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Tourism and the Environment: Trends and Patterns in the Academic Literature

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ABSTRACT

Tourism constitutes a significant activity from an environmental perspective. Environmental resources provide essential inputs for tourists, while the natural environment itself serves as a primary attraction. The rapid growth of tourism increases pressure on land, water, and biodiversity. A total of 4,996 articles retrieved from the Scopus database using the keywords "tourism" and "environment" were analyzed with the R Bibliometrix package, employing descriptive statistics (annual growth rate, average citations per document), keyword co-occurrence mapping, trend topic analysis, and international collaboration mapping. Results indicate an annual publication growth rate of 12.14%, peaking in 2024 (n = 495). The most frequent keywords were "tourism development," "ecotourism," and "sustainability." China (n ≈ 850), the United States (n ≈ 610), and Australia (n ≈ 480) were the leading contributors. Temporal trends show an evolution from early focuses on ecotourism and environmental management to recent emphasis on sustainability and environmental behavior. Research from Africa and Russia remains limited. This study distinguishes itself by being one of the few to systematically examine the entire body of tourism–environment literature in Scopus without time or geographical restrictions. These findings clarify the study's methodology and highlight key statistical results, providing readers with a clear understanding of the research's scope and significance from the outset. The study concludes by offering forward-looking recommendations for the academic community, encouraging research that explores emerging themes, integrates interdisciplinary approaches, and addresses regional imbalances.

1. INTRODUCTION

Global climate change, pollution, excessive resource consumption, and the depletion of the ozone layer highlight growing concerns regarding environmental issues worldwide [1]. Han [2] also emphasized that these environmental problems pose a serious threat to natural habitats. Societies have not remained indifferent to this situation; with the growing awareness of environmental protection, there has been an increasing demand for sustainable products and green marketing across many industries. In recent years, being environmentally friendly has been regarded as an appealing attribute that businesses should possess, providing them with an additional competitive advantage. Although businesses may perceive environmentally compatible structures as more costly, they are increasingly recognizing that the long-term financial benefits that may accumulate cannot be overlooked [3]. Gryschenko et al. [4] noted that, with each passing year, being environmentally friendly has become a significant factor for an increasing number of consumers in their selection of products or services. Sarin et al. [5] also stated that products that adhere to ethical labor standards, are produced with minimal environmental impact, and are sustainably sourced have become increasingly popular. The tourism sector, which makes extensive use of natural and environmental capital, is closely following these developments.

The tourism industry is recognized as an expanding sector encompassing accommodation services (such as hotels and campgrounds) and food and beverage operations (including restaurants, bars, taverns, and catering services) [6]. A substantial body of research has highlighted the pivotal role of tourism in fostering socioeconomic development and contributing significantly to national economies [7, 8]. Ahmad et al. [9] underscored that, due to its considerable economic impact on host communities, tourism has emerged as one of the largest and most rapidly growing sectors of the global economy. Tourism exerts a multifaceted influence on host countries, notably in terms of employment generation, income creation, and the promotion of cultural heritage. It represents a substantial contributor to global gross domestic product (GDP) and, with an anticipated annual growth rate of approximately 4%, is expected to surpass numerous other

economic sectors in terms of expansion [10]. Furthermore, tourism stimulates international trade, enhances the efficient utilization of local resources, and plays a pivotal role in mitigating unemployment. Positioned as the third-largest export category globally—following chemicals and fuels—tourism has established itself as one of the most dynamic and rapidly expanding sectors [11]. Danish and Wang [12] further assert that, in addition to its direct economic contributions, tourism yields extensive indirect benefits, including improvements in the balance of payments, elevated living standards, increased production of goods and services, and augmented government revenues through taxation. Moreover, it facilitates a transfer of income from developed to developing nations, thereby reinforcing its role in global economic redistribution.

