Geosciences
Open Science
Ecosystem
(GEO OSE)

January 20, 2023

Program solicitation NSF 23-534

Proposal deadline (due 5 p.m. submitter’s local time): March 16, 2023

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**Allen Pope**, Marc Stieglitz (GEO/OPP)
Maria Womack, Eric DeWeaver (GEO/AGS)
Sean Kennan, Kevin Johnson (GEO/OCE)
Alejandro Suarez (CISE/OAC)
WEBINAR LOGISTICS

• Webinar (including Q&A) will be recorded and posted on the GEO OSE program page: https://beta.nsf.gov/funding/opportunities/geosciences-open-science-ecosystem-geo-ose

• Following the presentation, time will be provided for general Q&A (next slide)

• Proposal-specific questions may be directed to Program Contacts listed on the GEO OSE program page
Zoom Webinar Set-up

• All attendees are muted, and webcams are disabled.

• To enable live transcript, click on the feature.

• To ask a question, please use the feature.
  • You may submit questions at any time.
  • You may send questions anonymously:
Topics to be covered:

- Motivation
- Vision for GEO OSE
- Priorities for GEO OSE
- Scientific scope of GEO OSE
- GEO OSE proposal tracks
- Relation to other opportunities
Motivation

Enabling an integrated approach to understanding the dynamic and interconnected components of the Earth System

Expanding equitable access to research, increasing trust in science, and advancing a scientific culture of collaboration

Building on grassroots efforts to establish open science principles and practices

2023 is the Year of Open Science!
(https://open.science.gov)

Office of Science and Technology Policy “Nelson Memo,” 2022

• TRUST Principles for digital repositories
• Reproducibility & Replicability

https://www.gida-global.org/care
Vision for Geosciences Open Science Ecosystem (GEO OSE)

To support sustainable and networked open science activities and capabilities...

...that foster inclusive access to data, physical collections, software, advanced computing, and other resources...

...toward advancing research and education in the geosciences

Possible efforts include (but are not limited to):

- enhancements to existing cyberinfrastructure capabilities
- community/cohort building around open science practices
- training activities that broaden access to and usability of existing resources
Major priorities for GEO OSE

- Improve the openness and scientific value of the existing network of cyber-infrastructure (CI) resources in the geosciences
- Democratize access to these CI capabilities, including via cloud-based approaches that reduce barriers to use
- Strengthen the capacity of geoscientists to access, utilize, and collaborate within the ecosystem of open science resources
- Advance open science principles (e.g., FAIR, CARE, TRUST, Reproducibility, Replicability) within the geosciences

This solicitation supports activities across this spectrum of priority areas
“Geosciences” refers to the academic research communities supported by the Geosciences Directorate (GEO) at NSF, which includes the domains of atmospheric and geospace sciences, ocean sciences, Earth sciences, and polar sciences.

Further details on the scientific topics that are supported in the geosciences can be found within descriptions of individual GEO programs (https://www.nsf.gov/funding/programs.jsp?org=GEO)
GEO OSE proposal tracks

**Track 1**
- *Early-stage activities*, such as development of pilot capabilities or community-building activities that advance a vision for open science within geosciences domains)
- **2 years duration**
- **$400,000 maximum budget** (project total across collaborative proposals)

**Track 2**
- *Larger-scale activities* aimed at providing an accessible and sustainable ecosystem of GEO OSE resources
- **3 years duration**
- **Up to about $1,600,000** commensurate with size and scope (project total)
Relation to other opportunities

GEO Division-specific CI support:
- Geoinformatics (EAR)
- Polar CI (OPP)
- AGS programs
- OCE programs

Office of Advanced Cyberinfrastructure (OAC):
- CSSI (CI capabilities)
- SCIPE (CI professionals)
- CyberTraining

NSF-wide initiatives:
- FAIR Open Science (FAIROS) RCNs
- AI Institutes
- Technology, Innovation, and Partnerships (TIP) opportunities

Across government:
- Federal agencies participating in 2023 Year of Open Science:
  https://open.science.gov
- e.g., NASA Transform to Open Science (TOPS)

