



Research Article

**THE POSITION OF TOURISM IN TÜRKİYE'S AND SPAIN'S 2030 CLIMATE CHANGE
ADAPTATION PLANS****

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Abstract

The purpose of the study is drawing attention to how the relationship between tourism and climate change is integrated within future adaptation plans and clarifying this emerging framework. The significance of the study is directly proportional to the connection between tourism and climate change. This is particularly evident considering that tourism represents one of the most prominent human activities of the 21st century, while climate change stands as a global issue commanding the utmost levels of importance and attention. Accordingly, *Türkiye's Climate Change Adaptation Strategy and Action Plan 2024-2030* and *Spain's National Climate Change Adaptation Plan 2021-2030* were subjected to content analysis focusing on tourism via ATLAS.ti-v.24.2.2. This analysis provides insights into how tourism is addressed in adaptation plans. Key issues such as intensifying heatwaves, rising sea levels, and increased tropical nights disrupt tourism resources and shift consumer demand, highlighting the essential role of normative tools in risk assessment and information dissemination. These tools are crucial for adapting tourism to climate change and building resilience, emphasizing the importance of collaboration and integration. Additionally, tourism may play a key role in promoting an ecocentric rather than anthropocentric attitude.

Keywords: Sustainable Tourism, Destination Management, Earth System, Climate Change

Introduction

As human influence on the Earth extends beyond the boundaries of the atmosphere (Bradley and Wein, 2009), it continues to reach new historical peaks (Steffen et al., 2015). Many developments continue to cast a significant shadow (Rillig, Ryo and Lehmann, 2021) over the positive outcomes of such a powerful set of actions (Fawzy et al., 2020). Consequently, a cultural environment disconnected from its natural origins (Yamaç Erdoğan and Erdoğan, 2022) increasingly hinders access to authentic and natural values (Bakari, 2015; Sahan, 2021). The growing likelihood of deprivation of these elements, combined with the adverse effects of increasingly alienated and capable human actions, poses a threat not only to human lives but also to those of plants and animals (Sherrard-Smith, 2022), evolving into a phenomenon that undermines the structure of global habitats (Rockström et al., 2009).

The Industrial Revolution prominently serves as a pivotal point in shaping the global factors mentioned above. However, it has been observed that, particularly after the Second World War, the impact of humanity on the planet has risen to extraordinary levels in a multidimensional manner. Consequently, the globalisation of the aforementioned influence has largely occurred in the second half of the 20th century. Although Bekaroğlu (2022) has naturally allocated the ethical and political responsibility for these adverse outcomes between developed and developing countries, the necessity for humanity -as a whole- to take action in producing global solutions to global problems is also evident.

Tourism activities, which constitute a significant aspect of human mobility, are at their peak in history (UN Tourism, 2024). In this context, the frequency and prevalence of tourism mobility, supported by the pushing power of urban life (Yamaç Erdoğan, 2023), along with the existing tourism industry and the supply chain it

**This study, presented as a conference paper at the 24th National Tourism Congress held on 19-21 September 2024 in Kastamonu/Türkiye, has been expanded into an article through the addition of approximately 3,000 words, 25 new references, and its translation into English.

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DOI: 10.33083/joghat.2024.472

activates within the economy (Slusarczyk, Smolag and Kot, 2016), position tourism as a significant global activity associated with the aforementioned impacts that challenge planetary boundaries (Gössling, 2002).

In issues of global significance that necessitate careful consideration, even national initiatives are shaped by the frameworks established through international collaborations and other collective efforts, thereby enhancing the holistic nature of these actions. In this context, the study analyses the tourism-related content of the climate change adaptation plans put forward by Türkiye and Spain, covering the period up to 2030, within the framework of the United Nations Framework Convention on Climate Change (UNFCCC) and related international agreements. Given their significant global influence, their status as prominent tourism destinations, and their location in the Mediterranean Basin -a region where the effects of climate change are acutely felt-examining the adaptation plans of these countries has been deemed reasonable. The aim is to highlight and clarify how the relationship between tourism, one of the most prominent human activities of the 21st century, and climate change, a global issue of paramount importance and interest, is integrated within the scope of future adaptation plans.

Literature Review

The need for every action that supports the Earth system -defined as "the globally interactive physical, chemical, biological cycles and energy flows that provide the conditions necessary for life on the planet" (Steffen et al., 2005: 7)- becomes more evident through the study by Richardson and colleagues (2023) on planetary boundaries. Notably, out of the nine core categorical boundaries defining planetary boundaries - biosphere integrity, novel entities, climate change, biogeochemical flows, land-system change, freshwater change, ocean acidification, atmospheric aerosol loading, and stratospheric ozone depletion- limits have been exceeded in six (the first six listed above), with ocean acidification nearing its threshold.

