

Open Science for Authors

Navigating Open Data/Software, Open Access, and
APC Funding Options

AGU Publications Webinar
August 9, 2022
publications@agu.org

Today's Agenda

Open Science: What is it?

Brief history, current landscape, and Open Science at AGU

Navigating Open Access as an Author

Publishing Open Access at AGU and funding options for APC (Article Publication Charge) fees

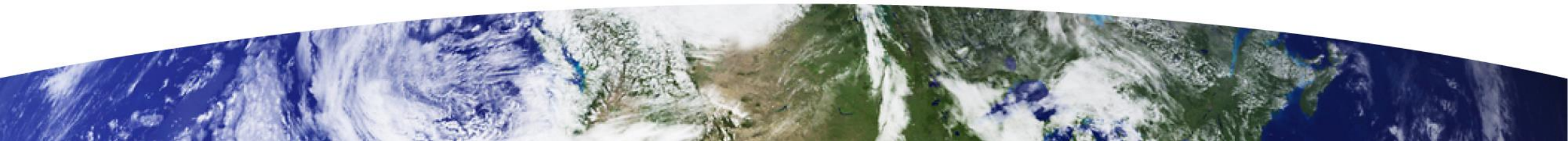
Accelerating Open Data and Software

Why it's important and what authors should know

Q&A



Carol Frost
University of Wyoming
Chair, AGU Pubs Committee



Our Presenters

AGU Journal Editors

Hari Rajaram, EIC, *Geophysical Research Letters* (John Hopkins University)

Laurent Montesi, EIC, *Journal of Geophysical Research – Planets* (University of Maryland College Park)

AGU Publications Staff

Matt Giampoala, VP of Publications

Mia Ricci, Director of Publications Operations

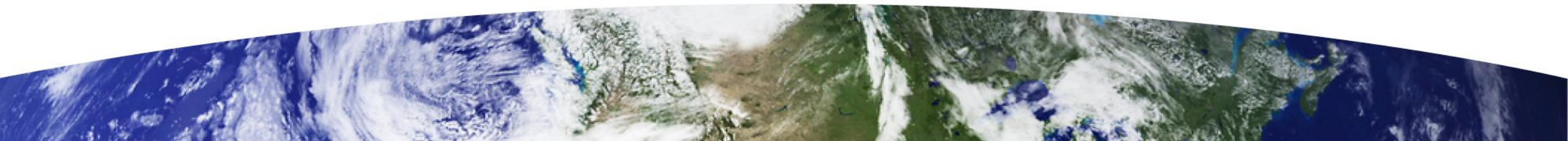
Nick Violette, Program Manager

Allison Schuette, Senior Program Specialist

Chris Erdmann, Assistant Director, AGU Data Leadership

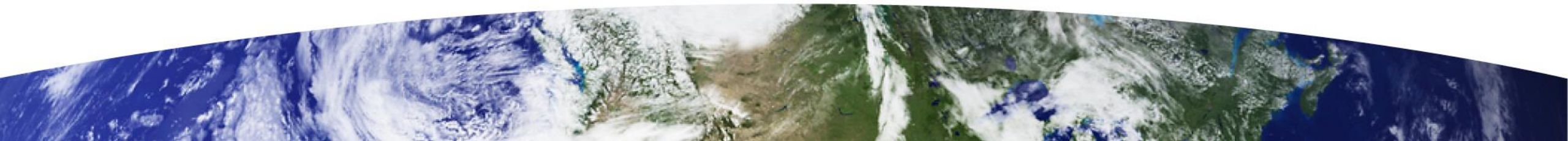
+ Wiley expert in the chat

Lorna Stimson, Publishing Director, Transformational Agreements



AGU Publications

- **23 Peer Reviewed Journals**
- **9 Fully Open Access Journals**
- **14 Hybrid Journals (subscription with Open Access options)**
- **800+ Editors and Associate Editors**
- **More than 17,000 submissions and more than 8,000 published articles per year**
- **Books program, with option for OA in 2023**
- **Overseen by AGU Publications Committee**



Open Science

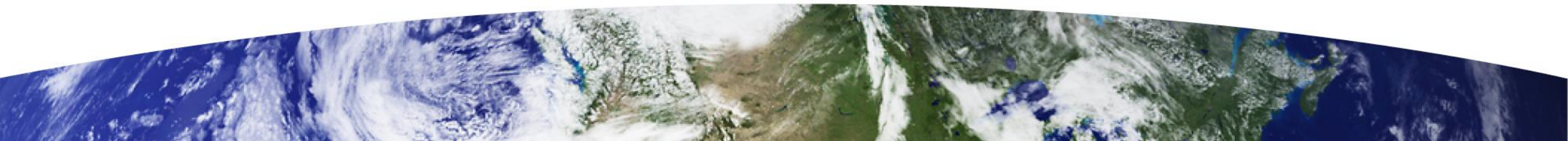
Open Science: Why and What

We are facing **big** challenges (climate change, hazards, limited resources...). We need **more** people – more hands, more eyes, more brains – with diverse experiences to participate so that we ask the best question and find the best solutions.

- Accelerates the **pace** of science
- Increases the **impact** of science
- Expands **applications** of data and science
- Shares **hidden** knowledge & expands **participation** in science

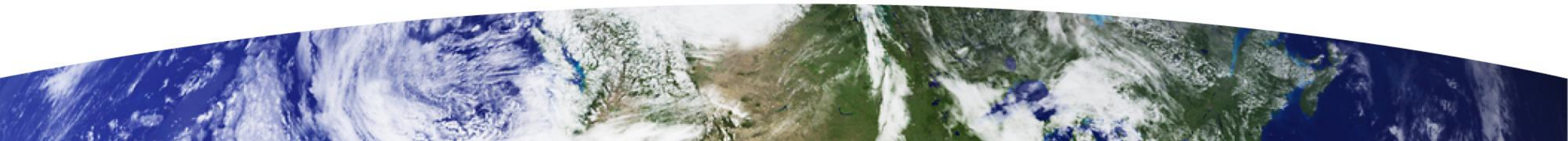
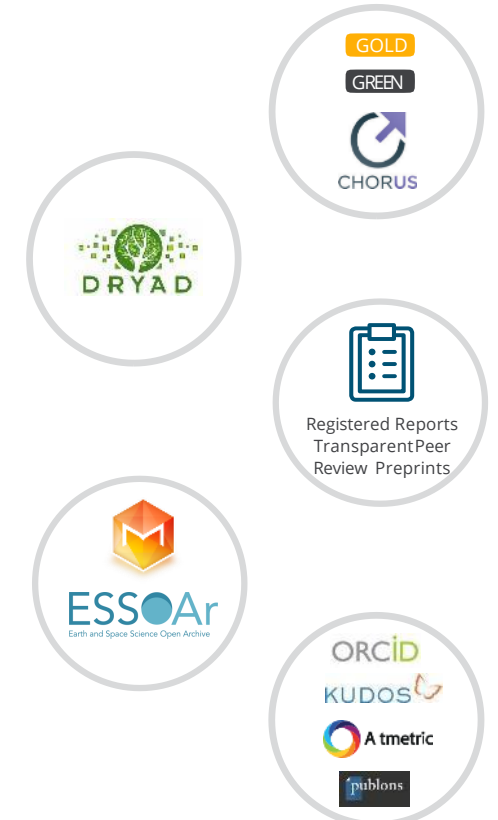
Open Science:

- **Accessible:** open data, open software, open information
- **Reproducible:** Make sharing and collaborating more efficient by supporting open software tools, frameworks, libraries, and open infrastructures
- **Inclusive:** innovative pathways to participating and expand public/private partnerships