Tourism exerts profound and wide-ranging impacts on the environment. The modes of transportation employed by tourists, their activities and mobility patterns within specific regions, the development of accommodation facilities, and the provisioning and consumption of food, beverages, water, and energy all generate consequences at both global and local scales—consequences that may undermine the socio-cultural fabric and environmental integrity of tourism destinations [13]. Buckley [14] asserts that these impacts span from global phenomena such as climate change and ocean pollution to localized effects on endangered plant and animal species within protected areas. Shahbaz et al. [11] contended that tourism is classified as environmentally hazardous due to the greenhouse gas emissions generated during tourist mobility. He further argues that the adverse environmental consequences of tourism can, at times, overshadow its potential benefits. Accordingly, he emphasizes the necessity of taking appropriate and strategic measures to promote environmentally friendly and socioeconomically sustainable forms of tourism.

Like many other sectors, tourism provides significant economic benefits to governments; however, it also gives rise to a range of serious environmental challenges, most notably excessive energy consumption and the exacerbation of climate change. Moreover, the expansion of tourism and travel activities contributes to environmental degradation, as natural areas are increasingly disrupted, popular destinations suffer from overtourism, and the quality of life for local residents is adversely affected [8]. Despite the evident significance of the issue for countries, there appears to be a notable scarcity of studies that examine the evolution and nature of the relationship between tourism and the environment over time. This study seeks to systematically examine the academic literature concerning the tourism–environment nexus through the application of bibliometric analysis, with the intention of uncovering prevailing research trends, identifying the most influential scholars, mapping collaboration networks, and highlighting emerging thematic areas within the field.

2. CONCEPTUAL FRAMEWORK

The term 'environment' encompasses all natural elements, organic life forms, inorganic matter, and even artificial constructs. It also refers to the interface between all breathing species and natural resources, along with other components of the environment. Human activity is considered the primary driver of environmental degradation, as individuals and nations have historically sought to manipulate the environment in accordance with their own interests. Key anthropogenic activities—such as deforestation, overpopulation, depletion of natural capital, and the accumulation of solid waste and sewage—have led to numerous environmental crises, including air and water pollution, acid rain, elevated carbon dioxide levels, ozone layer depletion, climate change, global warming, and the extinction of various species [15]. In response to these environmental challenges, it is essential to link the broader environmental context to tourism-specific dynamics, ensuring that subsequent discussions are anchored in the interplay between these two domains. Notions such as environmental sustainability, green offices, green marketing, and green tourism have been regarded as promising developments and are widely implemented across both developing and developed countries. With each passing year, the degree to which a product or service is environmentally friendly becomes an increasingly important criterion for a growing number of consumers. Consequently, green tourism is no exception; it has attained the status of a profitable and prioritized sector, integrating effective approaches to tourism and environmental conservation [4]. Environmental sustainability is of critical importance for ensuring a livable planet for future generations through measures taken today. Therefore, this study emphasizes that environmental policies and public awareness must be strengthened as an integral part of sustainable tourism strategies [16].

Understanding the interaction between tourism and the natural environment requires linking general environmental concerns to tourism-specific dynamics [17]. Tourism represents a dynamic force that encourages travel in order to explore nature, engage in adventure, marvel at unique landscapes, encounter diverse societies and cultures, interact with values, and experience new traditions and activities. Tourism development is commonly defined as the process of attracting tourists to a specific destination with the aim of enhancing and sustaining the tourism industry [15]. Although tourism is often perceived merely as an activity associated with reminiscing about past holidays, anticipating future vacations, and deciding on subsequent destinations, it is, in fact, the outcome of a complex interplay of interactive factors that stimulate and facilitate the spatial movement of hundreds of millions of individuals across diverse places and environments [17]. Künç [18] underscores that tourism constitutes a significant and multifaceted activity from an environmental perspective, as environmental resources provide the essential inputs and production factors required by tourists. Moreover, the natural environment itself often serves as the primary attraction within the tourism experience.

Globally, the demand for tourism and recreational opportunities has increased steadily over recent decades. Beyond its contribution to national economies, tourism development is now widely recognized as a major driving force affecting key environmental assets—such as air, water, biodiversity, soil, and land—both at the local level within tourist destinations and on a global scale [13]. It is estimated that tourism accounts for approximately one-tenth of the global human economy and exerts an environmental impact greater than that of a medium-sized nation [14]. The number of international tourists, which stood at 25 million in 1950, rose to 166 million by 1970, reached 1.442 billion in 2018, and is projected to exceed 1.8 billion by 2030. Mobilizing such a vast number of tourists is likely to significantly intensify environmental pollution, despite its well-documented positive

effects on employment, wealth generation, and overall economic development [15]. This growth trajectory highlights the importance of considering not just the scale of tourism, but also the qualitative aspects of how tourism interacts with environmental systems.

