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Call for Papers:

Special Issue

Ecological Risk Modeling, Risk Management, and Environmental Challenges in the 21st Century

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Background & Overview

The UN-mandated Intergovernmental Panel on Climate Change (IPCC) is in its sixth cycle, and its latest synthesis report is due this year. Forecasts for effective multinational action remain pessimistic against the backdrop of the United Nations Framework Convention on Climate Change (UNFCCC) and agreements reached through the UN conferences of the parties (COP). Policy proposals to radically reduce emissions by 2030 and achieve 'Net Zero' carbon emission by mid-century will likely overshadow other aspects of decision-making at every scale.

Responses are now everywhere, albeit many are still in their infancy. The UN has orchestrated a Climate Ambition Alliance and launched a Race to Zero campaign. The US has renewed its commitment to the 2015 Paris Agreement. Many countries and regions are at various stages of 'Green New Deal' projects. Yet without a comprehensive understanding of the ecological, health, socio-economic and financial risks induced by climate change, it is impossible to formulate appropriate sustainable economic, business, or financial strategies. Climate change poses serious risks to public health, the economy, and all aspects of society. These risks are unfortunately still not fully comprehended, causing varying and heterogeneous estimates of the costs of climate change.

Since climate change affects most aspects of civilization, climate-induced risks have multidisciplinary dimensions and extend from micro to macro levels. For example, erratic and extreme weather, pollution, and numerous other processes and events are poised to have increasing effects on the economy, finance, resource security, population movements, health, ecosystems, and biodiversity in both developed and developing economies. An urgent need is to identify, assess, communicate, reduce, mitigate, and manage risks. This process implies changes in business models as well as in the economy and public policy, regulation, and socio-economic activity.

Modeling risk and understanding the limits of such modelling are both critical for climate change risk management and this issue is so for every stakeholder – international organizations, countries, citizens, and corporations. There are numerous spillover and collateral areas of risk associated with climate change to consider: technological, political, and ethical. Financial instability, disruptive technologies, and political uncertainty add to the difficulty of modeling and managing climate risks.

Overall, revisiting and redesigning existing risk analysis and management models are of utmost importance and invite new approaches. *Risk Analysis*, published on behalf of the Society for Risk Analysis, is a premier forum for such work. Contributions are expected to yield seminal findings with profound implications across the broad spectrum of stakeholders: policymakers, risk managers, national, and supranational originations, etc.

Objectives and Scope

We invite submissions from risk modeling specialists, management academics, and policy practitioners. Our objective is to publish innovative work on a range of core climate and associated risks set out in the topics section below.

Topics

The special issue welcomes submissions in the following areas:

- Stranded asset risks: socio-economic and ecological risks analysis
- Business risk modeling and health, safety and environmental (HS&E) risks
- Carbon neutrality and ecological risk models
- Cost savings through efficiency improvement and ecological risks analysis
- Climate policy and long-run risks to economic stability
- Climate uncertainty and HS&E risk modelling
- Disruptive technologies and implications for HS&E risk modeling
- Ecological risks characterization, analysis, and communication
- Ecological risk management and decision-making
- Ecological risk perception, acceptability, and ethics
- Environmental risks and regulatory policy
- Efficiency improvements and HS&E risks
- Green new deal, innovation, and HS&E risks modeling and management
- HS&E risks in supply chain networks and risk modeling
- Nationally Determined Contributions (NDCs) and ecological risk assessments
- Risk analysis for ecological investment in green R&D
- Technological changes, diffusion, and implications for HS&E risk analysis
- UN Climate Change Conference of the Parties (COPs) and HS&E risk modelling
- UN Framework Convention on Climate Change and ecological risk analysis
- Zero-emissions targets and HS&E risk modeling and management

Process for reviewing papers

After initial screening by the guest editors, the submissions will go through a rigorous double-blind review process led by an Area Editor of *Risk Analysis*. Submissions deemed internationally excellent in terms of originality, significance and rigor will be considered for publication. Accepted papers will be published online on a rolling basis, and assembled into a special issue collection after all papers are through review.

Schedule

- Submission Deadline: **31 May 2023**
- Special Issue Published (estimated): **Spring 2024**