

National Aeronautics and
Space Administration



NASA's Transform to Open Science (TOPS)

Supporting a more equitable, impactful, and
efficient scientific future

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on behalf of the TOPS team

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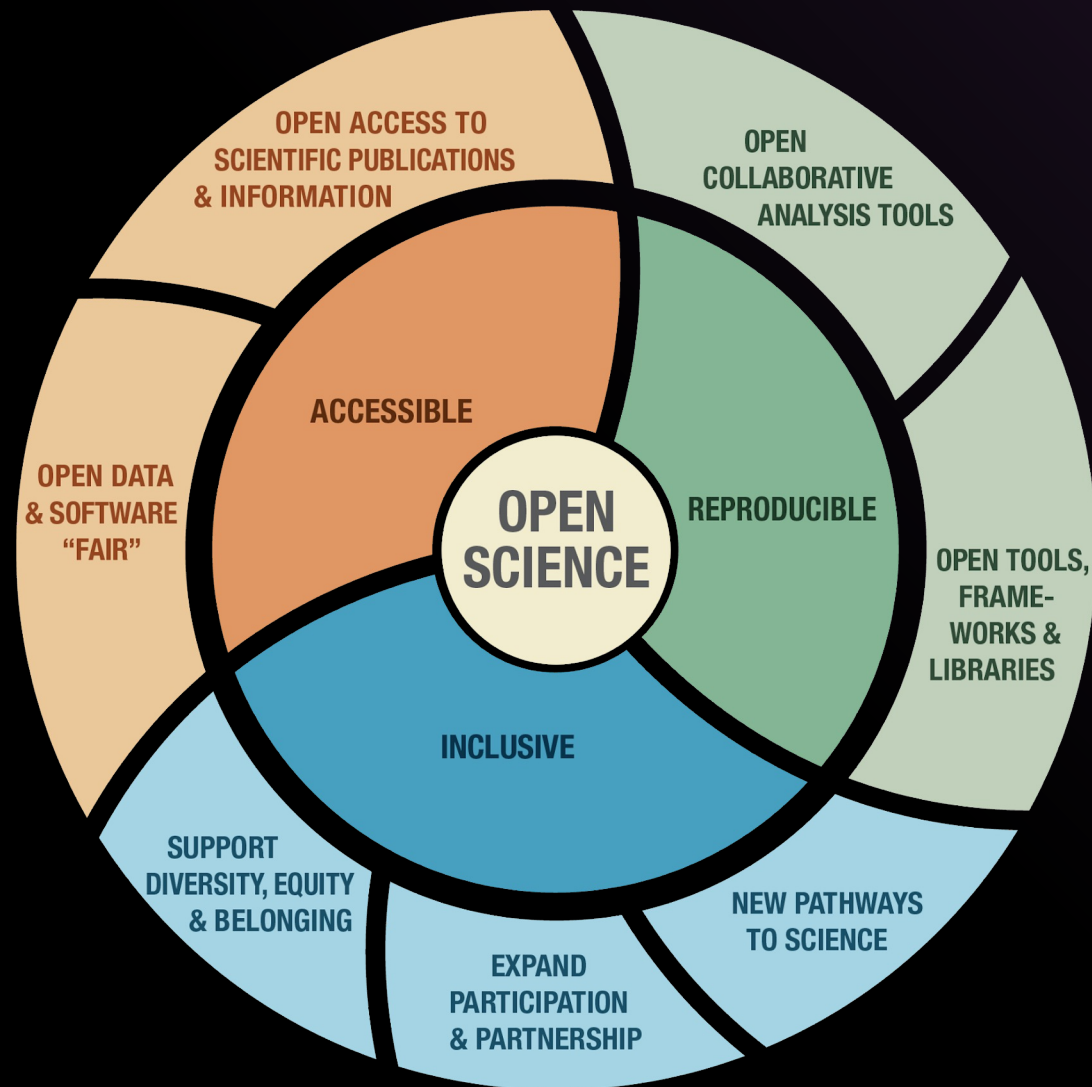
CL#24-0197

Open Science

principle and practice of making research products and processes available to all, while respecting diverse cultures, maintaining security and privacy, fostering collaborations, reproducibility and equity.



