

NSF 20-520 EarthCube

Webinar 1:00PM EST

Please keep your audio muted

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This Webinar

- Summarize key aspects of the EarthCube opportunity, NSF 20-520
- Answer questions through chat function in webex.
- Webinar will be posted on NSF website
- Email program directors after the webinar



What is EarthCube ?



- a. Building a discovery and use framework for a Geoscience data, sensors, and data resources.
- b. An established community to plan it, build it, and to educate other geoscientists about data stewardship.

Unofficial Vision:

Develop and enable an interconnected, interoperable, high functioning, ecosystem of

- data repositories
- search and discovery capabilities
- analysis/modelling/visualization applications for the Geosciences

to improve the time to science, enhance data discovery and knowledge creation, and enable cutting edge research.

What Earthcube is not

- Focused on sub-domain specific or limited-use applications that are unsustainable and/or don't integrate into an interoperability framework

Cyberinfrastructure for the Geosciences-Opportunities

<https://www.nsf.gov/geo/geo-ci/index.jsp>



The screenshot shows the NSF website interface. At the top left is the NSF logo with the tagline "National Science Foundation WHERE DISCOVERIES BEGIN". To the right is a search bar and "Contact | Help" links. A navigation bar below contains "NSF", "Research Areas", "Funding", "Awards", "Document Library", "News", and "About NSF". A left sidebar menu lists "Geosciences (GEO)" with sub-items: "Geosciences (GEO) Home", "About", "Programs", "Staff", "Funding", "Awards", "News", "Events", "Additional Resources", and "Atmospheric and Geospace". The main content area has a breadcrumb trail "Home > Research Areas > Geosciences" and "Email", "Print", and "Share" icons. The main heading is "Cyberinfrastructure for the Geosciences – Opportunities". The text below explains that NSF opportunities support the development and implementation of cyberinfrastructure for the geosciences, aiming to increase public access to research data. It references the "Public Access Plan (NSF 15-52)", "Proposal & Award Policies & Procedures Guide (PAPPG, NSF 18-1)", and "Directorate for Geosciences—Data Policies". A section titled "Upcoming Events" lists three events: "EarthCube Town Hall at the AGU Fall Meeting" (December 13, 2018), a "Webinar for EarthCube Office solicitation" (January 4, 2019), and a "Webinar for EarthCube core solicitation" (January 25, 2019). The page concludes with the heading "NSF Funding Opportunities".

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Cyberinfrastructure for the Geosciences – Opportunities

A variety of NSF opportunities support the development and implementation of cyberinfrastructure for the geosciences. A common goal of these opportunities is to increase public access to data generated through NSF-sponsored research. NSF's strategy for public access to research data is articulated in its [Public Access Plan \(NSF 15-52\)](#), and specific data policies are described in the [Proposal & Award Policies & Procedures Guide \(PAPPG, NSF 18-1\)](#). GEO Divisions and Offices specify additional data policies, and identify cyber resources available to support these policies ([Directorate for Geosciences—Data Policies](#)).

This website provides an overview of the range of NSF opportunities supporting cyberinfrastructure and data sharing in the geosciences. PIs are encouraged to reach out to cognizant Program Officers to learn more about relevant funding opportunities.

Upcoming Events

- [EarthCube Town Hall at the AGU Fall Meeting](#) - December 13, 2018, 12:30-1:30 PM EST, Washington, DC
- Webinar for EarthCube Office solicitation: Friday, January 4, 2019: 1 PM EST (see below for details)
- Webinar for EarthCube core solicitation: Friday, January 25, 2019: 1 PM EST (see below for details)

NSF Funding Opportunities



Key Governance Documents

This page lists many of the important documents about EarthCube Governance and Governance products. It includes useful information for those wishing to participate in the program through governance and/or NSF proposals. It also includes links to the governing charters of EarthCube and its supporting Council, Committees, and Teams, that detail the roles, responsibilities, and operations of each unit of EarthCube's governance structure.

Resources for 2020 NSF Solicitations

- [New 2020 NSF Program Solicitation: EarthCube: Developing a Community-Driven Data and Knowledge Environment for the Geosciences](#)
- [NSF Opportunities Cyberinfrastructure for the Geosciences](#)
- [2020 LC Solicitation Guidance](#)
- [2019 LC Strategic Priorities](#)
- [Github Repositories: \[P418\] \[P418 GUI\] \[P419\] \[EC Resource Registry\]](#)
- [past solicitation - 2019 EarthCube Office Solicitation](#)
- [past solicitation - 2019 EarthCube Projects Solicitation](#)

Governance Charters

Governance Strategic Documents

- [2018 LC Guidance on EC Projects](#)
- [2018 LC Guidance for Support Office](#)
- [2018 LC Strategic Priorities](#)
- [2017 Roadmap Document](#)
- [2016 Intro Letter to Formal Response to RSV](#)
- [2016 Response to the EarthCube Advisory Committee \(RSV\) Report](#)
- [2016 EarthCube Reverse Site Visit \(RSV\) Final Report](#)
- [2016 EarthCube Strategic Vision](#)
- [2015 EarthCube Mission and Vision](#)
- [2015 EarthCube Strategic Science Plan: Geoscience 2020](#)
- [2014 EarthCube Past, Present, and Future](#)

