

## Enhancing Socio-Environmental Research & Education

### Apply Link:

[Apply Online](#) [1]

### Deadline:

Mar 09, 2015

## Building resources for action-oriented team science through syntheses of practices and theories.

**Proposals are invited for synthesis projects focused on tools, methods, and other practices applicable to actionable team research on socio-environmental problems. Multiple teams will be supported, and together their syntheses will contribute towards the development of new toolkits, roadmaps, curricula, and other practical advice.**

Effective team science is key to finding solutions to socio-environmental problems. Many tools have been developed for integrating ideas, data, and methods across the diverse disciplines involved when researching complex problems. Similarly, practices have been identified that facilitate the linkage of research results with informed policy decisions. Relatively few of these tools and practices have been assessed and optimized for addressing socio-environmental challenges. We invite proposals for synthesis and refinement of the tools and practices of team science from all disciplinary sources for use in socio-environmental applications.

The National Socio-Environmental Synthesis Center (SESYNC) will fund up to six international teams (up to 12 members each) to meet over two years (approximately four three-day meetings per team) to analyze, evaluate, and synthesize the practices, tools, methods, and strategies of transdisciplinary team science to significantly improve research teams' effectiveness at understanding socio-environmental problems and informing socio-environmental decisions. The focus may be on improving research methods, on educating new generations of researchers, or both.

This call is open to researchers and educators with expertise in all aspects of the practice and scholarship of actionable team research, including diverse areas of environmental and social investigation and other areas that have not traditionally engaged in socio-environmental contexts, such as public health, international development, security, or other research areas. Successful proposals could include participants from a variety of relevant disciplines including environmental science, ecology, social psychology, systemic intervention, political science, organizational management, implementation science, cognitive science, operations research, information science, and computer science.

[Professor Gabriele Bammer](#) [2] will serve as the leader of this Theme, providing support and coordination to funded teams. We welcome applications from full or partial teams. Citizens of all countries are eligible to apply.

For general inquiries or contacts from individuals who are interested but are not currently part of a team, please contact Gabriele Bammer ([Gabriele.Bammer@anu.edu.au](mailto:Gabriele.Bammer@anu.edu.au) [3]) or David Hawthorne ([dhawthorne@sesync.org](mailto:dhawthorne@sesync.org) [4]).

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## Examples of Topics

These examples are meant only to illustrate the diversity of potential topics, rather than the full extent of relevant topics:

- What core best practices can be identified by analyzing diverse cases of interdisciplinary and transdisciplinary socio-environmental research?
- Which features of interdisciplinary and transdisciplinary practices are associated with successful implementation of socio-environmental research outcomes? What is the evidence for such success? Can these features be converted into widely applicable tools, methods, and practices?
- How have actionable research, complex systems science, design science, participatory system dynamics, project management, sustainability science, and similar approaches contributed to understanding of, and action on, socio-environmental problems? What are the similarities and differences among such approaches, and how can this guide which approach or combination of approaches to use for different kinds of problems?
- Are there tools, methods, and practices for synthesizing and acting on research that have been developed in population health, education, security, international development, or other focal areas in the private and public sectors that would enhance research and action on socio-environmental problems?
- Dealing with socio-environmental problems often requires navigating unknowns and uncertainties. Which tools, methods, and practices can aid such navigation?
- What is the suite of tools, methods, and practices that can help students quickly attain working skills for socio-environmental research? What pedagogies can help develop these skills?

## Background

Progress on socio-environmental problems requires the integration of a vast range of information types, typically by teams of experts and stakeholders with diverse perspectives and disciplinary knowledge. Success in this type of research requires that teams effectively employ a suite of practices to address several challenges, including:

- the epistemological and methodological differences among experts,
- the development of shared research objectives,
- the framing of known and unknown elements of the problem,
- understanding the needs of those whose decisions are to be informed by the research outcomes, and
- the production of actionable knowledge.

Access to interdisciplinary practices such as these is limited because descriptions of them and of their use are widely scattered across the peer-reviewed and grey literatures and often not in socio-environmental contexts. Further, although an array of practices are available, there is little understanding or agreement on which practices to employ in different situations. For example, a small team of experts from similar disciplines has different requirements than a large diverse team of

researchers and stakeholders with widely diverse perspectives and methods, and the best practices for each will differ. Similarly, problems that are ill-defined, complex, and riddled with conflicting perspectives require different approaches from those that are contained and uncontested.

The aim of the synthesis teams to be established under this proposal is to aggregate and synthesize the tools, methods, and other practices used in action-oriented team research as applicable to socio-environmental science. We encourage proposals that address issues across all stages throughout the lifecycle of an interdisciplinary project from problem formulation to approach design, data gathering analysis and synthesis, publication and other dissemination, implementation, and assessment, although individual teams might only work on a subset of these. Many types or combinations of synthesis approaches are possible and many sources of data for aggregation and analysis are appropriate, including diverse case study examples, concepts, methodologies, procedures, protocols, computational applications, or theoretical foundations.

## **Expected Products**

Products from teams could include novel databases and/or annotated repositories of practices or instructional resources, as well as publications in peer-reviewed journals and conference presentations.

## **Submission Instructions**

Proposals must be received by March 9, 2015, at 5 p.m. Eastern Daylight Time (EDT).