It is evident that climate change, with its comprehensive and relational aspects, constitutes one of the primary areas requiring improvement to ensure that the Earth system, in its most fundamental form, retains its capacity to sustain human life (Lenton, 2000). Climate change, which encompasses both active and passive interactions with tourism -one of the fundamental human activities of the 21st century- falls within its significant sphere of influence and serves as the focus of numerous scientific publications (Scott, Gössling and Hall, 2012; Becken, 2013; Farid et al., 2016; Becken and Scott, 2024). It stands out as one of the primary issues of concern regarding planetary boundaries and tourism (Miralles et al., 2023).

Based on the understanding that climate is a factor not only for tourist-receiving but also for tourist-sending countries, according to the model proposed by Hein, Metzger and Moreno (2009), it is anticipated that Spain will experience an annual decline in tourism demand ranging from 5% to 14%. The primary factors contributing to this include: the increasing competitiveness of Northwest Europe as a more desirable tourism destination due to climate change, and the expected decrease in the number of tourists sent by key countries such as the United Kingdom and Germany, leading to a decline in Spain's attractiveness.

Priego, Rosselló and Santana-Gallego (2014), in their study examining the effects of climate change on domestic tourism in Spain, highlighted that while there is an expected decrease in the frequency of travel to the warmer southern regions of the country, opportunities may arise for the cooler northern regions. In this regard, they emphasised the need for destinations along the Mediterranean coast and in the south to focus on product diversification and extending the tourism season, while also underscoring the importance of urban planning and land management in northern destinations, in line with sustainable development principles, to foster increased tourism activity.

Focusing on the fact that the Mediterranean region will be more significantly affected by global warming than other areas, de la Vara et al. (2024) examined the future of tourism along the Spanish Mediterranean coast. They highlighted that summer temperature averages are likely to increase by 1-2°C in the 2025-2034 decade and by 3-4°C in the 2055-2064 decade. They also noted that the duration of heatwaves could extend to 15-20 days during the 2025-2034 decade and reach up to 40 days in the 2055-2064 decade. In this context, they highlighted the need for stakeholders to consider the expansion of the tourism season into spring and autumn, the protection of green spaces, energy and water conservation by facilities, as well as the large-scale implementation of regulations and plans in line with climate change adaptation.

Focusing particularly on Antalya and Muğla, Bayazıt (2018) pointed out that, alongside the increase in Türkiye's tourism revenues, greenhouse gas emissions from tourism also rose, highlighting that the industry grew without demonstrating climate sensitivity. By listing recommendations on various topics such as flight and travel occupancy rates, unnecessary weight, low emissions; renewable energy in accommodation facilities,

energy and water conservation, local food preferences; reduced travel frequency (extended stay) and product choices based on sustainability sensitivity in tourist demand; as well as shifting and extending the tourism season and leveraging opportunities for international cooperation, the author proposed a model policy bundle.

Examining the impacts of climate change on tourism across Türkiye and exploring the roadmap for its development in this context, Aygün Oğur and Baycan (2024) made projections for the 30-year period from 2040 to 2069, using the 55 years from 1963 to 2017 as a reference. A matrix consisting of nine regions was designed by the authors, based on international tourist numbers, accommodation facility counts, types of tourism, and the tourism climate index. Of the 30 destinations included in the study, 12 were categorised as disadvantaged, 7 as neither advantaged nor disadvantaged, and 11 as advantaged, in general terms. Ultimately, the importance of long-term planning was emphasised to prevent the emergence of unavoidable and irreversible negative impacts.

Focusing on tourism along the Mediterranean coast of Türkiye and also examining tourism on the Aegean coast, Bilgin et al. (2024) projected a deterioration in tourism comfort conditions during the 25-year period from 2026 to 2050, compared to the 45-year reference period from 1976 to 2020, which would result in a decline in tourist arrivals and overnight stays. The authors emphasised the necessity of planned adaptation strategies and long-term action plans.

It is not surprising that other studies linking tourism in Türkiye and Spain with climate change (March, Saurí, and Llundés, 2014; Aygün Oğur and Baycan, 2023) repeatedly highlight warnings that these key tourism countries in the Mediterranean region may face challenging periods. The potential changes in both the demand structure and direction, alongside supply factors, clearly highlight the multidimensionality and interrelation of the issue. As emphasised in the relevant literature, it is crucial to maintain international cooperation, taking regional differences into account, and ultimately, whether the focus is on tourism or not, to exert a global effort regarding climate change, which is a significant factor in determining the Earth's fundamental balances.

