



SESYNC Feedbacks

News from the National Socio-Environmental Synthesis Center



RESEARCH & RESOURCES | Examining Human Behavior

How to Integrate Human Behavior and Decision Making into Solving Complex Environmental Issues

Trying to understand what drives people to believe, act, and think in the ways that they do is more than a little challenging. But, humans play an integral role in shaping their environment, and by incorporating human behavior into environmental research, we may be able to find more viable solutions to pressing environmental challenges.

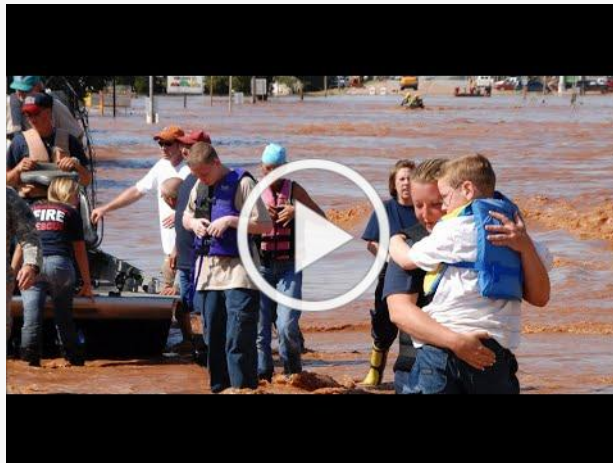
In fact, SESYNC's focus has always been to bring together the science of the natural world with the science of human behavior and decision making to solve complex environmental problems. Below you'll find a variety of resources that help users to think about how humans' actions and decisions contribute to environmental issues (and solutions). They also provide guidance and real-world examples of how to integrate human behavior into environmental research. Find more below.



Incorporating Behavior in Socio-Environmental Systems Modeling

An important advance in socio-environmental (S-E) system modeling has involved the dynamic incorporation of psychologically complex behavior change and decision making. Since social drivers interact with other elements in models, respond to feedbacks, and change over time, they can have a significant impact on a model's outcome.

In this video, Dr. Jonathan Gilligan provides an overview of efforts to include behavior change into socio-environmental models. Using a rich array of examples from his and others' work, he shows how modelers are testing environmental and social outcomes using a variety of psychological behavior theories. [Learn more.](#)



Lesson: Fertilize Like the Joneses —The Ecology of Prestige

This lesson explores pathways to integrate ecology with new insights into individual, local, and regional sociologies. It introduces natural science students to concepts like the ecology of prestige and social conformity network feedback loop. Using applied science in lawn care regimes, tree cover canopy, and

birdwatching locales, this lesson will help natural science students understand how human social pressures may promote resilient and sustainable urban-suburban land use futures. [Learn more.](#)

Sustainability through the Lens of Human Behavioral Ecology

In this lecture, Dr. Monique Borgerhoff Mulder overviews the focus, history, and approaches used in the subdiscipline of human behavioral ecology. She explains how behavioral ecology uses simulated and empirical tools to identify transmitted traits and tries to understand the function of those traits. She also offers examples of conservation

as cooperation, when human decision making for other humans benefits the environment, as well. She ends by describing how human behavior ecology seeks to better understand human tendencies, how those tendencies vary, and potentially how they can be contained or harnessed. [Learn more.](#)



Lesson: What Influences Pro-Environmental Behavior? Learning from Psychological Research

This short lesson draws from psychological research by scholar Linda Steg of the University of Groningen. It challenges learners to consider how individual and collective values influence pro-environmental behavior, as well as when and why people act upon those values. [Learn more.](#)



Lesson: Behavioral Economics and Timescale Mismatches

In this lesson, based on research from Wilson et al. (2016), learners explore possible solutions that involve Behavioral Economics (BE)—including enhancing the urgency of long-term consequences; using structured decision processes that emphasize time frames and consequences; and developing structural guides that reframe the perception of behavior with

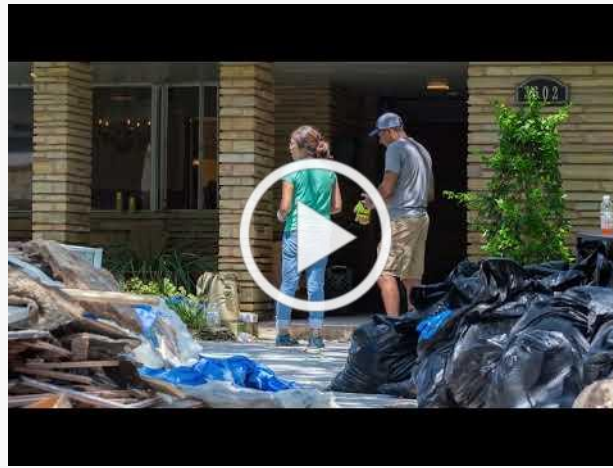
negative consequences. [Learn more.](#)

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. Drawing on two papers that use different approaches to explore social dimensions associated with flooding risk and losses, this video covers four related topics:

1. A generalized process-based modeling for simulating community responses to infrequent disasters
2. Use of a machine learning modeling approach to relate disaster and loss to socio-economic conditions
3. Why significant amounts of data are needed for both of these modeling approaches
4. A comparison of the two approaches and the types of research and planning they

support.



Audio Interview: Accounting for Human Behavior in Climate Models

Did you know that most climate models don't account for humans responding and adapting to climate change? In this episode, Dr. Brian Beckage, a professor of plant biology and computer science, and Dr. Katie Lacasse, an associate professor of psychology, discuss their efforts to create more accurate climate models by integrating human behavior (and why you should too). [Learn more.](#)



Accounting for Human Behavior in Climate Models

Succinct Science—Audio Interviews f... • By [The National Socio-Environmental Synthesis C...](#) • Jul 28, 2022



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Lesson: Climate Change and Choices: Change Behavior, Mitigate, or Adapt?

This lesson briefly reviews introductory concepts around climate change, including how emissions cause warming, which gases are involved and how they are produced, and what international policy is doing. Learners select a climate change-related problem, conduct research on the problem,

and then develop a presentation on possible mitigation and adaptation strategies, including individual choices and behaviors. [Learn more.](#)

NEW PUBLICATIONS | SESYNC in the Journals

"A convergence research approach to resolving 'wicked problems': Lessons from an interdisciplinary research team in land use science." Published in [Applied Geography](#) by Jennifer A. Devine, Nicholas R. Magliocca, Kendra McSweeney, Beth Tellman, Matthew Fagan, Steven E. Sesnie, and Erik Nielsen.

CONTACT US | We Want To Hear From You!

We'd like to hear from you! Do you have updates or outcomes tied to your SESYNC research that would make for an interesting research spotlight? Are you looking for a

resource on a topic that we haven't covered yet? Do you want to share an idea? Contact us at communications@sesync.org.

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