



**Open Science Practices**  
Methodology in Science of Science: Between  
Theory and Empirical Applications

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# Why Open Science Matters Beyond Open Access



## REPRODUCIBILITY CRISIS

Many findings cannot be replicated or verified.



## FUNDER REQUIREMENTS

Horizon Europe, ERC, NCN require Open Science practices and data management.



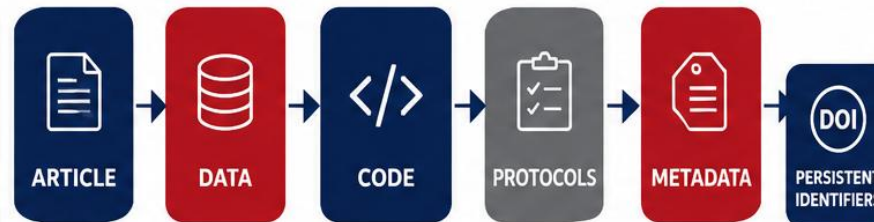
## JOURNAL POLICIES

Leading journals require data, code and transparency for reproducibility.



## RESEARCH TRANSPARENCY

Openness builds trust, enables reuse and increases societal impact.



*From publishing papers to  
publishing reusable research outputs*





# Open Science Practices Expected by Journals Today

## CORE PRACTICES



### DATA AVAILABILITY STATEMENT

Clear statement on the availability, location and access conditions of data.



### DATA CITATION

Cite datasets with persistent identifiers so they can be found and credited.



### REPOSITORY DEPOSITION

Deposit data (and often code) in a trusted, sustainable repository.



### CODE SHARING

Share the code and scripts used to generate results.



### PROTOCOL SHARING

Make research protocols and methods transparent and reusable.



### PERSISTENT IDENTIFIERS

Use PIDs such as DOI for outputs and ORCID for authors. Ensure long-term findability.

PRACTICE	2015	2026
OPEN ACCESS	Nice to have	<b>Expected</b>
DATA AVAILABILITY STATEMENT	Rare	<b>Standard</b>
REPOSITORY DEPOSITION	Optional	<b>Increasingly required</b>
CODE SHARING	Rare	<b>Strongly encouraged</b>
DATA CITATION	Rare	<b>Standard</b>
APC TRANSPARENCY	Not common	<b>Expected</b> Clear information on fees, waivers and funding



### The shift is clear:

from publishing articles to publishing transparent, reusable and verifiable research outputs.



Article



Data



Code



Protocols



Metadata



Persistent Identifiers



# DATA AVAILABILITY STATEMENTS (DAS)

The most important section nobody reads – but editors do.



## WHAT IS A DAS?

A Data Availability Statement informs readers about the data supporting your findings:

- what data were used
- where they are located
- under what conditions they can be accessed
- why some data cannot be shared openly

## WHY IT MATTERS



ENABLES  
REPRODUCIBILITY



BUILDS TRUST  
AND CREDIBILITY



INCREASES  
VISIBILITY AND IMPACT



SUPPORTS REUSE  
AND NEW RESEARCH

## EXAMPLES OF DATA AVAILABILITY STATEMENTS



### GOOD – OPEN DATA

The dataset supporting the findings of this study is available in the MOST Wiedzy Open Research Data Repository (<https://doi.org/10.xxxx/xxxxx>).



### GOOD – RESTRICTED DATA

Due to confidentiality agreements and GDPR requirements, the data are not publicly available. Access may be granted upon reasonable request and subject to approval by the data owner. Requests can be sent to ...



### POOR – NOT ACCEPTABLE

Data available upon request.

## WHY “DATA AVAILABLE UPON REQUEST” IS NOT ENOUGH



No information on where the data are located



No clear access procedure or criteria



No persistent identifier (PID) or stable link



No guarantee of long-term access



Not transparent – may hide barriers to access

## A GOOD DAS SHOULD INCLUDE



### TYPE OF DATA

What data were used or generated?



### REPOSITORY / LOCATION

Where are the data deposited?



### PERSISTENT IDENTIFIER

DOI, Handle or other PID



### ACCESS CONDITIONS

Open, restricted, or embargoed?



### LEGAL / ETHICAL RESTRICTIONS

GDPR, consent, commercial sensitivity?



### RELATED MATERIALS

Code, documentation, scripts, questionnaires?



**GOOD DATA AVAILABILITY = TRANSPARENCY + REPRODUCIBILITY + IMPACT**

Take time to write a clear DAS – it is part of your research contribution.



EXPECTED BY  
LEADING JOURNALS



REQUIRED BY  
FUNDERS



BENEFITS YOUR  
RESEARCH CAREER



# DATA AVAILABILITY STATEMENTS: A GLOBAL STANDARD IN SCHOLARLY PUBLISHING



Leading associations and publishers across disciplines expect the same:

- ✓ Transparency
- ✓ Reproducibility
- ✓ Trust
- ✓ Reuse
- ✓ Impact

**EXAMPLE FROM ECONOMICS:**



American Economic Association

Authors are expected to provide:

- ✓ Research data
- ✓ Statistical code
- ✓ Documentation
- ✓ Replication materials
- ✓ Data Availability Statement

“ Access to data and code should be **non-exclusive** to the authors. ”

– American Economic Association

ARTICLE

DATA

CODE

DOCUMENTATION

REPRODUCIBLE RESULTS

DIFFERENT PUBLISHERS. SAME EXPECTATION.



