

REQUEST FOR PROPOSALS FOR FIELD RESEARCH:

EARTHWATCH GLACIOLOGY AND POLAR ECOLOGY PROGRAM

Glaciated ecosystems and polar regions are among the most rapidly changing places on Earth in this era of global warming. As such, it is critically important to understand the dynamics of ecological change in these systems and develop mitigation and adaptation tools. By studying snow and ice and their physical properties, glaciology can provide information about how glaciers and ice caps move and change in response to climate change, and how these in turn can influence climate and the surrounding environment, including alpine and tundra ecosystems. Polar ecology encompasses the study of the relationships between flora and fauna in Arctic and Antarctic regions, and includes land masses, surrounding islands, and the ocean, as well as the sub-polar zones that separate polar from temperate regions. The effects of climatic and ecological processes taking place in these remote regions have global significance because the weather, many of the foods humans eat, and coastal flooding are all linked to polar regions.

We are seeking proposals from scientists for glaciology (in temperate, sub-polar, and polar regions) and polar ecology that inform today's pressing conservation problems by:

- Increasing scientific knowledge and public awareness of environmental challenges to species and their habitat, while providing locally relevant solutions;
- Increasing partnerships with grassroots organizations, as well as with governmental and non-governmental organizations (NGOs) at local and international levels; and
- Informing management plans and environmental policies.

All proposed projects must have an overarching research theme that is directly related to global change, and must enable participation of citizen scientists and community members. Because meeting these challenges requires contributions from many research fields and leveraging the power of data, we are particularly interested in interdisciplinary proposals and those that involve open-source, shared data. We strongly welcome proposals for project that will improve the livelihoods of human communities and will help develop scientists in emerging nations.

FOCAL GLACIOLOGY AND POLAR ECOLOGY RESEARCH PROGRAM TOPICS:

We invite proposals for field-based research from qualified scientists on the following topics:

- Effects of glacier melt on plant, animal, and human communities in temperate and sub-polar regions, including permafrost;
- History and dynamics of glaciers and ice sheets;
- Tundra and alpine zone community ecology related to glacier dynamics;
- Paleoenvironments from ice cores, ice dynamics and glacial geology, and repeat photography;
- Feedback loops between ice dynamics and climate change;
- Polar food-web functionality including keystone species and biodiversity, food-web relationships driven by apex predators, dominant herbivores, and other keystone species;
- Biogeomorphic process in permafrost and the periglacial zone associated with permafrost melt;
- Polar carbon sequestration and associated shifts as permafrost melts;
- Permafrost biogeomorphology, including landform destabilization;
- Polar community ecology impacts of sea level rise and ocean acidification; and
- Phenological shifts in polar regions, species distribution shifts, and extinction risk.

**PRE-PROPOSALS FOR PROJECTS STARTING IN 2018 WILL BE
ACCEPTED THROUGH 11:59 PM (EDT) JUNE 12, 2016**

Please direct inquiries to: research@earthwatch.org

HARNESSING THE POWER OF CITIZEN SCIENCE TO ADDRESS GLOBAL CHANGE:

For 45 years, in order to find sustainable solutions to global change, Earthwatch has sent scientists into the field assisted by citizen-scientist volunteers. Collectively, our goal is to support projects that produce rigorous, relevant and impactful science. Participation by volunteers increases the broader impacts of the research we support. Citizen scientists return home with a deeper awareness of what is at stake and greater commitment to address conservation challenges.

To fit our citizen-science model, all proposed projects must:

- Have a 3-year or longer duration (longer-term research may receive priority support);
- Incorporate field-based research;
- Have data gathered primarily by citizen-scientist volunteers recruited by Earthwatch;
- Field 4 to 10 teams per year that span 7 to 14 days, each accommodating 4 to 20 volunteers per team as needed for data collection;
- Provide housing for volunteers within a reasonable distance from the research site;
- Be open to graduate, college, and/or high school student participation;
- Be run in English, with all communications and supporting documents in English;
- Educate each team of Earthwatch volunteers about the project's science and its relevance; and
- Share project data with managers and if possible contribute to open-source datasets to maximize the impacts of the project.

GRANTS:

Annual grants cover project expenses while in the field including: equipment (limited), tools, and supplies; research permits; scientist transport to the field; support staff; food and housing for principal investigators, staff, and Earthwatch volunteers. Grants do not cover scientist salaries, student tuition, overhead, capital equipment, or post-fielding data analysis.

For successful proposals, the principal investigator (PI) will negotiate a budget in partnership with Earthwatch. Typical annual budgets average between US \$20,000–\$80,000, with approximately half of the total budget covering volunteer expenses while on the project. Final grants received are based on the number of volunteers participating. Successful proposals are funded for three years, subject to passing an annual performance review. Funding is potentially renewable beyond that period, upon submission of a research renewal proposal.

PRINCIPAL INVESTIGATOR REQUIREMENTS:

All proposals must be submitted by the PI. All PIs must have a PhD and an affiliation with a university, government agency, or NGO. We strongly encourage graduate student participation in projects as co-PIs as permitted by their universities. We particularly are interested in helping support emerging scientists from developing nations.

SUBMITTING A PRE-PROPOSAL:

All pre-proposals and supporting documents must be in English. Earthwatch will select pre-proposals for development into full research proposals. Criteria for selection are: quality and relevance of the project proposed, PI qualifications, and goodness of fit for citizen science. Due to safety concerns, we are unable to support projects in the following areas: Earthwatch No Go List. To submit a pre-proposal, visit earthwatch.org/scientific-research/scientist-opportunities/working-with-earthwatch.

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