Save the Date: June 11-13, 2018

Boundary Spanning: Advances in Socio-Environmental Systems Research

An International Symposium

The National Socio-Environmental Synthesis Center (SESYNC) in partnership with Resources for the Future (RFF), the National Science Foundation (NSF), and the University of Maryland (UMD) is convening an international symposium devoted to exploring the current state of socio-environmental systems research, recent
advances, and the unique challenges and opportunities of this field to understand and provide solutions to increasingly complex issues.

To learn more and apply, please visit our Symposium website.

Postdoctoral Fellows

We are excited to welcome two new postdocs this month.

**Tijana Jovanovic** is a joint SESYNC-Microsoft postdoctoral fellow. With a background in Urban Hydrology, she will be looking at various aspects of green infrastructure implementation in urban areas to understand the diversity of goals and interests present in urban environments and how they might be reconciled in order to build cities in a more sustainable and resilient way.

**Rob Rankin** joins SESYNC to study "Population Biology and Social Networks of Bottlenose Dolphins". He studies the survival and movement of marine mega-fauna (dolphins, seabirds) by developing statistical models, in particular, Bayesian hierarchical models, network models, and machine-learning techniques.

Congratulations to two of our postdocs, **Albert Ruhí** and **Ginger Allington**, on their new positions.

**Albert** will be transitioning to University of California Berkeley as an Assistant Professor in the Department of Environmental Science, Policy, and Management. At SESYNC, Albert's research focused on dams and water scarcity and analyzed where dams have the highest impact on hydrological and ecological alterations. Albert plans to continue this applied research at Berkeley as well as pursuing the influence of drought on biodiversity through a more ecological lens.

**Ginger** will be staying more local as an Assistant Professor in the Department of Geography at George Washington University. Her SESYNC research worked to develop a system for categorizing land cover change in rangelands and to analyze the relationship between individual household behaviors with ecological outcomes in a range of ecological zones. She will continue this research to understand the drivers and consequences of landscape change and how that change influences individuals' decisions.

Videos
What methods and approaches are commonly used to deal with diverse and heterogeneous data in socio-environmental synthesis? The third video in our three-part series explores the general analytical approach of synthesis research, which requires teams to articulate a shared conceptual understanding of a socio-environmental system, identify diverse data sources to measure social and environmental dimensions of the system, and integrate those data into complex analyses.

Check out all three videos on our website or on YouTube.

Geospatial Data Analysis Short Course

Application Deadline: January 5, 2018

The National Socio-Environmental Synthesis Center (SESYNC) invites applications for participation in a Geospatial Data Analysis Short Course to be held April 2-4 at SESYNC in Annapolis, Maryland. The course aims to accelerate the adoption of open source computing resources for geospatial and temporal analyses of socio-environmental (SE) issues. The event will combine lectures with hands-on computer labs that teach new analytical methods and workflow skills through several example applications: land cover change following wildfire, environmental vulnerability to lead exposure, suitability analysis for conservation easements, and flood mapping in urban environments.

There is no fee for the course. Support for travel and lodging in Annapolis, MD may be available as-needed and if requested in your application.

To learn more and apply, please visit our website.

SESYNC Publications

Designing river flows to improve food security futures in the Lower Mekong Basin. Published in Science by John Sabo, SESYNC postdoc Albert Ruhi, and colleagues.

Ecological surprise: concept, synthesis, and social dimensions. Published
in *Ecosphere* by Karen Filbee-Dexter and colleagues as part of the Graduate Pursuit, *Governance and Surprise*.

**Benefit relevant indicators: Ecosystem services measures that link ecological and social outcomes.** Published in *Ecololical Indicators* by Lydia Ollander and colleagues as part of the Workshop, *Interdisciplinary Best Practices for Ecosystem Services Methods in Federal Agency Decision Making*.

**Social institutions mediating seed access in West African seed systems.** By SESYNC researcher Kristal Jones in *Facets*.

**Using the 'regime shift' concept in addressing social-ecological change**
Published in *Geographical Research* by Christian Kull and colleagues as part of the Pursuit, *Socioecology of Acacia*.

**Cross-interdisciplinary insights into adaptive governance and resilience.**
Published in *Ecology and Society* by Tony Arnold and colleagues as part of the Pursuit, *Social-ecological System Resilience, Climate Change, and Adaptive Water Governance*.

**Patterns and drivers of fish extirpations in rivers of the American Southwest and Southeast.** Published in *Global Change Biology* by John Kominoski, SESYNC Postdoc Albert Ruhi, and colleagues.

**Making the most of data-poor fisheries: Low cost mapping of small island fisheries to inform policy.** Published in *Marine Policy* and led by former SESYNC Postdoc David Gill.

**Tree Canopy Change in Coastal Los Angeles, 2009 - 2014.** Led by SESYNC postdoc Dexter Locke in *Cities and the Environment*.

**Evidence of cultural group selection in territorial lobstering in Maine**
Published in *Sustainability Science* by Timothy Waring and James Acheson as part of the Pursuit, *Evolution of Sustainability*.

**Designing cultural multilevel selection research for sustainability science.**
Published in *Sustainability Science* by Michelle Kline and colleagues as part of the Pursuit, *Evolution of Sustainability*.

**The social structural foundations of adaptation and transformation in social-ecological systems.** Published in *Ecology and Society* by a team including former SESYNC postdoc Steven Alexander.

**Estimating restorable wetland water storage at landscape scales.** Led by SESYNC postdoc Nate Jones in *Hydrological Processes*.

**Modeling the decline of labor-sharing in the semi-desert region of Chile.**
Published in *Regional Environmental Change* by former SESYNC postdoc Andres Baeza and Marco Janssen as part of the Pursuit, *Human Decisions and Ecosystem Services*.

**Evolving the Anthropocene: linking multi-level selection with long-term social-ecological change.** Published in *Sustainability Science* by a team including former SESYNC researcher Nicholas Magliocca.

**Should we discipline interdisciplinarity?** Published in *Palgrave Communications* by SESYNC affiliated researcher Gabriele Bammer.
Applying a cultural multilevel selection framework to the adoption of sustainable management practices in California viticulture. Published in *Sustainability Science* by Vicken Hillis and colleagues as part of the Pursuit, Evolution of Sustainability.

Designing the EMBeRS Summer School: Connecting Stakeholders in Learning, Teaching and Research. By Kate Thompson and colleagues in *Proceedings of the 25th International Conference on Computers in Education* as part of the Pursuit, Understanding, Teaching, and; Employing Model-Based Reasoning in Socio-Environmental Synthesis (EMBeRS).

Socio-environmental drought response in a mixed urban-agricultural setting: synthesizing biophysical and governance responses in the Platte River Watershed, Nebraska, USA. Published in *Ecology and Society* by Samuel Zipper and colleagues as part of the Graduate Pursuit, Resilience to Water Hazards.