**ELSEVIER**

A Data Availability Statement should:

- ✓ Indicate whether data are available
- ✓ State where the data can be found
- ✓ Explain how the data can be accessed
- ✓ Provide a reason if data are not available

Example templates provided:

Available (lock icon)

Restricted (lock icon with slash)

Embargoed (clock icon)

Not available (X icon)

**TAYLOR & FRANCIS**

Many journals require a Data Availability Statement. Taylor & Francis provides templates and applies a four-level data sharing policy.

Basic → Share upon request → Publicly available → Open Data







Provide a statement

Data available on request

Data openly available

Data in a trusted repository with open access

**A GOOD DATA AVAILABILITY STATEMENT INCLUDES**

					
<b>TYPE OF DATA</b>	<b>REPOSITORY / LOCATION</b>	<b>PERSISTENT IDENTIFIER</b>	<b>ACCESS CONDITIONS</b>	<b>LEGAL / ETHICAL RESTRICTIONS</b>	<b>RELATED MATERIALS</b>
What data were used or generated?	Where are the data deposited?	DOI, Handle or other PID	Open, restricted, or embargoed?	GDPR, consent, confidentiality?	Code, documentation, scripts, questionnaires?



“Data available upon request” is no longer the gold standard.

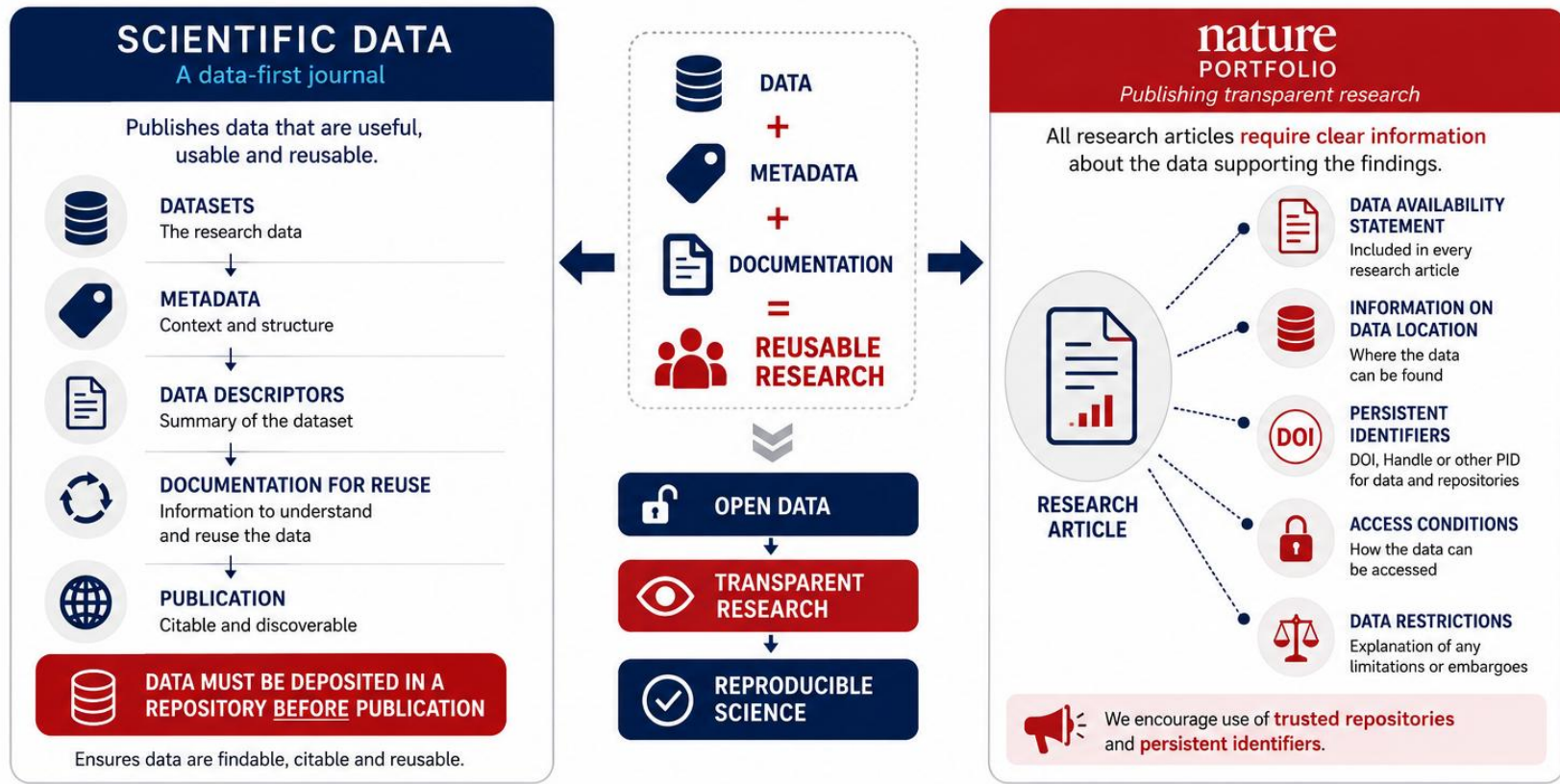


Repository + DOI + clear access conditions = **good practice in 2026**



# FROM DATA-FIRST PUBLICATION TO RESEARCH TRANSPARENCY

What can researchers learn from *Nature* and *Scientific Data*?





## Discussions Questions

1. If a reader cannot access your data, can they really evaluate your research?
2. Should “Data available upon request” still be considered an acceptable practice in 2026?
3. What should be treated as a research output today: only the article, or also data, code, protocols, and metadata?

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**GDAŃSK UNIVERSITY  
OF TECHNOLOGY**



**HISTORY IS WISDOM  
FUTURE IS CHALLENGE**