

**CLIMATE, TOURISM AND RECREATION: A DECADE OF THE
ISB'S COMMISSION ON CLIMATE, TOURISM AND RECREATION**

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The International Society of Biometeorology's Commission on Climate, Tourism and Recreation (CCTR) was founded at the 15th International Congress of Biometeorology in Sydney, Australia in 1999 (from 1996 to 1999 it was an ISB Working Group). The co-founders were Andreas Matzarakis of the University of Freiberg, Germany, and Chris de Freitas of the University of Auckland, New Zealand. The aims of the CCTR are to: a) bring together a selection of researchers and tourism experts from around the world to review the current state of knowledge of tourism and recreation climatology; and b) explore possibilities for future research and the role of the CCTR in this. A decade on research in tourism and recreation climatology has developed and expanded due in large part to the initiatives and activities of the CCTR, including collaborative research projects run under the auspices of the CCTR and three international workshops.

The collaborative research projects included: 1) a research project on devising and testing a second generation climate index for tourism (CIT) conducted by Chris de Freitas (New Zealand), Daniel Scott and Geoff McBoyle (Canada); 2) a cross-cultural analysis of climate preferences for tourism by Daniel Scott (Canada), Chris de Freitas (New Zealand) and Stefan Gossling (Sweden); 3) preparation of a chapter on 'Climate Change Adaptation in Tourism and Recreation' by Daniel Scott (Canada), Chris de Freitas (New Zealand) and Andreas Matzarakis (Germany) in the ISB-sponsored book '*Biometeorology for Adaptation*'; 4) an comprehensive bibliography of work in tourism and recreation climatology by the Canadian team of Daniel Scott, Brenda Jones and Geoff McBoyle covering the period 1936 to 2005; 5) a research project investigating climate change and tourism in the Black Forest and North Sea region of Germany by researchers from the University of Freiburg (Andreas Matzarakis) and the University Lüneburg (Harald Heinrichs); and 6) an investigation into the effects of climate change on the climatic tourism potential in Austria by Andreas Matzarakis and the Central Institute of Meteorology and Geodynamics.

Three international workshops of climate, tourism and recreation have been convened by the CCTR since its inception in 1999. The initial conference was the "First International Workshop on Climate, Tourism and Recreation: The Way Forward" held in Halkidiki in northern Greece from 5-10 October 2001. The was attended by 25 delegates representing fields of expertise that included

climatology, thermal comfort and heat balance modelling, climate change impact assessment, tourism marketing and planning, urban and landscape planning, architecture and UV-radiation. Delegates were from Australia, Austria, Bulgaria, Canada, Croatia, Germany, Greece, New Zealand, Poland, United Kingdom, USA, and Switzerland. The First Workshop noted that: a) tourism is one of the world's biggest industries and also the fastest growing, b) for many regions, tourism is the most important source of income, and c) generally accepted that climate is an important part of the tourism resource base. Despite this the Workshop highlighted

The fact that little is known about: a) the effects of climate on tourism, or the role it plays; the economic impacts of climate on commercial prospects for tourism; and c) which climate related-criteria people use to make decisions about tourism choices. The Workshop identified several research themes that warrant attention:

- Better understanding of what climate-related information is required by tourists and the tourism industry.
- The need to explore the distinction between impacts of climate on tourists versus the impact on the tourism industry.
- The need to assess the role of weather and longer term expectations of climate on destination choices.
- To identify what climate related-criteria people use to make decisions about tourism choices
- Determine how climate information products are currently used by the tourism industry.
- Identify the sort of climate information required by the tourism sector.
- The need for a tourism climate index that integrates all facets of climate, uses standard data, and is objectively tested and verified.

Overall delegates concluded that future research directions should depend to a large extent on what is required by tourism planners, members of the tourism industry and tourists themselves. Determining what these requirements should be a high priority. The presentations at the meeting were published as the '*Proceedings of the First Workshop of the Commission on Climate, Tourism and Recreation*', edited by at Andreas Matzarakis. and Chris de Freitas (Available at: <<http://www.mif.uni-freiburg.de/isb/>>).

The Second International Workshop on Climate, Tourism and Recreation was held at the village of Kolimbari, Crete, from 9-12 June 2004. A total of 40 international delegates attended. A substantial publication covered the proceedings of the Workshop in the form of a book edited by A. Matzarakis, C.R. de Freitas, C.R. and D. Scott, 2004, '*Advances in Tourism Climatology*' (Berichte des Meteorologischen Institutes der Universität Freiburg, Nr. 12, 260 pp). Hard copies were sent to over 500 libraries and made available free of charge electronically at <<http://www.mif.uni-freiburg.de/isb/ws2/report.htm>>. The reports on both the First and Second Workshops were cited in

the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2007), which can be taken as recognition of the work of the CCTR and its standing among the research community.

The Third International CCTR Workshop was held in Alexandroupoulos, Greece from 19 to 22 September 2007, and is the basis of the current book '*Developments in Tourism Climatology*'. The aims of the Workshop were to bring together a selection of researchers and tourism experts to review the current state of knowledge of tourism and recreation climatology and explore possibilities for future work and what the role of the CCTR might be in this research agenda.. Attending the workshop were 38 delegates from 22 countries, including Austria, Bulgaria, Canada, Croatia, Estonia, Lithuania, Finland, France, Germany, Greece, Hungary, Italy, the Netherlands, New Zealand, Portugal, Russia, Slovenia, Switzerland, Taiwan, Turkey, United Kingdom and United States of America. Their fields of expertise included biometeorology, bioclimatology, thermal comfort and heat balance modelling, tourism marketing and planning, urban and landscape planning, architecture, sociology, geography, climate change, meteorology, environmental physics, ecology, emission reduction and climate change impact assessment. Highly encouraging was that more than the half of those who attended were female and about one third of the delegates were young scientists under 35 years old. These demographics portend a very positive future for progress in tourism climatology over the next two decades.

