Propose a Pursuit: Spring 2020

Apply Link:  
Click here to apply [1] 
Deadline:  
Mar 30, 2020

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Overview

The National Socio-Environmental Synthesis Center (SESYNC) invites proposals for collaborative team-based synthesis research (Pursuits) around emerging socio-environmental systems (SES) topics. We encourage proposals that synthesize data, develop and apply models, and couple quantitative and qualitative data/information in new ways. SESYNC has a tradition of announcing focal themes with each RFP, and we do so again below:

Topical Themes:

- **Any Pressing Socio-Environmental Problem(s):** There are many potential projects with great applicability to socio-environmental problems that fall outside of the following six themes. Accordingly, we are also open to exciting and creative project proposals that address any pressing socio-environmental problem.

- **Global Change and Health:** Environmental changes and stressors have the potential to impact multiple dimensions of ecosystems and biodiversity that can have important implications for human health. These include the quality of the air we breathe, the water we drink, food production systems, new wildlife-human interactions, shifting patterns of exposure to infectious disease, mental and physical well-being, and the overall short-term and long-term habitability of the places we live.
Proposals should consider environmental change and stressors at multiple scales, from the local to regional to country levels, and their impact on ecosystem and human health and well-being. We are particularly interested in projects that require the integration of data from a wide range of disciplines over different spatial and temporal scales.

- **Socio-Environmental Implications of Large-Scale Infrastructure Projects:** Large-scale trade-related infrastructure projects—including ports, railroads, pipelines, and highways—are reshaping landscapes, human communities, and non-human species. Examples of such projects include China’s Belt and Road Initiative, the Indonesian Master Plan for Expansion of Economic Development, the Crescent Corridor Expansion in the U.S., and many more. SESYNC solicits proposals for synthesis research on the socio-environmental implications of such efforts, considering topics such as the role of environmental governance in developing and/or developed countries, landscape and ecosystem change, and movements of people and non-human species in response to environmental change associated with infrastructure projects.

- **Environmental Dynamics and Food Systems:** Food systems encompass all of the activities, and their inputs and outputs, involved in feeding populations—from production to processing, distribution, consumption, and disposal. Through the direct use of natural resources as inputs and impacts of activities and outputs, food systems have implications not only for human health but for ecosystem status and environmental sustainability. We encourage the submission of proposals for projects that synthesize diverse data sources and/or develop models and scenarios that reflect the intersection of food system activities with ecological and/or broader socio-environmental systems. Ideally, studies will seek to identify the mechanisms that link the ecological and social dimensions of one or more activities within the food system, or those that link the food system to other (e.g., water or energy) systems. Projects should produce new fundamental knowledge about the structure and function of the environmental foundations of food systems, with the ultimate goal of using this knowledge to improve the environmental, economic, and social sustainability of food system activities.

- **Transformative Technologies:** New technologies—from gene editing, to geoengineering, artificial intelligence, and automated transportation and logistics systems—have the potential to transform socio-environmental systems and help us overcome a variety of global environmental challenges. Synthesis research on the impact of such technologies is a challenge given the technologies’ inherent novelty. How can a transformative technology’s socio-environmental impact (positive or negative) be assessed prior to its widespread introduction? Even when analyses of small-scale pilot introductions are available, to what extent can system-level consequences of widespread adoption be evaluated? Given these questions and challenges, we are interested in projects that explore the use of existing, synthesizable data in the exploration and prediction of new technologies’ impact on socio-environmental outcomes.

- **Demographic Shifts and Environmental Impacts:** More than half the world’s population now lives in cities, with an estimated 3 million people moving to cities each week. This demographic shift—which is projected to continue for decades—and related increases in the density of economic activity in urban areas will create new environmental stresses, and possibly create new
opportunities for the management of natural resources in de-populating parts of the world. We are interested in projects that relate large-scale demographic trends both to new environmental impacts and to opportunities for environmental improvement (in urban and non-urban areas). Of particular interest are projects that relate urbanization to non-urban natural resource conditions given the dependence of urban consumption on natural resource production and trade effect involving non-urban geographies. Also of interest are projects that explore possible reconfigurations of depopulating areas in ways that are environmentally beneficial.

- **NEON-Enabled Socio-Environmental Synthesis**: Data collected across the National Ecological Observatory Network (NEON) have the potential to be an exciting asset for socio-environmental syntheses. While NEON sites are typically remote from human settlements, many sites experience direct or indirect human impacts, and data from these sites might be used to understand socio-environmental systems. Further, data collected by the Airborne Observation Platform (AOP) are more extensive than the NEON sites themselves, include diverse and intensive land-use, and might be ideally suited for scaling up from NEON sites to regional and national scales. For example, socio-environmental synthesis questions might examine (1) the effects of climate change on species of ethnobotanical interest; (2) processes controlling the spread of vector-borne disease; or (3) the supply of ecosystem services, perhaps in response to changes in land use or natural disasters such as hurricanes, floods, and wildfires. An example of recent efforts at SESYNC to motivate syntheses using NEON data are available [here][2].

