



SESYNC Feedbacks

News from the National Socio-Environmental Synthesis Center

SPRING RFP OPEN | Apply for Pursuits & Workshops by March 30



SESYNC's Spring 2020 Request for Proposals Is Now Open!

Starting February 3, 2020, the National Socio-Environmental Synthesis Center (SESYNC) **invites proposals** for collaborative and interdisciplinary team-based research projects focused on socio-environmental (S-E) synthesis. Our Spring 2020 Request for Proposals seeks projects that fall under two programs: Pursuits and Workshops. See below for more information. **Deadline: March 30, 2020**

Pursuits

SESYNC supports Pursuit teams of **10-12 people**, from diverse backgrounds, to meet in intensive bursts at our center in Annapolis for **3 in-person meetings of 3-5 days each over 12 months**. We invite innovative and creative proposals on **any pressing socio-environmental problem**, as well as any proposals that fall under our Spring focal themes:

- Global Change and Health
- Socio-Environmental Implications of Large-Scale Infrastructure Projects
- Environmental Dynamics and Food Systems
- Transformative Technologies
- Demographic Shifts and Environmental Impacts
- NEON-Enabled Socio-Environmental Synthesis.

More details on the Pursuit RFP can be found [here](#).

Workshops

Teams interested in applying for a Workshop, **a single meeting of up to 25 participants**, may focus on a broad topic or a set of related topics relevant to socio-environmental synthesis. Workshops may summarize and/or synthesize the state of the topic and/or identify future directions that have the potential to lead to a larger synthesis effort. More details on the Workshop RFP can be found [here](#).

All proposals must be uploaded to SESYNC's online submission system by March 30, 2020 at 5:00 p.m. Eastern Time.

ADDITIONAL OPPORTUNITY:

NEW! Interactive Web-Based Visualizations and Decision Support Tools in Shiny/R for Quantitative Scientists Short Course

May 13-15, 2020

Deadline to Apply: February 15, 2020

This three-day short course will demonstrate how to use Shiny/R to create web-based tools for use by decision makers. [Learn more](#).

SUPPORTED RESEARCH | Awarded Projects Announcement



SESYNC announces that seven new inter-disciplinary research projects have been supported. The selected projects were submitted through SESYNC's spring request for proposals (RFP) for collaborative team-based synthesis research pursuits around emerging socio-environmental (S-E) synthesis topics. Read more about the projects below.

Pursuits

The Impact of Climate-Related Natural Disasters on Human Health

PIs: Christopher Golden, Harvard T.H. Chan School of Public Health; Ayesha Mahmud, University of

California, Berkeley

Theme: Global Change and Health

Socio-Environmental Impacts of Large Hydropower Dams across the Global South

PIs: Maria Claudia Lopez Perez, Michigan State University; Emilio F. Moran, Michigan State University; Sergio Villamayor-Tomás, ICTA, Autonomous University of Barcelona

Theme: Socio-Environmental Implications of Large-Scale Infrastructure Projects

Past Answers to Current Concerns: Historical Cases of Navigating Socio-Environmental Stress

PIs: John Haldon, Princeton University; Lee Mordechai, Hebrew University of Jerusalem

Theme: Pressing S-E Problem

Workshops

Understanding the Consequences of Changing Socio-Ecological Systems for Human-Wildlife Coexistence in the Americas

PIs: A. Sofía Nanni, CONICET, National University of Tucuman; Tara Teel, Colorado State University

Theme: Pressing S-E Problem

Bringing West Nile Virus Forecasting Approaches Together to Better Serve Stakeholders in a Changing Environment

PIs: Alexander Keyel, New York State Department of Health and University of Albany; Rebecca Smith, University of Illinois College of Veterinary Medicine

Theme: Pressing S-E Problem

Governing Nutrient Pollution Beyond Farmers

PIs: David Kanter, New York University; Zdravka Tzankova, Vanderbilt University

Theme: Pressing S-E Problem

Adaptation, Optimality, and Risk Management: What Do the Human Evolutionary Sciences and the Climate Sciences Have to Offer Each Other?