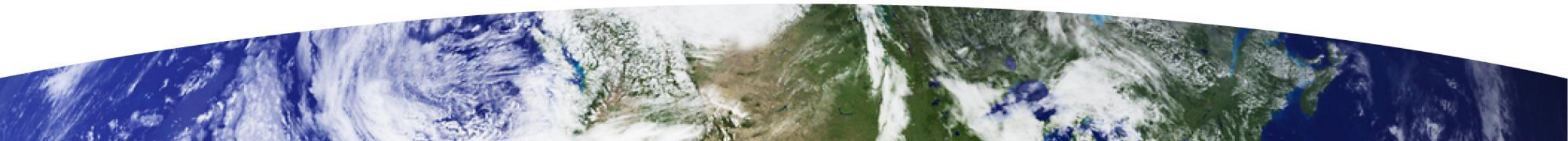
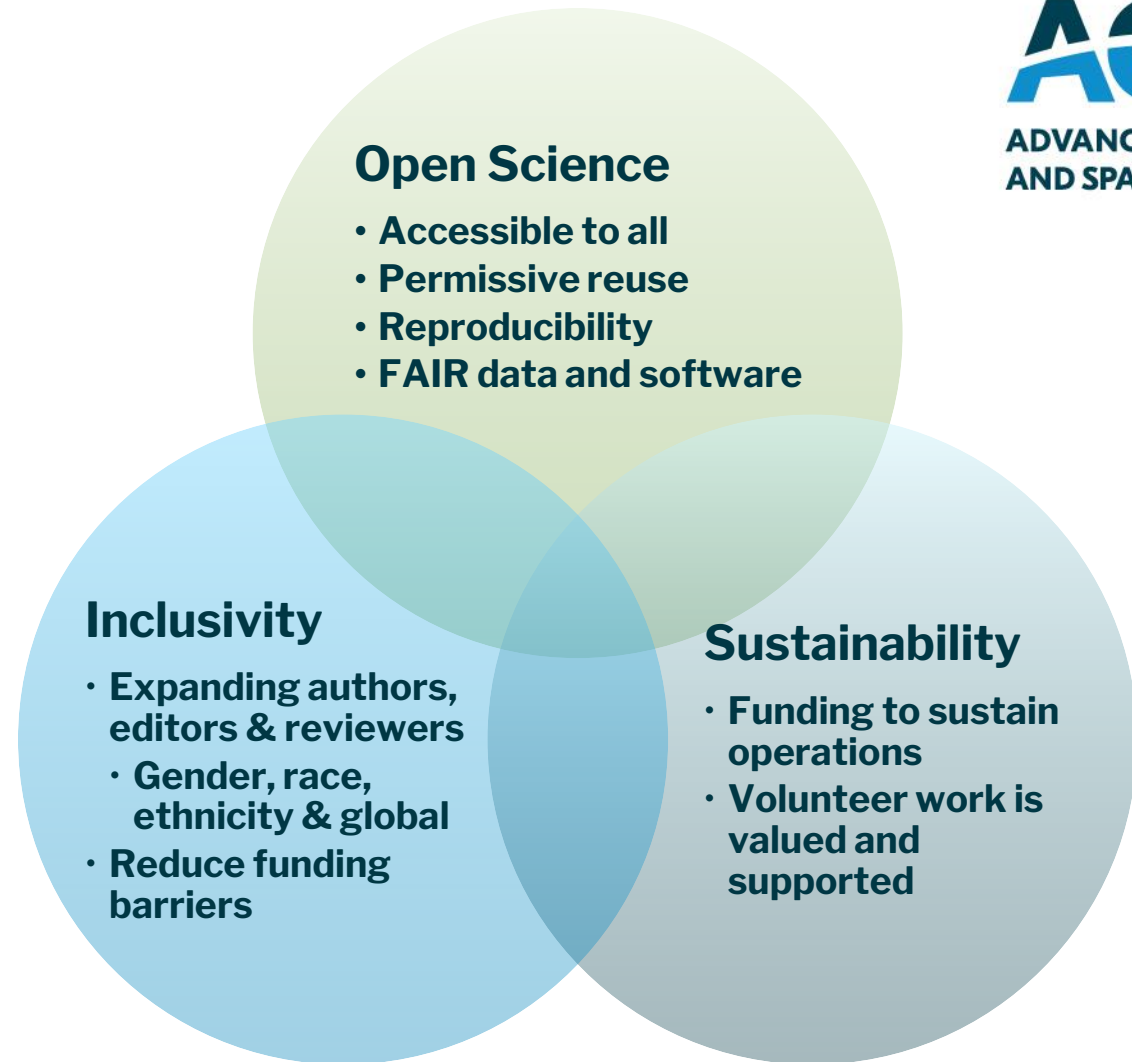


Not Just Open Access

- **Open access** – helping researchers share their work and publications with the world
- **Open data/software** – enabling reproducibility and verification of researcher data and software, methodology, reporting standards, and reuse for future studies
- **Open practices** – focusing on transparency in research communication and peer review
- **Open collaboration** – helping researchers work together
- **Open recognition & reward** – making sure researchers get credit for their publishing work

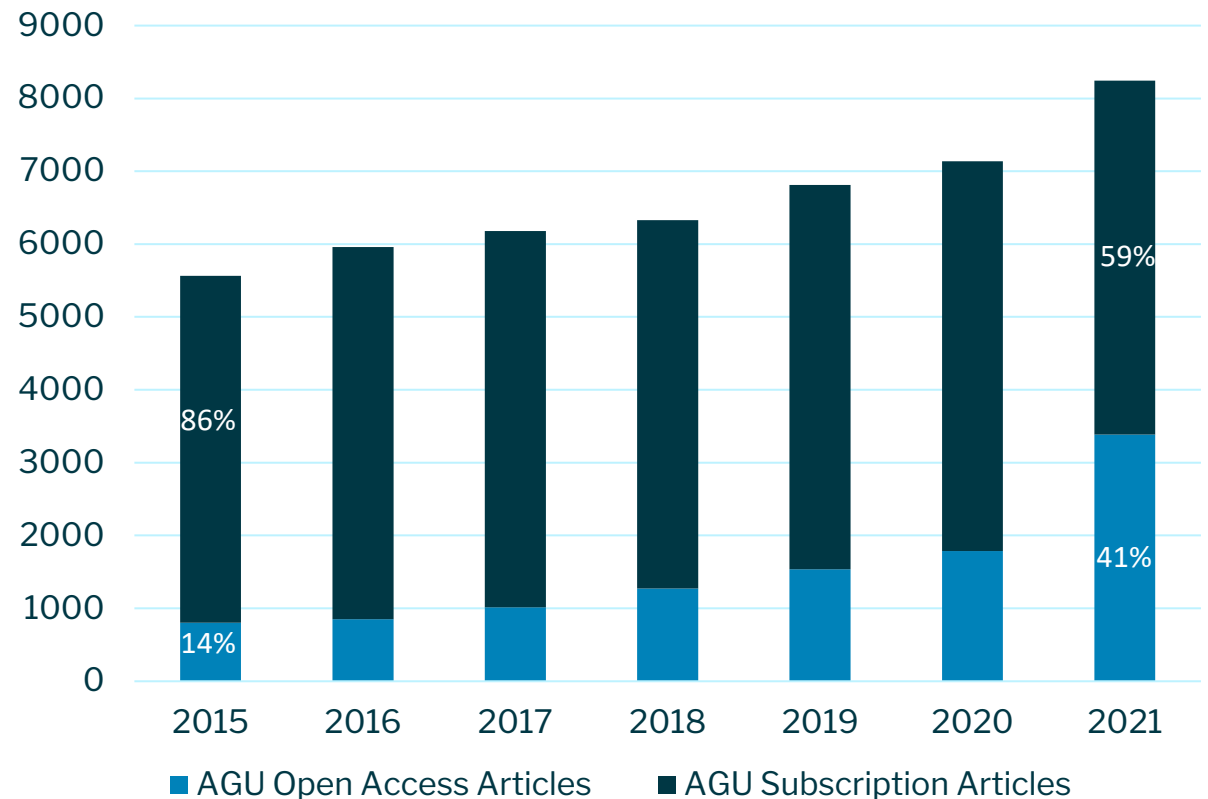


Balancing our goals at AGU



Open Access

- Articles are made freely available online immediately upon publication, making it more publicly accessible
- Published under a Creative Commons License (authors own copyright) allowing reuse and sharing
- Typically there is a cost (APC: Article Processing Charge), paid by authors or their funders
- AGU seeing growth over the years and predicting to have over 50% open access articles by end of 2022.

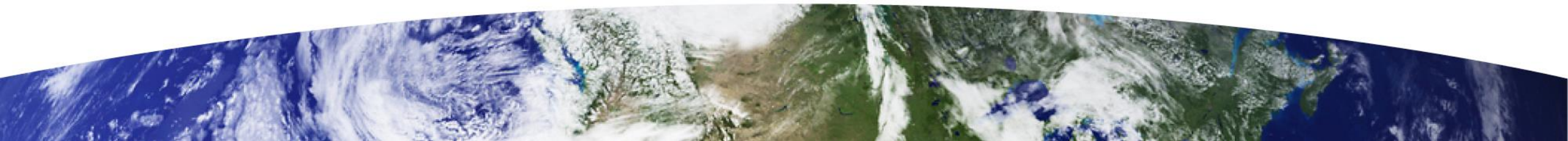


Progress in Open Access at AGU

AGU continues to invest in open science, to make scientific research more accessible to all.

We are increasing access to published content via Open Access and other means.

- As of January 2022, all AGU members have free access to journal articles
- Green Open Access: authors can self-archive final version after 6 months, and all subscription papers are opened after 24 months
- Preprints – Earth and Space Science Open Archive (ESSOAr)
- All AGU journals support Gold Open Access options
- Transitioning more journals to Fully Open Access (currently 9 fully OA, 14 hybrid)
- Ensuring funding is not a barrier to publishing (various funder, institutional, country discounts and waivers)

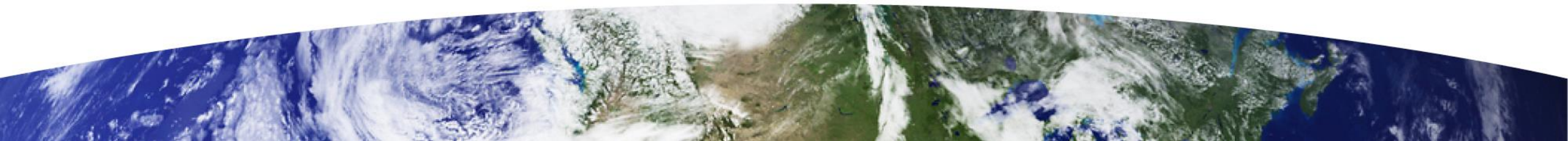
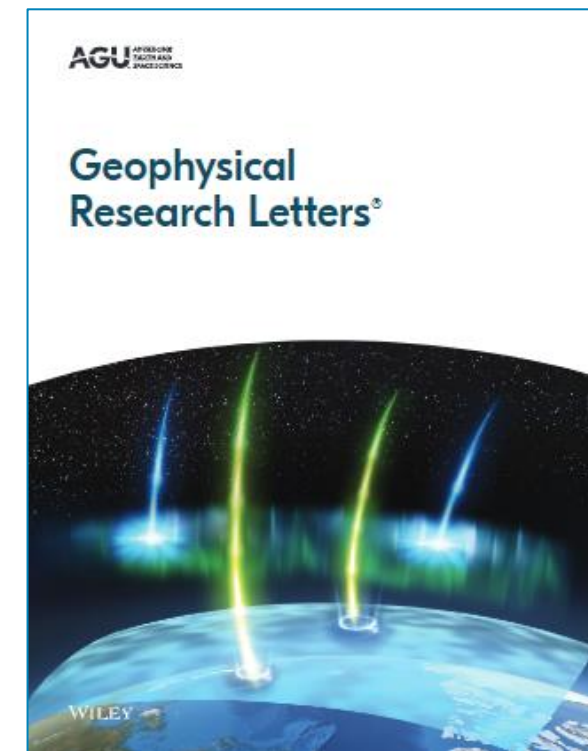


