JOURNAL OF CULTURAL ANALYSIS AND SOCIAL CHANGE

Journal of Cultural Analysis and Social Change,
2025, 10(4), 4147-4159
ISSN: 2589-1316

Intersecting Climate Change, Public Health, and Economic Resilience: A Multidimensional Bibliometric Exploration of the Global Evidence Base

Ahmed Bouras[1], Katia Bourouba[2], Fouzi Abderzag[3], Said Khalfa Brika[4*], Emad Suliman Sharif Mohamed[5]

[1]*University of Constantine1, Frères Mentouri, Ain El Bey Road, Constantine, Algeria, a.bouras@mesrs.dz*
[2]*Laboratory for Partnership and Investment in Small and Medium Enterprises in the Euro-Maghreb Space, Faculty of Economics, Business and Management Sciences, Seti-1- University - Ferhat Abbas, Setif, Algeria, bourouba.katia@univ-setif.dz*
[3]*Department of Business Administration, Business College, University of Bisha, Bisha, Saudi Arabia, abderzagfouzi2018@gmail.com*
[4,5]*Department of Administrative Sciences, Applied College, University of Bisha, Bisha 61922, Saudi Arabia, sbrika@ub.edu.sa, essharif@ub.edu.sa*

***Corresponding Author:** ardi.kho@lecturer.uph.edu

Citation: Bouras, A., Bourouba, K., Abderzag, F., Brika, S. K. & Mohamed, E. S. S. (2025). Intersecting Climate Change, Public Health, and Economic Resilience: A Multidimensional Bibliometric Exploration of the Global Evidence Base, *Journal of Cultural Analysis and Social Change*, 10(4), 4147-4159. https://doi.org/10.64753/jcasc.v10i4.3746

Published: December 28, 2025

ABSTRACT

This study presents a multidimensional bibliometric analysis of 410 publications produced between 2008 and 2025, that examine the intersection of climate change, public health, and economic resilience. Drawing on Scopus-indexed literature and employing advanced analytical tools in R (Bibliometrix) and VOSviewer, the research maps the intellectual evolution of this rapidly expanding field. The findings show a sustained rise in scholarly output, particularly after 2019, driven by escalating climate-related health risks, socioeconomic instability, and the growing institutional demand for resilience-orientated policies. The impact of climate-induced diseases, socioeconomic vulnerability, adaptive methods, and health system multi-dimensionality are key contributors of focus authors, top-tier institutions, and main theme centers. The most recent body of work focuses on labor market impacts from extreme heat, climate-related health financing, digital adaptive technologies, and equitable-advantage governance. The gap in integrated assessments that combine climate shocks, health financing, social protection, and resilience in health poor countries are evident, in the single analytic framework that has come to characterize public health, the environment, economics, and disaster risk management. The study crystallizes these patterns and lays the groundwork for more intentional and focused work on public health preparedness, and sustainable economic resilience.

Keywords: Sustainable development, Climate Change, Environmental aspects, Renewable Energy

INTRODUCTION

Sustainable development calls for understanding the interconnections between climate change, public health, and economic resilience, particularly due to the rapid pace of climate change and climate-driven disruptions (Bowen et al., 2011; Chigudu, 2025; Çitil et al., 2025). Globally, the shocks to the environment, such as heatwaves, droughts, floods, and fires, and the changes to the environment, such as droughts, floods, fires, and disease vectors, profoundly impact human life and structures within society. The implications of climatic disruptions to households, labor, and public health systems are determined by the intensity and the frequency of the climate-related disasters.

Climate responsive development, theoretically, should alleviate the negative impacts. However, the structural vulnerabilities of climate sensitive poor regions amplifies the dire consequences of climate-related impacts.

Thus, in discussions on sustainability, public health and climate change has become a central focus, particularly as countries are grappling with the expenses of disease burden, infrastructure weakness, and socioeconomic disparities. Thus, one expects the connection of climate health risks and economic durability to become a focal point of discussions and debates in the public sphere, policy making, and the academic sphere - Afrane and Amegah (2025); Lokotola et al. (2023) and Haines et al. (2014). There are a number of studies that examine the ways in which health systems can be modified to respond to the challenges of climate change, the ways in which households respond to economic shocks, and the ways in which social protection systems must change to defend people at risk. First of all, changes in climate conditions along with the degradation of the climate have consequences which are felt across the world. A number of countries are now experiencing a series of health crises, unstable livelihoods, and loss of human capital Smith et al. (2015) and Watts et al. (2021). In other words, the climate of the World and climate change negotiations such as the (Kyoto Protocol) and the (Paris Agreement) have failed to make adaptive climate change improvements in the (poor) climate of the World. There is a belief in the World that with new legislation, new models of financing, and new systems of governance in the World, countries will have to reconcile the paradox of economic resilience with public health in the World Bowen et al. (2011); Hallegatte (2016); Bowen and Friel (2012) and Bowen et al. (2024).

With the rise in the importance of the interconnectedness of climate change and health, new and emerging models to address the impact of climate change on health have sought to place the changes in public health, environmental safety and, socio-economic stability in the center of almost all policy debates on sustainability. In this regard, a myriad of studies has emerged which have dealt with the various dimensions of the impact of climate change on health, social protection and the workforce.

The academic investigation of the intersections between climate change and public health began decades ago when climate change and global warming became prevalent. Then, as now, were the socio-economic vulnerabilities that come with climate shocks, along with health impacts of pollution, heat waves, and the disease vectors that change with climates. Research then and more recently has broadened and integrated health system and economic impacts, and more, along with the climate risks.

The key issues include the burden of climate change on disease and the potential shocks to health systems; environmental determinants of health; labor potential of households in heat and climate stressed situations; household vulnerabilities, and climate change stressed disaster fiscal responses. These issues complexity illustrates the importance and relevance of climate change, health and economy interdisciplinary research to the world's development challenges (Dai et al., 2025).

The global character of research in this field is due to the multiple and multi-sector impacts of climate change. Intellectual networks are continental in their scope. Collaboration are, as bibliometric studies suggest, increasingly common among public health, economic development, environmental science, epidemiology, and social policy.