PIs: Anne Pisor, Washington State University; James Holland Jones, Stanford University

Theme: Pressing S-E Problem

SPRING SEMINARS | Our Tuesday Seminar Speakers & Topics

Spring 2020 Seminar Schedule Announced

Join us in Annapolis on Tuesday mornings at 11 a.m. for the Spring 2020 Seminar Series, starting Tuesday, January 28. The **seminar series**, one of SESYNC's primary public offerings, provides an opportunity for visitors to participate in the interdisciplinary intellectual life of the Center. You can find the **full seminar schedule** online and in a **poster here**. Upcoming seminars include:

Date	Presenter	Topic
Tuesday, February 4, 2020	Dr. Shafqat Hussain, Trinity College	The Snow Leopard and the Goat: Politics of Conservation in the Western Himalayas
Thursday February 13, 2020	Vanessa Serrao, National Geographic	Using Video for Impact at National Geographic Society
Tuesday, February, 18, 2020	Dr. Alix Contosta, University of New Hampshire	Winter Weather Whiplash: Impacts of Compound Extreme Winter Weather Events on Coupled Human and Natural Systems
Tuesday, February 25, 2020	Dr. Milagros Sosa Landeo, Wageningen University	Mining Water Governance: Everyday Community-Mine Relationships in the Peruvian Andes
Tuesday, March 10, 2020	Dr. Doug Lipton, NOAA Dr. Laurie Anderson, U.S. EPA Joanna Goger, University of MD	Rapid Talks by Environmental Policy Immersion Scholars

***Please note that the February 13 seminar will take place on Thursday instead of Tuesday, and**

Using the rslurm Package to Run Code in Parallel

A Data Scientist explains how to use the SESYNC R + Slurm package to run code, using an example of fitting a random forest model to American Time Use Survey data.

By: Quentin Read

What is rslurm?

SESYNC has a high-performance computing cluster that allows users to run lots of code quickly by splitting it up into many small parallel tasks and running them all at once on different processors. Many people in the SESYNC community could benefit from using the cluster to run big R jobs quickly. Unfortunately, submitting jobs to a cluster typically requires the user to know how to write shell scripts, which many SESYNC folks are unfamiliar with. To fix that, the SESYNC data science team developed the rslurm package--problem solved! Now, SESYNC users can run big parallel jobs directly from the RStudio server. The code has similar syntax to an apply statement in R, so it will look familiar to users, and the whole workflow can be packaged inside a single R script--no pesky shell scripts cluttering things up! To read more about the rslurm package, visit the [rslurm package website](http://loyberhelp.sesync.org/rslurm/).



[Read the rest of the blog here.](#)



A type of green stormwater infrastructure practice integrated into a curb bump-out: runoff from the street is diverted into the planted area opposed to entering the storm drain. Source: U.S. EPA Flickr account

Why STEM Needs Environmental Justice: A Call to Action

A SESYNC postdoc explains why environmental justice plays a critical role in her research and the need for other scientists to do the same.

By: Fushcia-Ann Hoover

As an interdisciplinary researcher, I am interested in the relationships between people, place, and their environment. I ask questions focused on how environmental inequity manifests within and across green stormwater infrastructure (GSI)—a type of green space for stormwater management—with respect to urban planning. In particular, I look at GSI's interaction(s) with the cultural histories and landscapes of Black urban residents. This work grew out of a realization that the perspectives and attitudes of people of color were missing from much of the stormwater management literature. This absence led me to integrate an environmental justice (EJ) lens into my science.

Why STEM Needs Environmental Justice

Incorporating an EJ lens into environmental research is critical for everyone, but especially for those of us in STEM. It is common practice in STEM to approach studying people and the environment as separate entities, but we are as much a product of our environment as we are a driver. Unfortunately, not everyone has a choice in deciding their environmental conditions, or has access to fully participating in the shaping of their environment—even though they are experiencing its effects. When we evaluate the locations of environmental hazards and high-quality green space, landscaping, or even conservation efforts, it is not by coincidence that predominately white communities across the country experience lower exposures to environmental hazards and have well-maintained recreational space like parks, trails, lakes, or swimming pools. [Read more.](#)

STAFF UPDATES | Welcoming Newest Members of SESYNC

SESYNC recently welcomed Rachel Swanwick, as the Center's new Environmental Science Research Associate, and Rachel Mason, a new postdoctoral fellow. Learn more about them below.



