

Special Issue: Economics of the impacts of natural ecosystem loss and degradation on human health

Environmental and Resource Economics

Background

The relationship between natural ecosystems and human health is currently a major focus in global policy circles. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES 2021) has commissioned a scoping report on assessing the interlinkages among biodiversity, climate, water, food, energy and health. Natural ecosystems as mediators of the effects of climate change on human health is a specific topic of work in the forthcoming Intergovernmental Panel on Climate Change (IPCC) Working Group II contribution to the Sixth Assessment Report. Moreover, two reports on nature, health and climate change have been produced by several Lancet Commissions (Whitmee et al. 2015; Romanello et al. 2021), and regional assessments are currently being conducted.

Natural ecosystems loss and degradation have consequences for human health through several channels, for example through impacts on water or air quality; vector-borne disease; nutrition; or risks of extreme events. The lack of a significant body of rigorous literature by economists on this topic represents a missed opportunity to inform policy debates that is currently being filled with analysis that largely (i) omits consideration of behavioral responses to ecosystem change and (ii) emphasizes observation of correlations rather than causal analyses. There is a need for theoretical and empirical studies that capture the role that human behavior can play as a driver, moderator or mediator of the link between ecosystem change and human health. For example, policies such as protected areas can be used to mitigate the effects of ecosystem change on human health; defensive measures such as bed nets can be used to offset the risk of mosquito-borne disease; and medical care such as pharmaceutical drugs can be used to treat mental health issues. In addition, there are few empirical studies that use methods and data that can credibly identify causal impacts. Variation in capacity to apply effective policies, adopt defensive measures, or access medical care means that it is also important to consider distributional aspects of health outcomes, especially as marginalized communities are often most affected by ecosystem loss.

This proposed special issue will consist of papers that address these limitations using explicit models of human behavior and rigorous quantitative methods in order to strengthen the evidence base on the relationship between ecosystem change and human health.

Contributions

The call for this Special Issue solicits empirical or theoretical economic analyses of the relationship between ecosystem change and human health. Some illustrative examples of the types of studies that fall within the scope of this section of the special issue are:

- Experimental or quasi-experimental evaluation of the causal impacts of ecosystem change or conservation policies on human health outcomes
- Integrated economic-biophysical modeling of the influence of ecosystem loss or fragmentation on disease risk

- Theoretical and/or empirical modeling of how averting behavior mediates or moderates impacts of ecosystem change on human health
- Nonmarket valuation of ecosystem services to human health using primary data and production function or defensive cost approaches
- Analysis of how differential exposure to environmental risks or capacity for averting behavior affects the distribution of health outcomes from ecosystem change

Within this scope, we particularly encourage studies that examine a variety of mental and physical health outcomes; consider nuanced characterizations of ecosystem loss or degradation; account for nonlinear relationships; and/or focus on diverse geographic regions.

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Submission:

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