



# SESYNC Feedbacks

News from the National Socio-Environmental Synthesis Center



## WATER | Understanding the Human Connection

### Dive into SESYNC's Pool of Water-Related Resources

With summer in full swing here at SESYNC, we're doing our best to stay cool and hydrated! And it's little surprise that water is more likely to be top of mind during these hotter, drier months. This is the season in which many water-related questions arise—such as those about water quality and safety when swimming in rivers and lakes; crop irrigation during periods of drought; and impacts of recreational activities such as fishing and boating.

Water is our lifeblood. And even though it covers 71% of our planet, there are still many, many questions about how we can sustainably use this precious resource. At SESYNC, we've been lucky to have numerous water researchers lend their expertise, insights, and findings to our collection of knowledge.

So, if you're looking to quench your thirst for knowledge or refresh your lesson plans, dive into some of our water-related research and learning resources. **Sea** for yourself below! **Water** are you waiting for?

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### What Is Socio-Hydrology?

This brief explainer article introduces learners to understanding linked human-water dynamics. It covers the basics of the topic of socio-hydrology, including:

- The origins of the concept
- Its distinction from similar fields
- Relevant socio-hydrology research questions. [Learn more.](#)

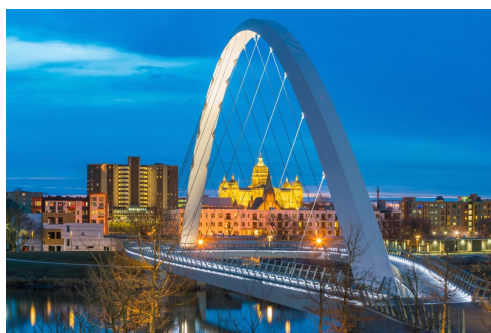


## Research in Action: Water & Governance

This video digs into how a SESYNC team collaborated to better understand the implications of water-management decisions. It provides an overview of how the group worked towards developing a set of tools to help society navigate a more sustainable future. [Learn more.](#)

## Socio-Environmental Synthesis of a Water Conflict – A Teaching Case Study

Using a classic case of water quality conflict involving upstream-downstream stakeholders, this case study aims to enable students to understand the complexity and interconnectedness of the environmental and social components of water-quality management. Using stakeholder analysis, mental models, and role-play activity, students will develop an understanding of how a situation of conflict unfolds when water users face collective action problems. [Learn more.](#)



## Sustainable Agriculture Lesson: Aquaculture Scenarios

This lesson dives into sustainable aquaculture. Here learners take on different roles of diverse and novice aquaculturists—striving to strike a balance between providing high-quality seafood to global populations while managing environmental effects and addressing social inequality. [Learn more.](#)

## Lesson: Political Ecology in Action: Water and People

This lesson uses issues at the intersection of water and communities to illustrate how political ecology frameworks can help provide insights into the origins, dynamics, and inequities associated with socio-environmental problems. [Learn more.](#)



## Extractive Marine Protected Areas





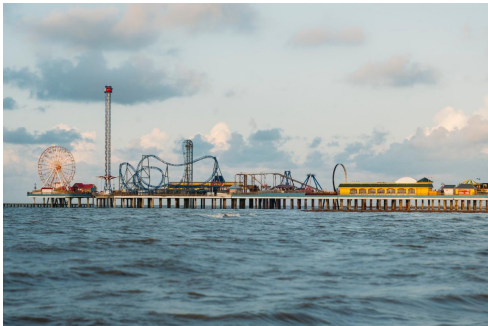
## (MPAs) Can Be Just as Effective as No-Take MPAs Under the Right Circumstances

This research highlight examines the findings of SESYNC researcher David Gill on the impacts of extractive (i.e., those that allow fishing) MPAs compared to no-take (MPAs). While no-take MPAs may provide the most benefit on average, Gill explained how implementing that MPA style might not always be possible or ethical.

Therefore, he and his team looked at whether extractive MPAs could provide similar benefits under the right context and management systems. [Learn more.](#)

## Socio-Hydrology: Including Human Behavior in Flood Risk Models

This socio-environmental modeling case study provides examples of the use of socio-hydrological modeling to understand the difficult problems associated with flooding. It draws on two papers that use different approaches to explore social dimensions associated with flooding risk and losses. [Learn more.](#)



## Coastal Resilience Lesson: Seawalls, Mangroves, & Environmental Justice

This lesson examines different strategies for managing sea level rise and enhancing coastal communities' resilience, using two case studies. The contrasts in both cities' approaches to sea level resilience serve as an example in differences in environmental justice. [Learn more.](#)

## IN THE LITERATURE | Related Water Publications

Below are some SESYNC-supported articles examining the interface of water and people.

- Stewart et al. 2023 – Setting a reference for wetland carbon: the importance of accounting for hydrology, topography, and natural variability. [Learn more.](#)
- Obringer et al. 2024 – Urban water and electricity demand data for understanding climate change impacts on the water-energy nexus. [Learn more.](#)
- Lehner et al. 2024 – The Global Dam Watch database of river barrier and reservoir information for large-scale applications. [Learn more.](#)
- Mejia et al. 2023 – Closing the gap between science and management of cold-water refuges in rivers and streams. [Learn more.](#)
- Gill et al. 2024 – A diverse portfolio of marine protected areas can better advance global conservation and equity. [Learn more.](#)
- Hardy 2023 – Flood Risk as Legacy Vulnerability: Reading the past into the present for environmental justice. [Learn more.](#)
- Palacios-Abrantes et al. 2023 – Incorporating protected areas into global fish biomass projections under climate change. [Learn more.](#)
- Cho et al. 2023 – Collaborative Watershed Modeling as Stakeholder Engagement Tool for Science-Based Water Policy Assessment in São Paulo, Brazil. [Learn more.](#)



## NEW INTERDISCIPLINARY CENTER | Open Job Positions!

### New Synthesis Research Center Seeking Applicants for Two Open Positions

SESYNC is pleased to share that a new interdisciplinary socio-environmental research center is set to open! The **Luxembourg Centre for Socio-Environmental Systems (LCSES)** is an interdisciplinary, synthesis research center based at the University of Luxembourg. Its founding director is former SESYNC researcher **Dr. Ralf Seppelt**.



#### Open Positions:

Dr. Seppelt is currently seeking to **fill two open positions** that will help to build the Center. As members of the Center's founding team, these individuals will have the unique opportunity to influence the organization of the Center and to shape the research and science that it will implement.

1. **Research Scientist in Environmental Modeling & Data Science** – This person will lead the data science group.
2. **Research Scientist in Interdisciplinary, Environmental Synthesis Research** – This person will lead the set up of the synthesis and team science center.

***Early application is highly encouraged, as the applications will be processed upon reception. Please apply ONLINE formally through the HR system. Applications by email will not be considered.***

#### About the Center:

"**LCSES** strives to grow into an internationally recognized research hub for a more sustainable and equitable world. Our researchers will address critical environmental challenges and guide sustainable resource management and public policy. As an interdisciplinary centre, LCSES will bring together experts from various fields, including biodiversity research, global food security, one health, and the governance of common goods."

For more information, visit: <https://www.uni.lu/lcses-en>. Or contact **Dr. Seppelt**.

## CONTACT US | We Want To Hear From You!

Have updates or outcomes tied to your SESYNC research that would make for an

interesting research spotlight? Looking for a resource on a topic that we haven't covered yet? Want to share an idea? Contact us at [communications@sesync.org](mailto:communications@sesync.org).

[www.sesync.org](http://www.sesync.org)



SESYNC | 1 Park Place Suite 300 | Annapolis, MD 21401 US

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