The rapid expansion of international tourism, coupled with the growing number of domestic tourists in most countries, exerts considerable pressure on the natural environment and its resources—including land, water, and biodiversity. Facilitating the movement of hundreds of millions of people to various destinations is inconceivable without the development of infrastructure capable of meeting their needs [17, 19]. Tourism-related activities—including transportation, food and beverage services, accommodation, and the operation of tourism enterprises—contribute to increased energy consumption through various environmentally transformative processes. The high levels of energy consumption associated with fossil fuels and motorized transportation result in significant greenhouse gas emissions. Consequently, the tourism sector is partially accountable for global warming [12]. The growth of specific types of tourism—such as cruise tourism—and the increasing frequency of holidays, particularly when combined with the seasonality of tourist flows, generate significant environmental impacts at both regional and local levels [20]. This underlines the need for tourism planning that integrates environmental capacity assessments and seasonal management strategies.

Major tourist destinations, in particular, face substantial challenges related to water supply, pressure on local water resources, waste generation and management, as well as the production and treatment of wastewater. In certain cases, these pressures may exceed the carrying capacities of destinations, especially those located on small and medium-sized islands. Moreover, land occupation and soil sealing, air and noise pollution from local transportation, and visual pollution resulting from continuously expanding built-up areas represent tangible and observable consequences of tourism development [18].

Both theoretical and empirical studies suggest that while tourism contributes positively to economic growth and development, it is simultaneously held accountable for its adverse environmental impacts. Environmental degradation may occur in two principal ways. First, as the tourism industry expands, the exploitation of natural resources intensifies, thereby increasing the risk of environmental pollution. Consequently, the tourism sector requires infrastructure investments—such as roads and environmentally responsible tourism services, including restaurants, hotels, and recreational facilities—that can help mitigate its negative ecological footprint. Second, tourism-related activities—such as food and beverage services, accommodation, and transportation—entail substantial energy consumption, which in turn leads to increased CO_2 emissions. Both pathways, therefore, pose significant threats to sustainable development and environmental preservation. Over time, violations of ecological balance become increasingly apparent. The uncontrolled exploitation of the environment for tourism purposes not only contributes to environmental degradation but also hampers efforts to preserve natural ecosystems for future generations. Accordingly, mitigating the harmful ecological impacts of tourism and ensuring the preservation of nature constitute one of the most critical challenges for the future development of the tourism industry. Tourists are typically drawn to ecologically pristine regions and countries, as these environments offer the promise of restorative experiences and meaningful interaction with nature. However, the neglect of environmental protection may result in the degradation of recreational resources and the eventual loss of tourism potential [21].

Tourism ranks among the most polluting industries globally. Dolnicar [22] attributes this to the inherent environmentally unfriendly nature of holidaymaking. She argues that the provision of services such as cleaning, transportation, and food during vacations involves components that are detrimental to the environment. Furthermore, she notes that tourists often neglect the environmental responsibilities they typically observe in their everyday lives while on holiday. Lenzen et al. [10] found that between 2009 and 2013, tourism's global carbon footprint increased from 3.9 to 4.5 $GtCO_2e$—four times higher than previously estimated—accounting for approximately 8% of total global greenhouse gas emissions. The transportation, shopping, and food sectors were identified as major contributors to this footprint. Notably, the vast majority of these emissions originate from and within high-income countries. Liu et al. [23] reported that 75% of the recorded carbon footprint is attributable to the transportation sector, with air travel accounting for 50%, accommodation services for 21%, and other tourism-related activities for 4%. Consequently, while demand for clean and pollution-free tourism is expected to rise in the future, it appears unlikely that greenhouse gas emissions and pollutants associated with tourism will be eliminated before 2035.

