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

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

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C. Other Contacts

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II. ABOUT YOUR ORGANIZATION

A. ORGANIZATION/DIVISION/PROJECT NAME:

Organization = **GEIA**, Global Emissions Inventory Activity
Project 1 = **ECCAD**, Emissions of atmospheric Compounds and Compilation of Ancillary Data
Project 2 = **CIERA**, Community Initiative for Emissions Research and Applications

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

Since 1990, GEIA (http://www.geiacenter.org/) has been bringing together people, data, and tools to create the highest quality information about emissions, the inputs to the atmosphere from human and natural activities. Accurate emissions information is critical to understanding and predicting air quality and climate. GEIA's activities aim to improve access to emissions information, facilitate the development of better emissions datasets, and strengthen connections within the broad international community of developers and users of emissions knowledge. GEIA is a community-run organization made up of individuals affiliated with a variety of host institutions; its current co-chairs are Gregory Frost and Leonor Tarrasón. Funding from several Federal and international scientific agencies supports GEIA's web portal administration and development.

As GEIA's data portal, ECCAD (http://eccad.sedoo.fr/) provides a clearinghouse for a variety of global and regional emissions inventories (i.e., compilations of emissions data) and the ancillary data that are used to construct these inventories, along with online tools for visualization and analysis of these data.

The GEIA project CIERA (http://ciera-air.org/) focuses on facilitating critical evaluations of emissions inventories. To achieve this goal, CIERA is making emissions data interoperable with other Earth science data sets, including atmospheric observations and models. Standards-based web services allow access to datasets distributed over multiple data servers and the implementation of tools for online visualization and analysis of these datasets.

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

- *Standardized datasets:* Many groups around the world develop emissions inventories using a variety of methodologies and data formats. All inventories on GEIA's ECCAD portal are reported with standardized formats, metadata, and originator information. Ancillary data used to produce emissions inventories, such as land use and population distribution, are also available on the ECCAD portal. Data on ECCAD can be easily visualized and analyzed with a suite of online tools.

- *Interoperability:* Using ESIP servers and the Drupal environment, CIERA employs service-oriented principles to connect distributed data servers and catalogs of emissions inventories, atmospheric observations, and atmospheric model outputs. CIERA is developing standardized online tools so that users can visualize and analyze these data sets, enabling data comparisons and evaluations.

- *Communicating about emissions:* CIERA is developing a searchable community bibliographic database of emissions literature, because information on emissions is distributed among many sources, and much of it is not publicly or broadly available. CIERA enables online analyses of emissions data to be described, tagged, and saved for later use by others.

- *Emissions evaluations:* GEIA's online resources help facilitate evaluations of emissions inventories, which are necessary to establish the accuracy and uncertainties of these complex data sets. GEIA has organized state-of-the-science reports on key pollutant emissions and will play a critical role in future emissions assessment activities.

- *Connecting the emissions community*: GEIA organizes biannual workshops to bring together developers and users of emissions information and sponsors emissions-focused sessions at international scientific conferences. Along with other groups, GEIA organizes summer schools to train the next generation of atmospheric scientists.

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

Web Address: http://www.geiacenter.org/

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)

GEIA serves the information needs of atmospheric scientists (particularly those making simulations of past, present, and future air quality and climate), environmental regulatory agencies, policymakers, and researchers in the broader Earth science and public health communities.

The ESIP Federation will help GEIA serve its users by improving connections to Earth science data providers, giving GEIA users a voice in helping to develop best practices for emissions information, and keeping GEIA portal and web application developers up-to-date on the latest knowledge in the Earth science data community.

GEIA's CIERA portal resides on ESIP servers and runs in ESIP's Drupal environment.

    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)

GEIA's CIERA development team has been involved with ESIP activities, including the ESIP Air Quality Workgroup, for many years and has been part of international efforts to set and implement data standards for air quality data sets. The emissions data access web services, analytical web applications and associated lessons learned during their development are available to ESIP.

As part of the GEO Air Quality Community of Practice, CIERA is helping to develop best practices in emissions data catalogs, data access web services (particularly the OGC Web Coverage Service) that connect emissions data with other Earth science data, and online tools for data analysis.

    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)

GEIA will be an active contributor to ESIP's Air Quality Workgroup. GEIA will help bolster the aims of this Workgroup by improving access to emissions data sets, advising the development of air quality and climate data standards and conventions related to emissions, and facilitating the development of better emissions data sets for the use of the broader Earth science community. CIERA's Drupal developer is already participating in the new ESIP Drupal cluster.

    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)

GEIA's developers and users pursue a variety of efforts to connect people and data, with the goal of providing the best possible information on emissions. Emissions inventories are critical information to air quality and climate science and policymaking. Emissions data are produced in many ways by many providers, so these data must be consolidated, inter-compared, and externally evaluated. GEIA will benefit from the expertise and the data available through the wide variety of Earth science data providers in ESIP.

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)   ☐

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

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 Service*s: 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