



General Programmatic Terms and Conditions for the Earth Sciences: Instrumentation and Facilities, (NSF 05-587) Geoinformatics at the National Science Foundation Cooperative Agreements

1. **Key Personnel:** Except for the Principal Investigator(s) (PIs) or Co-PIs identified in this award, requests to make any changes to personnel, organizations, and/or partnerships specifically named in the proposal, that have been approved as part of this award, shall be submitted in writing to the cognizant NSF Program Official for approval prior to any changes taking effect. Requests for prior approval of changes to the PI(s) must be submitted through FastLane for review by the cognizant NSF Program Official and approval by an NSF Grants Officer.

2. **Program/Project Description:** The Community Surface Dynamics Modeling System (CSDMS) assumes responsibilities to develop, support, and disseminate to the earth-science research and teaching community integrated software modules that are aimed at predicting the erosion, transport, and deposition of sediment and solutes in landscapes and their repository sedimentary basins. The goal of CSDMS is to enable the rapid development and application of linked dynamical models tailored to specific landscape-basin evolution (LBE) problems and at specific temporal and spatial scales. To be successful, the CSDMS will develop and maintain a high-level of community participation to ensure:

- a) well-documented and user-friendly LBE software that demonstrably keeps pace with both hardware and scientific developments;
- b) partnerships with related computational and scientific programs in order to 1) eliminate duplication of effort, and 2) leverage mutual progress (i.e., to provide and benefit from an intellectually stimulating environment);
- c) appropriate training for both the users and teaching communities;
- d) hardware and personnel resources to support and facilitate software development and its use by the community;
- e) a strong link between what is predicted by CSDMS codes and what is observed both in nature and in physical experiments;

The CSDMS will develop and maintain the computational system, and it will ensure the portability and interoperability of modules, the computational efficiency of system code, and the clarity and consistency of documentation, interfaces, etc. The CSDMS will also offer pedagogically evaluated LBE technology to enhance and inform education in environments of high school, undergraduate programs, and science museums.

3. **Project Governance:** The Awardee will ensure that an efficient and effective project governing structure is in place throughout the award period to support all critical

or significant project activities. The components of the governing structure and the related responsibilities include:

The **Executive Committee** (EC) will comprise (nv: non-voting): as Chair, the Executive Director and PI of the award (nv, except to break a tied vote), the Chief Software Architect (nv), the Chair of the Steering Committee (nv), the Education and Knowledge Transfer specialist, and representatives from each active Working Group.

The Executive Committee is the primary decision-making body of the CSDMS, and will meet twice a year to approve the annual science plan, the management plan, budget, partner membership, and other day-to-day issues that arise in the running of the CSDMS. The Executive Committee will provide a web-based mechanism for the Partner Members to provide input and comments on CSDMS and Working Group activities, to access codes developed by the CSDMS and to assess progress.

The Executive Committee will also develop and implement the 5-year Strategic Plan, described under Reporting Requirements, which will:

- a) Review proposals from Working Groups for development that are within the priorities of the Annual Science Plan and CSDMS mission;
- b) Ensure that CSDMS develops and maintains the capability to support collaborative proposals;
- c) Review the ongoing CSDMS business operations through regular meetings, teleconferences, AccessGrid sessions, electronic mail, etc.
- d) Ensure scientific progress in multiple areas of landscape-basin evolution (LBE) by providing the computational infrastructure needed for improved modeling; and
- e) Ensure the connection of LBE research with related scientific thrusts of scientific computing and Geoinformatics through the establishment of strategic partnerships, and
- f) Ensure transparency of governance and intellectual involvement of community via reasonable criteria for partner membership and a mechanism that allows community input.

The **Steering Committee** (SC) will comprise 8 members: 5 selected by the EC to represent the spectrum of relevant Earth science and computational disciplines, and 3 selected by Partner Membership. The cognizant NSF program officer will serve as an *ex officio* member of the SC.

The Steering Committee will meet once a year to assess the competing objectives and needs of the CSDMS; will comment on the progress of CSDMS in terms of science (including the development of working groups and partner memberships), management, outreach, and education; and will comment on and advise on revisions to the 5-year strategic plan. The Steering Committee will provide a report to the Executive Director at the close of its meeting, to which s/he will respond within two weeks.

The **Partner Membership** will comprise all institutional members, foreign affiliates, and industrial partners. The membership will be provided draft copies of the Strategic Plan in time to provide meaningful feedback to the Executive Committee and to the cognizant NSF Program Director. The Partner Membership will be encouraged to develop its own governance, in order to provide the CSDMS and the NSF PD with the most efficient, useful, coherent and timely feedback.

4. Reporting Requirements: The Awardee will provide ad hoc and regular reports as designated by the NSF cognizant Program Official with content, format, and submission time line established by the NSF cognizant Program Official. The Awardee will submit all required reports via FastLane using the appropriate reporting category; for any type of report not specifically mentioned in FastLane, the Awardee will use the “Interim Reporting” function to submit reports.

Reports will include:

- a) A 5-year strategic plan with annual revisions, which should address the responsibilities, listed under Project Governance and should include:
 - 1) Annual goals and milestones and allocations of financial and other resources by goal;
 - 2) A membership listing of all Institutional members with an articulated strategy for keeping them informed of CSDMS progress to ensure maintaining community support for CSDMS;
 - 3) An annual Science Plan that lists software development projects with relevant information about the types, scope and duration of these projects as well as the allotted CSDMS resources;
 - 4) An annual Management Plan, with any significant annual milestones and that sets forth the CSDMS management structure with any changes requiring the approval of the cognizant NSF Program Director;
 - 5) An annual CSDMS allocations and expenditures status report; and
 - 6) A listing of any additional funding received by CSDMS (from other than NSF sources).

The 5-year strategic plan and annual revisions require approval from the cognizant NSF program official.

- b) Quarterly progress reports, which should include, when appropriate, the Steering Committee report to the Executive Director and its response by the Executive Director.

5. Awardee Support of Ongoing Management and Oversight: The Awardee will ensure full commitment and cooperation among the governing structure components, and all project staff during all ongoing NSF project management and oversight activities.

The Awardee will ensure availability of all key institutional partners during any desk or on-site review as well as timely access to all project documentation.

Awardee is responsible for an annual site-visit or reverse-site visit, the format of which is to be determined by the cognizant NSF Program Official.