Geophysical Research Letters

Fully Open Access starting January 2023

- Part of AGU's commitment to Open Science and FAIR (Findable, Accessible, Interoperable and Reusable) data
- All articles will be OA on 1 January 2023
- Submissions received after 29 September 2022 are processed as OA
- Various funding options for authors to help cover APCs, including AGU waivers
- AGU dedicating a new fund for expansion of APC waivers and more staff support

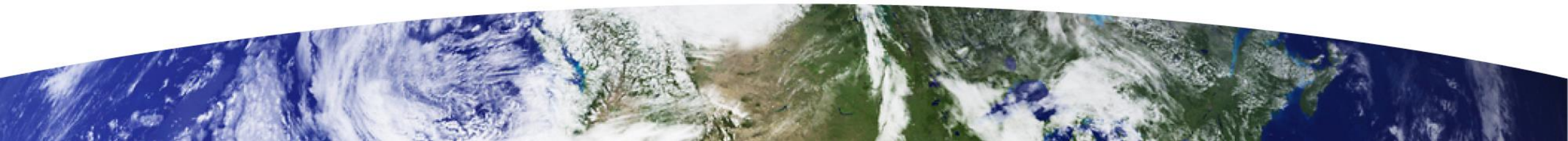
More information in the FAQ [here](#).



Navigating Open Access

Gold vs Green

	Gold Open Access	Green Open Access
Definition	The article is immediately, freely available online for all to read, download, reuse and share	The author self-archives a version of the subscription article in an online repository or website
Access	Free public access to the final published article Access is immediate and permanent	Free public access to a version of the article Embargo period (delay) may apply
Fee	An Article Publication Charge (APC) is typically applied	No fee is payable by the author (some journals might charge Base Publication Fees – not related to Open Access)
Licensing and rights	Published under a Creative Commons (CC) license Author retains copyright	Authors retain the right to use their articles for certain purposes
Options	Publish in an Open Access journal Publish in a hybrid journal (subscription journal that supports open access) Automatic export to PubMedCentral when appropriate	Link to the published version Self-archive the article

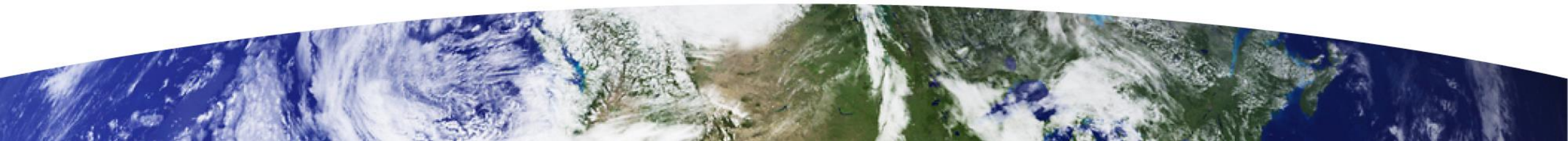


How Do Publishers and Journals Support OA Policies?

OA policies are introduced by funders and institutions to maximize the impact of publicly funded research and increase transparency

Authors need to comply with OA policies and publish their research to progress in their careers and receive funding

Publishers and journals play a role in facilitating these requirements by providing routes to compliance and tools and resources to help authors understand their options

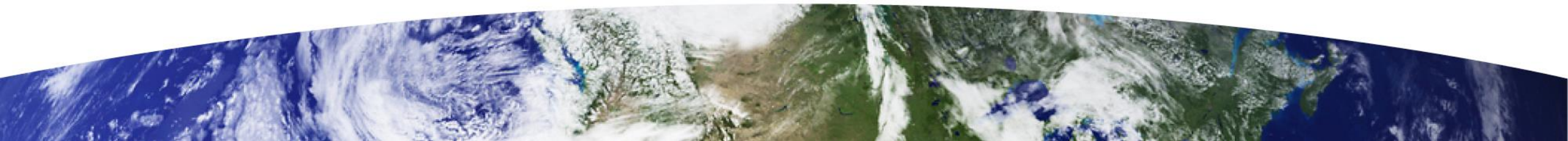


Advantages of Publishing Open Access

In addition to complying with funder policies and mandates, and making science more **open, accessible, efficient, democratic, and transparent**, recent research from Wiley shows that publishing OA generates:

- **3.2x Downloads.** On average, OA articles were downloaded more than three times as much as subscription articles
- **1.5x Citations.** OA articles were cited nearly twice as much compared to subscription articles
- **2.7x Altmetric Score.** OA articles received nearly 3 times as much as attention as subscription articles

Source: <https://www.wiley.com/network/researchers/licensing-and-open-access/demonstrating-the-advantage-of-publishing-open-access-with-wiley>



Fully Open Access Journals and Hybrid Journals

Fully (Gold) Open Access Journal

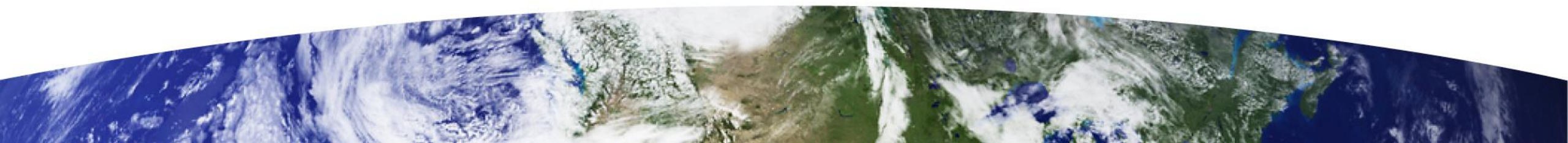
A fully Open Access journal where all articles are freely available online immediately upon publication. Authors own copyright, selecting one of several Creative Common (CC) licenses. Authors (or institutions) pay an Article Processing Charge (APC) to publish.

AGU's fully (gold) OA journals: *AGU Advances*, *Community Science*, *Earth and Space Science*, *Earth's Future*, *Geohealth*, *Geochemistry*, *Geophysics*, *Geosystems*, *Journal of Advances in Modeling Earth Systems*, *Perspectives of Earth and Space Scientists*, and *Space Weather*.

Hybrid Journal (Subscriptions Journal with Open Access Options)

Readers will find some articles available via Open Access while others behind a paywall unless their institution has a subscription. Authors can publish their paper as a regular subscription article (author transfer copyright to AGU) or as an Open Access article after paying the APC.

AGU's Hybrid journals: *Geophysical Research Letters (GRL)*, *Global Biogeochemical Cycles*, *Journal of Geophysical Research (all)*, *Paleoceanography*, *Radio Science*, *Tectonics*, and *Water Resources Research*.



Types of Creative Commons Licenses

With Creative Commons licenses, the **author retains copyright** and the **public is allowed to reuse the content**. The author grants Wiley a license to publish the article and to identify as the original publisher. AGU Open Access journals offer all three license types.



Creative Commons Attribution

This is the most accommodating of licenses offered

Recommended for maximum dissemination and use of licensed materials

Places umbrella stipulation on all CC licenses requiring credit to original author(s)



Creative Commons Attribution-Noncommercial

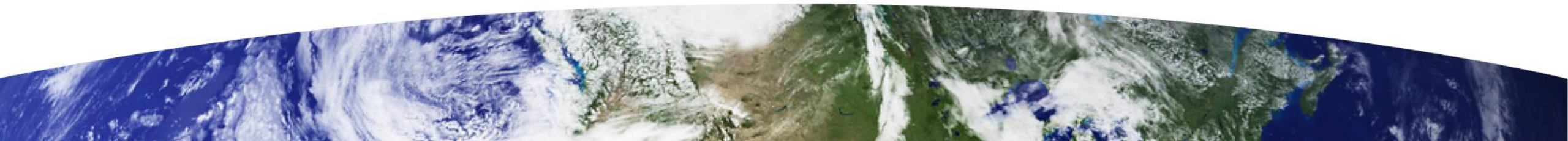
Let others remix, tweak, and build upon your work non-commercially, in any format

Derivative works must also provide proper attribution, a link to the license and the document indicate if any changes were made



Creative Commons Attribution-No Derivative Works

Allows for redistribution, commercial and non-commercial, in any format, as long as proper attribution is given, a link to the license is provided, and the document indicate if any changes were made



APC Funding Options for AGU Authors

There are various funding options to help authors cover their Article Processing Charge (APC) fees at AGU, and this depends on the type of journal you're publishing in.