Method

In line with the aim of the study, Türkiye's 2024-2030 Climate Change Adaptation Strategy and Action Plan (CCASAP) and Spain's National Climate Change Adaptation Plan 2021-2030 (NCCAP), both formally linked to international agreements and frameworks prioritising environmental protection and sustainable development, such as the United Nations Framework Convention on Climate Change, the Paris Agreement, the United Nations Sustainable Development Goals (SDG), the Intergovernmental Panel on Climate Change (IPCC), and the United Nations Environment Programme (UNEP), have been subjected to content analysis, a qualitative research method, with a focus on tourism-related topics. Since the documents analysed are open-access official national plans, the research process and the study as a whole do not involve any circumstances requiring an ethics committee report.

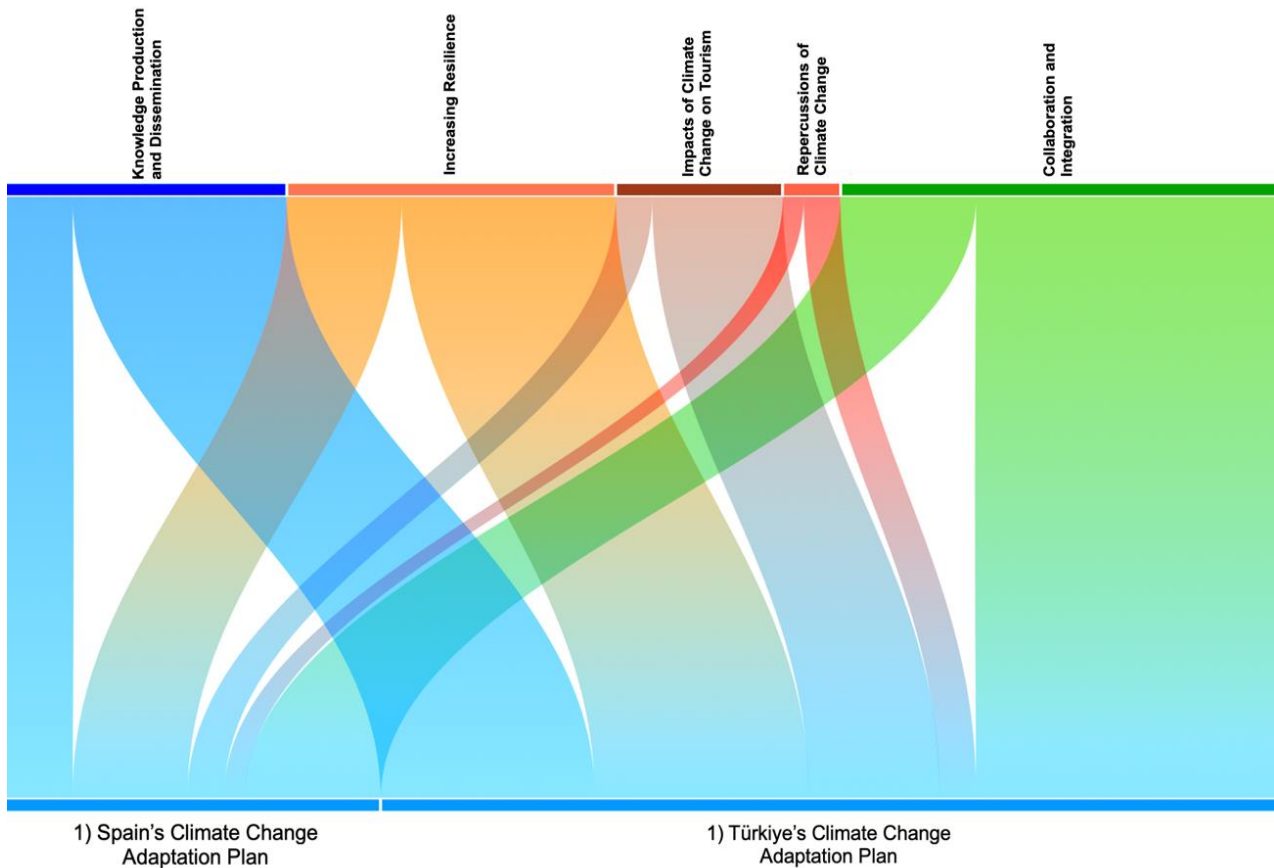
The analyses within the coding and other research processes were conducted using ATLAS.ti v.24.2.2, a computer-assisted qualitative data analysis software. Sensitivity towards the process was prioritised, focusing on criteria such as credibility, transferability, dependability, and confirmability. The documents subjected to analysis were read multiple times to ensure both the internalisation of the data and the completion of the code hierarchy draft, including preliminary coding, before finalising the codes.

