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Frequently Asked Questions (FAQs) for the Confronting Hazards, Impacts, and Risks for a Resilient Planet (CHIRRP) Program

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1. **Why was the CHIRRP program developed? What are its goals?**

Natural hazards (or Earth system hazards) are increasingly impacting people and communities. More frequent extreme events, such as floods and wildfires, are shocking human and natural systems. Slow-onset events, such as sea level rise and desertification, are pushing areas past tipping points. Together, these changes threaten the resilience of communities and ecosystems. The impacts and risks of these hazards are driven by both the physical (or natural) components of the Earth System and the human dimensions of the Earth system, and how they interact.

To address these challenges, CHIRRP will advance understanding, forecasting and/or prediction of current and future Earth system hazards and risks, engage communities in development of research questions and approaches, and develop actionable, science-based solution pathways for adaptation methodologies, products, and services. All three of these foci must be addressed in CHIRRP proposals. CHIRRP is a GEO-led, cross-NSF initiative that is aligned with NSF's "Build a Resilient Planet" priority area. CHIRRP builds on prior cross-NSF programs that have fostered transdisciplinary research in the Geosciences to address pressing societal needs, such as Navigating the New Arctic (NNA), Dynamics of Integrated Socio-Environmental Systems (DISES), Coastlines and People (CoPe), Innovations at the Nexus of Food-Energy-Water Systems (INFEWS), and Water Sustainability & Climate (WSC).

2. **What types of proposals can be submitted to the CHIRRP Program?**

In Fiscal Year 2024, CHIRRP supports planning, conference, Research Collaboration Network (RCN), Early-Concept Grants for Exploratory Research (EAGER), and Research Advanced by Interdisciplinary Science and Engineering (RAISE) proposals, with the goal of building capacity for development of large-scale CHIRRP projects in the future. Activities to build capacity may include supporting the development of community partnerships, providing training for effective community engagement, catalyzing ideas, or supporting the initial conceptualization, planning and collaboration activities aimed at formulating new and sound plans for future large-scale projects. Investigators are advised that they must submit a Concept Outline at least 30 days prior to submission of a planning, EAGER, or RAISE proposal, as described in the [NSF Proposal & Award Policies & Procedures Guide](#) (PAPPG). Detailed guidance on preparation of planning,

conference, EAGER and RAISE proposals is contained in PAPPG Chapter II.F, and briefly summarized here. Detailed guidance on preparation of Research Collaboration Network (RCN) proposals can be found in the [RCN program solicitation](#).

Planning Proposals: Planning grants will support the initial conceptualization, planning, and collaboration activities needed to develop new, robust plans for future submission of large-scale projects to CHIRRP. Planning grants may include, but are not limited to, travel and engagement activities intended to collaboratively identify hazards with community partners, facilitate co-production of science questions with community partners, assess community interest, and support the development of collaborations that will be the basis for a future CHIRRP proposal. Planning grants may be for up to \$100,000 per year and for up to two years in duration. Guidance on preparation of planning proposals is contained in PAPPG Chapter II.F.1

Conferences: Conference proposals may be for conferences, symposia or workshops within the U.S. that address the three essential elements of CHIRRP projects. Conferences will be supported only if equivalent results cannot be obtained at regular meetings of professional societies. Conferences proposed should: (1) bring together scientists and community members to work together to explore community-identified Earth system hazards that impact resilience; (2) co-produce priority research questions that require advances in Earth System Science; or (3) explore innovative, science-based, and actionable solutions that address community needs. Conference proposals should follow the instructions for the conference proposal type provided in the PAPPG Chapter II.F.8 and not exceed \$100,000 in the budget request.

Research Collaboration Network (RCN): RCNs advance a field or create new directions in research by supporting groups of investigators to communicate and coordinate their research across disciplinary, organizational, geographic, and international boundaries. RCN awards are not meant to support existing networks; nor are they meant to support the activities of established collaborations. RCN awards also do not support primary research. RCN proposals can be up to 5 years in duration and budgets should not exceed \$500,000. Detailed guidance on preparation of Research Collaboration Network (RCN) proposals can be found in the [RCN program solicitation](#).

EAGER: EAGER proposals may be for support of exploratory work in its early stages on untested, but potentially transformative, research ideas or approaches. This work may be considered especially "high risk-high payoff" in the sense that it, for example, involves radically different approaches, applies new expertise, or engages novel disciplinary or interdisciplinary perspectives. EAGER proposals should not be for planning grants. Requests may be for up to \$300,000 and up to two years in duration. Guidance on preparation of EAGER proposals is contained in PAPPG Chapter II.F.3.

