

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

**Directorate for Geosciences  
Division of Earth Sciences**

16 July, 2004

RE: A NEW STRUCTURE FOR THE ORGANIZATION OF THE DIVISION OF EARTH SCIENCES

Dear Colleague;

The purpose of this letter is to announce a new organizational structure for the Division of Earth Sciences (EAR). For the past 15 years, EAR has been organized in two Sections: 1) the Research Grants Section, providing support for most of the core research programs, and 2) the Special Projects Section, which includes crosscutting programs and a core research program. This two-Section structure is a mixture of core research and Division-wide infrastructure programs. The designations, Research Grants Section and Special Projects Section, no longer reflect the structure and needs of the Earth Sciences community, nor the actual activities within the Sections.

The Division of Earth Sciences will be realigned in two Sections:

**Surface Earth Processes Section (SEP):** will consist of the programs: Hydrologic Sciences (HS), Education and Human Resources (EHR), Sedimentary Geology and Paleobiology (SGP), Geobiology and Environmental Geochemistry (GEG), and Geomorphology and Land Use Dynamics (GLD). The current budget for the SEP section totals approximately \$50M per year. The new SEP Section will support research on processes occurring at or near the Earth's surface, studies of the stratigraphic record and paleobiology, and crosscutting studies on education and human interactions with the geosphere.

**Deep Earth Processes Section (DEP):** will consist of the programs: Geophysics (PH), Tectonics (TE), Petrology and Geochemistry (CH), Continental Dynamics (CD), Instrumentation and Facilities (IF), and EarthScope (ES). The current budget for the DEP section totals approximately \$90M per year. The DEP Section will support research on the Earth's crust, mantle, and core, crosscutting programs for the support of Earth Science instrumentation and facilities, and the EarthScope facility and associated science and education activities.

The new structure redistributes workload among the Sections and Programs to provide for more efficient and balanced operation within the EAR Division and better reflects the natural organization of the Earth Sciences. It combines the programs into logical groups by research interests and function, and brings together programs with similar research objectives. The new organization will provide an impetus for more cross-program integration and sponsorship of interdisciplinary research projects; closely aligned programs within sections will foster interaction and allow more flexibility of resource management at the

section level.

This organization will provide a rational Section-level base for the development of our large, visible and complex programs, such as EarthScope, GeoInformatics, and the EAR facilities and will continue to provide a firm base to efficiently serve the individual investigator.

In addition to the realignment at the Section level, we have also reorganized the Geology and Paleontology (GE) Program into a more efficient 3-program structure. It has long been recognized that the GE Program covers an extremely wide range of subdisciplines and no longer reflects the evolving science structure of the Earth Sciences community. Therefore, the GE Program has been reorganized into three disciplinary Programs:

*Sedimentary Geology and Paleobiology (SGP)* will support studies of: (1) life and ecology in past geologic time based on fossil plants, animals, and microbes; (2) stratified rocks and interpretation of the historical information they contain; (3) the science of dating and measuring the time sequence of events of the Earth's past; and (4) the production, transport and deposition of physical and chemical sediments. SGP especially encourages integrative studies at the national and international levels that seek to link traditional subdisciplines, such as paleoclimatology, paleobiogeography, and paleoenvironmental and paleoecologic reconstructions.

*Geobiology and Environmental Geochemistry (GEG)* will support studies focused on: (1) interactions between biological and geological processes; (2) furthering understanding of the geologic processes that shape the biosphere; (3) the role of biological agents in geophysical and geochemical processes; (4) processes, rates, and mechanisms of inorganic and organic geochemical phenomena, at, or in proximity to, the Earth's surface, including the soil sciences; (5) development of tools, methods, and models for geobiological research, and (6) understanding geochemical phenomena at the broad spectrum of environmental interfaces ranging from planetary and regional to mineral-surface and supramolecular scales. GEG facilitates cross-disciplinary efforts to harness new bioanalytical tools--such as those emerging from molecular biology--in the study of the terrestrial environment.

*Geomorphology and Land Use Dynamics (GLD)* will support studies of: (1) the dynamic processes that produce landforms and the relationship to atmospheric and hydrologic agents and their underlying structures; (2) the history of geologic changes recorded in surface features; (3) airborne and space borne imaging of the landscape; (4) the study of sustainable landscapes and anthropogenically or naturally modified landscapes, and (5) changes in land uses and land covers that are critical to ecosystem functioning, services, and human welfare. GLD includes computer analysis of remote sensing (airborne, satellite) data using pattern recognition tools. This is a fast-growing area of research because of its applications to ecological, hydrological and social systems (including national security applications).

New avenues of research are fast emerging in the Earth Sciences and EAR must be prepared to cope with increasing demand of many exciting activities. The Division has expanded its research efforts in natural hazards, sustainability science, environmental research, and cyberinfrastructure has become central for forefront research throughout the Earth Sciences. The deployment of the EarthScope facility, the rapid evolution of the water science community, increased management oversight needs for our facilities and centers, and the increased emphasis on geobiologic activities and human dynamics in the Earth sciences have all introduced special challenges for Division management. We are confident that this new alignment of the Division of Earth Sciences will provide a firm base for more effective management of

research and education within the Earth Sciences community.

A revised Program Announcement will soon be published to reflect EAR's new organization. We anticipate that the effective date for the new EAR organizational structure will be August 1, 2004.

Sincerely,

Herman B. Zimmerman  
Director, Division of Earth Sciences