Based on the data-driven coding process, the following 5 main codes and 37 associated sub-codes were identified; "repercussions of climate change" (14 sub-codes: extreme weather events, drowning, sea level rise, sea water temperature increase, reduction in snow cover, forest fires, decrease in forested areas, loss of water resources, heat stroke, heatwaves, temperature increase, injuries, increase in tropical nights, decrease in rainfall); "impacts of climate change on tourism" (14 sub-codes: infrastructure problems, changing consumer trends, damage to destination image, demand shift in the target country -Türkiye/Spain-, decline in service quality, reduction in employment, demand increase in source countries -Türkiye/Spain excluded-, rising costs, season shift, deviation from strategic tourism goals, decrease in tourist satisfaction, decline in tourist numbers, reduction in tourism revenues, degradation of tourism resources, emergence of new destinations); "knowledge production and dissemination" (4 sub-codes: education, awareness raising, empowerment -personnel/actors-, risk analysis); "collaboration and integration" (2 sub-codes: normative integration, stakeholder collaboration); "increasing resilience" (3 sub-codes: diversification of supply, general adaptation, renewal). The analyses based on these codes are outlined below.

Findings

The relationship between the national climate change adaptation plans of Türkiye and Spain and the tourism-related sections of the documents analysed, along with the corresponding codes, is visualized in Figure 1 through a Sankey diagram. It is immediately apparent that all codes are more strongly associated with the Türkiye document. The disparity between the sections of the documents under analysis [Türkiye document - TR: 5,447 words; Spain document - SP: 1,937 words] is the key factor explaining this observation. However, given that the document scope and content volume also serve as data, a “normalized” diagram (which systematically brings values closer together) was not used, as it can be applied through software.

Figure 1. Code-Document Sankey Diagram



When considering that content related to the "Repercussions of Climate Change" code, which includes sub-codes such as "heatwaves," "sea level rise," and "increase in tropical nights," is spread across the entirety of the documents, the reason for its relatively limited coverage in the tourism-related sections becomes clearer. As a result, the adaptation plans subjected to analysis cover a wide range of topics, not only tourism but also key areas such as energy, urban development, industry, agriculture, and water resources. In this study, the sections focusing on tourism have been examined in detail. In addition, although there is a volume difference between the documents, it has been found that the content related to the code "Impacts of Climate Change on Tourism," including sub-codes such as "rising costs," "season shift," and "degradation of tourism resources," appears significantly less in the Spain document. Therefore, it can be inferred that the focus is placed on the generally negative impacts of climate change, while the effects on tourism are addressed in a more implicit and concise manner. Moreover, the high emphasis placed on collaboration and integration in both documents (see data quotations -DQ-) is notably striking.

DQ1 SP: “It is important that effort in this field is shared with autonomous communities and local entities, creating interdepartmental and intersectoral working spaces to tackle adaptation in the tourism sector and promoting inter-administrative coordination.”

DQ2 TR: “Tourism associations encompassing the private sector, relevant public institutions, local press – media, professional organisations with the status of public institutions, and non-profit or for-profit NGOs established for the purpose of preserving tourism and cultural heritage should be included in this

collaboration, ultimately forming an institutional identity, such as a destination management organisation.”

Table.1 Code Co-occurrence Diagram

	● Knowl... 54	● Incre... 63	● Impac... 32	● Reper... 11	● Colla... 84
● Knowledge Production and Dissemination 54		22 (0.23)	7 (0.09)	5 (0.08)	25 (0.22)
● Increasing Resilience 63	22 (0.23)		7 (0.08)	2 (0.03) ●	42 (0.40)
● Impacts of Climate Change on Tourism 32	7 (0.09)	7 (0.08)		6 (0.16)	6 (0.05)
● Repercussions of Climate Change 11	5 (0.08)	2 (0.03) ●	6 (0.16)		1 (0.01) ●
● Collaboration and Integration 84	25 (0.22)	42 (0.40)	6 (0.05)	1 (0.01) ●	

In Table 1, which presents the code co-occurrence table created without differentiating between the Türkiye and Spain documents, the most striking point is not only the existence of a certain relationship among all the codes, but also the prominent position of the "collaboration and integration" code. The strongest relationships based on the code co-occurrence frequency (f) and coefficient (c) are observed between the following codes: "Collaboration and Integration" – "Increasing Resilience" (CI-IR f: 42; c: 0.40), "Knowledge Production and Dissemination" – "Collaboration and Integration" (KPD-CI f: 25; c: 0.22), and "Increasing Resilience" – "Knowledge Production and Dissemination" (IR-KPD f: 22; c: 0.23). To contribute to the concretization of these relationships, relevant data quotations are provided below.

