



NATIONAL SCIENCE FOUNDATION  
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ALEXANDRIA, VIRGINIA 22314

NSF 23-053

## Dear Colleague Letter: Supporting Open Polar Research Software

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February 8, 2023

Dear Colleagues:

Federal agencies are celebrating 2023 as a [Year of Open Science](#). Open software tools, libraries, frameworks, and data are playing increasingly prominent and impactful roles in activities supported by the Office of Polar Programs (OPP) in the Directorate for Geosciences (GEO), [as they are across federally funded research](#). OPP published an updated [Data, Code, and Sample Management Policy](#) stating that “research software/code is identified as a research object and outcome that can also help make data more interoperable and reusable.” Documenting, sharing, and supporting open software/code are important parts of the polar research process which require both time and expertise, and support to achieve these goals should be included in NSF award budgets.

Complementing the disciplinary, interdisciplinary, and cyberinfrastructure goals articulated in the current [Antarctic](#) and [Arctic](#) solicitations, this Dear Colleague Letter (DCL) is designed to encourage the sustainable development and use of open source software, tools, libraries, and frameworks that are critical for OPP scientific objectives. OPP encourages submission of new proposals and supplemental funding requests which support the opening, documenting, and sharing of open polar research software/code. Proposed activities may include, but are not limited to:

- Converting existing or legacy software/code into modern, open code to be released with an appropriate, open license;
- Translating code from proprietary languages and/or environments into open languages and/or environments;
- Upgrading, refining, and/or documenting experimental research software/code to enable broad use;
- Organizing activities which advance the above goals through training, workshops, hackathons, cohort-building activities, etc.; and
- Broadening participation and building open cyberinfrastructure skills and capacity in the polar research community across career stages and career paths.

Proposed activities should:

- Demonstrate high-value applications with impact (related to both Broader Impacts and Intellectual Merit criteria, as described in the *NSF Proposal and Award Policies and Procedures Guide (PAPPG)* to polar science and aligned with priorities defined by OPP and/or the community;
- Have and/or foster significant usage in the polar research community;
- Include an (updated) Data Management Plan, compliant with [NSF 22-106](#), [resources available from OPP](#);
- Advance the goals of the DCL on [Supporting Data and Sample Reuse in Polar Research \(NSF 21-041\)](#);
- Follow open, collaborative, and ethical practices;
- Address the future sustainability of the proposed deliverables and products;
- And NOT be more appropriate for consideration under relevant NSF cyberinfrastructure solicitations and programs (e.g., [Cyberinfrastructure for Sustained Scientific Innovation](#), [Cybertraining](#), [Strengthening the Cyberinfrastructure Professionals Ecosystem](#), [GEO Open Science Ecosystem](#), [Pilot for the Allocation of High-Throughput Computing Resources](#), [CloudBank](#), or other [GEO CI opportunities](#)).

When making investments, OPP seeks broad representation of Principal Investigators (PIs) and institutions in its award portfolio, including a geographically diverse set of institutions (including those in [EPSCoR jurisdictions](#)) and PIs who are women, early-career researchers, members of underrepresented minorities, veterans, and persons with disabilities. PIs at **all** levels of software and cyberinfrastructure expertise are encouraged to consider submissions. Submissions which benefit and involve the full breadth of the polar research community, including undergraduates, graduate students, cyberinfrastructure professionals, and faculty at two-year and four-year institutions of higher education, including minority serving institutions and non-R1 institutions, are encouraged.

For more information on submitting proposals and supplemental funding requests, please consult the [PAPPG](#). Proposals which align with this DCL can be submitted to the current [Antarctic](#) and [Arctic](#) solicitations, noting this DCL in the Project Summary. Principal Investigators are encouraged to contact Allen Pope, Program Officer for Polar Cyberinfrastructure ([apope@nsf.gov](mailto:apope@nsf.gov)), with any questions pertaining to this DCL and to discuss the scope and size of potential proposals. For full consideration in Fiscal Year 2023, full proposals should be submitted by May 1, 2023 at the latest; supplemental funding requests may be submitted at any time.

Sincerely,

Alexandra R. Isern  
Assistant Director for Geosciences