The literature demonstrates that public health, disease burden, disruption of livelihoods, agricultural losses, and climate change are interconnected Masson-Delmotte et al. (2021); WHO (2015) and Beşer et al. (2025). These countries put a high risk on people's lives. Thus, they must have adaptive capacity, flexible institutions, and resilient public investments. However, there is an increasing phenomenon of publications on climate change, health, and economy; yet only a few bibliometric exercises have traced the development of the interconnected triad of climate change, health, and economy.

The current research is advanced in its bibliometric analysis techniques using R (Bibliometrix) and VOSviewer, covering the period 2008 to 2025; thereby assisting in filling the void. This research helps in explaining, to a considerable extent, the scholarly work done in the field and how and why it has progressed the way it has over time and space by providing a list of principal authors and focused institutions in the issues as well as dominant themes of the field and their collaborations.

The notions developed here have opened the field of research to a number of disciplines, particularly economists, public health specialists, environmental and climate scientists, as well as policy makers and analysts. The enormous range of periodicals accessible on the subject in public health and environmental science, economics, and disaster management is a symptom of the wider scope of the topic. New technologies in the sector, risk analysis, adaptive health systems, and socioeconomic predictions have prompted the development of policies focused on equity in order to meet the complex challenges of health and the economy as they relate to climate change.

Challenges continue to exist inside this field within climate-related health financing, social protection systems, the digital resilience of social protection systems, social equity, and climate change health policy integration and health protection equity. There are also a number of gaps in the literature as it relates to low and middle-income

countries, and other highly climate sensitive and vulnerable areas of the world. Despite the advancements in the field, there are still gaps and challenges which is representative of the absence of literature.

This bibliometric review aims to map the development of climate, health, and economy to address the gaps in the field and to explain the gaps in the climate, health, and economy. Scopus was used as the main database to study the publication trends and other shifts and formations in categories and collaboration for the years 2008 to 2025. To what extent have the body of research activities in the field influenced knowledge, policy development, institutional frameworks, and climate resilience?

This study employs a bibliometric approach to provide an organized, evidence based perspective and to facilitate more rational, evidence based choices in the areas of public policy, health adaptation, climate change, and socio-economic policy integration. The approach offers considerable gains over traditional narrative literature reviews and provides a foundation of evidence based literature to inform the rational review in areas of literature by isolating key works that are foundational, a body of literature to review, and in ways to inform, support, and evidence the social interactions which provide a framework for the literature.

Based on this, the study is guided by the following research questions:

RQ1. ***How has the literature on climate change, public health, and economic resilience evolved from 2008 to 2025?***

- **RQ1.1.** Which authors, journals, and institutions have most significantly shaped the field?
- **RQ1.2.** Which publications have exerted the strongest academic influence?
- **RQ1.3.** How has the volume and structure of research output changed over time?

RQ2. ***What are the main themes, challenges, and emerging directions in the scholarly literature linking climate change, public health, and economic resilience?***

This question seeks to uncover the dominant topics, conceptual gaps, and new avenues of research shaping this multidisciplinary area.

MATERIALS AND METHODS

Bibliometric Data

Methodology includes the framework for conducting research, covering design, data gathering tools, and stratagem for systematized examinations and evaluations. Bibliometrics, among other statistical tools, is used in the field of library and information sciences to systemize the evaluations and analysis of the literature of research, and documents, along with the various forms of citation indexes and databases (Connaway & Radford, 2021; De Bellis, 2009).The bibliometric analysis aims to quantify the productivity of research, access and measure the works of particular influence and the direction of the research field in terms of the citations, and the publications (Campbell et al., 2010). This information provides the researchers with the foremost authors, the most influential words, and the most significant topics that mold the direction of a field of study (Agbo et al., 2021; Brika et al., 2021; Shome et al., 2023).

This study conducted a bibliometric analysis using publications resulting from a search for climate change, public health, and economic resilience in Scopus, one of the most respected academic databases for its disciplinary breadth and its excellence in indexing, as well as for its search functionalities, allowing for the filtering of publications by keywords, authors, institutions, disciplines, countries, and year of publication. Because the research on climate–health–economy is interdisciplinary, Scopus was a fitting choice for the construction of a solid and trustworthy dataset. The dataset consisted of publications from the database for the date range of January 2008 to February 2025, using as keywords: "climate change" AND "public health" AND "economic resilience" and filtering for documents in the English language.

The gathered information consisted of academic papers, peer reviews, published books, academic book chapters, as well as papers presented at conferences. Overall, the acquired dataset captured an impressive volume of academic information discourse pertinent to the study's objectives. The bibliographic records were obtained as CSV files containing data on authors, book titles, abstracts, keywords, citations, document types, source materials, and affiliations, allowing for the thorough representation of the intellectual landscape. Having also conducted a qualitative meta-analysis alongside the bibliometric assessment, the researcher was able to draw out conceptual patterns as well as themes that appear to have lost research visibility. Qualitative methods are most appropriate in this instance as they help to discern overarching patterns and provide a synthesis of findings from multiple unconnected datasets and data sources in a manner that does not rely on the findings of empirically-based hypothesis models (Eyisi & practice, 2016; Rusdiana et al., 2021).

The bibliometric representation was achieved with the help of VOSviewer, while Bibliometrix and its web interface Biblioshiny, executed using Ray, were used to organize, refine, and study the bibliographic dataset. Documents were chosen following a non-probability sampling technique and they were only done in relation to the study objectives. Four steps defined the data collection process, these are: defining the boundaries of the content, collecting and importing the metadata, cleaning and organizing the records, and data extraction for analysis. The outlined procedure helped accomplish data triangulation while also ensuring that the bibliometric maps and associated visualizations of density that were created along with the keyword networks accurately shown the configuration within the corpus of international scholarship (Borrett et al., 2014; McAllister et al., 2022).