Open Science is Accessible, Reproducible & Inclusive



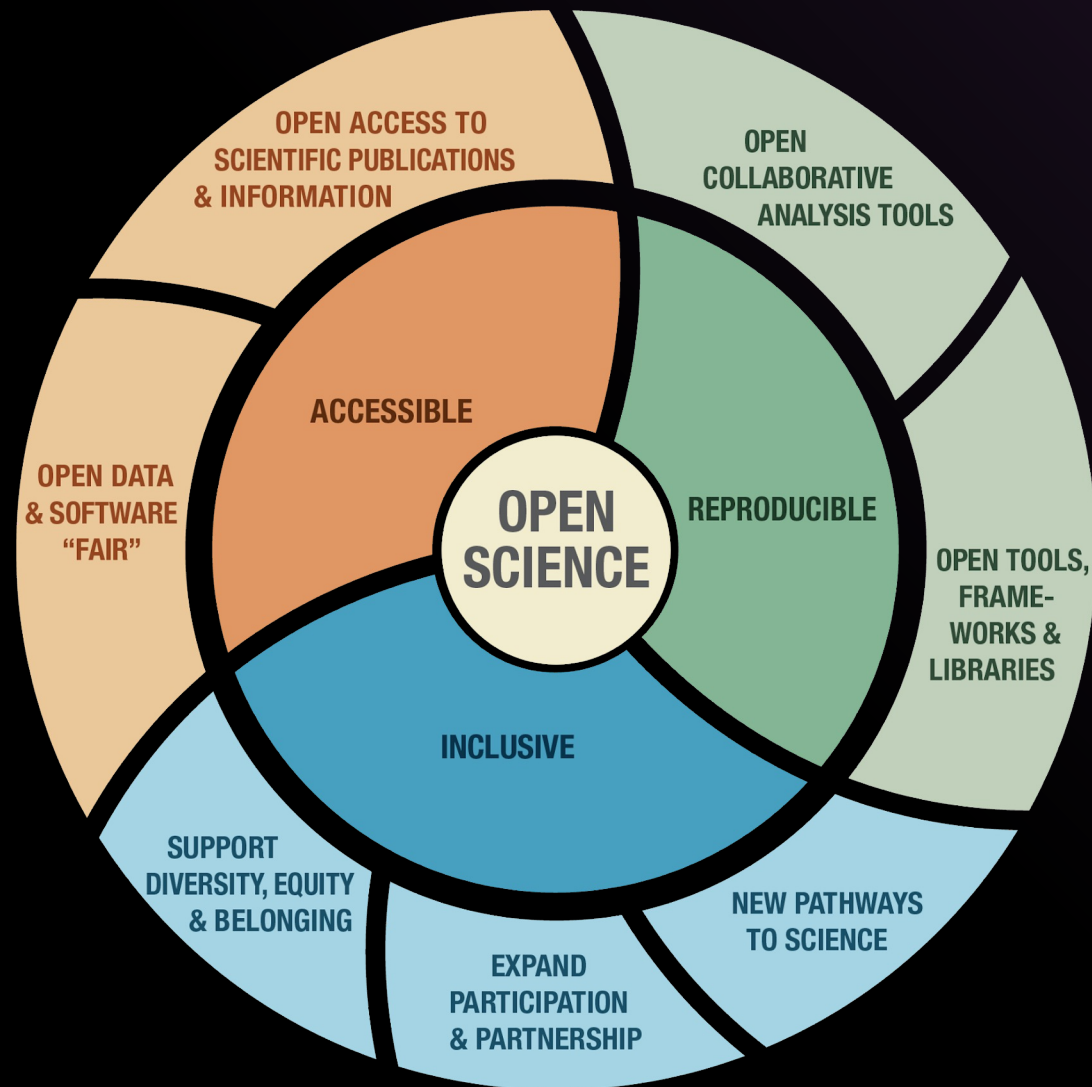
Creates research that is:

