

# README for PLOS Open Science Indicators Dataset, version 5

This readme file was generated on 06-12-2023 by Lauren Cadwallader

## GENERAL INFORMATION

Title of Dataset: PLOS Open Science Indicators

### Author Information

Name: Public Library of Science

Recommended citation for this dataset:

Public Library of Science (2022) PLOS Open Science Indicators. Figshare. Dataset (version 5). <https://doi.org/10.6084/m9.figshare.21687686>.

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Version: 5

Date of data collection: Comparator-Dataset\_v1\_Dec22.csv XML was collected 15-09-2022. PLOS-Dataset\_v1\_Dec22.csv XML was collected 03-08-2022. Additional data for the version 2 dataset was collected 02-23-2023 (PLOS-Dataset\_v2\_Mar23.csv) and 14-03-2023 (Comparator-Dataset\_v2\_Mar23.csv). Additional data for the version 3 dataset was collected 11-04-2023. Additional data for the version 4 dataset was collected 10-7-2023 (PLOS-Dataset\_v4\_Sep23.csv) and 14-7-2023 (Comparator-Dataset\_v4\_Sep23.csv). Additional data for the version 5 dataset was collected 02-11-2023 (PLOS-Dataset\_v5\_Dec23.csv) and 02-11-2023 (Comparator-Dataset\_v5\_Dec23.csv).

Information about funding sources that supported the collection of the data: No external funding was received for this work.

## SHARING/ACCESS INFORMATION

Licenses/restrictions placed on the data: CC BY 4.0

Links to publications that cite or use the data:

<https://theplosblog.plos.org/2022/12/open-science-indicators-first-dataset> (cites v1 data)

<https://theplosblog.plos.org/2023/04/open-science-indicators/> (cites v2 data)

<https://theplosblog.plos.org/2023/06/Open-Science-Indicators-Update-Q1-2023> (cites v3 data)

<https://theplosblog.plos.org/2023/10/open-science-indicators-q2-2023> (cites v4 data)

<https://theplosblog.plos.org/2023/10/measuring-protocol-sharing> (cites v4 data)

Was data derived from another source?

If yes, list source(s):

Yes. Data was partly derived from journal article metadata accessed via PubMed Central or the 'all of PLOS' API (<https://github.com/PLOS/allofplos>). Full details are in the OSI-Methods-Statement\_v5\_Dec23.pdf file.

The "ANZSRC" column in PLOS-Dataset\_v5\_Dec23.csv and Comparator-Dataset\_v5\_Dec23.csv contains information taken from Digital Science's Dimensions platform, available at <https://app.dimensions.ai>.

## UPDATES ON PREVIOUS VERSION OF THE DATASET

- An additional 4,285 articles with publication dates between 1 July 2023 and 30 September 2023 and 20,540 articles with publication dates between 1 January 2018 and 31 December 2018 have been to PLOS-Dataset\_v5\_Dec23.csv.
- The Comparator-Dataset\_v5\_Sep23.csv has had an additional 857 articles added, which were published between 1 July 2023 and 30 September 2023, and 4,110 articles with publication dates between 1 January 2018 and 31 December 2018.
- The entire corpus (both PLOS-Dataset\_v5\_Dec23.csv and Comparator-Dataset\_v5\_Dec23.csv) have been rerun with a new algorithm.
- Additional guidance on the differences of the new algorithm are detailed in the OSI\_Methods\_Statement\_v5\_Dec23.pdf. Briefly, the update ensures consistency of detection protocols across all quarters. However, the new algorithm has caused a very small number of articles to be rejected and these have been removed from the v5 dataset.
- Some column heading names have been adjusted to ensure consistent formatting.
- Three new column headings have been added to v5 - "Data\_DOIs" (listing DOIs of detected datasets), "Quarter" (listing the publication quarter of the article) and "ANZSRC" (listing the Fields of Research categories from the Australia and New Zealand Standard Research Classification)
- The "Preliminary Release for Protocols Indicator" folder contains the same files shared in v4.

## DATA & FILE OVERVIEW

### Folder: Main Data Files

#### PLOS-Dataset\_v5\_Dec23.csv

Data pertaining to the PLOS corpus of articles. Contains information extracted from PLOS article XML and Open Science Indicators information as described in the OSI-Column-Descriptions\_v3\_Dec23.pdf file. The “ANZSRC” column contains data extracted from Digital Science’s Dimensions platform, available at <https://app.dimensions.ai>.