In order to guarantee consistency in the dataset, the Scopus fields Title, Abstract, Keywords, and Author Keywords were assessed and only documents published after the year 2008 were used. This year specifically notes the time frame when climate-health-economy interconnections began receiving insightful and continued academic interests. Using VOSviewer, network maps depicting various elements of the published documents were created. These elements included mapped structures of citation relationships, co-authorship, co-occurring keywords, and pertinent clusters of themes.

Bibliometric Analysis Methods

The impact study of climate change, public health, and economies' multi-dimensional impacts have been studied increasingly through bibliometrics to chart the contours of scholarship and discover thematic paths. Citation analysis, co-authorship and co-citation mapping, co-occurrence and bibliographic coupling, keyword analysis, and separate analysis of a particular research field are tactics to discover the structural surfaces of a particular field of study. other bibliometric studies have orbit fields are environmental health, climate change adaptation, disaster risk governance, and health-system resilience. bibliometrics can spot emerging research domains and patterns of and vault the field of integrated research to health system resilience. See Akhtar et al. (2019); Brika (2022); Perea-Moreno, Samerón-Manzano, and Perea-Moreno (2019) to identify and track collaborations.

Bibliometrics been able to determine the patterns of authorship, their organizational, co-citation, diversity and impact of their citations, and the spatio-temporal dispersion of the keywords to establish a quantifiable framework to assess the underlying structural systems of a field. This study has amassed a wealth of information from a vast number of fields to serve as a framework for the analysis of research output in the field of study and to provide a degree of the scholarly activity in a field to reflect the activity and the paths the ideas have traversed with in the field to interact and shape new disciplines. These techniques can assist research in studying the scholarship of the community in the conceptualization of the fields of climate change, resilience, vulnerability, and public health.

This study differentiated the most influential entities and contributors to the domain employing the bibliometric analysis to establish the authors, articles, institutions, countries, and journals. Five standard bibliometric techniques as identified by Zupic and Čater (2015); Zupic et al. (2025) were utilized in the study which included, co-occurrence, citation, co-citation, co-authorship and bibliographic coupling. Each method contributed to a comprehensive understanding of the research landscape:

- **Co-occurrence analysis** identified dominant themes, conceptual linkages, and evolving keywords;
- **Citation analysis** evaluated research impact and scholarly influence;
- **Co-citation analysis** revealed foundational works shaping the field's intellectual base;
- **Co-authorship networks** highlighted collaborative structures within and across regions;
- **Bibliographic coupling** provided insights into emerging thematic convergences.

The study utilized VOSviewer, Bibliometrix, and Biblioshiny—R-based analytical tools capable of generating bibliometric networks, density maps, and cluster visualizations. These tools enabled a detailed examination of the structural evolution, intellectual foundations, and interdisciplinary nature of scholarship at the intersection of climate change, public health, and economic resilience. Using these analytical instruments, the study constructed a holistic representation of the field's development and documented the interactions among its most influential contributors.

RESULTS & DISCUSSION

Descriptive of Bibliometric Data

Analysts are supposed to accumulate extensive knowledge about the state of the art within their area of study and the academics involved in its advancement. This type of information naturally changes and adapts to growth in the state of knowledge in the discipline due to newly created technologies, methodological advancements, and

new findings in science. Bibliometric analysis, being a classical method of quantitative research in the social sciences, allows the scholar to assess the structure and the state of development of a particular scholarly field, using mathematical instruments for the analysis of a set of documents, including papers, books, conference proceedings, and other scholarly publications. In this regard, a number of bibliometric dimensions such as the geographical distribution and the principal authors and their affiliations and institutions, the types of documents, the years of publications and the pattern of citations of the works have been reviewed in this report.

The literature for this study was collected from the Scopus database, considering its multidisciplinary approach and comprehensive coverage of scientific literature. Using a set of keywords and considering the themes, several bibliometric networks were used to locate the most prominent authors, clusters of collaborations, and centers of publications within climate change, public health, and economic resilience. The selection of the final set of papers was carried out based on three interrelated steps. The first step involved the retrieval of the relevant scholarly outputs, namely, research papers, review papers, book chapters, conference papers, and the organizing of them in an orderly manner. The first step of the Scopus database search was preliminary in nature, which aimed to retrieve as many documents as possible from the database within the parameters of the study

Scholarly contributions concerned with interdisciplinary domains like climate change, public health, and socioeconomic resilience resulted in the first comprehensive search yielding 410 records. During the search above, the authors captured and downloaded the complete sets of metadata, which consisted of title, author(s), institutional affiliations, abstract, keywords, type(s) of source, and number of citations. On November 2025, authors narrowed their search strategy to TITLE-ABS-KEY (climate change' ANDpublic health' AND `economic resilience') and with the publication date restricted to 2008-2025. The final search results are presented in Table 1, with a total of 198 articles, 89 reviews, 60 book chapters, 27 conference proceedings, 13 books, and 20 miscellaneous documents.

The ensuing spectral analysis will provide a descriptive analysis of this corpus of documents, which will permit more bibliometric work to be undertaken and facilitate the detection and measurement of the patterns, themes, and intellectual architectures of the global corpus in relation to climate change, public health, and economic resilience. The descriptive work also lays the groundwork for the more advanced work that will be undertaken in the network and thematic analysis that seeks to identify the scholarly output and patterns of engagement in this field and its sub-domains along with its evolution.

Table1. Previous studies on the topic of Climate Change Public Health and Economic Resilience.

	Climate Change Public Health and Economic Resilience (410 studies)
Years	
2025*	144
2024	63
2023	46
2022	40
2021	35
2020	17
2019	11
2018	10
2017	11
2016	3
2015	5
2014	4
2013	4
2012	4
2011	3
2010	2
2009	5
2008	3
Research's	
Article	199
Review	89
Book chapter	62
Conference paper	27
Book	13
Other	20

** December 6, 2025*

The assessment of the distribution of publications supports identifying the most influential journals and recognizing the evolving patterns of research activity in the field of climate change, public health, and economic resilience. Table 1 illustrates this publishing activity by presenting the annual distribution of studies alongside the types of documents classified within the dataset. According to the collected data, research articles constitute the largest portion of the publication types, accounting for 199 articles, followed by 89 review papers, while book chapters, conference papers, and other document categories contribute smaller shares to the overall output.