DQ3 KPD-IR (SP): “This line of action is aimed at identifying, planning and developing adaptation initiatives to protect tourism destinations and resources, as well as promoting the resilience of infrastructures and facilities, with a special focus on traditional tourism resources. The adaptation initiatives needed for these purposes are linked to other PNACC lines of action.”

DQ4 KPD-CI (TR): “In the tourism sector, the provision of suitable financing opportunities by banks to value chain actors, aimed at raising environmental awareness and implementing measures to adapt to climate risks, also contributes to the sector.”

DQ5 IR-KPD (SP): “In a country heavily oriented towards sun and beach tourism, diversification of the tourism offer is one of the strategies that can increase the resilience of the sector. However, diversification requires a specific strategy, and it should be focused on the most vulnerable territories.”

Table.2 Code-Document Diagram

	1 Spain Clima... 47	2 Türkiye Clima... 101	Totals
Knowledge Production and Dissemination 54	%8,61 13 %2,58 %24,07	%11,61 41 %8,13 %75,93	%10,71 54 %10,71 100 %
Knowledge Production and Dissemination: education 13	%2,65 4 %0,79 %30,77	%2,55 9 %1,79 %69,23	%2,58 13 %2,58 100 %
Knowledge Production and Dissemination: awareness raising 11	%1,99 3 %0,60 %27,27	%2,27 8 %1,59 %72,73	%2,18 11 %2,18 100 %
Knowledge Production and Dissemination: empowerment -personnel/actors- 12	%1,99 3 %0,60 %25,00	%2,55 9 %1,79 %75,00	%2,38 12 %2,38 100 %
Knowledge Production and Dissemination: risk analysis 37	%5,96 9 %1,79 %24,32	%7,93 28 %5,56 %75,68	%7,34 37 %7,34 100 %
Increasing Resilience 63	%14,57 22 %4,37 %34,92	%11,61 41 %8,13 %65,08	%12,50 63 %12,50 100 %
Increasing Resilience: diversification of supply 13	%5,30 8 %1,59 %61,54	%1,42 5 %0,99 %38,46	%2,58 13 %2,58 100 %
Increasing Resilience: general adaptation 56	%11,26 17 %3,37 %30,36	%11,05 39 %7,74 %69,64	%11,11 56 %11,11 100 %
Increasing Resilience: renewal 15	%3,31 5 %0,99 %33,33	%2,83 10 %1,98 %66,67	%2,98 15 %2,98 100 %
Impacts of Climate Change on Tourism 32	%4,64 7 %1,39 %21,88	%7,08 25 %4,96 %78,12	%6,35 32 %6,35 100 %
Repercussions of Climate Change 11	%2,65 4 %0,79 %36,36	%1,98 7 %1,39 %63,64	%2,18 11 %2,18 100 %
Collaboration and Integration 84	%17,22 26 %5,16 %30,95	%16,43 58 %11,51 %69,05	%16,67 84 %16,67 100 %
Collaboration and Integration: normative integration 64	%11,92 18 %3,57 %28,12	%13,03 46 %9,13 %71,88	%12,70 64 %12,70 100 %
Collaboration and Integration: stakeholder collaboration 39	%7,95 12 %2,38 %30,77	%7,65 27 %5,36 %69,23	%7,74 39 %7,74 100 %
Totals	100 % 151 %29,96 %29,96	100 % 353 %70,04 %70,04	100 % 504 100 % 100 %

The cross-tabulation of codes and documents presented in Table 2 has been utilised to separately examine the distribution of sub-codes within the scope of these three codes, which stand out due to their mutual relationships, for both Türkiye and Spain documents. For both countries, the sub-codes with the highest weight associated with the three codes in question are "normative integration" (NI Türkiye: 13.03%; Spain: 11.92%), "general adaptation" (GA Türkiye: 11.05%; Spain: 11.26%), and "risk analysis" (RA Türkiye: 7.93%; Spain: 5.96%).