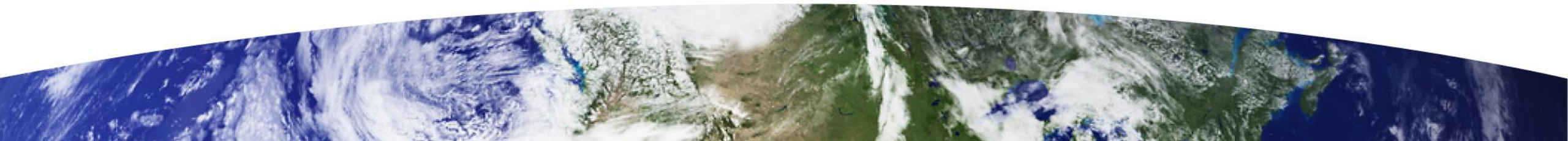
Institution/ Funder
Waiver/Discounts

Low-and Middle-
Income Country
Waivers/ Discounts

Author Pays

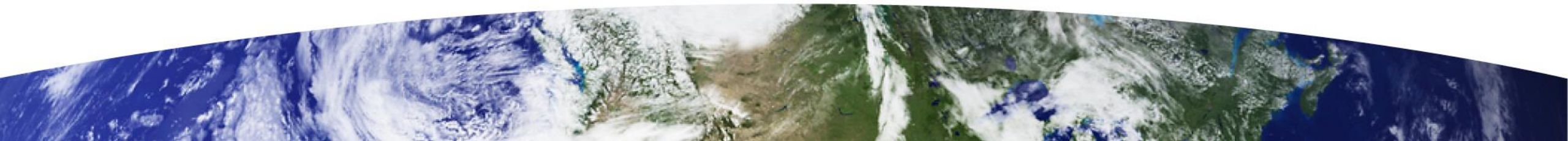
AGU
Waivers/Discounts

<https://www.agu.org/Publish-with-AGU/Publish/Author-Resources/Publication-Fees-Funding-Options>



On Institutional Funding...

- There's growing funding available from institutions and funders around the world to help authors cover Open Access publishing costs
- Often called **Transitional/Transformational Agreements (TAs)** or Read and Publish agreements.
 - Institutions, libraries, national or regional consortia
 - Moving from subscription to open access
 - On basis of publishing service (reading/access, and publishing)
 - Enabling a sustainable transition
- These agreements and accounts may fully cover or discount your Open Access APC
- To qualify, typically the corresponding author must be based in one of the participating institutions, and the paper needs to be a Research or Review Article
- The funding might be available for publishing in either hybrid journals only, fully open access journals only, or both
- There are also funder accounts/agreements, not tied to reading/access of content (**Wiley Open Access Accounts**)



Benefits of Transformational Agreements (TAs)

Simple process

Authors don't need to arrange payment (publishing charges are paid centrally by your institution)

Increased readership

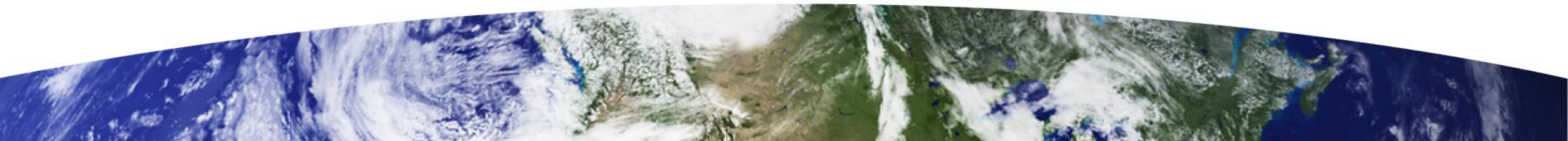
Researchers at any of the participating institutions are able to read, cite and share research

Subject coverage is broadened

TAs are a way to create parity towards OA for all fields of research – not just those that traditionally offered APC funding

Compliance with funder mandates

TAs open routes to publishing OA in line with the increasing number of funder mandates



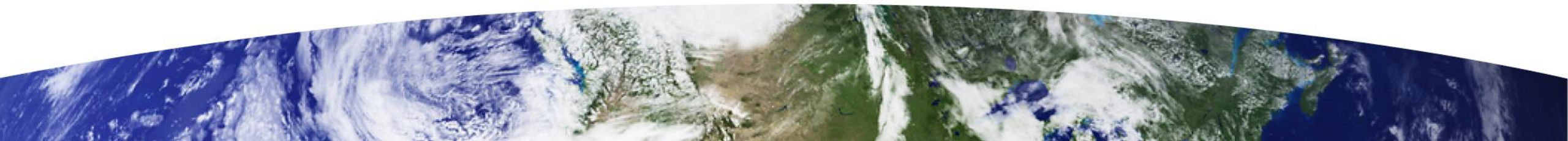
Current Funding Agreements

As of August 2022, through Wiley, there are 40 transformational agreements or WOAs in place, to help AGU authors from over 1800 institutions around the world:

- 18 agreements in the US
- 17 agreements in Europe (Including France, Germany, Italy, Spain, and the UK)
- Includes institutions in Australia, New Zealand, Japan, Korea, Mexico, and South Africa, among others

- All 40 agreements cover publishing in hybrid subscription journals
- 13 agreements cover publishing in fully gold open access journals

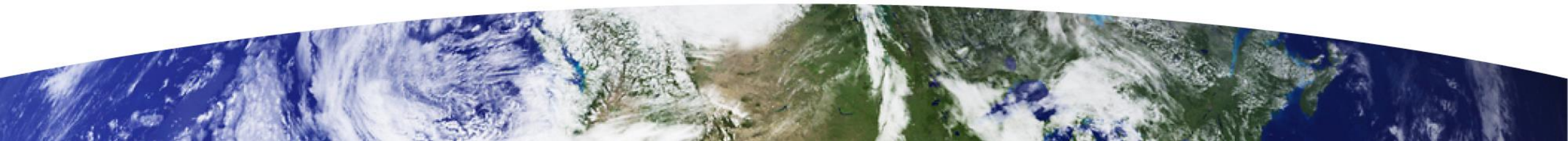
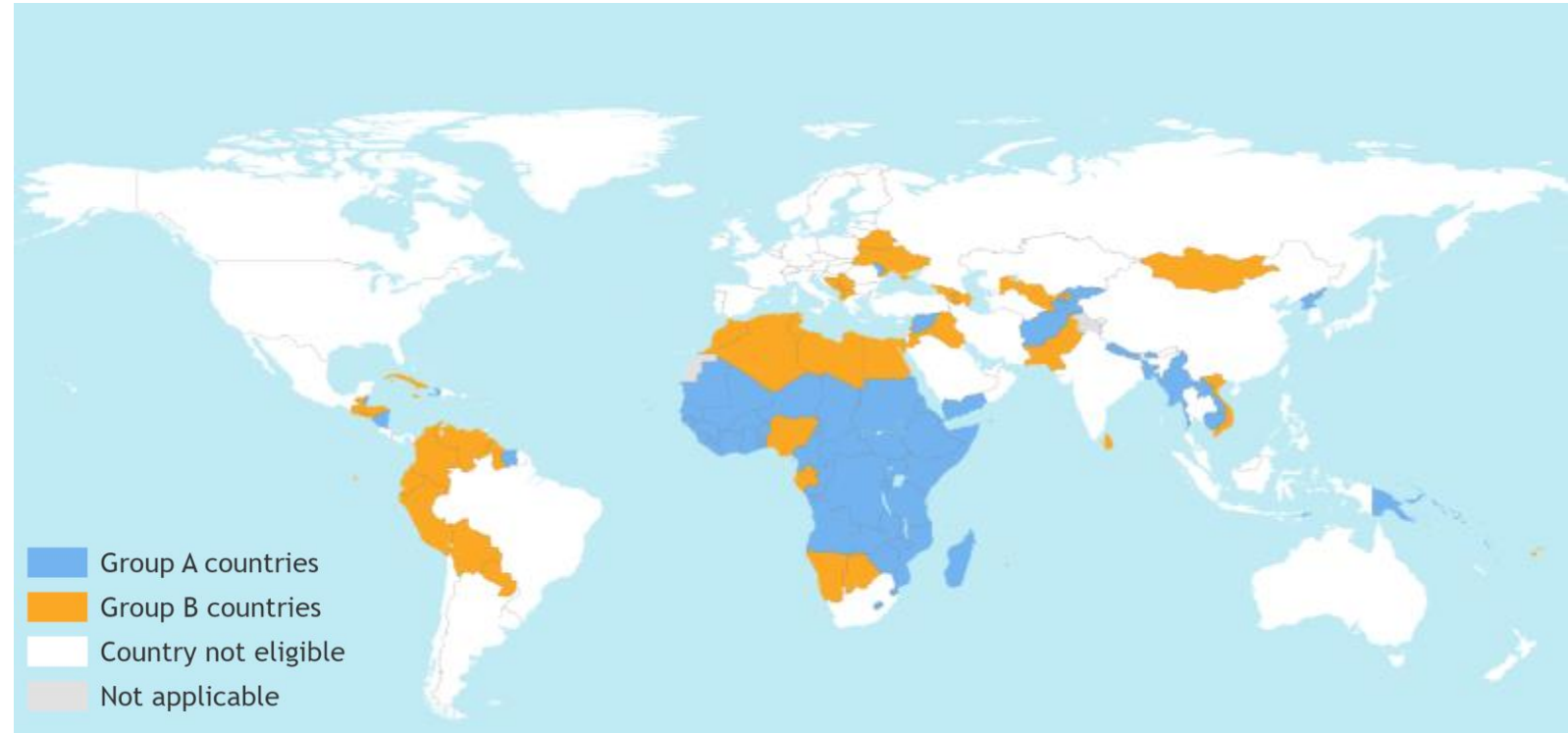
- Check <https://tinyurl.com/4ax7395b> to see if your institution is listed