- Cited more
- Has a bigger impact
- Increases transparency
- More inclusive

Inclusive science means mo

- Collaborative projects
- Access to 'hidden knowle
- Equitable Systems
- Increased Participation

Open Science is Accessible, Reproducible & Inclusive



The Open-Source Science In [OSSI] is NASA's method to Open Science into practice

- Open the entirety of the sci process, from start to finish
- Broaden community invo in the scientific process
- Increase accessibility of d software, & publications
- Facilitate inclusion, transp and reproducibility of scie

Policy

Infrastructure

**NASA's
Open-Source
Science
Initiative**

Awards

Community



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NASA's Transform to Open Science (TOPS)

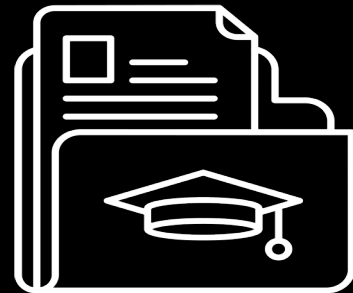
a 5-year mission to accelerate adoption of open science

Goals:

- Increase understanding and adoption of open science principles and techniques
- Broaden participation by historically excluded communities
- Accelerate major scientific discoveries



Engagement



Capacity Sharing



Incentives



Coordination

How does Open Science knowledge benefit you?

Collaboration and Transparency:



Enables collaboration on projects, leveraging expertise and resources, ensuring integrity and facilitating reproducibility.

Access to Data and Tools:



Speeds up the research process eliminating the need to duplicate development efforts.

Peer Review Research:



Encourages rigorous evaluation ensuring quality/credibility and serves as validation of results.

Innovation:



Results from collaboration and communication, leading to new proposal ideas and potentially increased funding opportunities.

Fostering Interdisciplinary Research among Division's sections:

Break down barriers and facilitate the exchange of ideas and knowledge across different disciplines.

Many NASA proposals will now require an Open Science and Data Management Plan (OSDMP)

Example: SMAP Science Team Proposal Call

| References | References must be in the [1], [2] format. |
|---------------------------------------|--|
| Open Science and Data Management Plan | An anonymized OSDMP is required as a section of up to 2 pages immediately following the references and citations for the S/T/M section. See Section 1.1 of A.1 the Earth Science Research Overview for more information. |
| Biographical Sketches | Do not include in main proposal document. Include in separate "Expertise and Resources Not Anonymized" document. |
| Table of Personnel and Work Effort | Include in an anonymized fashion (e.g., PI; Co-I#1; Co-I#2) in the main proposal document and in non-anonymized fashion in the separate "Expertise and Resources Not Anonymized" document. |
| Current and Pending Support | Do not include in main proposal document. Include in separate "Expertise and Resources Not Anonymized" document. |

APPENDIX A. EARTH SCIENCE RESEARCH PROGRAM

A.1 EARTH SCIENCE RESEARCH OVERVIEW ROSES-2023

NOTICE: Clarified May 15, 2023. Section 1.1 has been clarified including an important caveat about software archiving and links to the new [SMD Open-Source Science Guidance](#). New text is in bold.

1. Introduction

NASA's Earth Science Research Program supports research activities that address the Earth system and seek to characterize its properties on a broad range of spatial and temporal scales, to understand the naturally occurring and human-induced processes that drive the Earth system, and to improve our capability for predicting its future evolution. The focus of the Earth Science Research Program is the use of space-based

TOPS Capacity Sharing: Open Science 101

5 Modules designed to introduce Open Science

What is open science?
Why should I do it?
How should I do it?



How to use,
make, & share
code



How to use, make, &
share your results



ETHOS OF OPEN
SCIENCE

OPEN TOOLS &
RESOURCES

OPEN CODE

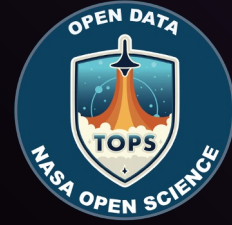
OPEN DATA

OPEN RESULTS

How to use popular
open science tools



How to use, make, &
share open data



Complete All 5 &
earn a NASA Open
Science digital
badge

**Goal: 20,000 scientists trained
over the next five years!**

How can I take Open Science 101?