Industry partnerships

International collaboration

Grassroots Efforts

https://www.nsf.gov/geo/geo-ci/
Topics to be covered:

• Submission eligibility
• Merit review criteria
• Leveraging shared computing
• Budget preparation
• Other supplementary documents
Submission eligibility

Eligible organizations to submit proposals:

• Institutions of Higher Education (IHEs)
• Non-profit, non-academic organizations
• Other Federal Agencies and Federally Funded Research and Development Centers (FFRDCs): Contact the appropriate program before preparing a proposal for submission

Partnering with submitters:

• Partnerships between academia, industry, and others are encouraged.
• Mechanisms include:
  • Subaward arrangements (for funded partners)
  • Unfunded collaborations (documented via letters of collaboration).
Merit review criteria

**Standard criteria:**

- **Broader Impacts:** The potential to benefit society and contribute to the achievement of specific, desired societal outcomes
- **Intellectual Merit:** The potential to advance knowledge

**Solicitation-specific criteria:**

- **Geosciences Advancement:**
  - How well do proposed activities contribute to demonstrated needs for advancing geosciences research and/or education?
  - Do proposed activities include broad participation of geoscientists throughout the project?
- **Open Science Alignment:**
  - How effective and feasible is the vision for open science?
  - How well do the proposed activities help the project move towards this vision?

*See “Specific Requirements” in the Program Description*
Leveraging NSF-Supported Shared Computing

• Advanced computing support available via the ACCESS (Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support) program - https://access-ci.org/

• High-Throughput Computing (HTC) resources available via the PATh (Partnership to Advance Throughput Computing) project - https://path-cc.io/
  • See Proposal Preparation Instructions in solicitation

• Commercial cloud computing resources available via CloudBank Cloud Access - https://www.cloudbank.org/faq
  • See Proposal Preparation Instructions in solicitation
Budget preparation

- **Track 1:** Maximum $400,000 (sum across collaborative proposals), over 2 years
- **Track 2:** Up to about $1,600,000 (sum across collaboratives), over 3 years
- **Travel costs:** Awardees are expected to participate in annual PI meetings to be held in the Washington, DC, area with travel costs supported by the award (at least 1 PI per project, but collaborative projects do not need to send multiple if they don’t want).
- **CloudBank.org:** Costs count toward budget limit but should not be listed on budget page; rather, specify this in associated supplementary document.
1. **Personnel List (required):** Submit a single unified personnel list for the entire project. Provide the last name, first name, and institution/organization, for each person known to be involved (need not include students/postdocs not yet identified)

2. **Letters of Collaboration (if applicable):** To demonstrate collaborative arrangements

3. **High-Throughput Computing Resources (if applicable):** Required if requesting HTC resources

4. **Cloud Computing Resources (if applicable):** Required if request cloud credits through CloudBank
Other Important Proposal Reminders

• **Title:** Please note that titles should be proceeded with “GEO OSE Track X: ”

• Updated PAPPG (Proposal & Award Policies & Procedures Guide) effective January 30, 2023
  • This includes Bio Sketch and Current & Pending formats
OTHER CONSIDERATIONS

Topics to be covered:
• Prospects for GEO OSE program
• Resources for proposers
• Q&A session
Prospects for GEO OSE program

• GEO OSE builds on EarthCube, continuing NSF’s commitment to this community into the future.
• Program is structured such that Track 1 projects may develop into future Track 2 submissions
• However, no specific plans for future competition
• As always, NSF aims to be responsive to community needs, directions, and priorities.
Resources for proposers

• Read the solicitation carefully! (NSF 23-534)
• This presentation will be posted on GEO OSE program page
• Proposers are encouraged to reach out to Program Contacts with specific questions.
  • SUGGESTION: To facilitate well-informed advice from NSF, it is helpful to provide a 1-page project summary when reaching out.
GEO OSE Q&A

To ask a question, please use the Q&A feature.

You may submit questions at any time. You may send questions anonymously:

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Please direct further questions to any of the below program contacts:

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