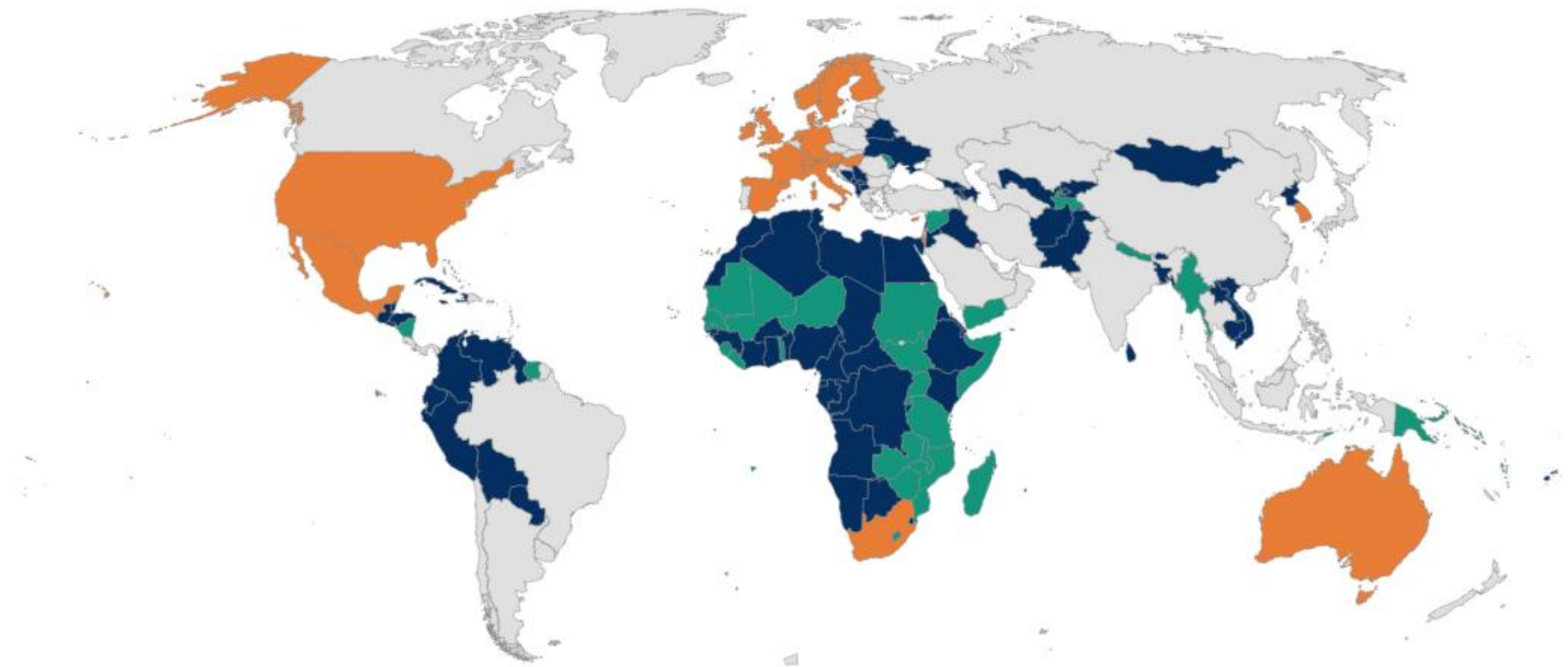
Research4Life

Countries, areas and territories eligible for Research4Life

- Free or low-cost read access for researchers in low- and middle-income countries
- Automatic full APC waivers or 50% discount for eligible authors publishing in **fully Gold Open Access journals**
- More info on Wiley site [here](#) and Research4Life site [here](#)



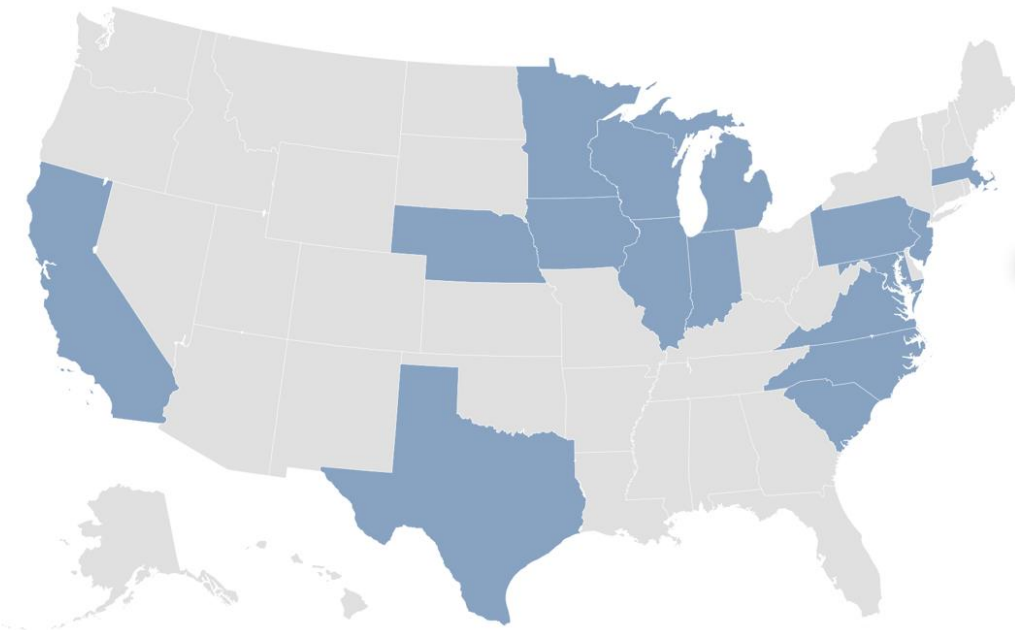
Publication Funding Agreements via Wiley



■ Research For Life-A ■ Research For Life-B ■ Transformative Agreement

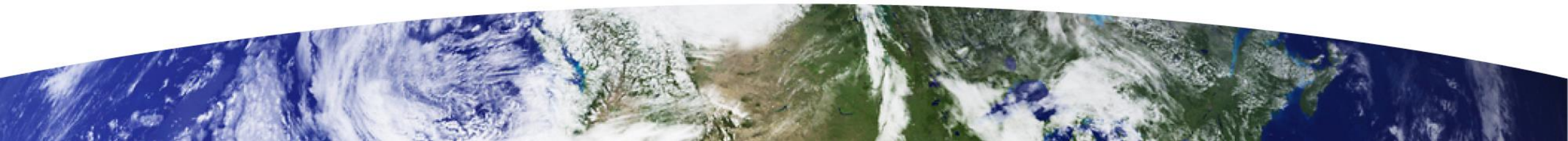


US Institutions with Publication Funding Agreements with Wiley



18 agreements to date, includes:

- BTAA (Big Ten Academic Alliance) – *hybrid journals only*
- Carolina Consortium – *hybrid journals only*
- University of California (UC) – *hybrid and fully OA journals*
- OhioLINK Member Institutions – *hybrid journals only*
- SCEL (Statewide California Electronic Library Consortium) – *hybrid journals only*
- VIVA (Virtual Library of Virginia) – *hybrid and fully OA journals*
- US Department of Energy – *hybrid and fully OA journals*
- *And more*



APC Funding Option for AGU authors

publishing in Hybrid Journals

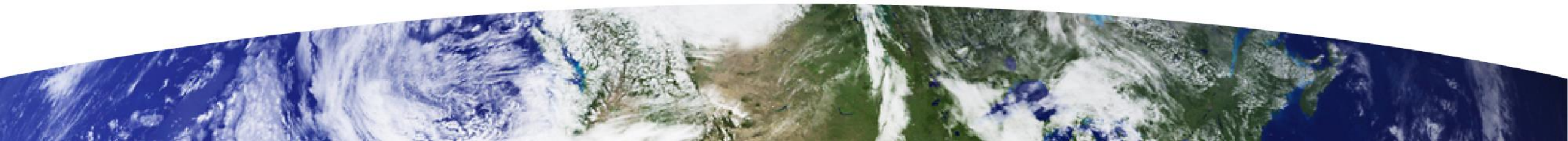
Geophysical Research Letters (GRL), Global Biogeochemical Cycles, Journal of Geophysical Research (all), Paleoceanography, Radio Science, Tectonics, and Water Resources Research*

Authors in these journals are not required to publish as Open Access. All papers are opened after 24 months, and you can share the “Version of Record” (final PDF) after 6 months of being published.

If you are from an institution that has a funding agreement with Wiley (one of those 1800+ institutions), your APC may be covered or discounted.

Base Publication Fee or Excess Page Fee (for overlength papers) for hybrid journals are waived for OA papers.