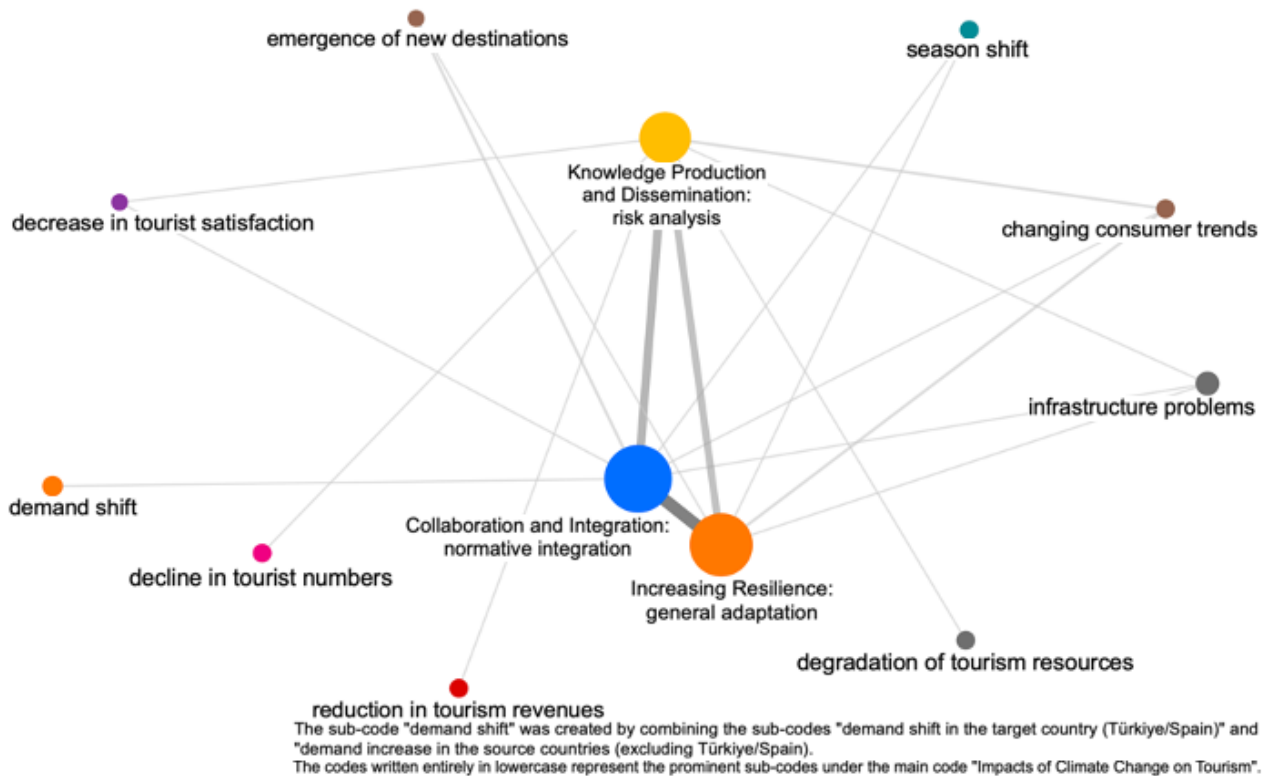
DQ6 NI (TR): “Designing all processes of tourism values and products in accordance with the principles of sustainable tourism, along with increasing awareness activities, will also promote adaptation to climate risks.”

DQ7 GA (SP): “Protecting tourism resources, adapting infrastructures and facilities and promoting their resilience to the effects of climate change.”

DQ8 RA (TR): “For making cultural heritage resilient to climate risks, the joint use of digital data platforms by institutions involved in decision-making processes, the creation of a climate vulnerability index to assess the level of impact of climate hazards on cultural heritage elements, conducting heritage impact assessments and risk analyses in coordination with field-based active groups, and identifying priority intervention areas and needs...”

The relationship network between the sub-codes that stand out within the "Effects of Climate Change on Tourism" code and the three weighted sub-codes (NI-GA-RA), including the relationships among these three codes, is visualised in Figure 2. It can be observed that there are many sub-codes of "Effects of Climate Change on Tourism" directly associated with the "Risk Analysis" sub-code. Notably, the sub-codes "changing consumer trends" and "infrastructure problems" are related to all three of the NI-GA-RA sub-codes.

Figure 2. Network of Relationships Between Codes and Sub-Codes



Both analysed documents contain multifaceted statements regarding the shift in tourism demand due to climate change (see the related DQs below).