In the past three years, the number of studies related to climate change, public health, and economic resilience has increased noticeably, reinforcing the growing relevance and urgency of this interdisciplinary area (as reflected in Table 1 and Figure 1). During this period, the volume of publications rose from 40 papers in 2022, to 46 in 2023, and reached 63 publications in 2024, with a further rise to 141 documents in 2025. This rapid growth can be attributed to heightened global concern about climate-induced health risks, the socioeconomic disturbances linked to extreme weather events, and the expansion of international research agendas emphasizing resilience, adaptation, and sustainable development.

Most of the documents included in this study represent empirical analyses, conceptual frameworks, and multidisciplinary evaluations, demonstrating the field's broad methodological diversity and its scientific maturity. The increasing publication volume confirms that climate change and health–economic resilience have become central topics of interest for researchers, policymakers, and practitioners alike. The continuous rise in scholarly output, clearly depicted in the figures, highlights the importance and dynamism of this research domain… and explains the intensifying academic attention dedicated to understanding the complex interactions between climate risks, public health outcomes, and socioeconomic stability.

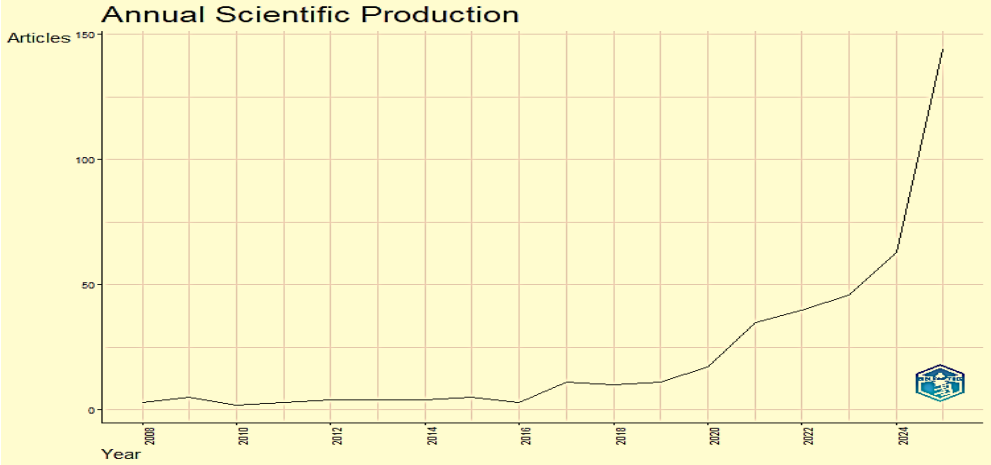

Figure 1. Publications per year

Figure 1 shows an increase in the number of publications concerning the intersection of climate change, public health, and economic resilience, starting in 2016, with an even steeper increase beginning in 2019. As the figure shows, there was an increase in publications each year, starting with 17 in 2020, and there was even more growth in the later years. The increase in publications continued in 2021, 2022, and 2023, culminating in 63 publications by 2024, and 141 publications by 2025. The documents in the dataset span a variety of publication types, including articles, reviews, conference papers, and book chapters, and this shows that the field of climate change, public health, and economic resilience is a multidisciplinary area of research and is attracting a wide range of academic research expertise.

The ongoing sustained growth also demonstrates the increasing involvement of the academic community sparked by the climate-related health crisis, the need for strong economic systems, and the increasing global requirement for comprehensive and evidence-based strategies. The ongoing growth of published scholarship demonstrates a rich and complex field facilitated by new data and the development of urgent analytical and policy structures. This trend line also demonstrates the strong and accelerating growth of writing.

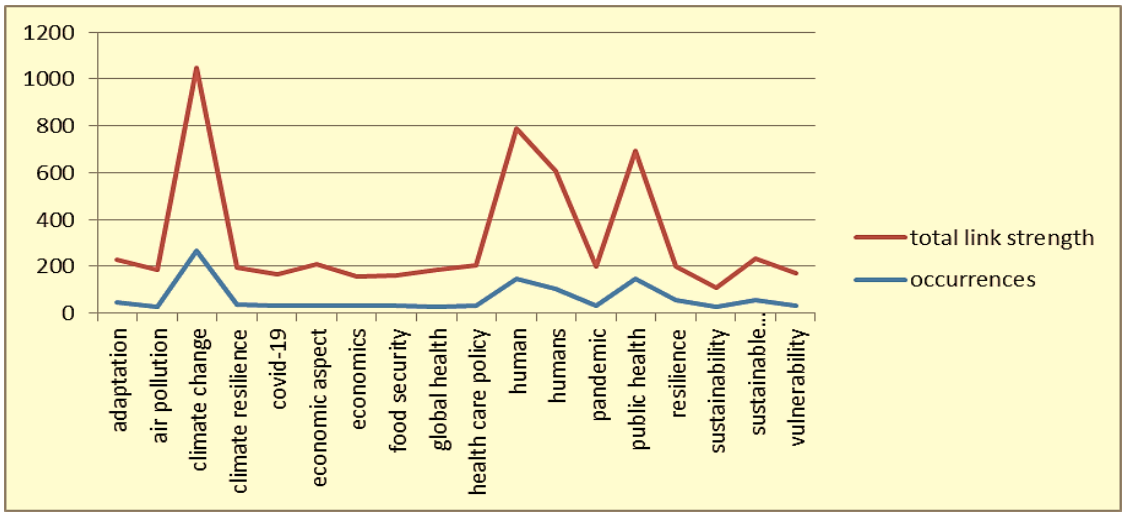

Figure 2. Publications per keyword

The most prevalent keywords in the literature regarding 'climate change', 'public health', and 'economic resilience' are 'climate change', 'public health', 'economic resilience', 'socioeconomic vulnerability', and 'health impacts' (see Figure 2). These are the most important core concepts that drive research in the field. Other keywords, such as 'adaptation', 'resilience strategies', 'extreme weather events', 'mortality', and 'health systems' indicate the field's concentration on the understanding of the impact of environmental determinants of health on the economically disadvantaged and vulnerable systems of the society.