Researchers should develop research questions and methods for results that can be applicable across multiple places and scales and have the potential to inform decision makers. We are particularly interested in novel, actionable research efforts that employ synthesis methodologies in new ways. Projects that can bring together quantitative and qualitative data and knowledge are of special interest. Please see our website for examples of successful projects.

Teams should be composed of **10-12 members** who will meet at our center in Annapolis for **three meetings, of three to five days each, over a period of 12 months**. The composition and number of participants in a Pursuit will vary depending upon the nature of the research problem and the expertise needed to address it. Teams should be highly interdisciplinary (natural and social scientists), and we encourage the inclusion of individuals from outside of academia (i.e., government agencies, non-governmental organizations (NGOs), the business sector). Projects **co-developed** by academic researchers and non-academic knowledge users (from the NGO, private, and government sectors) are encouraged. SESYNC places priority on new teams whose members have **not** had extensive prior collaborations with one another.

**Proposal Development**

We highly encourage those interested in this RFP to discuss their ideas with SESYNC prior to developing their proposal. Discussions with team leaders can often help determine whether an idea is appropriate for SESYNC, as well as how syntheses might be structured to achieve strong interdisciplinary/transdisciplinary outcomes. Please contact research@sesync.org to solicit feedback or arrange a conversation. **In your email, please include a paragraph and/or concept document about your project ideas even if not fully developed** (e.g., your research questions; what kind of socio-environmental data you plan to synthesize; what kind of product you envision).
This will help in ascertaining whether or not your proposal aligns with SESYNC’s mission and in putting you in touch with the right person at SESYNC.

**This conversation should occur no later than three weeks prior to submitting a proposal.**


**Support Details**

Details on SESYNC funding and support can be found here [8].

Support for Pursuits includes travel, lodging, and meals for participants in accordance with our Travel Policies [9]. All Pursuit meetings are held at our facilities in Annapolis, MD.

SESYNC has significant modeling, data analysis, and database management expertise to guide and support teams that need assistance with the technical aspects of data mining, processing, integration, analysis, visualization, and/or modeling.

Support is also offered for aspects of interdisciplinary team science including meeting design and facilitation of specific sessions and/or meetings as needed.

Pursuit support does not include salary support, stipends for participants, or grants to other institutions.

**Project Eligibility**

Pursuit groups must meet the following criteria to be considered:

- There may be no more than 12 total participants, including the PIs/team leads.
- Groups should hold three meetings.
- Projects should have two PIs/team leads.
- At least one PI/team lead must be based at a U.S. institution.
- Graduate students are not eligible to apply as PIs/team leads for this opportunity, although they may participate on teams. SESYNC offers a separate Graduate Student Pursuit program for students wishing to lead working groups.
- The project cannot involve collection of new empirical data.

Please see the SESYNC FAQ [10] for more information on the types of projects we support.

**Proposal Criteria**

Pursuit applications will be ranked with regard to the following:
• A focus on an important and timely socio-environmental problem
• Scientific merit of fundamental research questions (i.e., for projects that focus on a more regional scale or on a limited number of cases, findings should have implications that 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 contribute to actionable science (e.g., inform decisions at the government, business, and household levels; improve the design or implementation of public policies; and/or influence public- and/or private-sector strategies, planning, and behaviors that affect the environment);
• Qualifications, appropriate diversity of scientific backgrounds (social and natural scientists), and experience of the proposed participants
• Inclusion of diversity to broaden the participation of groups underrepresented in SESYNC research, including scholars from developing countries and participants from underrepresented U.S. minorities (African Americans, American Indians including Native Alaskans, Hispanics, and Native Pacific Islanders); for more information on such efforts see: www.nsf.gov/od/broadeningparticipation/bp_portfolio_dynamic.jsp [1]

An explanation of why a SESYNC Pursuit is the most appropriate way to support the activity.

Submission Instructions

Application Components

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

1. An online form on the submission website [1]
2. A proposal document in a single PDF, which should be uploaded to the online form
3. A downloadable Excel spreadsheet of potential participants, which should be completed and then uploaded to the online form.

Proposal Requirements

Include the following in a single PDF document using single spacing, 12-pt type fonts, and one-inch margins. Proposals that exceed the page limits or do not adhere to the requirements below may not be reviewed.