However, alternative perspectives exist regarding the carbon emissions generated by the tourism sector. Balsalobre-Lorente et al. [24] demonstrated that the growth of international tourism can lead to environmental improvements once economies reach a certain level of development within the tourism sector. The study also confirms the presence of an Environmental Kuznets Curve (EKC) relationship for selected countries during the period 1994–2014. Its principal contribution lies in the finding that globalization exerts a positive influence on international tourism and accelerates the reduction of per capita CO_2 emissions. It may be argued that globalization plays a significant role in facilitating the diffusion of clean technologies and in prompting the adoption of regulatory measures necessary to enhance competitiveness and efficiency within the international tourism sector. Liu et al. [23] likewise highlight in their study that a country's emissions tend to increase in the initial stages of tourism sector growth but begin to decline after surpassing a certain threshold—an observation with notable policy implications. Stremikiene et al. [8] emphasize that technological innovations can offer critical solutions to address the environmental challenges associated with tourism development. In this context, the utilization of renewable resources is underscored as having a direct impact on mitigating climate change.

One of the key factors in the tourism–environment nexus is the tourists themselves. In general, an increase in the number of tourists leads to higher carbon consumption, ultimately exerting pressure on the environment [9]. Nevertheless, tourists may represent the most promising agents in efforts to enhance the environmental sustainability of tourism. By making environmentally conscious holiday choices and engaging in sustainable behaviors at destinations, tourists can contribute to mitigating the sector's negative environmental impact. Environmentally sustainable tourist behavior refers to

actions that do not harm—and may even benefit—the natural environment, both globally and at the destination level [25]. The growing awareness regarding the preservation of natural and other resources within the tourism sector is increasingly influencing tourism enterprises. For instance, in the highly resource-intensive accommodation sector, sustainability initiatives primarily focus on integrating sustainable practices into operations—such as energy conservation, the use of renewable energy sources, and waste recycling [26]. However, the tourism sector generally exhibits limited inclination toward self-regulation, largely due to the likelihood that implementing environmentally sustainable measures may increase operational costs. This challenge is particularly pronounced for small and medium-sized enterprises (SMEs) operating within the tourism industry, for whom absorbing such elevated costs can be especially burdensome [25].

Policymakers and government authorities also play a critical role in shaping the environmental impact of tourism. Tourism activities influence destinations across multiple dimensions—economic, social, and environmental. However, only a limited number of governments have taken regulatory measures to prevent such adverse effects, largely due to concerns that these interventions may reduce tourism demand and, consequently, tourism-generated revenues. Usman et al. [27] emphasize that in order to mitigate the environmental degradation caused by tourism development, policymakers must focus on enhancing institutional quality. Mikayilov et al. [21] assert that the development of eco-tourism can generate substantial financial opportunities for national economies. Azam et al. [7], on the other hand, emphasize the need for governments to support and incentivize businesses that are capable of employing green and low-carbon technologies, as well as alternative energy sources for transportation, logistics, accommodation, and other tourism-related activities. Such measures are deemed essential for reducing CO_2 emissions and preventing the overexploitation of natural resources.

3. MATERIAL AND METHODS

Within the scope of the research theme, studies related to tourism and the environment were examined from a bibliometric perspective. Bibliometric analysis is a methodological approach that employs statistical techniques to identify publication trends and uncover relationships among published works within the domain of academic publishing [28]. Moreover, bibliometric analysis facilitates navigation through the vast volume of scholarly literature by highlighting influential studies and emerging trends. It also provides valuable insights into the evolution of a discipline by revealing how specific research topics have developed over time and which areas are gaining increasing significance [29]. In addition, bibliometric indicators play a critical role in evaluating research impact, guiding resource allocation, and promoting collaboration across disciplines and geographical regions [30]. It may also be noted that the bibliometric method has gained considerable popularity in the social sciences in recent years [31, 32].