The keywords such as 'disaster risk reduction', 'economic losses', 'livelihoods', and 'vulnerability assessment' indicate the combination of economic and public health analysis, while the keywords such as 'vector borne diseases', 'heatwaves', and 'air pollution' indicate the biological and ecological mechanisms through which climate change impacts health. The presence of the terms 'regression analysis', 'co-integration', and 'risk modelling' indicate the focus on the econometric and quantitative modelling of the climate-change-health-economy nexus.

The keywords demonstrate the interdisciplinary nature of the field in which the researchers grapple with the environmental- public health- economic vulnerability. These keywords indicate the most significant patterns that dominate the research in the field and the climate resilience research in the public discourse.

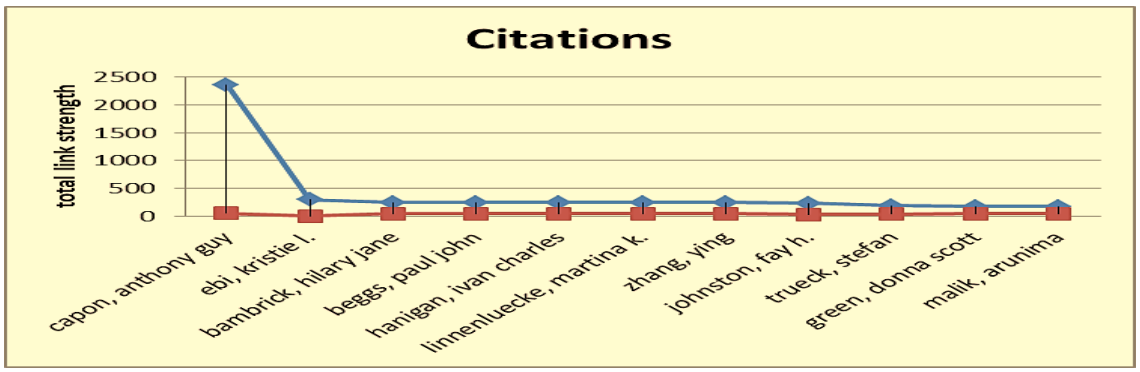

Figure 3. Publications per author

Figure 3 displays the results of a study that examines the productivity of authors in a given field. In bibliometric studies, the first step is author name retrieval. Then, the number of publications for each author is determined, and the strength of their collaboration is measured through co-authorship links. In this study, authors were stratified by volume of publications, and their contributions were analyzed using bibliometric mapping tools, based on Scopus imported datasets. VOSviewer was used to process the data to form co-authorship clusters of authors, allowing the further mapping of total citations and the construction of keyword maps. The purpose of this approach is to provide insights on the most active and connected scholars and to allow the mapping of the scholarly collaboration networks in the areas of climate change, public health, and economic resilience. The maps delineate the authors who have most significantly influenced the expansion of existing literature and the fundamental structure of the networks in the field through their co-authorship. We hope to achieve a better understanding of the principal structure of the networks in the climate change, public health and economic resilience through this mapping approach.

Bibliometric Analysis and Networks

Items: 347 / Clusters: 5/ Links: 21695 / Total link strength: 45330

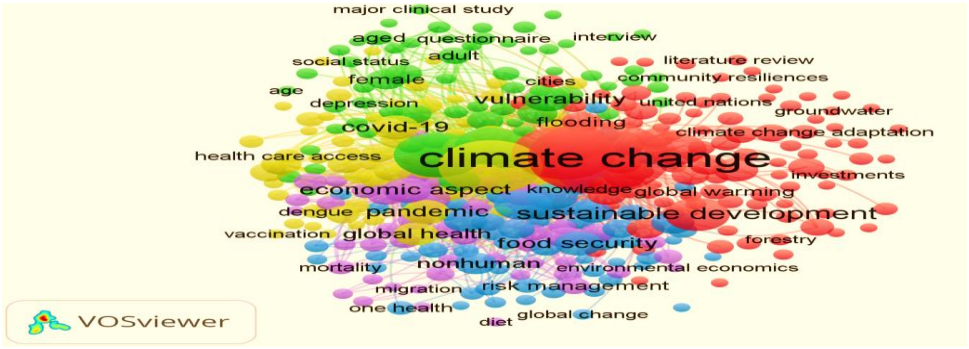

Figure 4(1). Network of keywords

The clusters from the visual representation cover the literature from the intersection of climate change, public health, and economic resilience. This represents the construction of knowledge within the field and the ways in which scholars have tackled the intersection of climate shocks, health status, and economic security. The primary and most intersected themes include climate change, public health, human vulnerability, and sustainable development which makes the core of the entire network. Other than the core themes, additional clusters include the economic dimension of climate change, health-care policy and food security, and resilience from pandemics.

The clusters are composed of climate resilience, air pollution, and global health which intersect with economic concepts such as economic growth and sustainability. The proximity between the key words makes it apparent that the logic behind the current research is highly multi-dimensional. I believe that is the reason why climate change is viewed as more than an environmental issue. This view demonstrates climate change as a systemic problem that needs an integrated solution from multiple disciplines. In this case, that would be epidemiology, social systems, and economic frameworks.

There is an emerging trend among researchers within the network explaining the transitions of climate-related threats into health impacts and economic downturns using an amalgamation of public health research, health policy analysis, and resilience economics. Conversely, the incorporation of food security and pandemics underscores an extended research frontier owing to COVID-19, illustrating the research phenomenon which states that the outbreak of diseases magnifies climate-related vulnerabilities. The figure, overall, depicts the co-evolving and interlinked aspects of the research field.