## **Proposal Criteria**

Pursuit applications will be ranked with regard to their:

- suitability to the described Theme;
- focus on fundamental research questions (i.e., those with implications that go well beyond a single place or point in time to provide new insights with broad applicability);
- novelty and creativity in approach or proposed outcomes;
- feasibility to produce meaningful synthetic research including identifying and showing ability to access appropriate data;
- potential to inform classroom practice, educational policies, and curriculum and program development;
- qualifications, appropriate diversity of scientific backgrounds, and experience of the proposed participants;
- inclusion of diversity to broaden the participation of underrepresented groups with respect to gender, ethnicity, disability and geographic location; and
- an explanation of why SESYNC is the most appropriate way to support the activity.

## **What to Include**

SESYNC applications are composed of two parts to be submitted via SESYNC's online submission system:

1. An online form on the submission website, and
2. A proposal in a single PDF, which should be uploaded to the online form.

**Include the following in your uploaded PDF using single spacing, 12-pt type fonts, and**

**1-inch margins.**

### **Cover sheet (1 page)**

- Descriptive title of proposed Pursuit
- Short title (25 characters max)
- Name and contact information for up to two Pursuit (Proposal) Leaders
- Project Summary (250 words), appropriate for the public and posted on the SESYNC website
- Keywords (up to 5; different from those used in the title)
- Proposed start and end dates, number and duration of meetings, as well as the estimated number of participants
- Potential conflicts of interest with members of the SESYNC [External Advisory Board](#) [5] or [Leadership Team](#) [6]

### **Main body (5 pages max, including references)**

- Problem statement: Clear and concise statement of the synthesis project to be undertaken and how it relates to the Theme, including its direct or indirect contributions to actionable socio-environmental science. As appropriate, specify the novelty and creativity of the proposal.
- Conceptual framework: Graphical and/or textual formats may be used to show how the synthesis approach and various components of the work are linked together to address the problem of interest.
- Proposed activities: Brief description of the proposed synthesis activities and why they are appropriate for funding by SESYNC as opposed to another funding program such as NSF's core programs.
- Data: Description of intended data and any permissions needed for their use. If possible, please list the actual datasets that will be used to initiate the synthesis effort. Data access extends beyond identification of data sources to include a description of data accessibility, permissions, structure, format, and storage requirements. Proposals that do not provide detailed information on the data will not be reviewed. SESYNC supports socio-environmental synthesis research projects that aggregate, but do not collect, primary and secondary data.
  - Please note: SESYNC discourages applications requesting funding for literature reviews. That said, we will consider meta-analysis synthesis of concepts, theories, and knowledge within the literature.
- Metrics of success: Description of which metrics are the most appropriate for evaluating the success of the proposed project, including an explanation of products and how products will help each audience (e.g., papers, policy-directed efforts, databases, models, development of new resources, etc). If successful, who are the non-peer audiences that would most likely use the knowledge or tools developed?

### **Potential Participants (1 page)**

Complete a table with the following column headers for all participants:

- Last Name
- First Name
- Affiliation (include department)
- Website address
- Primary Area of Expertise
- Secondary Area of Expertise
- Confirmed (Y/N)
- Prior Collaboration with Pursuit (Proposal) Leaders (Y/N)

- If yes, provide a very brief description of the nature and duration of prior collaboration(s).

### **Diversity Statement (1 page max)**

Include a paragraph describing the aspects of diversity in your participant list. Diversity is considered in all its aspects, social and scientific, including gender, ethnicity, scientific field, disability status, career stage, geography and type of home institution.

### **Other Information (1 page max)**

- If applicable, briefly describe any anticipated needs for cyberinfrastructure (CI) support. This should include descriptions of new data sets or software/databases to be developed; high performance computing needs; data aggregation or fusion required; and types of visualization. Applicants should review SESYNC's [IT](#) [7] and [Data Sharing](#) [8] policies and are encouraged to contact SESYNC CI staff prior to submission if the project's needs are beyond the scope of services outlined in these documents.
- Work plan with budgetary needs: this is not in dollars, but do provide: 1) numbers of trips by year to SESYNC (broken down by number of US domestic and international participants and days of local support) and 2) other anticipated support. SESYNC provides neither honoraria nor stipends for participants unless they are in residence as a [visiting scientist](#) [9] for two months or longer.

### **Short CV of the Pursuit (Proposal) Leaders and Participants (2 pages for each)**

Do not include talks, society memberships, or papers in preparation.

**[Click here to submit your proposal using SESYNC's online submission system.](#) [1]**

*The University of Maryland is an Equal Opportunity Employer  
Minorities and Women are Encouraged to Apply*

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**Source URL:** <http://www.sesync.org/opportunities/enhancing-socio-environmental-research-education>

#### **Links**

- [1] <https://seadmin.sesync.org/se-admin/resources/submit/proposal/new/2015T11>
- [2] <https://researchers.anu.edu.au/researchers/bammer-g>
- [3] <mailto:Gabriele.Bammer@anu.edu.au>
- [4] <mailto:dhawthorne@sesync.org>
- [5] [http://www.sesync.org/about/team-directory?field\\_role\\_tid\\_1=89](http://www.sesync.org/about/team-directory?field_role_tid_1=89)
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