Rachel Swanwick, Environmental Science Research Associate

Rachel Swanwick is the Environmental Science Research Associate at the National Socio-Environmental Synthesis Center (SESYNC). In this role, she assists with SESYNC's program development and research initiatives.

Prior to joining SESYNC, Rachel has worked across disciplines with an overarching focus on conservation and stewardship. Rachel has experience as a scientific program analyst, environmental science educator, and U.S. Forest Service Ranger. She has also worked on habitat restoration projects at Brandeis University, the University of Cape Town, South Africa, and the Great Swamp National Wildlife Refuge.

[Learn more.](#)



Redlining Linked to Hotter Neighborhoods

In a [recent NPR article](#), research from former SESYNC postdocs **Dexter Locke & Billy Hall** and former SESYNC researcher **Morgan Grove** demonstrates the link between racist housing practices and hotter temperatures in some communities today.



Cutting Food Waste by 50% Could Reduce Environmental Impacts

SESYNC's postdoc **Quentin Read** and former postdoc **Jessica Gephart**'s recent article in *Science of the Total Environment* examines the potential benefits of [cutting food waste](#) by 50% and where to target efforts along the supply chain.



Social Media Can Provide Insight into Urban Human-Wildlife Interactions

The results of a study done by former SESYNC postdoc Bianca Lopez could have implications for conservation and environmental education efforts in Chicago. Lopez and colleagues used online platforms to gauge [where urban dwellers interact with wildlife](#).

NEW PUBLICATIONS | SESYNC in the Journals

"One Size Does Not Fit All': A Roadmap of Purpose-Driven Mixed-Method Pathways for Sensitivity Analysis of Agent-Based Models." Published in [The Journal of Artificial Societies and Social Simulation](#) by SESYNC researcher Nick Magliocca and colleagues.

"A Generic Arboviral Model Framework for Exploring Trade-Offs between Vector Control and Environmental Concerns." Published in [Journal of Theoretical Biology](#), by Gonzalo Suarez, Oyita Udiani, Brian Allan, Candice Price, Sadie Ryan, Eric Lofgren, Alin Coman, Chris Stone, Lazaros K. Gallos, and Nina H. Fefferman, as part of the Pursuit, [Modeling Risk Perception, Vector-Borne Diseases, and Environmental Integrity: Understanding Environmental Impacts of Policy Decisions for Vector Control](#).

"Seasonal drivers of geographically isolated wetland hydrology in a low-gradient, Coastal Plain landscape." Published in [Journal of Hydrology](#) by former SESYNC postdoc Nate Jones and SESYNC Director Margaret Palmer with colleagues.

"Trade-Offs with Telemetry-Derived Contact Networks for Infectious Disease Studies in Wildlife." Published in [Methods in Ecology and Evolution](#) by SESYNC postdoc Lauren White.

"County-level analysis reveals a rapidly shifting landscape of insecticide hazard to honey bees (*Apis mellifera*) on U.S. farmland." Published in [Scientific Reports](#) by Margaret R. Douglas, Douglas B. Sponsler, Eric V. Lonsdorf, and Christina M. Grozinger, as part of the Pursuit, [Putting Pesticides on the Map to Guide Conservation of Pollinators and Their Ecosystem Services](#).

"Insights into human-wildlife interactions in cities from bird sightings recorded online." Published in [Landscape and Urban Planning](#), by former SESYNC postdoc Bianca Lopez and colleagues.

"Assessing the environmental impacts of halving food loss and waste along the food supply chain." Published in [Science of the Total Environment](#), by SESYNC postdoc Quentin Read, former SESYNC postdoc Jessica Gephart, Amanda D. Cuéllar, Steven M. Finn, Ellen Meyer, Keith Weitz, Mary Muth, and colleagues, as part of the Foundation, [Food Waste and the Environment](#).

"Understanding and countering the motivated roots of climate change denial." Published in [Current Opinion in Environmental Sustainability](#) by Gabrielle Wong-Parodi and Irina Feygina, as part of the Foundation, [Advancing the Science of Knowledge Use: Mechanisms, Applications and Gaps](#).

"Placing volunteered geographic health information: Socio-spatial bias in 311 bed bug report data for New York City." Published in [Health & Place](#) by Daniel Schneider and colleagues, as part of the Pursuit, [Socio-Spatial Ecology of the Bed Bug and its Control](#).

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