



August 17, 2023

Dr. Louis Barbier
National Aeronautics and Space Administration
Associate Chief Scientist
300 E Street SW
Washington, DC 20546-0001

Re: Request for Information: NASA Public Access Plan for Increasing Access to the Results of NASA-Supported Research

On behalf of the members of the Association of Research Libraries (ARL), thank you for the opportunity to provide comments on "[NASA'S PUBLIC ACCESS PLAN: Increasing Access to the Results of Scientific Research](#)." ARL and its members are committed to the advancement of open scholarship and open access to accelerate scientific advances and to expand diverse, public participation in federally funded research. We appreciate NASA's commitment to making the results of federally funded research widely available without embargo, leveraging persistent identifiers to support scientific integrity, and ensuring equitable access. We submit the following comments on NASA's request for information (RFI).

In addition to the specific actions below, overall, we recommend that NASA:

- Minimize administrative and financial burden on researchers and institutions for compliance.
- Monitor costs and expenses for public-access policies by tracking not just expenses included in the grant, but across the institution (from campus IT, research library, and research office).

1. How to best ensure equity in publication opportunities for NASA-supported investigators.

The Association of Research Libraries appreciates the framing of "publication opportunities," recognizing both publishing and access to publishing as equity issues, and recommends that NASA:

- Work with research institutions, their libraries, and their professional and scholarly associations on coordinated education to investigators on their options for cost-free manuscript deposit
- Explore preprint services to accelerate sharing of research findings and the potential of recognizing peer-reviewed preprints that are substantially similar to author-accepted manuscripts for the purposes of compliance with the policy

ARL recommends that NASA:

- Provide rights-retention language (for investigators to use upon submission of manuscripts to journals) that encourages authors to retain their copyrights and assign a Creative Commons Attribution (CC BY) or similar license to their work in order to enable full reuse rights. Open licenses are easy to understand for both researchers and users, so more users can access and reuse content, and more researchers can provide access to and reuse of their work.
- Consider using the following language, modeled after the UK-based Wellcome Trust language¹:

This research was funded in whole or in part by NASA [grant number]. For the purpose of public access, the author has applied a CC BY public copyright license to any author-accepted manuscript version arising from this submission.

- Develop a mechanism to ensure that funds are available post-closeout for publication expenses. Post-award publication funding may be particularly important for early-career, postdoctoral, and graduate student researchers whose publication costs may not have been factored into the original grant budget.
- Consider additional supplemental funding or new grant programs to support innovative institutional services for investigators in meeting public-access requirements. ARL member institutions and their libraries provide services for investigators to navigate the various publishing options, manuscript versions, publisher policies, and the differences between public-access publishing and repository deposit.

2. Steps for improving equity in access and accessibility of publications.

ARL recommends:

- Encouraging open licenses (see above), which allow use of content on assistive devices as well as enabling text and data mining
- Requiring that all deposited manuscripts or final publications meet all disability laws and regulations, including Web Content Accessibility Guidelines (WCAG) and Section 508 compliance standards, so publications can be properly rendered to assistive technologies

3. Methods for monitoring evolving costs and impacts on affected communities.

Fully monitoring publication expenses will require looking beyond the grant budget line item for publication costs. Given the different mechanisms for funding publication costs (grant-based, departmental, library funds, and bundled read-and-publish agreements), the direct expenses included in a grant budget may not entirely reflect the full range of expenses.

ARL recommends:

¹ According to cOAlition S funders, “In the two years or so since this [rights retention] approach was introduced by many cOAlition S funders, [the funders] are only aware of one example where a publisher rejected a manuscript due to the existence of a prior licence.” [Making Full and Immediate Open Access a Reality](#), cOAlition S, April 11, 2023.

- Surveying researchers and/or institutions at closeout for additional information on publication costs, or commissioning a study that would incorporate both researcher costs and additional data from global registries of article-processing charges (APCs) and other publication fees
- Monitoring publication trends across publication formats, including journal articles, book chapters, and other peer-reviewed publications
- Reviewing the publication costs of journal titles that NASA-supported researchers most commonly publish in

4. Input on considerations to increase findability and transparency of research.

The Association of Research Libraries recommends that NASA:

- Adopt the [Implementing Effective Data Practices](#) report recommendations from higher education associations,² including the adoption of the following persistent identifiers (PIDs) at a minimum:
 - Digital object identifiers (DOIs) for each publication and research output (data, code, software, etc.)
 - Open researcher and contributor identifiers (ORCID IDs) to uniquely identify authors
 - Research Organization Registry (ROR) IDs to link authors with known organizations
 - Crossref Funder Registry IDs to associate a research output with a granting agency
 - Crossref Grant IDs to uniquely identify a research award with an author, an organization, and a funding agency

This report also provided considerations that would help support this necessary PID infrastructure. NASA, in coordination and harmonization with other federal agencies, could lead the following to advance the sharing of research and research data.

- Fund the design and development of tools and services to support the use of PIDs. NASA could fund investigators developing research-related workflows and systems that enable the collection of PIDs, storage of PID metadata, and connections to PIDs in other systems.
- Minimize the burden on researchers by making it easy and seamless for researchers to use PIDs by designing workflows and systems to assign and collect them automatically and by supporting PID services or data repositories. Finally, NASA could work with vendors of tools to require them to adopt workflows and software that automatically collect PIDs. This will be especially necessary for less-resourced institutions that may not have research librarians to provide these services.

5. Suggestions on sharing and archiving of software.

² [Implementing Effective Data Practices: Stakeholder Recommendations for Collaborative Research Support](#), Association of Research Libraries (ARL), California Digital Library, Association of American Universities (AAU), and Association of Public and Land-grant Universities (APLU), September 23, 2020.

The management and sharing of software and code is a critical next step for increasing the transparency of research and upholding research integrity. We applaud NASA on including this component of open science in their plan for updating their public access plan.

ARL recommends:

- NASA clearly defines what falls under the software sharing and archiving plan requirements. Within the course of a research project code may be written and used for simple tasks such as sorting or otherwise cleaning data. This type of code may be redundant to other code already available in the community and not be highly related to the scientific research outcomes of the grant. It is unclear if as it is currently written, this type of code would need to be shared.
- With respect to copyrighted software, NASA share with investigators the “[Code of Best Practices for Fair Use in Software Preservation](#),” which provides clear guidance on the legality of archiving legacy software to ensure continued access to digital files of all kinds.
- NASA requires not only the sharing of software code, but the documentation necessary to properly use and execute the code. Much like curation is necessary to understand research data associated with a project, documentation and code markup is critical for understanding and running code. We recommend NASA partner with institutions, libraries, and scholarly societies to provide training, education, and best practices for code documentation and the use of tools to reduce administrative burden.
- NASA consider the software management plan as iterative and something that may be updated. It may be difficult for researchers to know before the research project has begun what software may be created or used. Allowing updates will ensure software management plans reflect the current research direction and methods. Additionally, we suggest that NASA encourage researchers to adopt PIDs in their software management plans to allow for connections to other research outputs (data, articles, etc.) and specific authors, institutions, and resources.

We look forward to continued engagement with NASA during the development of the agency’s public access plan. We are happy to work with NASA to identify ARL member institutions to participate in conversations regarding any of these specific topics. Please feel free to contact me or my colleague Cynthia Hudson Vitale, Director of Science Policy and Scholarship (cvitale@arl.org), with any questions about these comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'MLK' followed by a stylized flourish.

Mary Lee Kennedy
Executive Director