#### Comparator-Dataset\_v5\_Dec23.csv

Data pertaining to the comparator corpus of articles. Contains article xml and Open Science Indicators information as described in the OSI-Column-Descriptions\_v3\_Dec23.pdf file. Inclusion criteria for this set is described in the OSI-Methods-Statement\_v5\_Dec23.pdf file. The “ANZSRC” column contains data extracted from Digital Science’s Dimensions platform, available at <https://app.dimensions.ai>.

#### OSI-Summary-statistics\_v5\_Dec23.xlsx

This file contains the summary data (PLOS and comparator). The data are arranged in tabular form and present summary statistics for each of the Open Science Indicators (data, code and preprints) as well as a comparison between the v4 and v5 rates for each indicator.

### Folder: Main Documentation

#### OSI-Methods-Statement\_v5\_Dec23.pdf

Text document describing the methods underlying the data collection and analysis. It includes details of how the PLOS and comparator articles were selected and accessed, methods behind data and code generation and sharing detection, preprint detection and accuracy rates for the analysis. Methods and accuracy rates will be developed and improved in future releases.

#### OSI-Column-Descriptions\_v3\_Dec23.pdf

Text document describing the fields used in PLOS-Dataset\_v5\_Dec23.csv and Comparator-Dataset\_v5\_Dec23.csv.

#### OSI-Repository-List\_v1\_Dec22.xlsx

List of repositories and their characteristics used to identify specific repositories in the PLOS-Dataset\_v5\_Dec23.csv and Comparator-Dataset\_v5\_Dec23.csv repository fields. The list is derived from commonly used repositories. It is not designed to be an exhaustive list of all possible repositories and will be developed over time.

### Folder: Preliminary Release for Protocols Indicator

#### Protocols-Dataset\_Sep23.csv

Data on protocol sharing pertaining to the PLOS and Comparator corpus of articles. Contains information extracted and analysed as described in Protocols-Methods-Statement\_Sep23.pdf. Column headings are described in Protocols-Column-Headings\_Sep23.pdf.

Protocols-Summary-Statistics\_Sep23.xlsx

This file contains the summary data (PLOS and comparator), some of which is used within the related blog post <https://theplosblog.plos.org/2023/10/measuring-protocol-sharing>. The data are arranged in tabular form.

Protocols-Methods-Statement\_Sep23.pdf

Text document describing the methods underlying the data collection and analysis for the protocols indicator. It includes details of how the PLOS and comparator articles were accessed, rationale and methods behind protocol detection, and accuracy rates for the analysis.

Protocols-Column-Headings\_Sep23.pdf

Text document describing the fields used in Protocols-Dataset\_Sep23.csv.

## METHODOLOGICAL INFORMATION

Description of methods used for collection/generation of data:

For a description of the methods used to collect/generate the data see OSI-Methods-Statement\_v5\_Dec23.pdf.

Methods for processing the data:

Summary statistics were generated using Microsoft Excel.

Describe any quality-assurance procedures performed on the data:

For information on accuracy rates and how these were assessed see OSI-Methods-Statement\_v5\_Dec23.pdf.

People involved with sample collection, processing, analysis and/or submission:

Allegra Pearce, Tim Vines, Asura Enkhbayar, Michael Shinkoda, Scott Kerr of DataSeer (<https://dataseer.ai/>) for data acquisition and supporting information. Lauren Cadwallader of PLOS for data processing and supporting information. Beruria Novich of PLOS for data processing.

## DATA-SPECIFIC INFORMATION FOR: PLOS-Dataset\_v5\_Dec23.csv

Number of variables: 28

Number of cases/rows: 103,158

Variable List: See OSI-Column-Descriptions\_v3\_Dec23.pdf

Missing data codes: "Missing" for "Discipline" field. "N/A" is used where the field is not relevant.

Specialized formats or other abbreviations used:

- "DA" = Data Availability Statement

DATA-SPECIFIC INFORMATION FOR: Comparator-Dataset\_v5\_Dec23.csv

Number of variables: 28

Number of cases/rows: 21,116

Variable List: See OSI-Column-Descriptions\_v3\_Dec23.pdf

Missing data codes: "Missing" for "Country" field. "N/A" is used where the field is not relevant and for "DA" field if no statements have been detected.

Specialized formats or other abbreviations used:

- "DA" = Data Availability Statement

DATA-SPECIFIC INFORMATION FOR: Protocols-Dataset\_Sep23.csv

Number of variables: 8

Number of cases/rows: 96363

Variable List: See Protocols-Column-Headings\_Sep23.pdf

Missing data codes: "N/A" is used where the field is not relevant or missing

Specialized formats or other abbreviations used: None