atmosphere

MDPI

Editorial

Tourism Climatology: Past, Present, and Future

María Belén Gómez-Martín

Department of Geography, University of Barcelona, Montalegre, 6-8, 08001 Barcelona, Spain; bgomez@ub.edu

check for updates

Citation: Gómez-Martín, M.B. Tourism Climatology: Past, Present, and Future. *Atmosphere* **2021**, *12*, 605. https://doi.org/10.3390/atmos12050605

Received: 29 April 2021
Accepted: 2 May 2021
Published: 6 May 2021

This special issue, entitled *Tourism Climatology: Past, Present, and Future*, contains seven original articles and two review reports which tackle some of the main lines of research in the field of Tourism Climatology. These varied contributions cover a wide range of subjects, approaches, geographical areas, and scales of analysis, and it is important to highlight the applicability of the results of all the articles and their practical implications for territorial planning and the management of tourism flows and resorts.

The potentiality of present and future climates for the practice of different types of tourism is a subject that has frequently been addressed in the literature on tourism climatology. The sun-and-beach tourism sector in particular has been the focus of a great deal of attention due to its high dependence on weather conditions and its leading position within the wide array of tourism products on offer across the world. Some of the research assessing the suitability of particular climates for different types of tourism has centred on the application of the weather types method, while other researchers have based their investigations on the use of climate-tourism indices. Nastos and Matzarakis [1] analysed the present and future climate tourism potential of the island of Milos (Greece) by applying the "Climate Tourism Information Scheme" (CTIS). The CTIS represents the frequencies and probabilities of different bioclimatic and climate tourism factors relating to physical, thermal and aesthetic aspects of the climate. The results of this study predict an increase in heat stress in the Cyclades Islands during the summer months, which means that the period of ideal comfort for tourism will shift to the spring, the autumn, and the beginning of winter, which might allow the tourist season to be extended. The results may be of interest in tourist decision-making processes, and could also be useful points of reference in the planning and management of tourism in these resorts in both the short and medium term.

These and other tools are frequently used for assessing the climatic suitability of a holiday destination for a particular kind of tourism. Traditionally, the results of the application of these tools also depended on the procedures used to determine the suitability thresholds for the different atmospheric variables. These procedures have at times been based on expert opinion and on other occasions on bioclimatic criteria, declared preferences (stated preferences approaches using surveys or interviews), and/or revealed preferences (tourist behavioural observation). This special issue includes two contributions to this line of research. The article by Toubes et al. [2] analyses the behavioural responses of tourists to different weather variables in order to identify the most favourable conditions for sun-and-beach tourism in the north-west of the Iberian Peninsula (Rías Baixas, España). The results can also be applied to help predict the number of people that might visit Spain's colder beaches. The article by Martínez-Ibarra et al. [3] makes a detailed assessment of the weather preferences for the practice of hiking tourism in Spain, in a survey aimed at finding out the preferences of hiking tourists. As a whole, hikers have similar preferences to other tourists in terms of the aesthetic and physical aspects of the climate, although they normally prefer lower temperatures than those engaging in other types of tourist activity. The results obtained may be useful for assessing the suitability of the climate for hiking in Spain and for ensuring effective scheduling, management, and planning of this activity.

In the field of tourism climatology, although studies that assess the impact of climate on the potential for tourism at a regional and local scale have tended to dominate the

research agenda, microclimatic studies that analyse the influence of a range of different factors such as geology, orography, vegetation, or nearness to the sea, among others, have also been the subject of considerable attention. These factors have a direct impact on exterior climate conditions, so affecting tourists' physiological comfort and behaviour, the design of houses and public facilities, town planning, and even territorial planning at tourist destinations. This special issue includes an article on these lines by Matallah et al. [4], which assesses thermal comfort in the open air at a selection of oasis settlements at the Tolga Oasis complex in Algeria, comparing it with the thermal comfort in a nearby area with palm trees. The strength of this study lies above all in its empirical and comparative approach for assessing urban thermal comfort in an oasis complex in an arid climate (during the months of July and August), and in the possible application of the results for, among other things, the spatial management of visitor flows, urban design or town and territorial planning in very popular destinations that are well-known on the international tourist market for their natural, architectural and cultural heritage.

At a world level, the frequency and intensity of extreme meteorological phenomena has increased notably in the last 50 years, leading to a similar increase in the frequency of natural disasters. This is an important question in tourism climatology research given that tourism is clearly incompatible with a high risk of natural catastrophes, which can endanger the lives of tourists and the facilities and infrastructures at tourist destinations. Even without reaching catastrophe status, extreme weather episodes can affect the viability of many tourist destinations and businesses due to their negative impact on profit margins. It is therefore essential for decision-making purposes to improve our knowledge of these phenomena and to analyse our levels of exposure and vulnerability to them. In this special issue we present two articles on these lines. Hewer [5] offers a new method, based on a percentile approach, for defining extreme meteorological events and evaluating their effects on the numbers of visitors engaging in leisure and recreational activities. As a case study, the author analyses the number of visits to Toronto Zoo (Canada). Extreme meteorological phenomena seem to have statistically significant negative effects on attendance at the zoo, with the exception of unusually warm day-time temperatures registered during the winter and unusually cool night-time temperatures during the summer. Extreme heat appears to be the most influential phenomenon at all times of the year, a circumstance that must be taken into account in the evaluation of climate change impacts at a local scale. For their part, López-Díez et al. [6] analyse the causes and effects of floods on different tourist destinations in the Canary Islands (Spain). Given that floods are caused by episodes of intense precipitation, these authors decided to make a detailed characterization of these episodes and assess the socioeconomic and territorial impact of extreme precipitations on selected tourist destinations. Their research reflects on the precautionary, preventive role of territorial planning and on the need to incorporate flood risk into territorial organization plans in order to mitigate their effects.

