Global Research Landscape of Climate Change, Vulnerability, and Islands

ABSTRACT

Climate change has increased the vulnerability of many communities and ecosystems, including those on islands. This study evaluates the patterns of scientific publication and visualises network connections between countries and keywords by presenting four sets of bibliometric analyses of publications related to "climate change and vulnerability", "climate change and island", "vulnerability and island", and "vulnerability, climate change, and island", as obtained from the Scopus database. Based on the combinations of keywords in the article, the study retrieved 1768 documents for "climate change and vulnerability", 501 documents for "climate change and island", 270 documents for "vulnerability and island", and 37 documents for "vulnerability, climate change, and island" for further analysis using various tools. Microsoft Excel was used to conduct the frequency analysis, and Harzing's Publish or Perish and VOSviewer were used for the citation metrics analysis and data visualisation, respectively. The results are reported using standard bibliometric indicators, such as the annual growth of publications, publications by subject, prolific authors, most active institutions, active journals, highly cited articles, co-authorship by countries, and co-occurrence keyword analysis. The findings revealed that there has been continuous growth in the number of publications on all four research topics since the first publication, and the main subject found on Scopus for all topics in Environmental Science. For "climate change and vulnerability", the most productive author is James D. Ford, and the most active journal is Climatic Change. The most-cited document has received 3243 citations. Meanwhile, for "climate change and islands", the most productive author and most active journals are Patrick D. Nunn and Regional Environmental Change, respectively, while the most cited document has received 285 citations. Subsequently, the most productive authors for "vulnerability and island" and "climate change, vulnerability, and island" received 627 citations and 154 citations, respectively. The country with the most links and highest total link strength was the United States of America, according to co-occurrence analysis between countries. Current themes are discussed, and future possible research is suggested based on the clustering of the keywords. Among the clusters that emerged from the network visualisations are those focused on the ecosystem, adaptation, water resources, human and health risk assessments, coastal vulnerability and management, and agricultural and resource management. This study will benefit policymakers, researchers, environmental practitioners, and the public because it provides a comprehensive overview of existing

research, potential research directions, and the current state of knowledge on the topic, allowing a better understanding of the research landscape.