DQ9 (SP): “Increase in the frequency and duration of heat waves and the number of tropical nights, the latter being particularly relevant on the Mediterranean coast due to the rise in seawater temperature, which may affect the climate comfort of visitors.”

DQ10 (TR): “Due to changes in season lengths and durations, resulting from variations in snow depth and suitable periods for winter tourism, and thermal comfort conditions for summer tourism, the tourism actors most likely to be affected by fluctuations in tourist numbers and length of stay will once again be the accommodation providers.”

It is expected to be difficult not to address the issue of demand shift when discussing the relationship between climate change and tourism. However, upon examining the presented relationship network, it may initially appear as though this is not reflected. Nevertheless, it should not be overlooked that the "normative information" sub-code plays a role within the content of the documents, and that it can be connected to other sub-codes through direct relationships established with it.

Conclusion and Evaluation

The risk analyses conducted based on critically important issues such as deepening infrastructure problems, deteriorating tourism resources, declining tourist numbers and revenues, reduced tourist satisfaction, and changing consumer trends, alongside other actions related to knowledge production and dissemination, indicate that normative tools -comprising all outputs such as strategies, plans, policies, and protocols- are in an essential position for the tourism sector's adaptation to climate change and its increased resilience.

In the study focusing on the climate change adaptation plans of Türkiye and Spain for 2030, it is observed that the content related to tourism in Türkiye's plan is more extensive and detailed compared to Spain's plan. However, the notable similarity in the key topics addressed is also striking. Of course, it is reasonable to expect content similarities in plans addressing the same issue. However, it should not be overlooked that the issue of collaboration and integration, which is particularly highlighted in terms of climate change adaptation, does not merely refer to the cooperation of tourism-related stakeholders. It should also be noted that normative integration, strengthened through international collaborations, aims to promote the widespread adoption of

normative tools that constitute a cohesive whole. Therefore, the necessity for holistic coordination also brings with it the need for the uniformity of these integration plans and actions.

The tourism-related sections of the adaptation plans for Türkiye and Spain address the repercussions of climate change, including heatwaves, sea level rise, temperature increase, reduction in snow cover, loss of water resources, an increase in tropical nights, rising sea water temperatures, forest fires, and extreme weather events. The direct connection between these adverse developments and tourism is immediately apparent. However, a study focusing on tourists (Belgian and Dutch) awaiting flights to Mediterranean destinations revealed that sensitivity to heatwaves among tourists was lower than expected. For tourism activities centred on seaside experiences (sun, sea, and sand), heatwaves were noted to be acceptable to tourists as long as there was no rain. Additionally, a striking finding was the high proportion of participants (72.4%) who stated they would still choose the Mediterranean, even if northern destinations adopted a climate closer to that of the Mediterranean region (Moreno, 2010). This observation aligns with Gössling and Hall's (2006) study, which emphasises the complexity of tourist behaviour and suggests that the role of climate in destination preferences is less pronounced than commonly assumed.

When addressing climate change, the emphasis shifts away from slightly earlier and hotter summer months or the sun's accelerated tanning effects. Instead, the focus is on the repercussions of critical thresholds being exceeded, manifesting in temperature, climate, and natural events. A study examining participants' destination preferences based on scenarios highlighting the potential outcomes of these thresholds revealed clearer shifts in tourist behaviour. Furthermore, the importance of implementing adaptation measures at the destination level has been emphasised as a means to mitigate the adverse impacts and reduce the abruptness of seasonal and geographical shifts in tourism demand caused by climate change (Atzori, Fyall, and Miller, 2018). Additionally, another study highlights that fostering high destination loyalty and conducting informative promotional activities targeting key markets can play a significant role in preventing the potential negative consequences that are not grounded in realistic scenarios (McCreary et al., 2020). Although summer (Moreno and Amelung, 2009; Koutroulis et al., 2018) and winter tourism (Koenig and Abegg, 1997; Xiao et al., 2020) emerge as primary areas of focus due to their direct connection with climate change, tourism, and seasonality, it appears that these domains are not sufficiently integrated into the scope of proposed large-scale measures. Winter tourism in high-altitude snowy regions (Steiger et al., 2022) and coastal tourism in low-altitude sunny areas remain excluded from planning and policy frameworks. Moreover, the fact that such visions and action tools are overlooked by destinations (Jarratt and Davies, 2019) is a cause for concern.

