



NATIONAL SCIENCE FOUNDATION  
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NSF 18-044

## Dear Colleague Letter: Belmont Forum Joint Initiative with BiodivERsA

February 6, 2018

Dear Colleague:

The Directorate for Geosciences is participating with the Belmont Forum<sup>1</sup> on a new call for proposals, "Scenarios of Biodiversity and Ecosystem Services II," in partnership with BiodivERsA<sup>2</sup>. This call invites proposals that explicitly address a biodiversity scenario, considering the following definition: "Scenarios of biodiversity and ecosystem services are the outputs of the combination of scenarios of indirect drivers and direct drivers — such as land use change, invasive alien species, overexploitation, or pollution — and models of impacts of these drivers on biodiversity and ecosystem services."

The Belmont Forum will support, on a competitive basis, collaborative projects co-designed by teams of researchers from at least three participating countries. These interdisciplinary teams will bring together natural scientists, social/economic scientists and research users, such as policy makers, regulators, non-Governmental organizations (NGOs) and industry. Proposals will be jointly reviewed by a panel of experts and the participating funding organizations. Successful projects are expected to demonstrate added value through multilateral collaboration. Support for U.S.-based researchers will be provided through awards made by the National Science Foundation.

Through this call, the Belmont Forum seeks to bring together integrated teams of natural scientists, social scientists, and stakeholders to develop projects that address the barriers that impede the widespread and productive use of scenarios and models of biodiversity and ecosystem services relevant to real-world challenges. The Belmont Forum seeks to support projects that are based on transdisciplinary research involving robust stakeholder engagement.

The two major priorities of this international call for research proposals are the following:

1. **Development and application of scenarios of biodiversity and ecosystem services across spatial scales of relevance to multiple types of decisions** - Previous biodiversity scenarios have typically been highly scale specific. On the one hand, scenarios at global scales are difficult to translate into actions at regional/local scales, where many biodiversity issues are relevant. On the other hand, scenarios at local/regional scales often do not include global scale constraints and feedbacks (e.g., international trade, teleconnections, etc.)

making them difficult to be used to address issues in international contexts. Linking spatial scaling scales is one of the key barriers to greater integration of biodiversity scenarios at both global and national scales.

2. **Consideration of multiple dimensions of biodiversity and ecosystem services in biodiversity scenarios** - Previous biodiversity scenarios have typically focused on a very limited number of dimensions of biodiversity and ecosystem services (e.g. global extinctions, loss of species compared to natural systems). However, information on a much broader range of dimensions is typically required — both because different processes may focus on different dimensions, and because some processes are purposely designed to address multiple dimensions (e.g. through multi-criteria trade-off analysis).

Projects should also address at least some of the following issues:

- **Coupling of socio-economic and biodiversity dynamics.** Fully integrated models of biodiversity and socio-economics (e.g., bio-economic models) can provide novel insights into the dynamics and long-term sustainability of socio-ecological systems.
- **Improvement of models of impacts on biodiversity.** Innovative work on genetic adaptation, rapid evolution, co-evolution, eco-evolutionary dynamics, comparative phylogeography, conserving endemic species, species interactions and hybrid zones is encouraged because these are key shortcomings in the current generation of models.
- **Coupling models across gradients of human transformation in terrestrial, freshwater and marine systems.** Biodiversity scenarios often focus on one type of system (e.g., terrestrial vs. marine) or on one part of the gradient of human transformation (e.g., "natural" vs. agricultural vs. urban systems). Interdisciplinary research on the interactions between systems is essential for making scenarios more representative of systems.
- **Developing early warning of (socio-)ecological breakpoints and regime shifts.**
- **Estimation and communication of uncertainty.** Estimation of uncertainty can be based on a variety of methods including model validation using empirical observations, model validation using experimental simulations, and model-model comparison. This may include the analysis of past trends. Uncertainty also needs to be communicated in innovative and transparent ways. Model validation will require close collaboration with observation systems.

All proposals for this call will be submitted to the Belmont Forum's Electronic Proposal Submission System (EPSS). In accordance with NSF policy, proposals that have U.S. Lead PI's must be submitted to the online Biodiveristy call portal system. Please see the Belmont Forum website (<http://www.belmontforum.org>) for up to date information on how to submit a proposal to the call. NO proposals submitted directly to FastLane will be accepted. In compliance with NSF policy, U.S. PI's included in any consortium must have their Sponsored Projects Office or equivalent submit an email to the US National Contact points acknowledging that the PI has submitted a pre-registration and/or proposal to the call portal.

Once the review process is complete, the U.S. Lead PI will be contacted by the NSF point of contact with further instructions on how to upload the proposal information into FastLane. In addition, U.S. investigators that are part of a consortium and are NOT the Lead PI, will be contacted by the NSF point of contact to upload proposal information into FastLane.

BiodivERsA will serve as the main Program Office for the call and will maintain the [official call webpage](#). Information specific to U.S. researchers will be posted as a [U.S. National Annex](#).

## **SCHEDULE**

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Proposal Submission Deadline: 9 March 2018

Notification of Awards: July 2018

## **ELIGIBILITY**

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Each consortium must include partners from at least three participating countries and must show clear links through to users and include collaboration between natural and social/economic sciences, and other sciences where relevant. Researchers from countries not represented by any of the partner-countries can participate in the research project at their own expense.

Consortium partners should identify a Leading Principal Investigator (LPI) for each proposal for application, management and communication purposes. The LPI is officially responsible for all communications with the Call Program Office, including the submission Proposal. These communications must be in accordance with the LPI's funding agency requirements.

U.S. investigators may only be **part of one consortium**. Accordingly, U.S. investigators may be listed as either Lead PI, Co-PI (Partner PI) or Senior Personnel on **only one proposal**. Eligibility questions should be directed to the National Contact Points listed below.

In accordance with NSF policy, proposals cannot list more than 4 Co-PI's (Partner-PI's) from U.S. institutions. Additional U.S. collaborators must be listed as Senior Personnel.

Funding opportunities for researchers from developing countries can be found through the NSF/USAID Partnerships for Enhanced Engagement in Research ([PEER](#)) program.

## **FUNDING PRINCIPLES**

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Within each selected project consortium, funding of the participating researchers is provided by their respective national funding organization in accordance with their standard award terms and conditions. All project consortia must include a budget for participation of at least one person in kick-off, midterm, and final meetings, which will likely be held back-to-back with a scientifically relevant international conference or event.

The total NSF budget for this call is approximately \$1.8 million, subject to the availability of funds. NSF anticipates that up to 10 research consortia may be supported for up to 36 months. The maximum total budget request for all US investigators in a single consortium must not exceed \$180,000 for the entire duration of the award – including indirect costs.

## **CONTACTS**

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**National Contact Points:**

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Sincerely,

William E. Easterling  
Assistant Director for Geosciences

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<sup>1</sup> The Belmont Forum is a group of 31 of the world's major and emerging funders of global environmental change research and international science councils. It aims to accelerate delivery of the international environmental research most urgently needed to remove critical barriers to sustainability by aligning and mobilizing international resources.

<sup>2</sup> BiodivERsA is a network of 32 agencies and ministries from 21 European countries programming and funding pan-European research on biodiversity and ecosystem services on a competitive basis.