To determine the source of the articles included in the study, an initial investigation was conducted into databases indexing publications in the field of social sciences. The review revealed that Web of Science and Scopus are among the most comprehensive databases in this domain, both in terms of the volume of indexed articles and the impact factors of the journals they include. However, in order to minimize the risk of duplication resulting from overlapping records across both databases, it was decided to limit the analysis to articles retrieved exclusively from the Scopus database. Visser et al. [33] justified the selection of the Scopus database based on a comparative analysis of five interdisciplinary bibliographic data sources (WOS, Scopus, Dimensions, Crossref, and Microsoft Academic), highlighting Scopus's superior coverage over time by document type and discipline, as well as its relative completeness and accuracy in citation linkages [34].

To retrieve the relevant literature, a search was conducted in the Scopus database in June 2025, using the keywords 'tourism and environment'. In selecting the studies to be included in the analysis, documents indexed in the Social Sciences subject area of the Scopus database and classified as "articles" representing peer-reviewed original research were chosen. The keywords were selected to capture the broadest possible scope of literature addressing the tourism–environment nexus. "Tourism" was chosen to encompass all subfields of the tourism discipline, while "environment" was included to identify studies with an explicit focus on environmental aspects, impacts, and sustainability-related themes. This combination was determined after preliminary searches with alternative terms (e.g., "sustainable tourism," "ecotourism," "environmental management"), which returned narrower datasets and risked excluding relevant interdisciplinary studies.

As the study did not involve the collection of data from human participants, approval from an ethics committee was not required, in accordance with relevant institutional and national guidelines [35]. The initial search, which included no temporal restrictions, yielded a total of 24,429 records. To obtain more targeted results, a second search was performed by limiting the scope to articles published within the field of social sciences, resulting in 6,865 records. Finally, a third refinement was applied by including only English-language publications and focusing exclusively on articles (excluding other document types), which produced a final dataset of 4,996 articles for analysis. For the evaluation of the articles, the R Bibliometrix package [36] was employed due to its user-friendly interface and visual analytical capabilities. R is an ecosystem software in which all functions are shared with users in an open-source environment [37].

4. RESULTS

Table 1 presents the general characteristics of the 4,996 articles retrieved from the Scopus database using the keywords 'tourism and environment'. The table reveals that the earliest study on the topic dates back to 1977, with an annual growth rate in article production of 12.14%. The dataset comprises a total of 248,297 references, with an average of approximately 28.84 citations per article. Additionally, 12,664 unique keywords were identified across the articles. The studies were authored by a total of 11,559 distinct researchers, with an average of 2.95 authors per article. It was also observed that 1,079 of the articles were single-authored.

The distribution of the 4,996 articles on the theme of tourism and the environment by year of publication is presented in Figure 1. The results indicate that only a limited number of studies addressing this theme were published between 1977 and 2001, followed by a gradual increase during

2002–2011. A pronounced acceleration in publication output is evident from 2012 onward, culminating in a peak in 2024. This pattern reflects a growing scholarly recognition of the tourism–environment nexus as a critical research area, paralleling global debates on sustainability.

Table 1. Descriptive overview of the studies

Time Frame of the Analysis	1977-2025
Article	4996
Annual Growth Rate of Publications (%)	12.14
Keywords	12664
Average Citations per Document	28.84
Total Number of Authors	11559
Number of Single-Authored Publications	1079
Average Number of Authors per Publication	2.95
Total References	248297

Table 2 presents the annual distribution of publications on the topic of tourism and the environment. According to the data, 2024 stands out as the year with the highest number of publications. The notable increase in publication volume beginning in 2012 may be attributed to the growing scholarly attention toward the environmental impacts associated with tourism.

Table 3 presents the journals with the highest number of publications among the 4,996 articles analyzed. The data reveal that Sustainability (n = 659) is the leading journal in terms of publication volume on the tourism and environment theme. Moreover, it is noteworthy that the majority of the studies identified in the analysis have been published in journals with relatively high impact factors.

Figure 2 presents data on historical fluctuations in publication volume across the analyzed journals. The journal Sustainability emerges as the most prominent outlet in recent years for research on the tourism–environment nexus, reflecting its broad thematic scope and emphasis on interdisciplinary approaches to sustainability-related issues. This trend may be attributed to the increasing integration of tourism impact assessments within the wider sustainability discourse. In contrast, journals such as Journal of Sustainable Tourism and Tourism Management demonstrate more specialized and targeted contributions, often focusing on policy implications, destination management strategies, and context-specific case studies. Although to a lesser extent, a modest annual increase in the number of related publications can also be observed in the other five journals included in the figure, suggesting a gradual diversification of publication venues and thematic orientations within the field over time.