RAISE: RAISE proposals can be up to \$1,000,000 and up to 5 years in duration. RAISE projects must demonstrate convergence of the three essential elements of CHIRRP (as described in the program description and item 5 below). RAISE projects must also support bold, transdisciplinary projects that promise transformational research advances outside the scope of a single program or discipline. Prospective discoveries of RAISE projects reside at the interfaces of disciplinary boundaries that may not be recognized through traditional review or co-review. Guidance on preparation of RAISE proposals is contained in PAPPG Chapter II.F.4.

3. Why is CHIRRP limiting submissions to the proposal mechanisms listed above?

During the first year of the CHIRRP program, the focus is on building capacity for development of large-scale CHIRRP projects in the future.

4. How do I determine whether my proposal is a good fit to the NSF CHIRRP program?

Prior to submission of a proposal, prospective investigators are encouraged to submit a research concept outline of up to two pages that includes the project title, team members, institutions involved, and a summary of the project concept. Note that investigators are required to submit a Concept Outline prior to submission of a planning, EAGER, or RAISE proposal, as described in the PAPPG. This will aid in determining the appropriateness of the work for consideration under this program. Concept outlines must be submitted at least 30 days in advance of a full proposal.

Concept outlines are used by the program team to ensure that a prospective project is appropriate for the proposal type and funding opportunity, and to help reduce the administrative burden associated with submission of a full proposal. Generally, the program does not provide feedback on the merit of the potential project, as merit is evaluated during the review process after a full proposal is submitted.

The concept outline should be 1-2 pages in length and contain the following information:

- The core research question or objective(s)
- Methodological approach
- Identification of specific Earth System hazard or hazards
- Partnerships to be developed
- Types of solutions envisioned
- What new knowledge the research would develop
- Intended proposal mechanism and approximate total budget request expected (does not need to be itemized)

Before submitting a concept outline, investigators are strongly encouraged to carefully review the program description, watch the informational webinar recording, and review answers to the frequently asked questions provided here.

Concept Outlines can be submitted either by email to nsfchirrp@nsf.gov or via the Program Suitability and Proposal Concept Tool ([ProSPCT](#)). NSF program directors will review the concept outlines and will authorize investigators of those projects that fall within the scope of this program to submit a full proposal. Comments will primarily focus on responsiveness to the program scope as concept notes generally do not provide sufficient basis to provide evaluative feedback on potential quality or merit.

5. Do CHIRRP projects need to include all 3 essential elements or can projects address select essential elements of the CHIRRP program?

CHIRRP projects are required to integrate all three essential elements of CHIRRP: (1) Equitable Community Partnerships; (2) an Earth System Science approach to advance knowledge of hazards, impacts, and risks; and (3) Actionable Solutions that increase resilience, as described in the program description on the [CHIRRP website](#).

6. How does the CHIRRP program define Earth System hazards?

Earth system hazards are space, atmospheric, oceanic, environmental, or geological phenomena that occur at multiple scales, from local to regional to global, and may cascade or compound, leading to systemic consequences for ecosystems and communities. Impacts of Earth system hazards are driven, or worsened by, global environmental change, growing and migrating populations, ever expanding demands for resources, aging infrastructure, and an increasing reliance on technology.

7. What constitutes an "Earth System Science" approach to understanding hazards, impacts and risk?

At the request of the National Science Foundation, the National Academies of Science, Engineering and Mathematics established a committee in 2022 to develop a vision for "Next Generation Earth System Science." That vision is presented in a 2022 report that can be found here: <https://nap.nationalacademies.org/catalog/26042/next-generation-earth-systems-science-at-the-national-science-foundation>. Investigators are encouraged to review the report for a comprehensive description of the Earth System Science approach. This approach calls for exploring "interactions among natural and social processes that affect the Earth's capacity for sustaining life, now and in the future" with the goal of discovering "how our planet functions and to inform how society can function as part of the Earth's systems for the well-being of communities, regions, the nation, and the world."

