SESYNC Feedbacks

News from the National Socio-Environmental Synthesis Center

FRESH START | New Year, New Approaches

As 2025 draws to a close and a new year glimmers ahead, it's a perfect time to think about refreshing our approaches to conducting research and studying socio-environmental (S-E) systems. So, if you're looking to the skies for some inspiration about how to solve complex socio-environmental issues in fresh, creative, and innovative ways—SESYNC has you covered.

We have numerous activities, readings, and illustrative research examples that help learners, at all levels, examine S-E systems through different lenses.
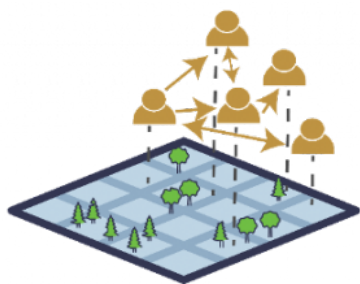
If you want to: consider socio-environmental systems from a new perspective; introduce dynamic, collaborative activities into the classroom; or adopt new research methodologies, SESYNC has the tools for you. Find some examples below.

Practicing Reflexivity and Appreciating Diverse Perspectives Lesson

Studies have shown how a person's positionality—that is their experiences, expectations, social values, personal identities, and world views—influences their research. Therefore, in a team environment, considering others' positionality is critical to achieving research success. This resource introduces a generalized activity that can reveal divergent views and help shape a team's social environment. **At its core, the activity: 1) challenges participants to reflect on their own positionality and biases; 2) helps increase comfort in discussing difficult topics; and 3) engages learners around a sustainability issue.**

Modeling Approaches – What Are the Choices and How Do We Select One?

While modeling is a useful tool for understanding and predicting the behavior of S-E systems, the number of different modeling approaches that are available can make it extremely challenging to choose the best approach. **This explainer introduces various types of models used in S-E research, and it provides some considerations for selecting a modeling approach that's best suited for your particular research needs.**

Moving Human Societies from Parasitism to Mutualism with Earth

This lesson poses the provocative question: "Have contemporary humans become a parasitic species?" This prompt urges learners to consider humans' relationship with their natural environment through the unique lens of viewing humans as parasites. **Learners examine different human behaviors and determine if they contribute to a parasitic or mutualistic relationship with Earth**. They then aim to develop solutions—involving shifts in humans' values and practices—that can achieve mutualistic benefits for both human society and the ecosystems they rely upon.

Co-Evolutions: Indigenous Knowledge and Scientific Research

This valuable resource gets learners to start thinking about the integration of Indigenous Knowledge (IK) into socio-environmental research. It contrasts typical Western perspectives with Indigenous ones, highlighting how IK typically values holistic knowledge, eco-cultural traditions, and respect for the inherent value of nature and non-human beings. With this resource, users have the opportunity to explore current collaborative projects in the Arctic designed through co-evolution as a means of understanding how S-E research benefits from both Western science and Indigenous ways of knowing.

Critical Discourse Analysis: Postcolonial African Pastoralism

Critical Discourse Analysis (CDA) describes a series of approaches for how S-E researchers may critically analyze texts and cultural artifacts to reveal connotations and understand the larger narratives that they support. For example, what is the social context of the story being told, and why is the teller relating it in this particular narrative structure, lexicon, and moment in time? **Here, learners use narrative discourse analysis to analyze evolving discourses on the environmental effects of pastoralism in postcolonial Africa.** They evaluate how rhetorical tactics support policy decisions that disenfranchise traditional pastoralists and whether the rhetoric surrounding pastoralism has changed through time.
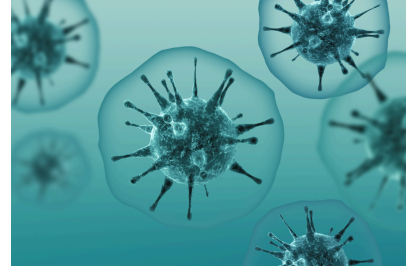
Critical Discourse Analysis: Artificial Intelligence, Social Network, & Social Media Analysis

With advances in artificial intelligence (AI) analytics and the rise of big data created by high volumes of social media posts, CDA researchers have new quantitative, locational, and demographic tools at their disposal. **This explainer illuminates how researchers may enjoy new qualitative insights about complex S-E interactions, by harnessing software's quantitative analytical power.**

Understanding Disease and Illness as a Socio-Environmental Problem

This lesson has learners examine the strong linkages between human health, social dynamics, and the environment. It explains how the risk of disease and illness is not just a biomedical issue but a function of three dimensions—**vulnerability** (e.g., due to social factors); **hazard** (e.g., due to environmental factors); and **exposure** due to social or environmental factors. It explains how the nexus of these three dimensions of risk is a major determinant of socio-environmental sustainability and resilience. The lesson ultimately encourages learners to consider how enhancing health outcomes requires understanding the complex causal dependencies between the environment and various social dynamics.

Explore **our resource collection** for more novel approaches and fresh perspectives!

NEW PUBLICATIONS | SESYNC in the Journals

"Disentangling the drivers of vegetation change in a mobility-constrained pastoral landscape in Laikipia Kenya." Published in *Environmental Research Letters* by former SESYNC postdoc Ryan Unks and colleagues Elizabeth King, Naiputari Paul Wachira, Jeffrey Hepinstall-Cymerman and Forest Isbell.

"Exploring the impacts of climate change and water conservation attitudes on urban water supply in the Colorado River basin." Published in *Water Resources Research* by former SESYNC postdoc Renee Obringer and colleagues Grace Peterson and Dave D. White.

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