**Research Highlights**

**Capacity shortfalls hinder the performance of marine protected areas globally**

Dr. David Gill, a former SESYNC postdoctoral fellow, led the publication of an in-depth analysis of the social and ecological performance of marine protected areas, and published the findings in *Nature* on March 22. After four years compiling and analyzing data on site management and fish populations in 589 MPAs around the world, Dr. Gill and his co-authors discovered that shortfalls in staffing and funding are hindering the recovery of fish populations in MPAs.

*Popular Science* covered the research and Dr. Boris Worm provided perspective on Gill's research in a *Nature’s News and Views* article, writing, "To use an analogy, we cannot just build hospitals and hope that they will somehow ensure public health - the number of staff, the quality of their training and the level of funding clearly are crucial. The same goes for ocean conservation efforts, but it takes careful analysis to quantify capacity gaps and to show empirically where new investment is most likely to pay off."
Click here to read SESYNC's press release. An info-graphic of the findings is also on SESYNC's website.

Adding power to the value of trees

'The shade from trees reliably cools humans and the environment in which they live. Researchers are now trying to show how the energy savings of this ecosystem service can be measured.'

SESYNC Senior Fellow Lisa Palmer published a Feature article in Nature Energy highlighting the research of SESYNC Postdoctoral Fellow Joe Maher as well as SESYNC's Social Scientist Dr. Morgan Grove. Read the article here.

Apply for SESYNC's Research Opportunities!

SESYNC Invites Proposals for Collaborative Pursuits & Workshops

SESYNC invites proposals for collaborative team-based research (Pursuits) that synthesize existing data, methods, theories, and tools to address a pressing socio-environmental problem. Projects that bring together quantitative and qualitative data and knowledge are of special interest. In this Request for Proposals we are introducing two NEW Themes, and have a particular interest in developing portfolios of projects to address aspects of each.

New Themes:

- Environmental Dynamics and Food Systems
- Sudden or Unexpected Events: Environmental Recovery, Reorganization, or Restoration

Please note that proposals do not need to fall within one of SESYNC's previous Themes or the new Themes listed above. Applicants are encouraged to examine existing SESYNC funded Pursuits for examples of successful proposals.

SESYNC is also accepting proposals for Workshops that are single meetings of up to 25 participants that focus on a broad topic or a set of topics related to socio-environmental science.

Proposals for both Pursuits and Workshops are due May 15. Click here to find out more about SESYNC's Requests for Proposals.

SESYNC Requests Proposals for Graduate Student Research
In addition to the above Request for Proposals, SESYNC is also accepting applications for Graduate Student Pursuits. Click here to find out more about SESYNC's Grad Student RFP.

For students interested in the RFP, there is a Facebook group to share research ideas, which can be accessed here. Applications are due May 26.

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Apply Now for Summer Short Courses

**Introduction to Social Network Analysis**

Apply by April 24 for a short course on Social Network Analysis to be held at the Center June 5 - 9. This five-day short course will serve as an introduction to the theory and practice of social network analysis (SNA). Where standard statistical analysis assumes that observations on different entities (people, organizations, animals, etc.) are independent, SNA looks to the relationships among these observations to try to explain why this configuration of relationships might exist, or how this network structure explains other attributes of the network. While network science has a long tradition, this field has recently exploded with new data resources in social media and new computational methods, particularly in the application to socio-environmental systems.

Want to learn more? Click here for more information and for online application instructions.

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**Teaching Socio-Environmental Synthesis**

Applications for SESYNC's Teaching Socio-Environmental Synthesis with Case Studies short course are due April 18! The course will be held July 25-28 at the Center.

We seek a diverse group of participants, including faculty, postdocs, and graduate students from both the social and natural sciences. Participants should have a strong interest in learning about and teaching S-E synthesis and be willing to commit to writing a case study related to S-E synthesis. Teams are strongly encouraged, but not required.

Click here for more information and to apply online.

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**Summer Institute:**

**Cyberinfrastructure for Socio-Environmental Synthesis**

Apply by April 25 for SESYNC's short course on data and software skills for socio-environmental synthesis (SES). The 4th annual Summer Institute will be held July 18-21 at SESYNC in Annapolis, Maryland. The short course will combine lectures, hands-on computer labs, and project consultation designed to accelerate the adoption of cyber resources for all phases of data-driven
Other Recent Publications

The rise and fall of malaria under land-use change in frontier regions - Led by former SESYNC Postdoctoral Fellow Andres Baeza and published in *Nature Ecology & Evolution*.

The economic value of grassland species for carbon storage - Professor Bruce Hungate led the publication of this study in *Science Advances*. The research is a product of the *Linking Biodiversity & Ecosystem Services* Project.

Theorizing the Social Structural Foundations of Adaptation and Transformation in Social-Ecological Systems - Postdoctoral Fellow Steven Alexander co-authored the article, which is available at *SSRN*.

The role of law in adaptive governance - Professor Barbara Cosens led the publication in *Ecology and Society* as part of the *Adaptive Water Governance Project*.

Legal and institutional foundations of adaptive environmental governance - Professor Daniel DeCaro (also part of the Adaptive Water Governance Project) led the research published in *Ecology and Society*.