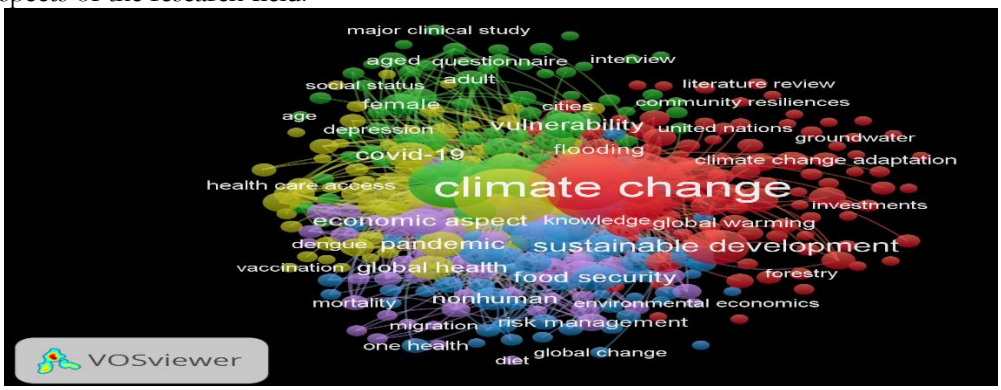

Figure 4. Density of keywords

The density visualization showcases a concentration of research interest involving climate change, public health, and human vulnerability. These are the most frequent core terms within the debate. Traditionally, the most researched areas have included climate adaptation, the economics of resilience, pathways of sustainable development, and global health and environmental shocks. These topics still dominate, as the figure illustrates, because they are fundamental issues of concern to governments and the global community.

Previous studies have shown that scholars have focused research on healthcare policy, resilience frameworks, and the economics of sustainable development and air pollution. These areas are the pathways that link climate science to public health and the economy. I recognize that this pattern illustrates the need to understand climate stressors and their reconfiguration of the patterns of disease, disrupt food production systems, and exacerbate the pressure on the economies of poor countries.

As the table 2 shows, climate change integrates a number of sub-fields and acts as a central concept for the others. It would be beneficial for researchers to further explore the intersection of climate change, health care systems, and the economics of resilient systems, as these are the primary issues that characterize contemporary research. It is suggested that future research should incorporate, in a more structured manner, the economics of vulnerability alongside the necessary institutional ability for durable adaptation. These disciplines constitute the fundamental layer of knowledge required for interdisciplinary research in the intersection of climate, health, and economic resilience to advance.

Table 2. The occurrence of keywords in network

Keywords	Occurrences	Total link strength
climate change	*268*	*779*
human	*147*	*643*
public health	*145*	*549*
humans	*106*	*502*
adaptation	*46*	*183*
economic aspect	*33*	*177*
sustainable development	*58*	*176*
health care policy	*30*	*176*
pandemic	*32*	*167*
climate resilience	*37*	*160*
air pollution	*29*	*155*
global health	*28*	*155*
resilience	*54*	*147*
vulnerability	*32*	*141*
covid-19	*31*	*135*
food security	*31*	*129*
economics	*34*	*124*
sustainability	*28*	*82*

According to Table 2, climate change has the highest incidence (268) and an extensive link strength (779). This confirms that climate change is the organizing concept in this field and the public health and human focused terms of human, humans, public health, global health, and vulnerability form the next core layer which highlights a strong concentration of research on the human side rather than solely the environment.

Keywords such as adaptation, resilience, and sustainable development combined with economic elements display high link strengths. This demonstrates that scholars are investigating the manner in which societies respond to threats brought by climate change as well as how economic systems take in shocks. The emergence of terms such as pandemic, COVID-19, food security, and health care policy illustrates a significant shift to systemic risk. This is the association of climate risk with bios and economic crises. Lastly, the moderate but important presence of economics and sustainability highlights the direction and importance of developing hybrid models that estimate the cost of climate change and the value of active public policy.