Table 2. Number of publications by year

Year	Number of Publications	Year	Number of Publications	Year	Number of Publications
1977	1	1996	24	2014	137
1978	1	1997	19	2015	167
1979	1	1998	31	2016	178
1980	1	1999	37	2017	219
1981	1	2000	40	2018	285
1982	3	2001	39	2019	324
1984	1	2002	58	2020	382
1985	1	2003	46	2021	418
1986	2	2004	51	2022	440
1987	8	2005	49	2023	440
1988	4	2006	78	2024	495
1989	12	2007	68	2025	245*
1990	9	2008	80		
1991	11	2009	76		
1992	18	2010	105		
1993	15	2011	97		
1994	20	2012	112		
1995	24	2013	123		

*Number of publications as of June 2025

Table 3. Top journals publishing the most articles on tourism and environment*

Journal	Number of Publications	Impact Factor
Sustainability	659	3.3
Tourism Management	249	12.4
Journal of Sustainable Tourism	245	6.9
Current Issues in Tourism	143	5.7
Annals of Tourism Research	121	4.0
Geojournal Tourism and Geocities	112	0.3
Asia Pacific Journal of Tourism Research	99	4.3
Tourism Geographies	98	4.1
Marine Policy	90	8.1
International Journal of Tourism Research	82	5.7

* The analysis includes the top ten journals in terms of publication volume.