Much of the scientific literature on the impacts of climate and climate change on the tourism sector has focused on the direct consequences for tourism of changes in the climate and the indirect consequences in terms of environmental impact. However there have been considerably fewer studies that have tried to determine the indirect impacts on economic, political, and social stability or the changes resulting from the application of mitigation policies at different scales. The distribution of tourist demand will be affected by the response of tourists to the complex impacts of climate change on the weather and the environment at holiday destinations, but it will also be affected by the steps taken by these destinations to adapt to these changes, the mitigation policies deployed at different scales and the socioeconomic instability that such changes can induce. It is therefore important to know and understand the perceptions and reactions of tourists to different aspects of this question in order to be able to minimize the negative effects on the tourism sector and holiday destinations. These aspects are dealt with in the article by Clemente et al. [7], whose research focuses on finding out the concerns of tourists visiting the Lisbon region in Portugal about the impacts and risks associated with climate change and their willingness

to pay an environmental sustainability tax. The results of their survey-based research provide reference information for the development of effective mitigation policies that could increase resilience in the study region. Although those interviewed showed serious concern about environmental questions and the risks associated with climate change, they did not seem very willing to pay an additional environmental tax.

Lastly, this special issue also contains two bibliographical reviews of great interest. The first, by Demiroglu and Hall [8], carries out a systematic study of the latest publications on polar tourism and climate change. Within a context of increasing interest and presence in the international tourist market, the polar regions are currently subject to notable, highly publicized impacts of global warming. A review of this kind that seeks to establish the main lines of research and identify any thematic and geographical clusters can therefore make a valuation contribution to our knowledge in this field. The second review, by Zhong and Chen [9], discusses the research being carried out in China in the tourism climatology field, presenting the main subjects being discussed, the methodologies and approaches used, and the outstanding gaps in the knowledge.

In short, this group of articles provides a valuable, synthetic vision of research in the field of tourism climatology, presenting some of the thematic and methodological advances secured so far and setting out ideas for future lines of research and geographical areas of interest. In the hope that this issue will be a useful, interesting resource which allows us to make further progress in the field of applied knowledge, I would like to thank the authors for their excellent contributions and the reviewers for their valuable comments and ideas.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Acknowledgments: The editor would like to thank the authors from Portugal, Greece, Germany, Canada, Algeria, Belgium, China, Israel, Finland, Sweden, New Zealand, and Spain for their contributions to this Special Issue, and the reviewers for their constructive and helpful comments to improve the manuscripts. The editor is grateful to all Assistants Editor for their kind support in processing and publishing this Special Issue.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Nastos, P.T.; Matzarakis, A. Present and Future Climate—Tourism Conditions in Milos Island, Greece. *Atmosphere* **2019**, *10*, 145. [CrossRef]
2. Toubes, D.; Araújo-Vila, N.; Fraiz-Brea, J.A. Influence of Weather on the Behaviour of Tourists in a Beach Destination. *Atmosphere* **2020**, *11*, 121. [CrossRef]
3. Martínez-Ibarra, E.; Gómez-Martín, M.B.; Armesto-López, X.A.; Pardo-Martínez, R. Climate Preferences for Tourism: Perceptions Regarding Ideal and Unfavourable Conditions for Hiking in Spain. *Atmosphere* **2019**, *10*, 646. [CrossRef]
4. Matallah, M.E.; Alkama, D.; Ahriz, A.; Attia, S. Assessment of the Outdoor Thermal Comfort in Oases Settlements. *Atmosphere* **2020**, *11*, 185. [CrossRef]
5. Hewer, M.J. Determining the Effect of Extreme Weather Events on Human Participation in Recreation and Tourism: A Case Study of the Toronto Zoo. *Atmosphere* **2020**, *11*, 99. [CrossRef]
6. López Díez, A.; Máyer Suárez, P.; Díaz Pacheco, J.; Dorta Antequera, P. Rainfall and Flooding in Coastal Tourist Areas of the Canary Islands (Spain). *Atmosphere* **2019**, *10*, 809. [CrossRef]
7. Clemente, F.; Lopes, A.; Ambrósio, V. Tourists' Perceptions on Climate Change in Lisbon Region. *Atmosphere* **2020**, *11*, 297. [CrossRef]
8. Demiroglu, O.C.; Hall, C.M. Geobibliography and Bibliometric Networks of Polar Tourism and Climate Change Research. *Atmosphere* **2020**, *11*, 498. [CrossRef]
9. Zhong, L.; Chen, D. Progress and Prospects of Tourism Climate Research in China. *Atmosphere* **2019**, *10*, 701. [CrossRef]