<https://www.earthcube.org/info/about/earthcube-governance>



New Solicitation NSF 20-520

<https://www.nsf.gov/pubs/2020/nsf20520/nsf20520.htm>

- **Two Funding Opportunities**
 - Science Enabling Data Capabilities and Pilots
 - Research Coordination Networks
- **Supplements**
 - Science Adoption
 - Data Resource Adoption



EarthCube Supplements

Science Adoption

- Achieve new, geosciences research and education outcomes
- Adoption of existing tools or standards

Data Resource Adoption

- Data facilities or resources
- Adopt EarthCube/CDF standards
- Improve interoperability, access to data and services
- Initial implementation not to sustain existing efforts

- Must comply with PAPPG guidelines for supplements
- PIs must speak with an EarthCube program director
- Requirements
 - Integration with EarthCube, registries
 - Metrics, Assessment and Sustainability



Research Coordination Networks (RCN)

- Organize, Seek input, Prioritize, Build consensus in a geoscience domain
- Outcomes must be tangible
- Build and strengthen geo/CI partnerships
- Lead to better scientific outcomes
- New ideas, methods, tools, approaches
- Reduce redundancies
- Best practices and lessons learned in data management



Research Coordination Networks (RCN)

Specific Requirements

- Focus/Topic
 - community standards/data management
 - common CI & technology grand challenges
 - areas convergent with Big Ideas
https://www.nsf.gov/news/special_reports/big_ideas/index.jsp
- EarthCube Participation
- Steering Committee
- Network Participants
- Outcomes



Research Coordination Networks (RCN)

- 36 months, \$300,000
- Proposals only accepted after a discussion with program directors and agreement for submission. Include email as Additional Single Copy Document
- Target Date – with permission proposals can be submitted after March 12, 2020 – **Talk to a Program Director in your core program**



Research Coordination Networks (RCN)

Proposal Preparation

- Title: "EarthCube RCN:"
- Project Description:
 - List of the Steering Committee members and their institutions.
 - Management, coordination, and participant diversity
- Budget:
 - Any institution with a <\$100,000 budget must be a subaward
- Single Copy Document:
 - list of program directors within GEO that have agreed to interest in this RCN and email allowing submission



Science-Enabling Data Capabilities and Pilots

Pilots

- Demonstration of lightweight and sustainable approaches to interoperability
- Reuse of existing infrastructure, semantics and APIs
- Use scenarios that cross the geosciences
- Outcomes within 12-18 months

Capabilities

- Specific scientific challenge driven by geoscientists
- Reuse of existing tools/infrastructure
- Sustainability
- Metrics and assessment

Due Date: March 12, 2020



Pilots

- Lightweight and sustainable approaches to interoperability
- Improve time to science; enable new scientific inquiry; Shared Infrastructure across facilities and resources
- Demonstration in 12-18 months; maximum duration 24 months
- Use scenarios cross NSF/GEO and demonstrate extensibility



Pilots

- Interoperable approaches through semantics and APIs
- Reuse of existing infrastructure and application environments
- **GeoCODES provides basis for pilots**

schema.org (P418/P418GUI/P419) dataset and data repository discovery service

Access to NSF-GEO data repositories

Access to tools in the Resource Registry and/or other tool resources

Discover/use data sets and compatible models



Capabilities

Science Driven

- Must be driven by identified scientific needs in major community activities, reports
- Demonstrate close coordination with scientific communities from year 1
- Examples: science RCNs, community science experiments, observatories, etc.
- Project must enable
 - New science outcome
 - Reduction in “time to science”



Specific Requirements

Advancing Geosciences Research

- Pilots must cross geosciences domains

Reuse of existing tools/cyberinfrastructure

- Integration with GeoCODES and existing infrastructure must be described

Sustainability

Metrics and Assessment

Participation with EarthCube and Community Engagement



Proposal Preparation

- Titles
 - Begin with “EarthCube Data Capabilities” or “EarthCube Pilots”
- Project Description
 - Specific Requirements
 - Management Plan including sustainability plan
- Budget
 - Any institution with a <\$250,000 budget must be a subaward
- Additional Supplementary Documents
 - Personnel List
 - Letters of Collaboration for any institution not receiving funds



Proposal Evaluation

Intellectual merit—Encompasses the potential to advance knowledge;

Broader impacts—Encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.

1. What is the potential for the proposed activity

2. To what extent do the proposed activities suggest and explore creative, original, or potentially transformative concepts?

3. Is the plan for carrying out the proposed activities well-reasoned, well-organized, and based on a sound rationale? Does the plan incorporate a mechanism to assess success?

4. How well qualified is the individual, team, or institution to conduct the proposed activities?

5. Are there adequate resources available to the PI (either at the home institution or through collaborations) to carry out the proposed activities?



Additional Solicitation Specific Review Criteria

Proposals will be evaluated on how successfully they meet the Specific Requirements:

Capabilities and Pilots

- Advancing Geosciences Research
- Reuse of existing tools/cyberinfrastructure
- Sustainability
- Metrics and Assessment
- Participation with EarthCube and Community Engagement

Research Coordination Networks

- Focus/Topic
- EarthCube Participation
- Steering Committee
- Network Participants
- Outcomes



Questions

- Leave comment in webex chat
- Email ezanzerk@nsf.gov
- After the webinar, email a program director

