



National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

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Directorate for Social, Behavioral, and Economic Sciences
Directorate for Geosciences
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Dear Colleague:

The Directorate for Social, Behavioral, and Economic Sciences (SBE) and the Directorate for Geosciences (GEO) seek to increase collaboration between the geosciences and the social and behavioral sciences by augmenting funding for interdisciplinary research related to Environment, Society, and the Economy.

Human systems have contributed to environmental changes, and human systems will need to respond and adapt to both predicted and unexpected environmental changes. A number of unresolved issues remain, including, but not limited to, the following. The role, pace, and impact of predicted regional and local environmental change will need to be factored into human decision processes with careful attention paid to uncertainties. Strategies need to be identified and assessed that are best suited to cover replacement costs for lost services or recover from the effects of natural hazards under specific scenarios. It will be important to compare the impacts of various carbon management efforts, such as "cap and trade." It might be possible to factor valuation of ecosystem services into economic activities in such a way as to inform decisions about land and water use. There may be ways to include environmental risks or impacts in cost structures. New methods to manage the differential effects of global change on national economies may be developed.

These emerging and challenging problems require integration of concepts, observations, and modeling across diverse fields. GEO and SBE seek to promote research that links the geosciences and the social and behavioral sciences in new and vital ways. They seek to support proposals that generate intellectual excitement in the participating disciplinary communities. Also encouraged are proposals that have broad educational, societal, or infrastructure impacts that capitalize on this interdisciplinary opportunity.

Climate change will have significant impacts on many aspects of earth systems. These include carbon sequestration, water and air purification, fisheries and agricultural production, and species habitat. Some climate-induced changes will occur gradually; other changes will be abrupt. Models show that changes in climate will directly affect coastal regions, many of which have large urban populations. Climate change also is expected to increase the intensity of storms and alter their patterns. Rising sea levels will change deposition and erosion along beaches, affecting coastal communities. Climate change may alter the duration and magnitude of monsoonal rainfalls and river flooding, and communities will have to respond appropriately to these new stresses. Landslide hazards may be affected by changes in wildfire frequency or the intensity of rainfall. Warming temperatures also are expected to increase energy requirements for cooling, and changes in precipitation could affect hydropower production and sustainability of water supplies. These effects and many others not cited here have direct bearing on economic policies and decisions that confront individuals, groups, firms, and governments at local, regional, national, and global levels.

GEO and SBE will consider proposals that describe new research efforts relating to the integrated study of environment, society, and economics. Interdisciplinary teams of researchers

are strongly encouraged. Projects are expected to involve researchers in the geosciences and social and behavioral sciences, but they may also include other disciplines.

Prospective topics of interest in the general area of Environment, Society, and the Economy include, but are not limited to, the following:

- Decision-making strategies related to ongoing or predicted global, regional, and local environmental changes;
- Economic and geosciences evaluation of technology and practices linked to climate change;
- Impacts and adaptation of economic systems;
- Pathways to successful application of geoscience research findings;
- Development and implementation of mitigation strategies within political and economic constraints;
- Interplay of environmental change and inequality of income, access to resources, etc.;
- Role of incentives in human behavior;
- Politics and economics of resource agreements;
- Environmental change and its impact on the evolution of human behavior; and
- Capacity building.

Relevant proposals must be submitted to an existing SBE or GEO program according to the program's regular target or deadline dates. This is not a special competition or new program. Investigators are encouraged to indicate that their proposal was submitted in response to this DCL by including ESE in the title of the proposal. Target and deadline dates for applicable programs may be found at <http://www.nsf.gov/dir/index.jsp?org=geo> and <http://www.nsf.gov/dir/index.jsp?org=sbe>. Participating programs from all other Directorates should be entered into FastLane as secondary NSF partners on the cover page. For full proposals submitted via FastLane, standard [Grant Proposal Guidelines](#) apply. For full proposals submitted via Grants.gov, see NSFGrants.gov Application Guide; A Guide for the Preparation and Submission of NSF Applications via Grants.gov (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: <http://www.nsf.gov/bfa/dias/policy/docs/grantsgovguide.pdf>)

Investigators are strongly encouraged to contact an SBE or GEO Program Officer to determine if their proposed ideas respond to this activity's goals, discuss relevant topics of interest, and gain advice on how best to prepare a proposal for this activity. The review process will follow standard NSF practices agreed upon by all of the programs participating in a proposal's review.

Information on making a facilities request is available on the NSF GEO website at <http://www.nsf.gov/geo/atm/ulafos/laof/> for lower atmospheric facilities and at http://www.nsf.gov/geo/oce/pubs/IPS_Guidelines.pdf for oceanographic resources and at <http://www.nsf.gov/geo/ear/if/facil.jsp> for Earth Sciences facilities. Standard practice for facilities requests will be used.

Sincerely,

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