



Alaska's Next NSF EPSCoR Project: Glaciers to Gulf (G to G) Pre-proposal Call

Introduction. The Alaska Established Program to Stimulate Competitive Research (EPSCoR) is formulating a proposal for a 5-year, \$20 million NSF award to support research and build capacity. The next Alaska EPSCoR project, Glaciers to Gulf, will build off the Coastal Margins component of the current EPSCoR Fire and Ice project. For this new project we have converged on the overarching question; “How do the changing land-ocean connections alter the living ocean resources used in mariculture and harvested by rural communities?” We seek your ideas to refine this framework and to contribute to a robust interdisciplinary research plan.

Overview. Since 2001, the NSF EPSCoR program has awarded five large Research Infrastructure Improvement (RII) Track-1 grants to the University of Alaska to enhance research capacity in the state of Alaska. Information on the current EPSCoR award is available at <https://www.alaska.edu/epscor/>. The Coastal Margins component of the current EPSCoR focuses on the influence of glacial discharge and materials exported to the associated coastal marine environment and is organized around three research themes: environmental variability; the impacts of this variability on marine communities; and the capacity of these coastal ecosystems to adapt to these changes. In addition to the field, lab, and modeling research, the project also contains a human dimensions component, active Education and Workforce Development and Broadening Participation components, and a significant cyberinfrastructure component focused on data management and visualization.

The Next RII Award. UA is eligible to apply for a new RII Track-1 award in summer 2022. The FY2023 solicitation will be released in late April, but we do not expect it to differ markedly from the current solicitation, NSF 21-586. To plan for this next phase, a group of prominent researchers and administrators from the three main University of Alaska campuses discussed and settled on a preliminary framework.

Research Focus and Themes. The current climate trajectory and associated rapid glacial recession are causing hydrologic regime shifts and intensification that are influencing freshwater runoff into the Gulf of Alaska (GoA). Correspondingly, the timing and magnitude of freshwater and material fluxes from glaciers, streams, forests, and submarine groundwater to the coastal margins are influenced by this shifting watershed and hydroclimatic variability, which is impacting the marine environment and its living resources. Alaska EPSCoR Fire and Ice (2018-2023) demonstrated that coastal catchments are changing as glaciers recede and that this is influencing natural biological communities (fish, invertebrates, seaweeds, and plankton) downstream.

Three broad themes building on previous research have been identified for the proposal:

- 1) **Terrestrial Export:** Water and materials export from the landscape across different spatial and temporal timescales. Emphasis on building and integrating across established long-term watershed sites.
- 2) **Marine Resources:** Climate driven changes and associated terrestrial export interactions with the coastal environment focusing on harvested and farmed species. Emphasis on field manipulations and/or lab based investigations.
- 3) **Human Dimensions:** Integration of knowledge and collaboration with local communities, harvesters, and farmers.

Pre-proposals that have one or more of the following attributes are particularly encouraged: 1) integrate across some combination of the terrestrial, marine, and human dimensions themes; 2) capitalize on Big Data; 3) have community, harvester, and/or farmer involvement; and 4) include researchers across the UA campuses and include both tenured and early career faculty/researchers. The regional field focus areas are Kachemak Bay and Lynn Canal, but other areas in the GoA may be considered.

How to get involved. EPS6 will be led by Brenda Konar (bhkonar@alaska.edu, x5028). The three main UA campuses also have designated points of contact: Schery Umanzor (sumanzor@alaska.edu) for UAF; LeeAnn Munk (lamunk@alaska.edu, 907-786-6895) for UAA; and Jason Fellman (jbfellman@alaska.edu, 907-796-6370) for UAS. Please contact either your local point-of-contact or Konar with further questions.

Please submit pre-proposals that align with an identified thematic area(s) to your point-of-contact no later than October 1st, and cc the single pdf document to Konar. Each pre-proposal should include:

- 1) Title page: names and affiliations of proposers and a 250 word abstract
- 2) Project Description: Project narrative that clearly articulates hypotheses to be tested and the *intellectual merit* of the proposed research. Include sections explaining *why it is critical for EPSCoR and Alaska to fund the proposed research* and *how it fits in with the overarching question and broader themes*. Please follow NSF document guidelines (1" margins, Arial 10 or Times 11, 6 lines per inch). Project narratives may not exceed 8 pages in length.
- 3) A detailed budget with budget justification (2 pages) that is approved by the campus Sponsored Research Office should be submitted with the pre-proposal.
- 4) Current NSF-style CVs for the team lead and all members.

Researchers or teams (preferably no more than 3 people and excluding next phase EPSCoR G to G leadership) with the most promising and well-aligned research ideas will be considered for the proposal writing team. Researchers may only be lead on one pre-proposal but may be listed as co-PI on as many as desired. Proposers are encouraged to explicitly identify other individuals and/or teams where collaboration may take place across proposed efforts. Researchers selected for the project will be expected to incorporate extensive outreach and education elements into their research plans, but this first round of submissions should focus exclusively on intellectual merit, not broader impacts.

All pre-proposals will be reviewed by an external panel of experts using the following criteria:

- 1) Relevancy to the overarching question and research themes.
- 2) Intellectual merit
- 3) Novelty of what is being proposed
- 4) Research design
- 5) PIs qualifications and capacity to conduct the proposed research
- 6) Budget matches what is being proposed

A secondary review of externally ranked proposals will be completed by the leadership team using similar criteria but also ensuring that the team is balanced (campus, expertise, and regional focus) and consideration of the overall fit of the proposed budget.

Timeline. EPSCoR leaders and researchers with successful pre-proposals will work together to compose the next phase proposal from November 2021 - June 2022, a process which will incorporate independent review and feedback on the proposal. Alaska EPSCoR will submit a letter of intent to the NSF in July 2022 and the full proposal in August 2022.