Self-Paced Online Course



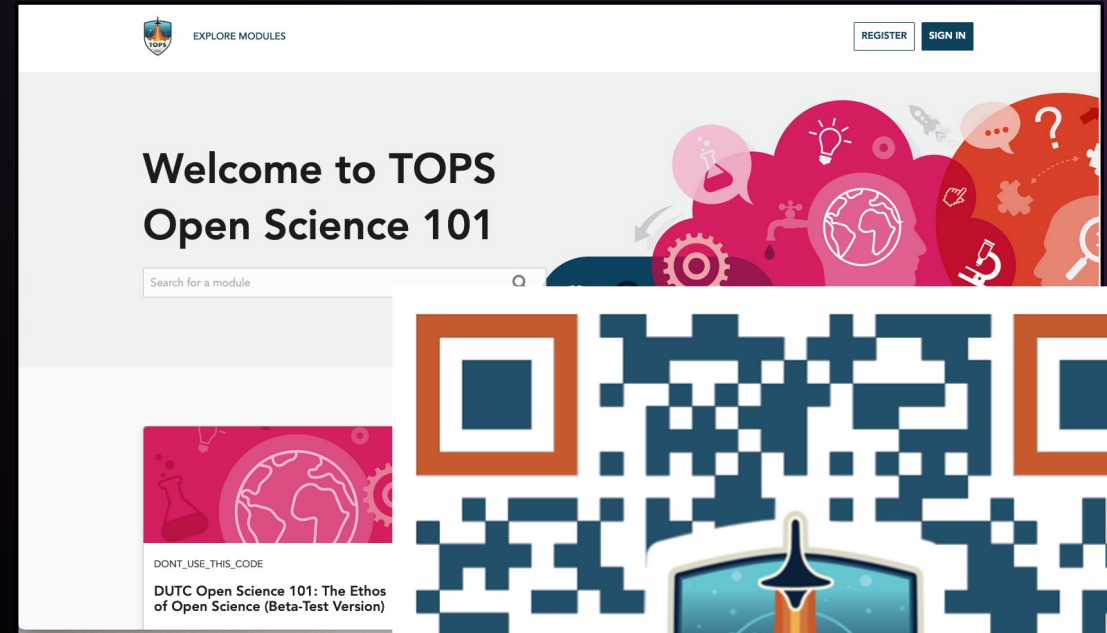
Instructor-Led In-Person and Virtual Training



Complete NASA's open science curriculum!

Open Science 101: A community-developed introduction to **core open science skills**

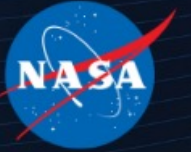
- Know how to write a NASA open science and data management plan
- Learn about tools and best practices
- Increase the impact & visibility of your science
- Earn your digital NASA open science badge



<https://go.nasa.gov/40pPQMx>



TOPS @ AAS 243



Workshop:

How to Write an Open Science & Data Management Plan

- Sunday, Jan. 7, 9 - 4:30 p.m. CT
- Rm. 207

Splinters:

Software Funding Community Feedback

Tuesday, Jan. 9, 9 - 11 a.m. CT

- Rm. 240/241

Astrophysics and Open Science

Wednesday, Jan. 10, 1 - 2:30 p.m. CT

- Rm. 237

Transform to Open Science Ethos Training

- Wednesday, Jan. 10, 9 - 11:30 a.m. CT
- Rm. 242

Exhibit Hall:

NASA Exhibit Booth #702

Hyperwall Talk:

- Monday, Jan. 8, 9:20 - 9:35 a.m.

NASA Town Hall:

Monday, Jan. 8, 12:45 - 1:45 p.m.

Great Hall A



Jan. 7 - 11, 2024



Ernest N. Morial Convention Center
New Orleans, LA

