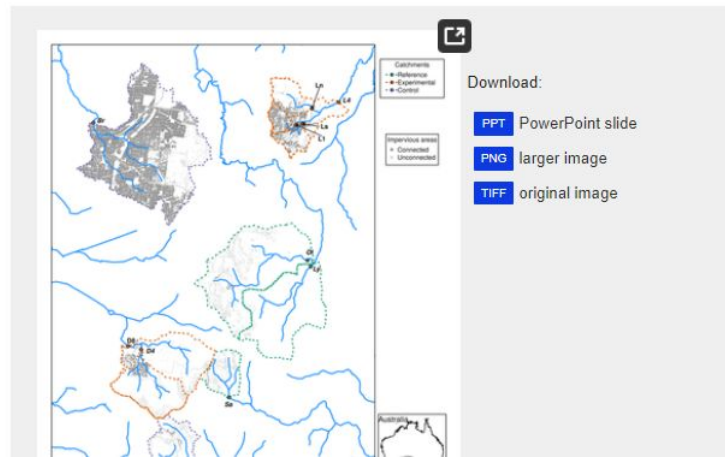
performance that are required to calculate the  $EI$  variants. We use the  $EI$  variants to assess the degree to which stormwater was controlled by the SCMs installed during the experiment. Finally, we propose and test a statistical model for assessing our BACRI experiment using the calculated  $EI$  variants. The proposed model has potentially broader application to other studies with continuous measures of the “control-reference-impact” effect and a protracted period of impact (in this case, SCM implementation) that varies between sites.

## Methods and materials

### Study catchments and experimental design

The BACRI experimental design described by Walsh, Fletcher [15] comprised seven independent catchments of different urban density and drainage connection, located in the Dandenong Ranges on the eastern fringe of the Melbourne metropolitan area (Fig 2). The original design comprised:

- three reference, forested catchments (Sa, Ly, and Ol, Fig 2), with little or no stormwater drainage infrastructure;
- three control urban catchments (Br, Fe, and D4), with streams degraded by urban stormwater drainage; and
- one experimental urban catchment (Little Stringybark Creek, L4, Fig 2), in which stormwater control measures were implemented progressively from 2009.



# How can PLOS help?

## Resources for authors and reviewers

- [Open science pages](#)
- [Author writing centre](#)
- [Peer review centre](#) - [peer reviewing data](#)

1

### Is the data accessible?

Is the data underlying the manuscript you are reviewing available at the url listed, or other location described? In cases where there are restrictions on sharing the data, have the authors clearly explained the reasons why?

2

### Can you tell what you're looking at?

Have the authors used a logical naming convention? Are the files accompanied by a clear description of the content and format?

3

### Does the data you see match the data referenced in the manuscript?

Does the data relate to the study currently under review? Is each data set mentioned in the manuscript included?



November 30, 2023

## Traversing the waterways

In their anniversary editorial, Editors-in-Chief Jenna Davis and Pierre Horwitz and Executive Editor Debora Walker reflect on *PLOS Water's* first year and their hopes and expectations for the future.

*Image credit: PLOS*

Our journals can lead by example to demonstrate equitable, open science in action

### Collection: Safe and Sustainable Water in Cities

This collection features articles that contribute new insights to the theme of fresh water in cities.

[READ MORE](#)

WATER USE AND MANAGEMENT

11/21/2023

#### Water sovereignty for Indigenous Peoples: Pathways to pluralist, legitimate and sustainable water laws in settler colonial states

In this Review, Erin O'Donnell discusses how challenging false assumption of aqua nullius creates novel pathways for reform, enabling pluralist water laws and water governance models

GOVERNANCE, POLICY, AND POLITICS

09/07/2023

#### Putting diplomacy at the forefront of Water Diplomacy

In this Review, Hussein and colleagues stress the need to emphasize diplomacy and the goals beyond the water field in transboundary water governance.



## Criteria for Publication

1. [The study presents the results of original research.](#)
2. [Results reported have not been published elsewhere.](#)
3. [Experiments, statistics, and other analyses are performed to a high technical standard and are described in sufficient detail.](#)
4. [Conclusions are presented in an appropriate fashion and are supported by the data.](#)
5. [The article is presented in an intelligible fashion and is written in standard English.](#)
6. [The research meets all applicable standards for the ethics of experimentation and research integrity.](#)
7. [The article adheres to appropriate reporting guidelines and community standards for data availability.](#)

Data has a key role in our criteria for publication

## Collection: Safe and Sustainable water in Cities

This collection features articles that contribute new insights to the theme of fresh water in cities.

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RESEARCH ARTICLE

# Martuwarra Fitzroy River Watershed: One society, one river law

Martuwarra, RiverOfLife , Anne Poelina, Magali McDuffie , Marlikka PerdrisatPublished: September 12, 2023 • <https://doi.org/10.1371/journal.pwat.0000104>

Article

Authors



Metrics

Comments

Media Coverage

## About the Authors

### Martuwarra, RiverOfLife

The Martuwarra, River Of Life, is a living Ancestor Being, whose creation stories underpin Kimberley Aboriginal people's lawful, physical, emotional, and spiritual well-being, and thousands of years of customary practices for Yi-Martuwarra people, the people of the river. The discipline of environmental humanities looks at how both humans and non-humans can come together to protect the environment for humanity and the world. This multi-species approach transcends the usual boundaries of science, humanities, culture and nature, and in doing so illustrate the concept of "nature-cultures" described by Bruno Latour (2013, available from <https://ecomig2014.files.wordpress.com/2014/08/178919402-latour-bruno-an-inquiry-into-modes-of-existence-an-anthropology-of-the-moderns-pdf.pdf>)—creating a "symposium" (Haraway, 2016—DOI: <https://doi.org/10.1215/9780822373780>) which enables multiple actors, both human and non-human, to effect change at a global level. In view of this, the Martuwarra is credited as First Author for Country, and the protection of Country, is the central tenet of this paper—without Country, without the River, and its complex, multi-layered, and ever-evolving inter-relationships with its custodians, there would not be a paper.

November 30, 2023

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OPEN ACCESS

OPINION

# Improve water quality through meaningful, not just any, citizen science

Anne-Floor M. Schölvínck , Wout Scholten, Paul J. M. DiederénPublished: December 7, 2022 • <https://doi.org/10.1371/journal.pwat.0000065>

Article

Authors

Metrics

Comments

Media Coverage



## References

Reader Comments

**Citation:** Schölvínck A-FM, Scholten W, Diederén PJM (2022) Improve water quality through meaningful, not just any, citizen science. PLOS Water 1(12): e0000065. <https://doi.org/10.1371/journal.pwat.0000065>

**Editor:** Debora Walker, PLOS: Public Library of Science, UNITED STATES

**Published:** December 7, 2022

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Collection: Safe

This collection feature

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Executive Editor, Guillaume  
Wright

