



SESYNC Feedbacks

News from the National Socio-Environmental Synthesis Center



LESSONS FOR EDUCATORS | "Playing" with Climate Change

New SESYNC Lessons Combine Interactive Climate Change Video Game with Classroom Instruction

Two new SESYNC lessons use the online game **Survive the Century**—designed by **SESYNC researchers**—to help students explore various policy decisions that can influence the degree of climate change impacts over the next century.



Lesson 1: Survive the Century: Climate Change Journalists of Tomorrow

In **this lesson**, students play the game to pursue two alternate outcomes: ecotopia and ecocide. As they play, they will be immersed in creative newspaper headlines that mark climate and environmental justice events caused by their scenario choices. Their creative challenge is to write short, proleptic (future-narrative), newspaper articles that develop these headlines in detail. The assignment will require them to integrate factual information (logos) with creative writing that articulates future events: fact-based climate fiction.

A downloadable version of this lesson is available [here](#).

Lesson 2: Survive the Century: Climate Change Decisions for Your Grandchild

This scenario-based creative lesson challenges students to design their grandchild's hometown in the year 2100, while limiting global warming to the 1.5–2° Celsius (C) range (the ambitious lower end of what we can achieve). By playing the game in parallel with the EnROADS Simulator, students will test out various scenarios of environmental adaptation, technology, fossil fuel taxation, population, and green infrastructure to envision their

grandchild's hometown in 2100—a place that is not only survivable, but more equitable, beautiful, and sustainable.

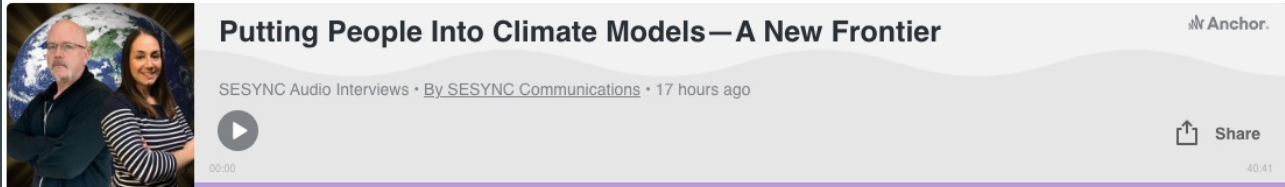
A downloadable version of this lesson is available [here](#).

NEW RESOURCES | Lessons, Learning Materials, & More

Be sure to check out the **other resources** in our ever-growing collection, available at sesync.org/resources. These include **case studies**; **learning materials** including topical lectures; **explainers**; and more.

Have suggestions for future resources? Contact us at communications@sesync.org.

AUDIO INTERVIEW | Putting People in Climate Change Models



New SESYNC Audio Interview Talks Research Incorporating Human Behavior into Climate Change Models

It's hardly a secret that coupled human-natural systems are inherently complex due to interactions and feedbacks that perpetually evolve. Despite the dynamic nature of these systems' processes, climate change models often reflect a static representation of human behavior—not accounting for the human capacity to respond, react, and adapt.

This lack of adequate climatic simulations spurred **SESYNC researchers Drs. Brian Beckage and Katie Lacasse** to embark on a new frontier—exploring how to better **incorporate people into climate models**. Listen to this **audio interview** with SESYNC's Erin Duffy to hear more from Beckage and Lacasse about their innovative work.



WEBINAR RECORDING | Modeling Behavioral Change

Modeling Behavioral Change in Socio-Environmental Systems



Jonathan Gilligan
Presenter



Marco Janssen
Panelist



Firouzeh Taghikhah
Panelist



Gilberto Montibeller
Panelist



Katherine Lacasse
Panelist

Recording of Recent Webinar Is Now Available

A recording of our recent webinar—**Modeling Behavioral Change in Socio-Environmental Systems**—is now available on SESYNC's YouTube channel.

This **recorded webcast** and panel discussion focused on the critical challenge of incorporating

the human dimension into socio-environmental systems (SES) modeling. It presents the state of the art in modeling behavioral change, fundamental scientific challenges, and promising research directions. Intended for practitioners and scholars who commission, sponsor, or use SES models, the webcast recording begins with a pre-recorded presentation by Dr. Jonathan Gilligan of Vanderbilt University. It's followed by a short talk from panelists, Marco Janssen, Firouzeh Taghikhah, Gilberto Montibeller, and Katherine Lacasse, who reflect on the specific challenges and solutions for incorporating human dimensions using case studies from their experience. Watch the video below.

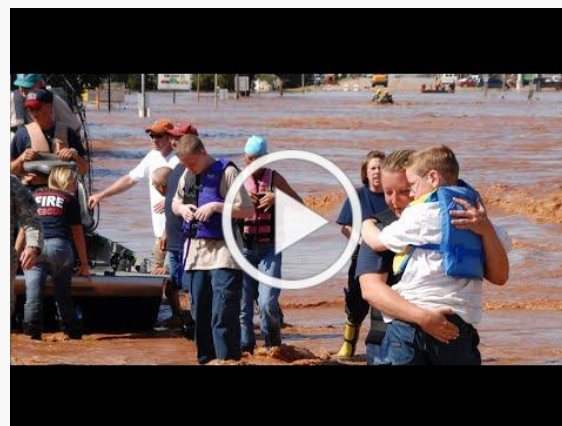


A list of publications mentioned during the webcast is available [here](#).