8. **What constitutes an "equitable community partnership"? What constitutes community engagement or co-production of research questions and solutions? Do CHIRRP projects need to build new partnerships or can projects leverage existing equitable partnerships?**

Meaningful collaboration between community members and scientists is needed to effectively mitigate and adapt to the risks and impacts Earth system hazards have on society. This approach offers the potential both for advancing foundational understanding of Earth system hazards, as well as translating those advances to achieve beneficial solutions for society. Equitable community partnerships build on the concept of "engaged research" as described in a report prepared by the NSF Advisory Committee for Environmental Research and Education titled, "Engaged Research for Environmental Grand Challenges: Accelerating Discovery and Innovation for Society Impacts," which can be found here: <https://nsf.gov/resources.nsf.gov/2022-12/Engaged-research-for-environmental-grand-challenges-508c.pdf?VersionId=QwBICw1M0eQa6rawrjW7H4OmzWZhulmR>. The strongest proposals will include mechanisms to ensure the active engagement of community partners through the entire course of a research project. Community partnerships can be new or build on existing partnerships.

9. **Does CHIRRP expect teams to develop and implement solutions? Is the goal to evaluate existing solutions, develop new solutions, or implement solutions with communities?**

Investigators are encouraged to develop and evaluate community-oriented solutions to Earth System hazards using fundamental science. Projects should emphasize basic science research that support solution pathways. Projects that emphasize solutions without promoting the science and understanding of Earth Systems hazards are less responsive to the CHIRRP program description.

10. **What is the difference between a target date and a deadline?**

Target Dates are dates after which proposals may still be accepted, but they may miss the review cycle. For full consideration, submissions should be submitted by the target date. *Deadline Dates* are dates after which proposals will not be accepted or will be returned without review by NSF. The target date for full proposal submissions to the CHIRRP Program is **June 6, 2024**. Investigators are advised that they must submit a Concept Outline prior to submission of a planning, EAGER, or RAISE proposal, as described in the PAPPG, and these need to be received 30 days prior to the proposal submission. Given the tight timing of when proposals will be reviewed for inclusion in funding recommendations for the current fiscal year, there may only be limited flexibility around this target date. Please treat this as a firm due date.

11. CHIRRP is a program in the Geosciences (GEO) Directorate. Can CHIRRP projects include other fields outside of GEO?

The science approach on CHIRRP projects will vary depending on the topic. All CHIRRP projects must address an identified Earth System hazard or hazards. The risks, vulnerabilities and impacts associated with those hazards may connect to biological or social systems and in those cases participation of scientists from those fields will improve the ability of a CHIRRP's team to develop relevant solution pathways.

12. I don't see a program solicitation document. Does CHIRRP have a solicitation or Request for Proposals (RFP)? Where can I find more details?

CHIRRP uses a "Program Description" rather than a "[Program Solicitation](#)" (or RFP). Program descriptions utilize the generic eligibility and proposal preparation instructions specified in Part 1 of the PAPPG, as well as the NSB-approved merit review criteria. PIs are advised to refer to the program description provided on the [main CHIRRP webpage](#). The types of proposals being considered by CHIRRP at this time are described in question 2 above. If PIs have questions regarding proposal preparation that are not addressed in the PAPPG, they can contact the CHIRRP team (nsfchirrp@nsf.gov).

13. What are the expected award sizes and/or proposal budget limits for CHIRRP?

CHIRRP currently supports planning, conference, RCN, EAGER, and RAISE proposals (see question 2 above). There are limits on the award sizes allowable for each type of proposal, as described in the response to [question 2](#).

14. Who is eligible to submit a proposal to CHIRRP?

CHIRRP utilizes the [generic eligibility criteria contained in Chapter I.E of the PAPPG](#) regarding the categories of proposers eligible to submit proposals to NSF. Federal agencies and FFRDCs can be a subawardee or non-funded collaborator/partner on CHIRRP projects, but not the lead organization. CHIRRP does not limit the number of proposals that may be submitted by an organization and/or a PI or co-PI. Prior receipt of NSF funding is not required to be eligible for CHIRRP.

15. Are international projects or international partners allowed in CHIRRP?

Partners outside of the United States (US) can participate in CHIRRP projects, subject to the [limits described in the PAPPG](#). Foreign organizations cannot be lead organizations on CHIRRP proposals, but may be subawardees subject to the requirements described in the PAPPG. Investigators who anticipate conducting research in international locations are reminded that the research conducted overseas needs to have explicit attention to the potential benefits of that research to US society. Investigators need to be sure to:

- Involve local scientists as full collaborators in the design and conduct of the research project;
- Explain how any subawards to Foreign Organizations bring unique aspects to the project that cannot be found at U.S. institutions;
- Include Broader Impacts that have clear potential to benefit U.S. society;
- Emphasize Intellectual Merit that focuses on the broader applicability of the theoretical aspects of the research beyond the specific location of the project.

16. Whom should I contact if I have a question not addressed on the website or in the FAQ?

Questions about CHIRRP should be directed to nsfchirrp@nsf.gov.