

EarthCube Funded Projects Requirements

Tiger Team Report

This document is provided by the EarthCube Leadership Council (ECLC) to the National Science Foundation as part of its response to the ECLC Advisory Committee's report from the EarthCube Reverse Site Visit, held in February 2016 at the NSF.

This document provides recommendations for guidelines that the NSF would provide to EarthCube funded projects to ensure their integration and alignment with the overall EarthCube program.

The recommendations were generated by a Tiger Team that was put together by the ECLC at meeting on March 30/31, 2016, in Boulder, CO. The draft recommendations were approved by the ECLC on June 24, 2016.

1. TIGER TEAM CHARGE

(Approved by the EarthCube Leadership Council on May 18, 2016)

The goal of this Tiger Team is to develop guidelines for funded projects so that they can be integrated with activities in EarthCube.

The guidelines cover several aspects:

1. **Infrastructure development**, so that project products can be incorporated into the EarthCube Testbed and follow the requirements of the architecture (eg standards) as appropriate.
2. **Planned activities and outcomes**, so they are reported in the EarthCube workspace/website in a manner that allows the EarthCube community to understand the status of the project, consider integration, and participate in the activities as appropriate.
3. **Participation in governance**, so that there is a presence of the project in relevant community activities and decisions.
4. **Participation in assessments**, so that EarthCube governance can determine the utility of the projects.

The group will specify the minimum level of effort required to satisfy these guidelines, as well as specific EarthCube governance bodies to interact with for each of these activities. Also to coordinate on the project's landing page on earthcube.org.

The guidelines will apply to new EarthCube funded projects starting in and after June 2016. Projects awarded or proposed before this date will be asked to consider adjusting their work to satisfy these guidelines and report on which guidelines they will follow. The guidelines will take into account that 2016 awardees may not have included provisions to support integration with EarthCube architecture, standards, and testbed (item 1 above).

2. TIGER TEAM MEMBERSHIP

Leads

Yolanda Gil

David Arctur

Members

Janet Fredericks
Masa Prodanovic
Ken Rubin
Sarah Graves

3. RECOMMENDATIONS

for Requirements of 2016 and future projects funded through the EarthCube program

These proposed requirements will apply to new EarthCube funded projects starting in and after June 2016. Projects awarded or proposed before this date will be asked to consider adjusting their work to satisfy these guidelines and report on which guidelines they will follow. The requirements take into account that 2016 awardees may not have included provisions in their proposals to support integration with EarthCube architecture, standards, and testbed. The requirements are organized into four major categories.

- 1. Activities and milestones:** These requirements ensure that the EarthCube community can understand the scope and progress of the project, consider coordination activities, and contribute as appropriate.

R1: Dissemination -- Maintain a current presence in earthcube.org website providing information guided by a template, maintain project pages with current information that describe goals and objectives of the project, planned activities and milestones, changes to plans, including identifying other funded projects and/or existing capabilities to be integrated and/or interoperated, and project outcomes including documents in the EC repository and other publications; provide contact information and gateway for community interaction.

R2: Milestones -- Share a planned timeline of major milestones about releases of software, data, services, and other products, and any events (workshops, hackathons, etc.).

R3: Demonstrations -- Showcase the project outcomes and benefits in appropriate meetings, specifically at the EarthCube AHM, and capture in videos and other media as practical.

R4: Community -- Report on user feedback, surveys, or other community participation in project activities or products. These should be included on the project web site.

- 2. Infrastructure development:** These requirements ensure that project products contribute to the development of EarthCube infrastructure and follow the requirements of EarthCube architecture and standards.

R5: Standards -- Adopt EarthCube-recommended standards as they become available. (Report which standards are applied in provided format on the project web site, to be compiled in the resource registry as it becomes available.)

R6: APIs -- Where feasible, design modular systems with well-documented APIs and information models, reusing community-recommended APIs as they become available.

R7: Use Cases -- Contribute newly developed use cases to the collection managed by the EC Use Cases WG, using the WG's template (best done by interview) and/or note reuse of existing Use Cases and any suggested modifications.

R8: Reuse -- Report which Earthcube and other resources and capabilities are being reused, and justify the need for new resources to be developed.

R9: Integration -- Design and implement integrations with Earthcube and other resources and capabilities as appropriate.

R10: Metadata -- Document project products and resources with appropriate metadata, and incorporate the products and resources into EarthCube registries as they become available.

R11: Data -- Projects that generate/provide data should release data with documented data types, following standards as they become available, and incorporate in appropriate data repositories following EarthCube recommendations and best practices.

R12: Deliverables -- Software deliverables should be available in an EarthCube-approved code repository as it becomes available, with proper metadata, and in registries as appropriate.

3. Governance participation: These requirements ensure that EarthCube benefits from the project personnel's expertise and project outcomes in all community activities and decisions.

R13: Representation -- Project teams or representatives are required to participate and contribute to EarthCube discussions, particularly to standards and architecture development as appropriate. Participation in governance is recommended. The primary discussion groups are the Science Committee, Technology and Architecture Committee, Council of Data Facilities, Liaison Team, and Engagement Team, which can be joined by anyone through the EarthCube website. Projects' annual reports should document their contributions to EarthCube discussions and activities.

4. Assessment reports: These requirements ensure that EarthCube governance can determine the quality and utility of the project activities and outcomes.

R14: Self-assessment -- Follow EarthCube assessment procedures and report on outcomes in the required venues, *as appropriate and within the bounds of the project.*

R15: Formal assessment -- Participate in formal assessment activities, validation of the developed components in the EarthCube Knowledge Workbench (or other EC testbed environment), and/or integration in the EarthCube architecture and system, as appropriate to the project.

Recommendations for future solicitations will be released at the end of July 2016.