Shorter Tutorial—Perfect for Classrooms

A shorter tutorial video on **Incorporating Behavior in Socio-Environmental Systems Modeling**, presented by Dr. Jonathan Gilligan of Vanderbilt University is also available.

In **this video**, Gilligan provides an overview of efforts to include behavior change into socio-environmental models and explains how the latest studies go beyond describing behavior in simple economic terms (e.g., assuming rationale actor theory to maximize utility) to include both individual and collective interactions that influence decision making.



Be sure to **subscribe** to SESYNC's YouTube channel to receive notifications whenever we add new videos!

NEW PUBLICATIONS | SESYNC in the Journals

"What's governance got to do with it? Examining the relationship between governance and deforestation in the Brazilian Amazon." Published in **PLOS One** by Rayna Benzeev, Bradley Wilson, Megan Butler, Paulo Massoca, Karuna Paudel, Lauren Redmore, and Lucía Zarbá. This paper resulted from the SESYNC Graduate Student Pursuit: [What's governance got to do with it? Examining](#)

[the role of institutional quality in forest conservation.](#)

"Risks to biodiversity from temperature overshoot pathways." Published in *Philosophical Transactions of the Royal Society B: Biological Sciences* by Andreas L. S. Meyer, Joanne Bentley, Romaric C. Odoulami, Alex L. Pigot and former SESYNC Postdoctoral fellow Christopher Trisos.

"Pathways for assessing interdisciplinarity: A systematic review." Published in *Research Evaluation* by Bethany K. Laursen, former SESYNC Assistant Director for Interdisciplinary Science, Nicole Motzer, and Kelly J. Anderson.

"Biases and limitations of Global Forest Change and author-generated land cover maps in detecting deforestation in the Amazon." Published in *PLOS One* by Eva Kinnebrew, Jose I. Ochoa-Brito, Matthew French, Megan Mills-Novoa, Elizabeth Shoffner, and Katherine Siegel. This paper resulted from the SESYNC Graduate Pursuit: [The interactions between agricultural expansion and conservation prioritization, discourse, and practice: A multi-scalar analysis in the Amazon basin.](#)

"Mind the gaps for the best practices: Enhancing the management of Lake Victoria fisheries resources." Published in *Lakes & Reservoirs: Science, Policy and Management for Sustainable Use* by Christopher Mulanda Aura, Amber Roegner, Horace Owiti, Dorothy Birungi, Kathryn J. Fiorella, Jessica Corman, Robert Kayanda, Patrick Mbullo, Chrisphine S. Nyamweya, Geoffrey Mchau, Miles Daniels, and Richard Oginga Abila. This paper resulted from the SESYNC Pursuit: [Perception versus reality: How the consequences of eutrophication impact subsistence fishery communities around Lake Victoria.](#)

"How coupled is coupled human-natural systems research?" Published in *Ecology & Society* by former SESYNC Postdoc Yoon Ah Shin, Katherine Lacasse, Louis J Gross, and Brian Beckage. This paper resulted from the SESYNC Foundation: [Putting people into climate models: A multi-model approach to integrating human behavior and climate change.](#)

"Guiding large-scale management of invasive species using network metrics." Published in *Nature Sustainability* by Jaime Ashander, Kailin Kroetz, Rebecca Epanchin-Niell, Nicholas B. D. Phelps, Robert G. Haight & Laura E. Dee. This paper resulted from the SESYNC Pursuit: [Using integrated socio-environmental networks to improve the management of environmental systems.](#)

"Old world vultures reflect effects of environmental pollutants through human encroachment." Published in *Environmental Toxicology and Chemistry* by Sonja C. Krüger, Andre Botha, William Bowerman, Brent Coverdale, Meredith L. Gore, Linda van den Heever, L. Jen Shaffer, Hanneline Smit-Robinson, Lindy J. Thompson, and Mary Ann Ottinger. This paper resulted from the SESYNC Pursuit: [Saving Africa's Vultures.](#)

"Enabling conditions for effective marine spatial planning." Published in *Marine Policy* by Rachel Zuercher, Natalie C. Ban, Wesley Flannery, Anne D. Guerry, Benjamin S. Halpern, Rafael Almeida Magris, Shauna L. Mahajan, Nicole Motzer, Ana K. Spalding, Vanessa Stelzenmüller, and Jonathan G. Kramera. This paper resulted from the postdoctoral research project: [Coastal Communities and the Marine Environment.](#)

"Droughts and societal change: The environmental context for the emergence of Islam in late Antique Arabia." Published in *Science* by Dominik Fleitmann, John Haldon, Raymond S. Bradley, Stephen J. Burns, Hai Cheng, Lawrence R. Edwards, Christoph C. Raible, Matthew Jacobson, and Albert Matter. This paper resulted from the SESYNC Pursuit: [Past Answers to Current Concerns: Historical cases of navigating socio-environmental stress.](#)

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