Items: 55 / Clusters: 5/ Links: 441 / Total link strength: 1016

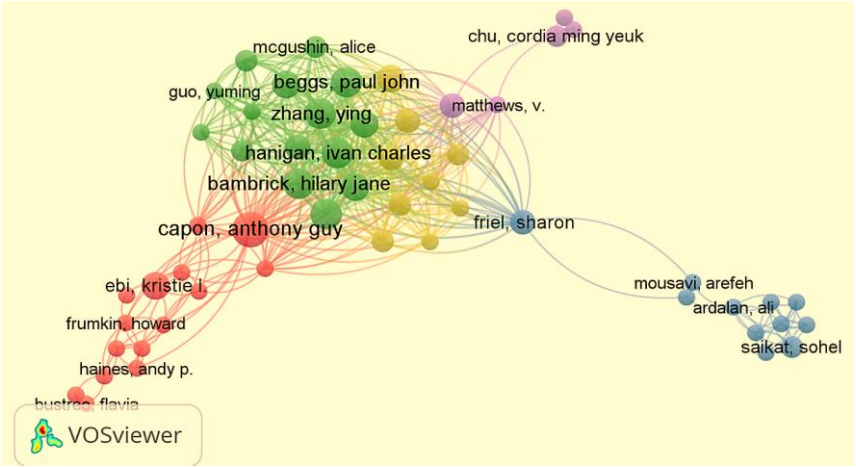

Figure 5 (1). Network of authors

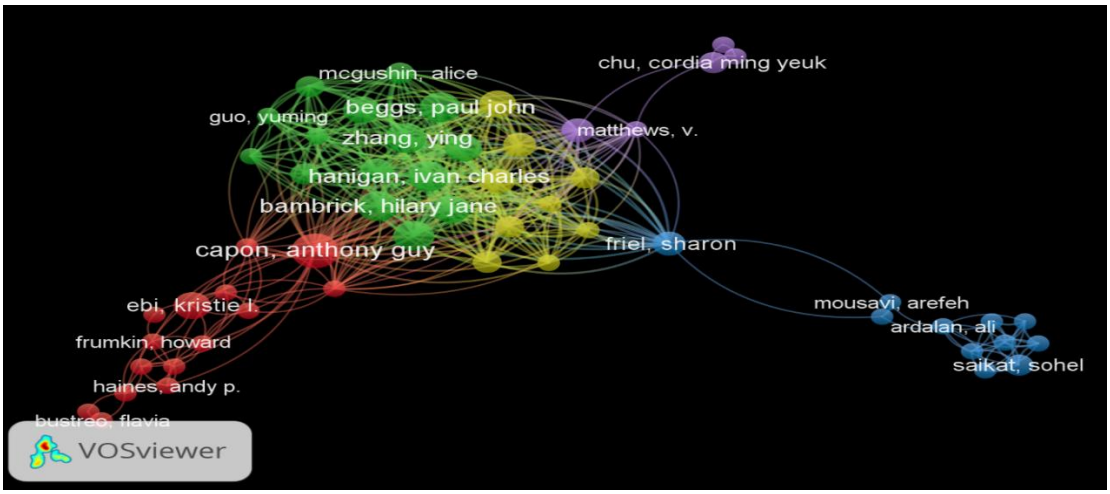

Figure 5 . Density of authors

A visualization of authorship networks and density distribution shows that the field is underpinned by a handful of highly visible scholars who have close- and loose-nit collaborative partnerships around climate change and health research. The most central and thus most influential player in this network is, without a doubt, Anthony Guy Capon, who is placed at the centre of the network with 2, 360 mentions and the highest total link strength, which implies significant involvement and partnerships across an array of co-authorship networks and a considerable range of intellectual influence.

Some other well-connected and influential scholars include (in the same networking order): Kristie L. Ebi, Hilary Jane Bambrick, Paul John Beggs, Ivan Charles Hanigan, Martina K. Linnenluecke, and Ying Zhang. The scholars mentioned above work collaboratively to build a considerable sub-network that has a strong influence on climate change and public health, epidemiology, and environmental health risk adaptation. The data mirrors the conclusion that these authors have assumed the role of knowledge hub and centre, affecting other authors in the discipline in terms of methods and research paradigms.

In contrast, the density map illustrates that researchers belonging to other sub-networks have the periphery, signifying scientific isolation and independent publishing paths. This illustrates a concentration of intellectual authority, in which a handful of scholars determine the research agenda, while the rest of the scholars are left to address the agenda with more specialized or local studies.

Table 3. *The occurrence of authors in the network*

Authors	Occurrences	Total link strength
capon, anthony guy	*2360*	*50*
ebi, kristie l.	*300*	*1*
bambrick, hilary jane	*244*	*49*
beggs, paul john	*244*	*49*
hanigan, ivan charles	*244*	*49*
linnenluecke, martina k.	*244*	*49*
zhang, ying	*244*	*49*
johnston, fay h.	*231*	*33*
trueck, stefan	*188*	*41*
green, donna scott	*177*	*42*
malik, arunima	*177*	*42*

Table 3 shows how Capon, Anthony, has the highest counts in both occurrence and link strength. This shows how visible and how collaborative he is. Authors Bambrick, Beggs, Hanigan and Linnenluecke complete the strong total link strengths and form a tight academic community (Dai et al., 2025; Zhang et al., 2020).

While Kristie L. Ebi has an impressive number of publications, her total link strength is rather low. This may point to being involved in niche research areas, ones that do not overlap in co-authorship very much. The difference in link strength values shows the disparity of academic impact, where some researchers are heavily integrated with others and some are not, regardless of the fact that they are making an impact with their work, see work; Ebi et al. (2021).

CONCLUSION & LIMITATIONS

Conclusion

For the first time, this research provides a multidimensional bibliometric analysis of the evolving scholarship around climate change, public health, and economic resilience. It describes the concentration of research-related global environmental and health crises. It describes the concentration of research-related global environmental and health crises. It explains and demonstrates this by mapping intellectual structures, identifying dominant themes, and analyzing collaborative networks. Using the Scopus and bibliometric data analysis tools, the study outlines the growth of scientific output and its diversification across fields of knowledge.

As climate instability, pandemics, and fragile socioeconomic systems become global challenges, health risks, economic vulnerabilities, and sustainability transitions have become central to global policy and scholarship. This research explains and demonstrates the increasing concentration of scholarship and its focus on climate change, public health, human vulnerability, climate adaptation, and resilience economics. It describes these themes as foundational because they constitute the discourse and systems pressure of the human–environment relations of the modern age.

The bibliometric profiles indicate the highly interdisciplinary nature of the field. Environments science, epidemiology, economics, and social policy are integrated to create approaches that explain how climate shocks affect systems of health and the economy. Increased sophistication of the field is evidenced by the use of advanced modeling techniques in the assessment of complex climate-health-economy feedback loops. Tools like time series analysis, algorithms of risk mapping, and resilience assessment are growing in use and indicate the sophistication of the field in identifying complex systems.

The intellectual map is also informed by global governance debates and international climate agreements intersect with public health. There is greater awareness of health burdens associated with climate challenges. Increasingly, publications are appearing that focus on the public health challenges of heat related illness, food insecurity, and the epidemiology of a pandemic. There is consensus among researchers, public administrators, and policy practitioners that it is urgent to create adaptive and economically resilient systems to address climate disruptions.

In the co-authorship network, there are noted collaborative action groups formed around core actors such as Anthony Guy Capon, Hilary Jane Bambrick, Paul John Beggs, and Kristie L. Ebi. These people are central nodes of the network, facilitating trans-regional interdisciplinary movement and method and theory advancement. Having an individual of their stature demonstrates an academic culture where collaboration is the currency to tackle the complex intersectional problems that transcends the boundaries of individual disciplines/units.

Hence, this bibliometric analysis contributes to the discourse on the intersection of climate change, public health, and health economics by tracing the evolution of the field and demonstrating the need for further development. Among them is the integration of climate–health coupling models, the development of health resilience indicators, equity resilience and digital technologies for adaptive governance. The results indicate that climate change, human health, and well-being are inextricably linked to sustainability and that the research must be interdisciplinary, innovative, and responsive to policy.