Adapting to climate change at the destination level is not merely a necessity for attracting tourists and generating income but also for producing value in a broader sense. This is imperative, as the fight aligned with the Paris Agreement by 2050 must extend beyond the individual efforts of businesses or other entities comprising the destination (Gössling and Higham, 2020). A study examining relevant data from 40 developing countries between 2010 and 2023 (Shang et al., 2023) identifies a positive correlation of 43% between the green governance index, representing environmental policy indicators, and ecotourism indicators, thus concretising the framework. Beyond ecotourism, this finding also allows for inferences to be made regarding the broader tourism industry. However, the greatest barrier to generating appropriate responses to climate change for small hotel businesses in Granada/Spain is identified as local political inaction (Jarvis and Ortega, 2010), which brings to mind the previously mentioned inaction at the destination level.

The importance of ensuring international cooperation is consistently emphasized, with Du and Ng (2017) also underscoring the need for strong collaboration among Mediterranean countries, including Spain, Greece, and Türkiye, which are among the regions most affected by climate change. Their support reinforces this insistence. Furthermore, Gössling and colleagues (2023) highlighted the barriers faced by this unity, drawing attention to the key position tourism could occupy among the driving forces accelerating climate change. Indeed, when it comes to a global and highly interactive issue like climate change, it seems neither possible nor meaningful for countries or other parties to address it in isolation, or to isolate action tools and processes.

A broader perspective highlights that, in national well-being indicators, gross domestic product (GDP) should be increasingly replaced by elements that enhance human quality of life through ecosystem support (Costanza et al., 2009). Additionally, the central importance of fundamentally questioning and improving widespread human actions, which are often detached from reason, responsibility, and justice, becomes increasingly evident (Steffen et al., 2011). In the absence of such consideration, it will not be possible to maintain a biosphere or life-supporting system that is not violated by human activities (Herndon and Whiteside, 2022) that challenge the boundaries of the Earth system. In this context, tourism, which focuses on human mobility across the globe,

should be regarded as a matter of importance, considering both its destructive and constructive aspects. This is particularly true because it encompasses sensitive ecological systems beyond human settlements (Ritchie, 1998; Zhang, Xiang and Li, 2012) and is directly related to climate change (Dubois and Ceron, 2006).

It is crucial that, in the steps societies take to regulate their relationship with the Earth system, they ensure that humanity is not isolated from this system, in order to preserve hope that violations will not exceed critical thresholds and to prevent the normalisation of points that have taken on a dangerous dimension, such as climate change (Steffen et al., 2018). The role of tourism activities in mitigating and preventing such dangerous isolation should not be overlooked. Indeed, the Earth system is not solely comprised of cities and the culture-intensive environments that encompass much of human life. The contribution of an experience that goes beyond the cultural environment in fostering a broader understanding of the system's integrity becomes apparent at first glance. These types of interactions, which would significantly aid in grasping the Earth system more easily in the flow of daily life, clearly position tourism activities as a key factor in shaping perspectives (Van Winkle and Lagay, 2012; Erdoğan and Kingir, 2019) and influencing behavioural change (Pung, Gnoth and Del Chiappa, 2020; Erdoğan and Kingir, 2021). Especially nature-based tourism activities (Vidon, 2017; Yamaç and Zengin, 2017; Wilkins et al., 2019) may play a crucial role in reversing the alienation from nature and facilitating the understanding of the Earth system. This can contribute to raising awareness about reducing stressors on nature and climate to acceptable limits, as well as promoting the adoption of an ecocentric rather than an anthropocentric attitude.

The primary responsibility of researchers in relation to the link between climate change and tourism is to advance the contribution made towards a better understanding of this sensitive topic with a global impact. In this regard, it is possible to bring different focal points to the agenda, both within the context of Türkiye and Spain, as well as through the examination of the broader Mediterranean basin. Additionally, beyond adaptation plans, it is also possible to focus on this multifaceted issue from various dimensions. Analysing the changing tourism market in the context of climate change, and identifying possible changes in tourist behaviour according to different market segments and climate change scenarios, will be beneficial. The significance of international collaboration and normative cohesion in tackling both climate change and tourism, given their global impact, is inherently high. To support these efforts, it would be valuable to detail best practice examples through case studies and to examine steps taken towards the concretization of normative plans (at the level of countries, destinations, local governments, businesses, tourists, etc.). Moreover, it is likely that tourism experiences will lead to a distinct perspective on climate issues and more broadly on nature, even though differences may be observed based on tourist and tourism types. Understanding the role of this tourism-driven transformation in cultivating an ecocentric attitude could yield far-reaching impacts. This approach would not only address tourism as a driver of climate change but also possibly positively influence all human activities associated with climate change.

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