*Will be Fully Gold Open Access in January 2023



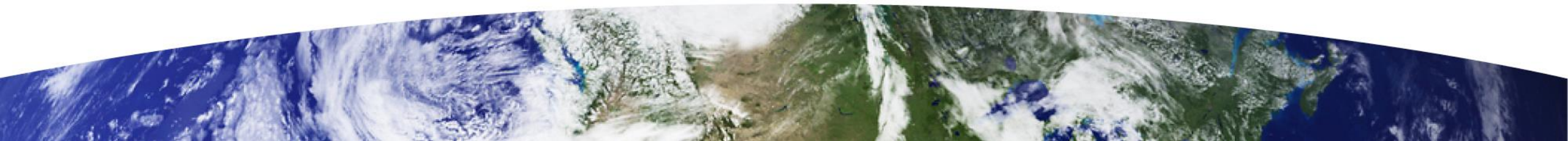
APC Funding Options for AGU authors

publishing in Fully Gold Open Access Journals

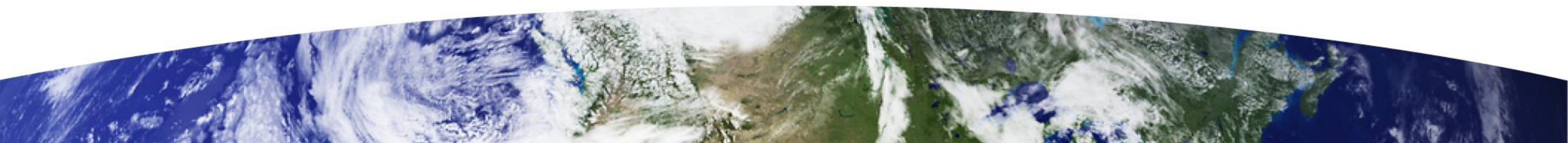
AGU Advances, Community Science, Earth and Space Science, Earth's Future, GeoHealth, Geochemistry, Geophysics, Geosystems, Journal of Advances in Modeling Earth Systems, Perspectives of Earth and Space Scientists, and Space Weather

1. Institutional/funder pay (through their funding agreement with Wiley)
2. Full waivers or 50% discount for corresponding authors based in a Low-and middle-income (LMIC) country (Research4Life)
3. Corresponding author pays the APC
4. AGU 50% discount or full waiver*

*To help ensure funding is not a barrier to publication, AGU has discounts and waivers available for its authors. Please make sure you are not eligible for the other 3 options before requesting a waiver – this helps the AGU Waiver Fund remains available to those who needs it most.



**Questions about publishing Open Access at AGU?
Contact the journal or publications@agu.org**

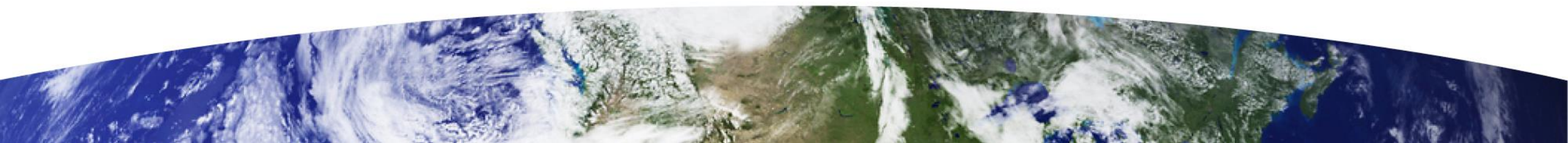


Open Data & Software

AGU's position statement on data affirms that

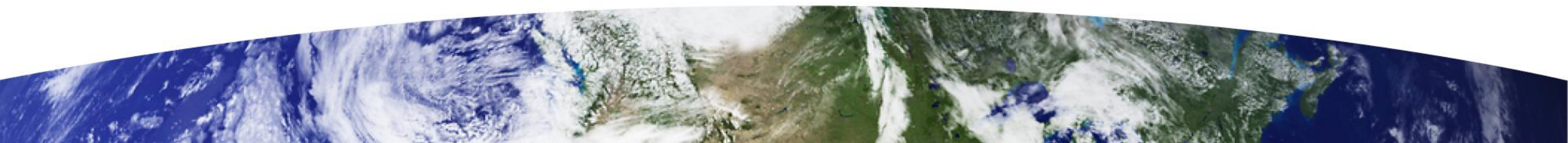
“Earth and space science data are a **world heritage**, and an essential part of the science ecosystem. All players in the science ecosystem—researchers, repositories, publishers, funders, institutions, etc.—should work to **ensure that relevant scientific evidence is processed, shared, and used ethically, and is available, preserved, documented, and fairly credited.**”

https://www.agu.org/Share-and-Advocate/Share/Polycymakers/Position-Statements/Position_Data



Current Projects

- Accelerating **Open and FAIR Data Practices** Across the Earth, Space, and Environmental Science (NSF)
- **PARSEC** - Building New Tools for Data Sharing and Re-use through a Transnational Investigation of the Socioeconomic Impacts of Protected Areas (Belmont Forum, NSF)
- **Transform to Open Science (TOPS)** – Program Support (NASA)
- **Notebooks Now!** (Alfred P. Sloan Foundation)
- **AI/ML Ethics** (NASA)



AGU Data & Software Sharing Guidance

What is covered:

- What data needs to be available?
- Repository Selection
- Availability Statement
- Data & Software Citation
- Citation Formatter
- Models & Simulations
- Journal Specific Guidance
- International Geo Sample Numbers
- Data Help Desk (datahelp@agu.org)

<https://www.agu.org/Publish-with-AGU/Publish/Author-Resources/Data-and-Software-for-Authors>

Data & Software for Authors

WHAT IS NEEDED?

AGU requires that the underlying data needed to understand, evaluate, and build upon the reported research be available at the time of peer review and publication. Additionally, authors should make available software that has a significant impact on the research. This entails:

1. Depositing the data and software in a trusted repository, as appropriate, and preferably with a DOI
2. Including an [Availability Statement](#) as a separate paragraph in the Open Research section explaining to the reader where and how to access the data and software
3. And including [citation\(s\)](#) to the deposited data and software, in the Reference Section.

Click on the headings below for detailed information on:

- [Models & Simulations](#)
- [Journal-Specific Data Guidance](#)
- [International Geo Sample Numbers](#)

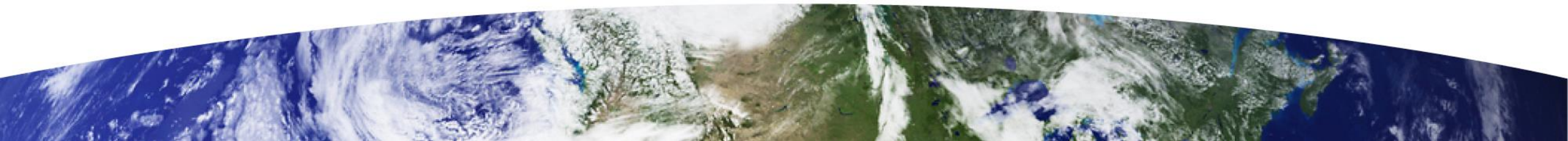
Most of your questions regarding data and software should be answered by the resources below. Just in case, if you still have questions, you can contact DataHelp@agu.org.

WHAT DATA NEEDS TO BE AVAILABLE?

Primary and processed data used for your research should be preserved and made available. Generally, the underlying data are considered to be the types of data usually preserved in domain repositories for each discipline. These may include raw data, but are usually the processed or refined data that support and lead to the described results and allow other readers to assess your conclusions and build off your work.

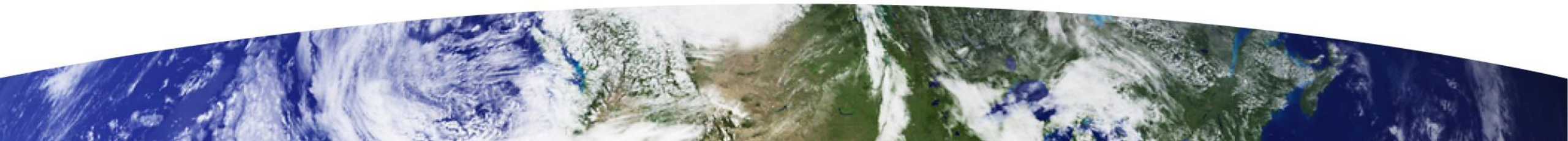
In your paper, cite these data, as well as any data you used from other sources, and include information about access to the data in the availability statement. For model or simulation data, follow [journal specific guidance](#) on prioritizing preserved output; in general, availability of software is most important.

Very large data (greater than 1 terabyte or TB) can be a challenge to preserve as there often fees and additional resources required. One option to consider, institutions often offer solutions for data preservation and compliance. Again, refer to the [journal specific guidance](#) for more information or email DataHelp@agu.org.



Why cite your data and software?

- Research data and software are **important scientific contributions** and stand on their own as a research output.
- You (and other researchers) can **cite the data/software you produced, and you get credit.**
- Institutions and societies are adjusting Promotion and Tenure, Honors and Awards to **recognize the value** of well-preserved and usable data and software.
- Funders include data management **costs** as an allowable expense and value research data as an output
- Your research is **easier to evaluate** by others (including peer reviewers).
- Your work can be **discovered in different ways** than through just your paper.
- Your data will be **preserved** as part of the scientific record and **linked** to both you and your publication. (not true for supplemental information)

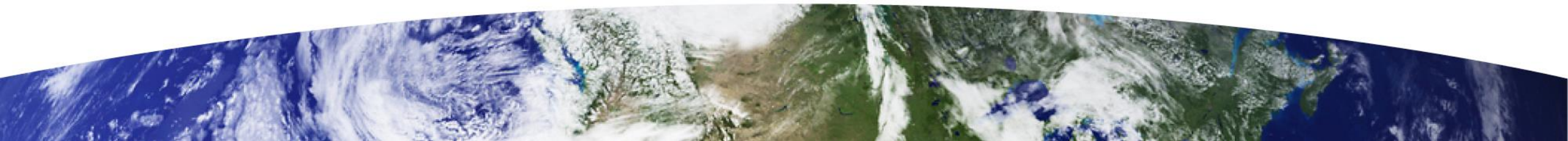


What's required for authors?