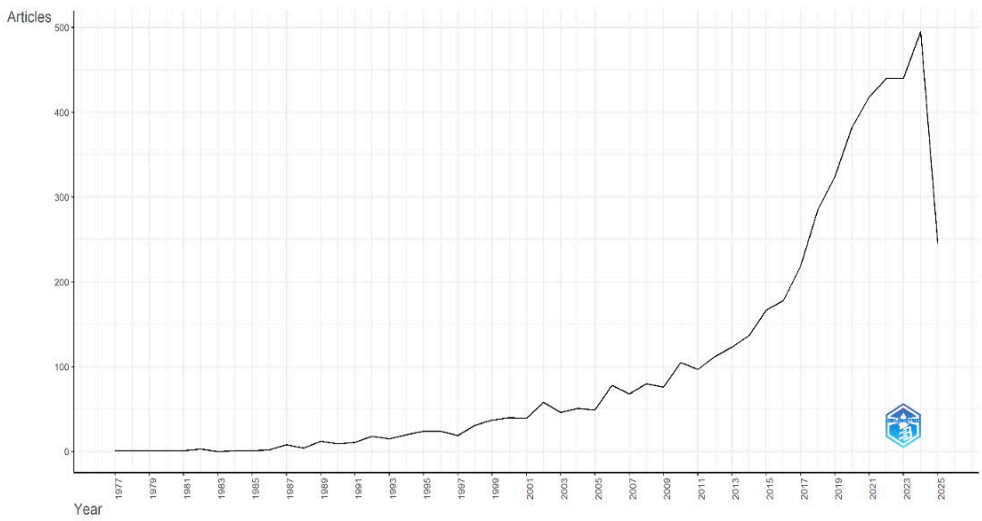

Figure 1. Annual scientific production

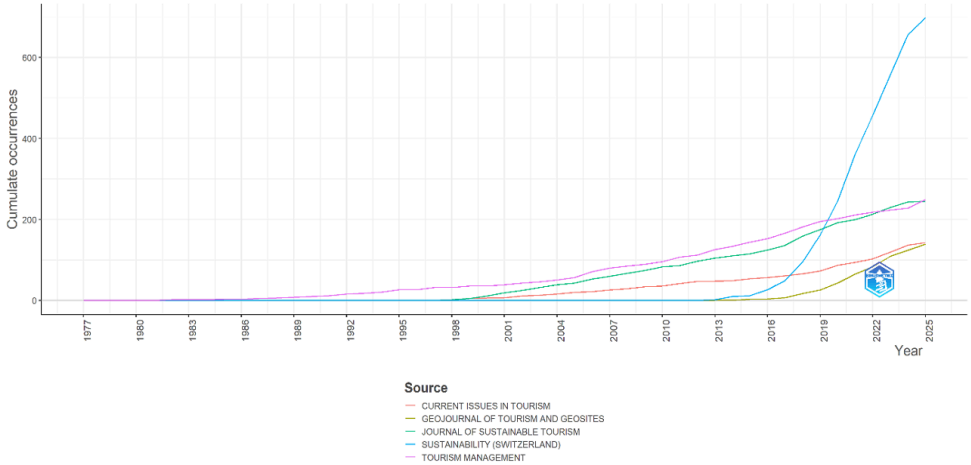

Figure 2. Sources' production over time

Figure 3 presents a word cloud generated from the analysis of keywords in articles on tourism and the environment published in journals indexed by the Scopus database. The visualization reveals that keywords such as tourism development, ecotourism, and sustainability appear with high frequency. This suggests that the theme is often examined in the context of marketing-oriented research. Furthermore, the prominent presence of the keyword 'China' indicates that a substantial portion of the studies focus on this particular destination.

Figure 4 illustrates the temporal evolution of trending topics related to the theme. Prior to the early 2000s, the literature predominantly focused on methodological aspects and social impacts. Since the early 2000s, however, research has increasingly addressed topics such as ecotourism, environmental management, and carrying capacity. In more recent years, the discourse has shifted toward issues related to tourism development, environmental behavior, and sustainability.

Figure 5 illustrates the countries engaged in collaborative research on tourism and the environment. Countries shaded in dark blue represent those with a high volume of publications, whereas those in light blue indicate limited research output. Red lines denote international research collaborations, with the thickness of each line corresponding proportionally to the strength of the partnership. China emerges as the leading country in terms of both publication volume and international collaboration on this theme. Additionally, South America and Australia appear as regions with substantial research activity. In contrast, relatively few studies addressing the tourism–environment nexus have been conducted in Eastern African countries and Russia.

