National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230

NSF 10-03 (Replaces NSF 09-031)

Dear Colleague Letter: Environment, Society, and the Economy (ESE)

September 2009

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. 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 environmental as well as human impacts of various carbon management efforts, such as "cap and trade." 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 interdisciplinary collaborations and integrative research that link the geosciences and the social and behavioral sciences in new and vital ways. Proposals that generate intellectual excitement in both the participating communities are sought. Also encouraged are proposals that have broad educational, societal, or infrastructure impacts that capitalize on this interdisciplinary opportunity.

Climate change and human activities will have significant impacts on many aspects of earth systems. Human responses will include carbon sequestration, water and air purification, fisheries and agricultural production, and species habitat. Some environmental, human and climate-induced changes will occur gradually; other changes will be abrupt. For example, 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. Natural environmental changes impact humans as well. Many human and natural effects 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.

Projects are expected to involve interdisciplinary teams of researchers from both the geosciences and social, behavioral and economic sciences, but they may also include other disciplines.

This is not a special competition or new program. Relevant proposals must be submitted to an existing SBE and GEO program according to those programs' regular target or deadline dates. The primary program (GEO or SBE program where the most significant contribution is likely to be made), and secondary program (SBE or GEO program where the second most significant contribution is likely to be made) should be listed on the proposal's cover page. Investigators are encouraged to indicate that their proposal was submitted in response to this DCL by including "ESE:" as a prefix 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, along with the relevant SBE and GEO programs. *For full proposals submitted via FastLane,* standard Grant Proposal Guidelines apply.

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/ags/ulafos/laof/index.jsp 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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