1. Cover sheet (one page)

• Descriptive title of proposed Pursuit (“Pursuit: ....”)
• Short title (25 characters max)
• Name and contact information for up to two PIs
• Project Summary (250 words), appropriate for the public; posted on the SESYNC website
• Keywords (up to five 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 (Please note: Pursuits are limited to 3 meetings and are expected to start in fall 2020)

- Potential conflicts of interest with members of the SESYNC Scientific Review Committee [12], External Advisory Board [13], Leadership Team [14], Researchers [15], or Fellows [16]

2. Main Body (five pages max excluding references section)

- **Problem statement:** Clear and concise statement of the synthesis project to be undertaken and how it relates to SESYNC’s topical areas or to another pressing socio-environmental problem, including its direct or indirect contributions to complex socio-environmental systems. 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:** Description of the proposed synthesis activities and methods, and why they are appropriate for support 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 may not be reviewed. SESYNC supports socio-environmental synthesis research projects that aggregate and integrate, but do not collect, primary and secondary data.

  - Please note: SESYNC discourages applications requesting support for literature reviews. That said, we will consider meta-analysis synthesis of concepts, theories, and knowledge within the literature if particularly novel or timely.

- **Metrics of success:** Description of which metrics are the most appropriate for evaluating the success of the proposed project, including an explanation of expected 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?

3. References (one page max)

Literature cited section of up to one page.

4. Diversity Statement (one page max)

Include two paragraphs 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.

- In the first paragraph, please describe diversity of backgrounds (social and natural scientists), experience of participants, gender, career stage, persons of disabilities, and country of origin.

- In the second paragraph, please describe the diversity of participants with respect to groups underrepresented in SESYNC research including scholars from developing countries, and participants from underrepresented U.S. minorities (African Americans, American Indians including Native Alaskans, Hispanics, and Native Pacific Islanders)

5. Other Information (one page max)

- **Cyberinfrastructure Needs:** Briefly describe any anticipated needs for cyberinfrastructure (CI) support and any new data sets or software expected to result from the project. Applicants should
review SESYNC’s Cyberinfrastructure Support Information [17] to familiarize themselves with the types of CI support SESYNC can provide and expectations regarding release of software and data upon project completion. Examples of supported CI needs include but are not limited to: large data storage with collaborative access; assistance with database development, collaborative code development, and tool integration; use of SESYNC’s schedule cluster for large analyses; and advising/consulting on geospatial data processing and visualization. Applicants are encouraged to discuss their proposed project with our cyberinfrastructure team at cyberhelp@sesync.org [18] prior to submission if the project’s CI needs are significant in scope.

- **Work Plan:** 1) Number of trips by year to SESYNC (broken down by number of U.S. domestic and international participants), and 2) Number of days of local support. Note that SESYNC provides neither honoraria nor stipends for Pursuit leaders or participants.

- **Other:** PIs are encouraged to discuss with SESYNC other support services available at the Center.

### 6. Short CV of the Pursuit (Proposal) Leaders (two pages max for each)

Please ONLY include the CVs of the Proposal Leaders, two pages maximum for each. Do not include talks, society memberships, or papers in preparation.

### 7. Current and Pending Support (one page for each PI/Proposal Leader)

Please list current, pending support and the relationship to the proposed work at SESYNC. In addition, please list proposals that you anticipate will be submitted during the period of this project that are substantively related to the synthesis effort.

### Potential Participants

Please download the Excel spreadsheet provided and complete the template using the column headers listed below for all participants. This should be uploaded to the online form separately from your PDF proposal. SESYNC places priority on teams whose members have not had extensive prior collaborations with one another. It is important to note that SESYNC strongly prefers that at least 50% of the listed participants are new collaborations and come from unique institutions. In addition, a substantive number of individuals on your list should be confirmed for participation. Proposals with no confirmed participants are seen as less competitive.

For each participant, include:

- 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).

We ask that you download and complete this spreadsheet, [19] and then upload it separately to the online form once you are ready to submit your full application.
Apply

Proposals must be uploaded to SESYNC’s online submission system by **March 30, 2020 at 5 p.m. Eastern Time (ET).**

Click [here][1] to apply.

Questions?

Email: research@sesync.org [5]

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*The University of Maryland is an Equal Opportunity Employer

[Minorities and Women Are Encouraged to Apply]*

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**Source URL:** https://www.sesync.org/opportunities/propose-a-pursuit

**Links**

[1] https://rfp.sesync.org/proposal/welcome/2020C22
[3] https://www.sesync.org/actionable-science
[5] mailto:research@sesync.org
[6] https://www.youtube.com/watch?v=HmjLD3Ff3ao
[7] https://www.youtube.com/watch?v=SUy37FpiIRU
[8] https://www.sesync.org/about/funding-support
[10] https://www.sesync.org/about/frequently-asked-questions
[12] https://www.sesync.org/about/team-directory?field_role_tid_1=88
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[15] https://www.sesync.org/about/team-directory?field_role_tid_1=29
[16] https://www.sesync.org/about/team-directory?field_role_tid_1=84
[18] mailto:cyberhelp@sesync.org