Figure 3. Keyword frequency word cloud

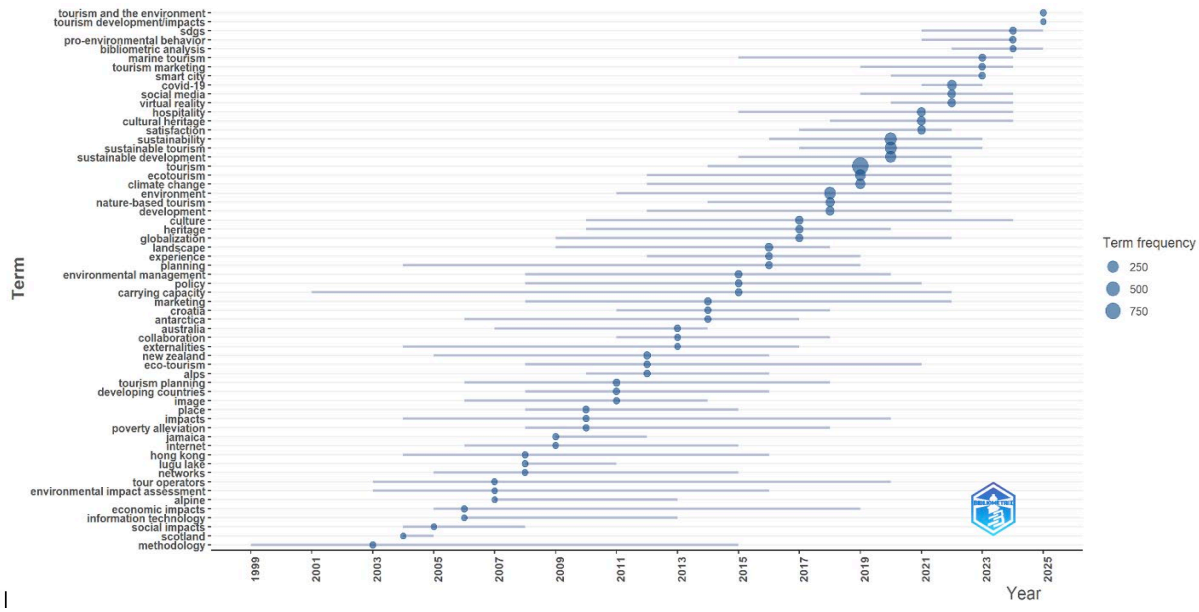

Figure 4. Trend topics

Figure 5. Country collaboration map

5. DISCUSSION AND CONCLUSION

This study conducted a comprehensive examination of the evolution, thematic structure, and collaboration networks within the academic literature on tourism and the environment, based on 4,996 scholarly publications indexed in the Scopus database between 1977 and 2025. The findings indicate that the topic has experienced significant growth in academic interest, particularly after 2012, with the number of publications peaking in 2024. This upward trend reflects a steadily increasing scholarly awareness and engagement with the tourism–environment nexus.

The predominance of publications appearing in high-impact journals such as Sustainability, Tourism Management, and the Journal of Sustainable Tourism underscores the growing academic legitimacy and recognition of the tourism–environment nexus as a substantive field of inquiry. The results of the keyword analysis reveal a strong emphasis on concepts such as 'tourism development,' 'ecotourism,' and 'sustainability,' indicating that scholarly discourse on this subject is predominantly situated within the paradigm of sustainable development.

An examination of temporal trends reveals a discernible shift in the focal points of scholarly interest within the tourism and environment literature. While early studies primarily concentrated on topics such as ecotourism, environmental management, and carrying capacity, more recent research has increasingly emphasized themes including tourism development, environmental behaviors, and sustainability.

The international collaboration map reveals that countries such as China, the United States, and Australia have emerged as leading contributors to the tourism and environment literature, whereas research output from regions such as Africa and Russia remains limited. This disparity underscores the need for a more inclusive and geographically diverse research agenda in the future.

One of the key limitations of this study lies in its exclusive reliance on the Scopus database and English-language publications, which may have resulted in the exclusion of relevant studies published in other languages or indexed in alternative databases. Future research would benefit from expanding the scope to include additional data sources, such as Web of Science and Dimensions, in order to provide a more comprehensive and inclusive bibliometric assessment.

The search conducted using the keyword 'tourism and environment bibliometrics' revealed a lack of comprehensive bibliometric analyses that directly examine the full body of literature addressing the tourism–environment nexus. Existing studies that explore this thematic intersection typically do so within the scope of broader subtopics related to environmental concerns. Notable among these are: Güdü Demirbulat and Tetik Dinç [38], who focused on sustainable tourism; Azam et al. [7], who investigated the environmental pollution effects of tourism; Shahbaz et al. [11], who examined tourism's contribution to environmental degradation; Streimikiene et al. [8], who explored sustainable tourism development and competitiveness; Niñerolav et al. [39], who conducted a bibliometric analysis of tourism research on sustainability; Singh et al. [40], who focused on ecotourism and sustainability; and Diéguez-Castrillón et al. [41], who analyzed sustainability indicators for tourism destinations. The majority of these studies concentrate their bibliometric analyses predominantly on the theme of sustainability. In light of the existing body of research, the present study may be regarded as one of the few that systematically examines all scholarly publications on the tourism–environment nexus through bibliometric data, encompassing the full range of articles indexed in the Scopus database under this overarching theme. Despite these contributions, the study has certain limitations. First, the analysis was based solely on the Scopus database, which may have led to the exclusion of relevant studies indexed in other databases such as Web of Science or Dimensions. Second, only publications in English were considered, potentially omitting significant research published in other languages.

Future research could address these limitations by incorporating multiple databases and including non-English publications to provide a more comprehensive view of the tourism–environment literature. Additionally, further studies could employ advanced analytical techniques such as time series analysis to forecast research trends or cluster analysis to identify thematic relationships and emerging areas. Exploring underrepresented regions, particularly Africa and Russia, and diversifying methodological approaches could also offer valuable insights for both academia and policy-making.

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