



**National Science Foundation
4201 Wilson Boulevard
Arlington, Virginia 22230**

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Directorate for Geosciences and Directorate for Biological Sciences
NSF 09-30
(Replaces [NSF 07-049](#))

Subject: Update: Emerging Topics in Biogeochemical Cycles (ETBC)

Dear Colleague:

The Directorate for Geosciences (GEO) and the Directorate for Biological Sciences (BIO) are enhancing support for interdisciplinary research which bridges across the biological, atmospheric, geological, oceanographic and hydrological sciences, in the area of biogeochemical cycles and processes.

We seek to support research that will advance our quantitative and/or mechanistic understanding of **biogeochemical cycles, including the water cycle**. Competitive proposals should integrate physical, geological, chemical, and/or hydrologic processes with biological processes over various temporal and/or spatial scales and/or various levels of biological organization. Proposals should be interdisciplinary and address biogeochemical processes and dynamics within and/or across one or more of the following systems: terrestrial, aquatic, and/or atmospheric. We encourage proposals that focus on nonlinear dynamics and/or on interactions and thresholds in climate, ecological, and/or hydrological systems. Goals of this effort are to increase our understanding of how biological systems respond to changing physical and chemical conditions and how biological systems influence the physical and chemical characteristics of soils and sediments, air, or water.

These types of emerging and challenging problems require integration of concepts and observations across diverse fields. A goal of the Biological Sciences and Geosciences Directorates is to enhance such integration. Successful proposals will generate intellectual excitement in all participating disciplinary communities. Also encouraged are proposals that have broad educational, diversity, or societal impacts that capitalize on this interdisciplinary opportunity.

Proposals must bridge the biological and geosciences disciplines and be relevant to at least one program in the BIO Directorate and at least one Program in the GEO Directorate. Proposals involving programs in two different divisions in GEO are also permitted, but they must address the goals of this Dear Colleague Letter.

This is not a special competition or new program. ETBC proposals should be submitted to an existing GEO or BIO program according to the program's regular target or deadline dates. Target and deadline dates for applicable programs may be found at:

http://www.nsf.gov/funding/pgm_list.jsp?org=GEO&ord=date and

http://www.nsf.gov/funding/pgm_list.jsp?org=BIO&ord=date. Since ETBC proposals are by design interdisciplinary, indicate other relevant programs in GEO, BIO or other NSF Directorates by listing them as secondary programs on the proposal cover page. ***For full proposals submitted via FastLane, standard [Grant Proposal Guidelines](#) apply. For full proposals***

submitted via Grants.gov, see NSF Grants.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>)

Titles of proposals should be prefaced with ETBC. Investigators are strongly encouraged to contact one of the GEO or BIO program officers listed at http://www.nsf.gov/bio/etbc_msm_contacts.jsp to determine if their proposed ideas respond to the ETBC goal, discuss relevant topics of interest, and gain advice on how best to prepare a proposal for this activity. Decisions about the ETBC eligibility of submitted proposals will be made by the cognizant Program Directors. The review process will follow standard NSF practices agreed upon by the participating programs.

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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