



U.S. NATIONAL SCIENCE FOUNDATION
2415 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314

NSF 24-022

Dear Colleague Letter: Build a Resilient Planet

November 24, 2023

Dear Colleagues:

Geoscience research is integral to addressing exigent issues facing our Nation and the world. Several strategic documents informing the future of geoscience research have been published recently, including the 2022 NASEM report entitled, “[Next Generation Earth Systems Science at the National Science Foundation](#),” and the [2022-2031 U.S. Global Change Research Program Strategic Plan](#). In its Fiscal Year 2024 Budget Request to Congress, NSF proposed to launch a series of research funding activities to enable research, translation, and innovation that will “Build a Resilient Planet.” The magnitude of the challenges that underpin this initiative demands an integrated approach to engage scientists and engineers across disciplines to advance knowledge, empower communities, and generate innovative technological solutions that addresses societal needs in creating resilient communities.

In response, GEO released a series of Dear Colleague Letters (DCLs) highlighting priority research areas and encouraging submission of proposals in these areas of interest. Links to these DCLs can be found at the [NSF/GEO web page](#). The highlighted research areas include:

- i. Understanding and predicting the compounding effects of hazards and extreme events (NSF 23-125): “[Dear Colleague Letter: Extreme, Compound, and Cascading Hazards \(EC2H\)](#)”;
- ii. Discovery, characterization, extraction, and separation of critical minerals (NSF 23-057): “[Dear Colleague Letter: Novel Approaches to Critical Minerals Research in the Geosciences \(GEO-CM\)](#)”;
- iii. Research at the intersection of climate change and human health (NSF 24-013): “[Dear Colleague Letter: Funding Opportunities for Workshops, Planning Proposals, RCNs, and Capacity Building to Catalyze Collaborations on Climate Change Impacts on Human Health \(C2H2\)](#)” and (NSF 23-112) “[Dear Colleague Letter: Directorate for Geosciences \(GEO\) Opportunity for Graduate Students Supplemental Funding to Link](#)

- [Geosciences and Human Health \(GeoHealth INTERN\)](#)”;
- iv. The development of new technologies to advance earth systems science research (NSF 24-021): [“Request for Information on Technologies to Enable Observations in Remote-Extreme Environments”](#);
 - v. Science, Governance, and Consequences of CO2 Removal and Solar Radiation Modifications Strategies (NSF 23-151): [“Dear Colleague Letter: CO2 Removal and Solar Radiation Modifications Strategies: Science, Governance and Consequences”](#).

GEO also emphasizes the need to diversify the geography and demography of geoscience research and innovation. To create opportunities for everyone everywhere, GEO highlights the need for innovative ideas to promote the growth and development of the geoscience workforce and the enhanced participation of emerging research institutions in geoscience research and innovation. To this end, GEO released the DCL (NSF 23-058): [“Dear Colleague Letter: GEO EMpowering BRoader Academic Capacity and Education \(GEO-EMBRACE\)”](#) and solicitation (NSF 23-617): [“EMpowering BRoader Academic Capacity and Education \(EMBRACE\)”](#).

These GEO-initiated yet highly cross-disciplinary priority research areas recognize the critical importance of geoscience research in creating and sustaining a high-tech, renewable, clean energy-driven world and in addressing the rapid changes taking place in the environment due to changing climate, population increases, and economic development.

Sincerely,

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