

Federation of Earth Science Information Partners Partnership Application

Please complete all sections to the fullest extent possible and forward completed application to: Carol Meyer, carol.meyer@earthsciencefoundation.org. If you have any questions, please contact her at 877.870.3747.

I. CONTACT INFORMATION

A. Primary Contact/Principal Investigator

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B. Designated Assembly Representative (could be same as above)

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II. ABOUT YOUR ORGANIZATION

A. ORGANIZATION/DIVISION/PROJECT NAME:

Laboratory for Atmospheric and Space Physics (LASP)

B. OVERVIEW OF YOUR PRIMARY ACTIVITIES in regards to the Earth Sciences Community (200 words or less)

LASP has been gathering measurements and studying space since the Mariner mission flew by Venus in 1967. LASP scientists study the sun, the atmosphere, space weather, and the planets in our solar system. It was recently announced that CU Boulder was chosen to host the National Solar Observatory headquarters. The PI for that project is a LASP scientist.

The Data Systems group provides data products from many of those missions to other scientists and to the public. We are responsible for building and maintaining data processing, management, and dissemination systems.

C. Please list and briefly describe the primary product(s) or service(s) that your organization provides (will provide) to the Earth Sciences community.

We provide measurements and models around: the atmosphere, solar irradiance, space weather, the planets, the magnetosphere, space dust, and others.

The Data Systems group is building tools to better steward and access our data, to in turn increase the value of our datasets by making them more useable for more people for a longer period of time.

D. Please give a main website address for the proposed Partnership:

Web Address: <http://lasp.colorado.edu/home/mission-ops-data/>

III. HOW YOUR ORGANIZATION WILL BENEFIT FROM/CONTRIBUTE TO THE EARTH SCIENCE INFORMATION PARTNERS (ESIP) FEDERATION

- A. Describe current or anticipated users of your products and services and how you think the Federation can help you better serve this population. (200 words or less)

While we now provide both browser and API access to our data to the public, most of the current users of our data are other scientists within the relatively small communities of space, atmospheric, and planetary researchers. Much information about our data is maintained and conveyed via informal and ad hoc methods, such as personal communication. Most of our data are not discoverable or searchable.

ESIP can help us better steward our data by providing resources for informing and supporting efforts such as: developing a system to manage and provide metadata, uniquely identifying dataset components, introducing workflows that support sharing, repeatability, and provenance gathering. These improvements would provide more and better resources for our current users.

We would like to expand the range of users of our data beyond the specialists mentioned above by allowing our resources to be more easily found and understood, thus increasing the value and utility of our data. We could improve that range by implementing data and/or service casting, semantic enabling of our web pages, and providing accessible, current information about our data via automated means.

- B. Describe any Earth science technologies that you have developed and are willing to bring to the Federation's efforts to provide best-practices. (200 words or less)

We wrote LaTiS, a lightweight, OPeNDAP compliant data server for time series data. LaTiS provides a pluggable framework to handle various input and output formats, while core functionality provides variable selection, subsetting, filtering, and both file format and time reformatting. LaTiS is being used operationally - our LISIRD web site leverages LaTiS, as does the Time Series Data Server (tsds.net). An early version of the code is available <http://sourceforge.net/projects/tsds/>. We continue to improve this framework. In particular, we are working to define a mathematical common data model that supports certain types of data fusion.

We are also working on creating a metadata repository architecture that we hope to make as generic as possible and which we would gladly share should it be useful.

- C. Describe how your proposed membership would contribute to the efforts and the mission of one or more standing committees, working groups and/or clusters. See Page 3 for descriptions of the different activities of the various standing committees, working groups, and clusters. (200 words or less)

At the moment, due to our current focus on building a metadata repository, we are particularly interested in the IT&I committee effort on re-usable authoring tools for metadata effort on the ESIP Testbed. We would be interested in collaborating on that, with the possible goal of identification of common components that could lend themselves to becoming generic tools.

We bring to the IT&I and also the Products and Services committee the perspective of an astrophysics lab that distributes space-based data. That can be important because, while there are many commonalities across geo scientific datasets and we seek general solutions to handle them, data measured in space have different characteristics than the "typical" earth science datasets that come to mind for many. In particular, they are not geo-located, yet many tools have a geo-centric, gridded focus, an obvious mismatch. It is important to remind people that in some tools a latitude/longitude focus is not always appropriate.

We are particularly interested in the topics of: web services, and data preservation and stewardship and

would affiliate with those clusters.

- D. Describe your own use of Earth science information and data and how you would see this use enhanced by your partnership in the Federation. (200 words or less)

The focus of the Data Systems group is in building useful, well-designed tools systems to process, manage, and distribute scientific data that are as general purpose as possible. Access to additional Earth science information and data would enhance this activity by providing knowledge of data in other domains and additional test data.

IV. YOUR CHOICE OF MEMBERSHIP TYPE. PLEASE PICK ONE.

ESIP-I (primarily a data center/archive)

ESIP-II (primarily a research center)

ESIP-III (primarily applications and education)

ESIP-IV (primarily a sponsoring member)

I tried to check ESIP-II, above, but my editor won't check the box! Sorry! -Anne

V. Any other comments about your proposed membership and its relation to the Federation that you wish to provide.

Last April the Earth Science Foundation provided \$500 for LASP to organize a launch meeting for the new Boulder Earth and Space Science Informatics Group. That meeting was very well attended, and the group has been meeting monthly since then. Thank you! We are holding our 8th meeting on 11/16/11. ESIP participation helps us stay current and find topics and speakers for that group.

Thank you for your application for partnership in the ESIP Federation.

List of Federation Committees and Clusters

Administrative Committees

Executive Committee: Comprised of all standing and administrative committee chairs, ESIP Type Representatives, the President and Vice President of the Federation. Oversight body for most day-to-day activities of the Federation, acts on behalf of the Assembly between meetings.

Constitution and Bylaws: Provides counsel on matters related to the constitution and bylaws and other related issues (e.g. amendments to government documents)

Finance and Appropriations: Oversees financial resources of the Federation, including the annual budgeting process.

Partnership: Reviews and processes all applications for membership before making applications available for review by members of the Federation. Deals with other membership-related issues.

Standing Committees:

Commercial Development: Promotes a forum wherein commercial development of Earth science information can be fostered. (inactive)

Community Engagement: Provides a forum for the Federation to promote partner products and to engage new users for data products and services. (inactive)

Education: Provides a forum to make accessible to educators and learners at all levels in both formal and informal educational contexts the Earth science data, information, tools, and curricula available within the ESIP Federation.

Information Technology and Interoperability: Provides a forum for discussing information technology and interoperability issues of the Earth science community and serves as a central point for activities in this realm.

Products and Services: Provides a forum for defining best practices and defining requirements for earth science products and services. Currently is involved in developing an inventory of partner products and services.

Clusters (presently active, April 2009):

- Web Services
- Semantic Web
- Data Preservation and Stewardship
- Decisions
- Air Quality
- Federated Search
- Water