Limitations of Research

This study, despite its extensiveness, will still have some methodological shortcomings which will have to be considered in future research. First, the analysis relies on the Scopus database which, while inclusive, does not include all relevant publications. Relevant works, which might be of importance, may be indexed in Web of Science, PubMed, or more niche climate and health databases, and therefore may be underrepresented. As mentioned in earlier bibliometric analysis, diversifying to include multiple databases would improve coverage and minimize the disparity or bias pertaining to a particular discipline or region.

A second limitation about the analysis concerns the institutional and the regional aspects. While the present analysis does identify the principal authors and the major thematic clusters, it does not provide a more fine-grained analysis of the ways in which countries, research organizations, or networks at the regional level contribute to the construction of knowledge. Future works might consider the incorporation of geospatial bibliometrics to some of these analyses to investigate the differences in research effort, collaboration, and funding dispersion across different parts of the world.

Moreover, the bibliometric technique used in this study and the evidence sourced from such technique will primarily look at co-occurrence, structures of citation, and the connectivity of nodes from networks. While the indications which these measures point to may show the presence of some form of intellectual activity or pattern within a certain discipline, they may not capture the more qualitative aspects such as whether or not new theories

have been introduced, the level of methodological sophistication, or the degree to which the findings have influenced policy. To provide a more rounded perspective on the subject, it might therefore be necessary to undertake more in depth qualitative research to investigate how the various ideas in this multidisciplinary area of study converged.

Eliminating these limitations would enhance the empirical reach of subsequent analyses while simultaneously augmenting the attention given to the analytical and policy pertinent interrelation of climate change, health, and economic adaptation. As the world confronts multiple interrelated challenges, the need to foster future research of this nature to support policy living proof of sustainable development and governance becomes much more pertinent.

ACKNOWLEDGEMENTS

The authors are thankful to the Deanship of Graduate Studies and Scientific Research at the University of Bisha for supporting this work through the Fast-Track Research Support Program.

Conflict of Interest

The author declares that he has no conflict of interest.

REFERENCES

Afrane, A. K. A., & Amegah, A. K. (2025). Climate change impacts on child health in Africa: time for action. Environmental Research: Health, 3(3), 033002. https://doi.org/10.1088/2752-5309/adacbb

Agbo, F. J., Oyelere, S. S., Suhonen, J., & Tukiainen, M. (2021). Scientific production and thematic breakthroughs in smart learning environments: a bibliometric analysis. Smart Learning Environments, 8(1), 1–25. https://doi.org/10.1186/s40561-021-00168-2

Borrett, S. R., Moody, J., & Edelmann, A. (2014). The rise of network ecology: maps of the topic diversity and scientific collaboration. Ecological Modelling, 293, 111–127. https://doi.org/10.1016/j.ecolmodel.2014.01.019

Bowen, K. J., Ebi, K. L., Woodward, A., McIver, L., Tukuitonga, C., & Nayna Schwerdtle, P. (2024). Human health and climate change in the Pacific. Climate and Development, 16(2), 119–133.https://doi.org/10.1080/17565529.2023.2239181

Bowen, K. J., & Friel, S. (2012). Climate change adaptation: where does global health fit in the agenda? Globalization and Health, 8(1), 10. https://doi.org/10.1186/1744-8603-8-10

Bowen, K. J., Friel, S., Ebi, K., Butler, C. D., Miller, F., & McMichael, A. J. (2011). Governing for a healthy population. International Journal of Environmental Research and Public Health, 9(1), 55–72. https://doi.org/10.3390/ijerph9010055

Campbell, D., et al. (2010). Bibliometrics as a performance measurement tool. Aslib Journal of Information Management, 31(1), 66–83. https://doi.org/10.1108/00012531011015181

Dai, W., Eweade, B. S., Brika, S. K., Uzun, B., & Dong, C. (2025). Globalization, FDI, trade openness, and urbanization. Environmental Progress & Sustainable Energy, 44(5), e70038. https://doi.org/10.1002/ep.70038

Ebi, K. L., et al. (2021). Extreme weather and climate change. Annual Review of Public Health, 42, 293–315. https://doi.org/10.1146/annurev-publhealth-012420-105026

Eyisi, D. J. (2016). Usefulness of qualitative and quantitative methods. Journal of Education and Practice, 7(15), 91–100.

Haines, A., Ebi, K. L., Smith, K. R., & Woodward, A. (2014). Health risks of climate change. The Lancet, 384(9948), 1073–1075. https://doi.org/10.1016/S0140-6736(14)60861-5

Hallegatte, S. (2016). Shock waves: Managing the impacts of climate change on poverty. World Bank. https://doi.org/10.1596/978-1-4648-0673-5

Lokotola, C., et al. (2023). Climate change and primary health care in Africa. The Journal of Climate Change and Health, 11, 100229. https://doi.org/10.1016/j.joclim.2023.100229

Masson-Delmotte, V., et al. (2021). IPCC AR6 Physical Science Basis. https://doi.org/10.1017/9781009157896

Rusdiana, A. S., et al. (2021). Waqf on education: a bibliometric review. Library Philosophy and Practice.

Shome, S., et al. (2023). Impact investment and sustainable development: A bibliometric analysis. International Review of Economics & Finance, 84, 770–800. https://doi.org/10.1016/j.iref.2022.11.032

Smith, K. R., et al. (2015). Human health: impacts and adaptation. In Climate Change 2014: Impacts, Adaptation, and Vulnerability. (Book chapter)

Watts, N., et al. (2021). The Lancet Countdown 2020 report. The Lancet, 397(10269), 129–170.https://doi.org/10.1016/S0140-6736(20)32290-X

WHO. (2015). Climate and health country profile: Sri Lanka. (WHO reports typically)

Zhang, Y., et al. (2020). MJA–Lancet Countdown special report. Medical Journal of Australia, 213(11), 490–492.e410. https://doi.org/10.5694/mja2.50850

Zupic, I., & Čater, T. (2015). Bibliometric methods in management. Organizational Research Methods, 18(3), 429–472. https://doi.org/10.1177/1094428114562629.