The **underlying data** needed to understand, evaluate, and build upon the reported research is required to be **available at the time of peer review and publication**.

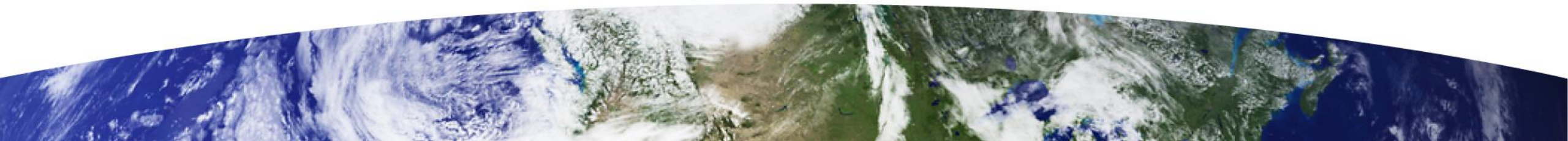
Additionally, authors should make available the **software that has a significant impact on the research**.

This entails...



What's required for authors?

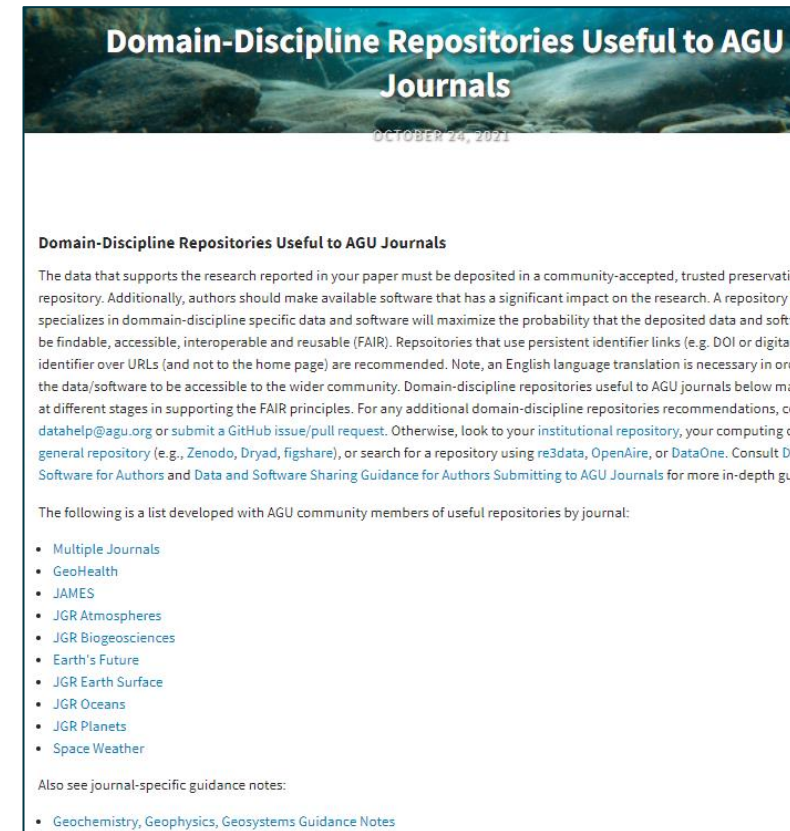
1. **Depositing the data and software** in a community accepted, trusted repository, as appropriate, and preferably with a DOI
2. Including a data and software availability statement as a separate paragraph labeled **Open Research**, explaining to the reader where and how to access the data and software
3. And including **citation(s)** to the deposited data and software, in the **Reference Section**.



1. Depositing data and software

Recommendations:

- Pick repositories that use persistent identifier links (e.g. DOI or digital object identifier over URLs (and not to the home page))
- Best: repository that specializes in domain-discipline specific data and software
- Otherwise: look to your institutional repository, computing center, or generalist repository (e.g. Zenodo, Dryad, figshare), or
- Search for one using re3data, OpenAire, or DataOne



Domain-Discipline Repositories Useful to AGU Journals
OCTOBER 24, 2021

Domain-Discipline Repositories Useful to AGU Journals

The data that supports the research reported in your paper must be deposited in a community-accepted, trusted preservation repository. Additionally, authors should make available software that has a significant impact on the research. A repository that specializes in domain-discipline specific data and software will maximize the probability that the deposited data and software be findable, accessible, interoperable and reusable (FAIR). Repositories that use persistent identifier links (e.g. DOI or digital object identifier over URLs (and not to the home page)) are recommended. Note, an English language translation is necessary in order for the data/software to be accessible to the wider community. Domain-discipline repositories useful to AGU journals below may be at different stages in supporting the FAIR principles. For any additional domain-discipline repositories recommendations, contact datahelp@agu.org or submit a GitHub issue/pull request. Otherwise, look to your institutional repository, your computing center, or general repository (e.g., Zenodo, Dryad, figshare), or search for a repository using re3data, OpenAire, or DataOne. Consult Data Management Software for Authors and Data and Software Sharing Guidance for Authors Submitting to AGU Journals for more in-depth guidance.

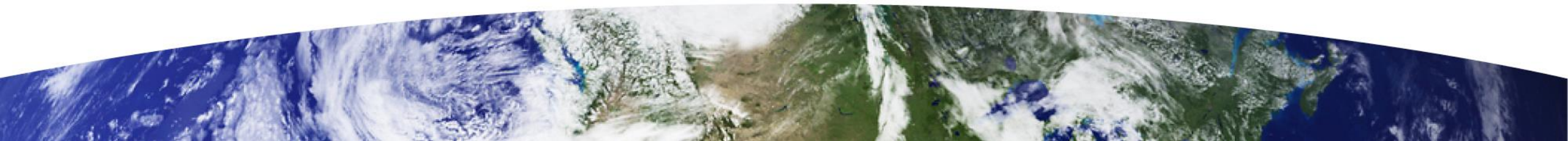
The following is a list developed with AGU community members of useful repositories by journal:

- Multiple Journals
- GeoHealth
- JAMES
- JGR Atmospheres
- JGR Biogeosciences
- Earth's Future
- JGR Earth Surface
- JGR Oceans
- JGR Planets
- Space Weather

Also see journal-specific guidance notes:

- Geochemistry, Geophysics, Geosystems Guidance Notes

<https://data.agu.org/resources/useful-domain-repositories>



2. Include an Availability Statement in the Open Research section of your article

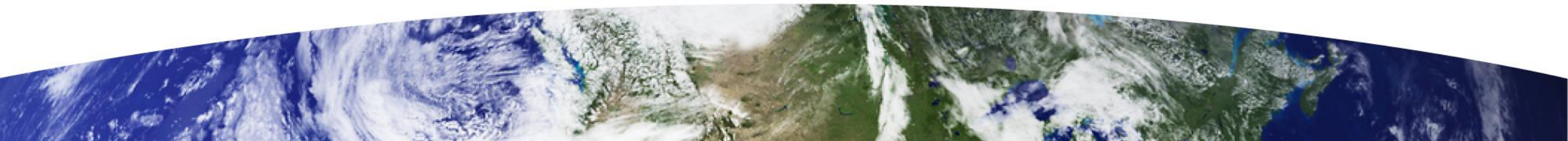
What's included:

- A brief description of the type(s) of data or software
- Repository Name(s) where they are deposited
- Version (of software)
- DOI, Persistent Identifier Link to Data or Software (and Identifier)
- Link to publicly accessible development platform (in the case of Software, e.g. GitHub)
- Access Conditions (e.g. if Registration is Required)
- Licensing/Permissions (e.g. Creative Commons Attribution)
- In-text citation in References (optional)

Open Research

Data Availability Statement

Data from the KNMI archive with Federation of Digital Seismograph Networks (FDSN) network identifiers NL (KNMI, [1993](#)) and NA (KNMI, [2006](#)) were used in the creation of this manuscript. The facilities of IRIS Data Services were used for access to waveforms and related metadata from the International Geodynamics and Earth Tide Service (Network Of Superconducting Gravimeters, [1997](#)), the Clemson University Subsurface Deformation Monitoring Network (FDSN network code 2j; Scott DeWolf, [2016](#)), and the International Miscellaneous Stations (FDSN network code IM) network. GNSS precise satellite orbit and clock solutions were downloaded from the Crustal Dynamics Data Information System (Noll, [2010](#)). GPS data from the Caribbean Netherlands is attributed to De Zeeuw-van Dalftsen and Sleeman ([2019](#)). Figures were made with Matplotlib version 3.2.1 (Caswell et al., [2020](#); Hunter, [2007](#)), available under the Matplotlib license at <https://matplotlib.org/>. Maps were created through PyGMT (prerelease) (Uieda et al., [2021](#)) using Generic Mapping Tools (GMT) version 6 (Wessel et al., [2019a](#), [2019b](#)) licensed under LGPL version 3 or later, available at <https://www.genericmapping-tools.org/>. Part of the software (version 1.0.0) associated with this manuscript for the calculation and storage of PSDs is licensed under MIT and published on GitHub <https://github.com/Jollyfant/psd-module/> (Jollyfant, [2021](#)).