The programme of the Third Workshop consisted of nine sessions and three brainstorming sessions. Each day the Workshop had two separate types of meetings. Oral and poster presentations of scientific papers took place during the day. This was followed by evening sessions at which the results of day's presentations and various themes were discussed and key points summarised for publication in a report on the findings of the CCTR Workshop.

Business conducted during the Workshop was divided between nine sessions, namely: 1) climate as nature based resource for tourism; 2) weather and climate as limiting factors for tourism and recreation; 3) development and presentation of new climate tourism indices; 4) relationships between climate and tourism; 5) effects of weather and climate extremes on tourism and recreation; 6) climate therapy for tourism and recreation; 7) effects of climate change on winter tourism and tourism industry; 8) economic effects of climate change on tourism industry; and 9) adaptation of tourists and tourism industry on climate change.

The oral presentations and posters covered a wide spectrum of themes; many were the product of co-operative research projects between members of the CCTR. Among these were: processing and presentation of meteorological and climatological data for tourism purposes; processing of GSG data and links with tourism; observations via webcams and the perception of weather; ways for integrating weather and climate information in spa therapy; software and analytical tools in tourism

climate research; effects of climate on tourism in coastal and mountainous areas; effects of extreme events on tourism and recreation and their causes and consequences; sensitivity of thermal conditions with regard to climate variability and change; interactions between ecological and socio-economical factors; and risks and opportunities from climate change. The themes of the brainstorming sessions were: development of indices for climate and tourism; weather and climate information for media and tourism industry; winter sports and climate change; climate preferences of tourists and reflect areas where substantial research is taking place.

This volume is made up of are summaries of papers presented at the Third CCTR Workshop. The content reflects the new perspectives and methods in studying climate–tourism relationships that have evolved since the CCTR was established. Figure 1 depicts the key themes conceptually.

What stands out is the diversification of research questions and methodologies in the field over the past decade. The work presented here clearly demonstrates that the field of tourism and recreation climatology has become truly multidisciplinary, with researchers from a number of disciplines bringing fresh perspectives and new methods to the task of advancing the field of tourism and recreation climatology. It is a truly exciting time in the field of tourism and recreation climatology, and as the title suggests, the purpose of this volume is to showcase the diversity of on-going research in this rapidly advancing field of inquiry.

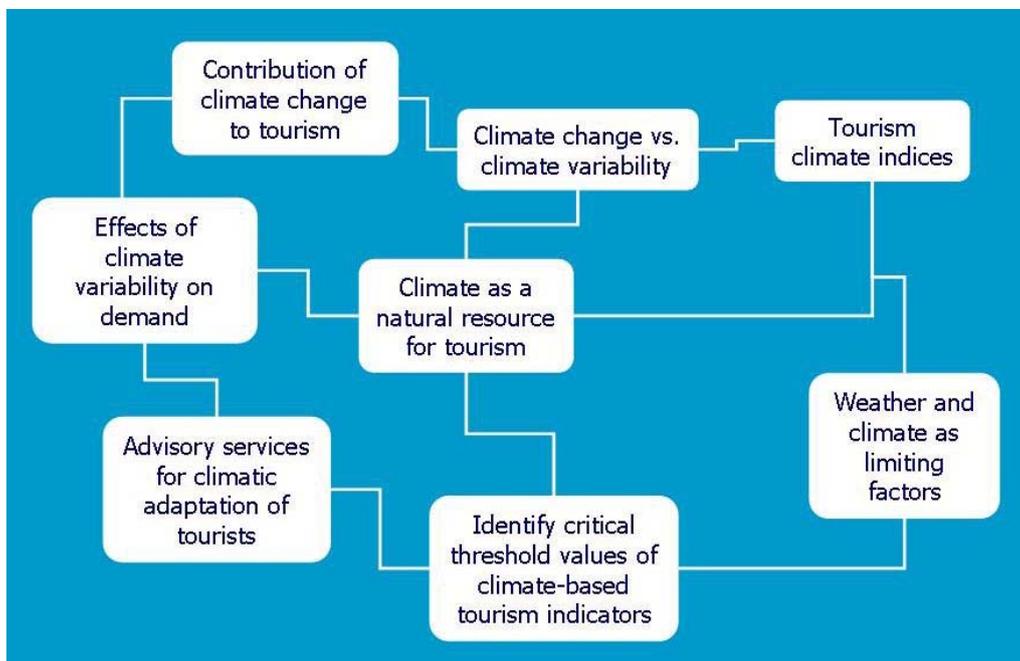


Figure 1. Current climate-tourism relationships: themes and issues.

Looking forward to the decade ahead, the CCTR intends to continue its work, which aims to:

- Facilitate multi-disciplinary research to understand the weather and climate information needs of the tourism industry and advancing fundamental knowledge of the role of weather

and climate in tourist decision-making. Identifying critical indicators and threshold values of climate-based indices for tourism and recreation.

- Develop frameworks for collaborative research on climatic risks, opportunities, and research/information needs for reducing impacts on the tourism and recreation industries;
- Identify sources of data and potential partnerships to investigate interactions between tourism and climate variability and change and to provide usable information for planning and management; and
- Encourage the development of young scholars interested in the multi-faceted dimensions of weather-climate and tourism-recreation.