3. Include citation(s) to the deposited data and software, in the Reference Section (for credit)

Preferred Format:

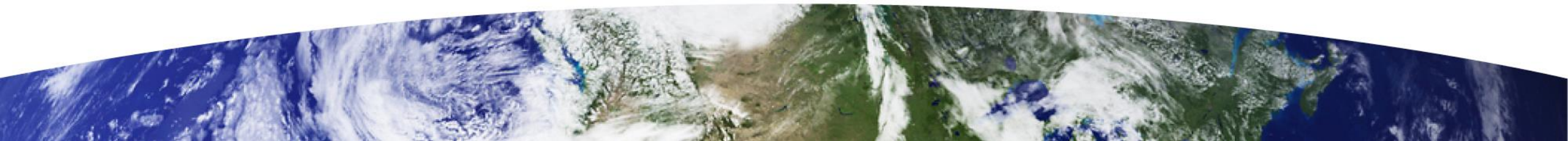
Author(s) or project name(s). Data title/Software name. Repository name/ Publication venue. Data release (version). [Dataset/Software]. DOI/URL.

Examples:

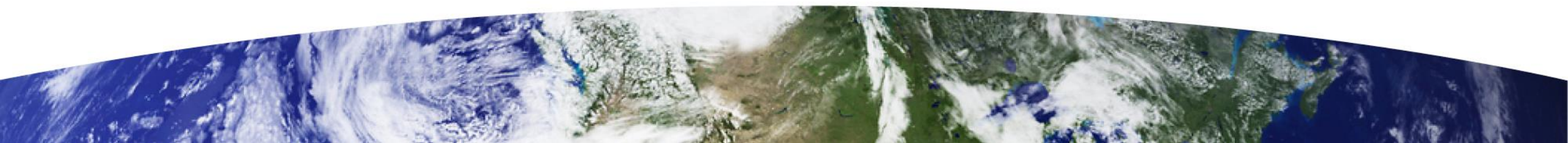
Fiechter, J., & Cheresh, J. (2020). Physical and biogeochemical drivers of alongshore pH and oxygen variability in the California Current System (Version 7) [Dataset]. Dryad. <https://doi.org/10.7291/D1D96Q>

Gries, C., Downs, R. R., O'Brien, M., Parr, C., Duerr, R., Koskela, R., et al. (2019). Return on Investment Metrics for Data Repositories in Earth and Environmental Sciences [Dataset]. Environmental Data Initiative. <https://doi.org/10.6073/PASTA/D49BEC63F51603512EFA7E0FD2717203>

Shaoqian Hu. (2019, December 25). Direct surface wave radial anisotropy tomography package (Version 1.0) [Software]. Zenodo. <http://doi.org/10.5281/zenodo.3592528>



Questions about Open Data or Open Software at AGU?
Contact datahelp@agu.org



Other Open Science Initiatives

ESSOAr, CRediT

ESSOAr

What is the Earth and Open Science Open Archive (ESSOAr)?

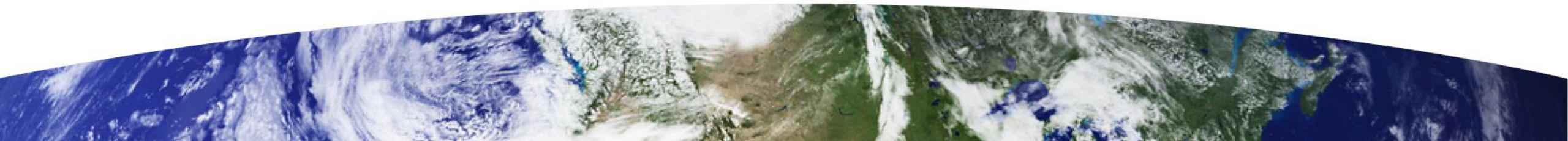
- A community server for open discovery and dissemination of early research outputs
- Preprints
- Posters and presentations given at major scientific meetings
- Archive for official materials of scholarly societies
- Collaborative effort between AGU and six partner societies

What is a preprint?

- A freely accessible manuscript available ahead of peer-review
- Versioning and linking to the final paper

What are the benefits of ESSOAr?

- Receive feedback on early work
- More discoverability
- Quicker dissemination while you work on getting it published
- Establish priority and quickly build a scholarly record
- Meeting presentations can be archived, curated, and cited



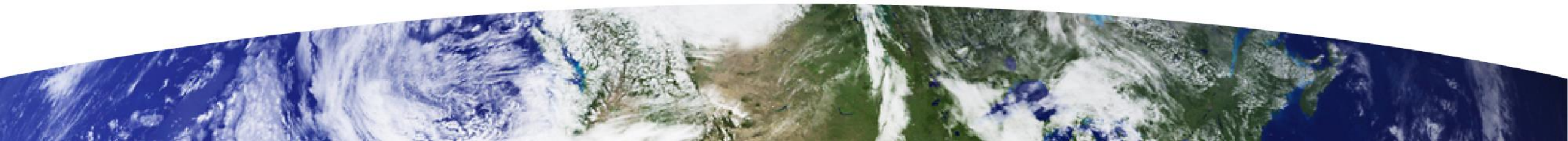
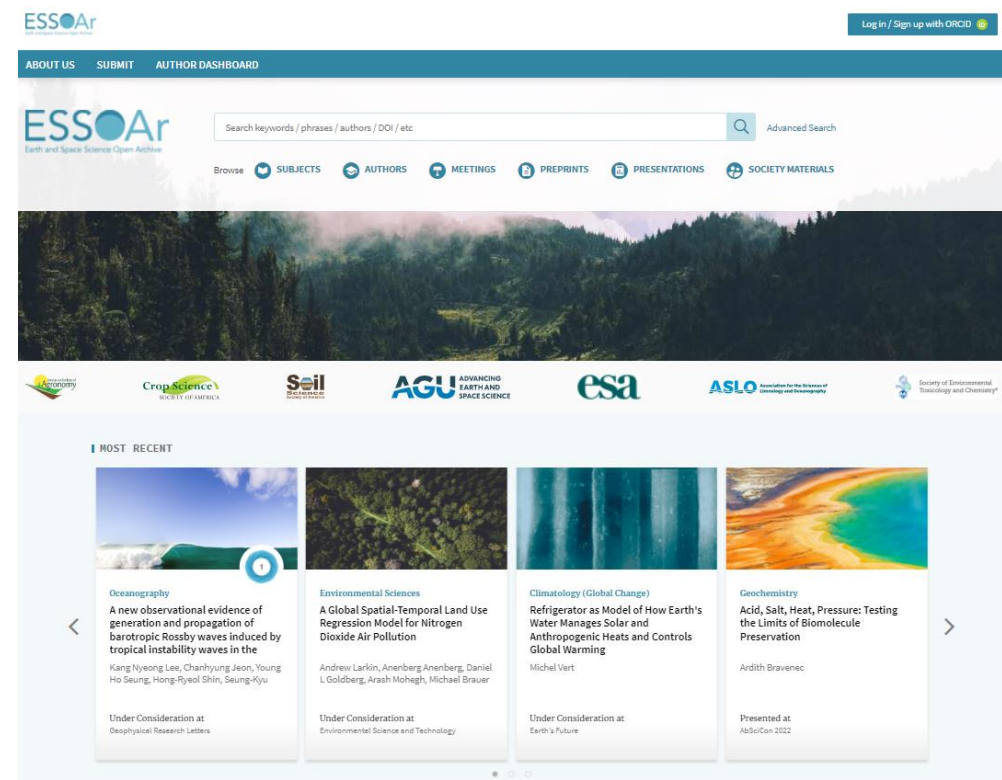
ESSOAr

Key Features

- No cost to submit, search, browse, read content
- All content gets a DOI
- Login, manage info, register preprints with ORCID
- Author retains copyright (CC licenses)
- Send submissions directly from journals (eJournalPress and ScholarOne)
- Support for posters & conferences
- Archive iPosters and Jupyter notebooks
- Topic alerts, citation alerts, saved searches
- Content indexed by Google, Google Scholar, CrossRef, and other search tools

More Information:

<https://www.essoar.org/faq>





CRediT

CRediT “Contributor Roles Taxonomy” recognizes the role each person plays in the creation of a scholarly article.

- Increases transparency of author roles
- Captures 14 diverse contributor roles that may contribute to authorship, incl. data acquisition, software development, planning, and resources
- Author designate roles during submission of an article

More information:

<https://credit.niso.org/>

Conceptualization

Ideas; formulation or evolution of overarching research goals and aims.

Methodology

Development or design of methodology; creation of models.

Software

Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.

Validation

Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.

Formal analysis

Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.

Investigation

Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.

Resources

Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.

Data curation

Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use.

Writing - original draft

Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).

Writing - review & editing

Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision - including pre- or post-publication stages.

Visualization

Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.

Supervision

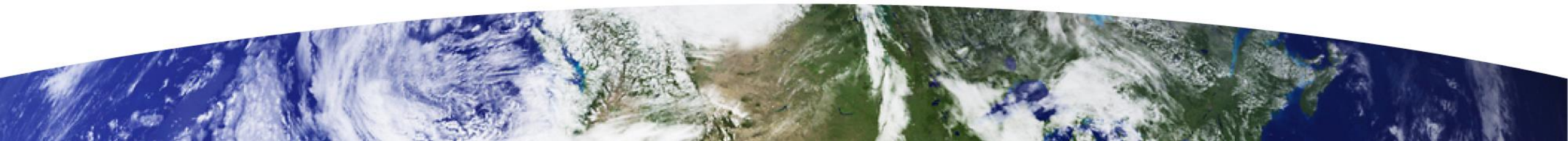
Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.

Project administration

Management and coordination responsibility for the research activity planning and execution.

Funding acquisition

Acquisition of the financial support for the project leading to this publication.



Questions & Answers

Thank You!

publications@agu.org