

# Climate Change and Tourism

Responding to Global Challenges

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**Climate Change and Tourism – Responding to Global Challenges**

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## Foreword

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The Second International Conference on Climate Change and Tourism (Davos, Switzerland, October 2007) was a milestone event that brought together a wide variety of stakeholders and delivered a clear commitment for action to respond to the climate change challenge. It underscored the need for the tourism sector to rapidly respond to climate change if it is to develop in a sustainable manner, which will require actions to: mitigate greenhouse gas emissions from the tourism sector, derived especially from transport and accommodation activities; adapt tourism businesses and destinations to changing climate conditions; apply existing and new technologies to improve energy efficiency; and secure financial resources to assist regions and countries in need.

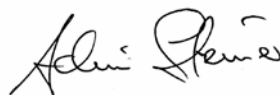
The Davos Declaration highlighting these actions is a huge step forward and presents concrete recommendations to the key interest groups involved in tourism. This is indeed necessary, considering that tourism is today one of the world's largest economic sectors, and represents an activity that forms an integral part of modern societies in both developed and developing countries. It is, above all, a vital element in poverty reduction efforts and for the achievement of the UN Millennium Development Goals.

In the context of the Davos meeting, the report "Climate Change and Tourism: Responding to Global Challenges", which was commissioned to a group of prominent researchers, encompasses the status of knowledge on the complex relationship between climate change and tourism. The publication notes the vulnerability of the sector to climate change and the impacts of tourism on climate itself. The report provides an excellent basis to address the global phenomenon of climate change, as well as to develop practical tools that can be used by tourism policy-makers and managers to foster the sustainable growth of the industry. The impacts and opportunities pertinent to the tourism sector are also underlined in the 2007 reports of the Intergovernmental Panel on Climate Change and the Global Environment Outlook.

The Davos Conference and the London Ministerial meeting held in November 2007, together with the release of this report, are an integral part of the common UN system effort to develop a climate change response framework, and constituted the tourism input at the UN Climate Summit held in Bali in December 2007. This process is possible thanks to the close collaboration between the World Tourism Organization, the United Nations Environment Programme and the World Meteorological Organization, and we are confident that it will contribute to the establishment of an effective and comprehensive climate change framework for the post-2012 period. The three agencies have joined forces with the aim of ensuring an effective response to the challenges ahead, in the true spirit of the 'Delivering as one' message of the UN family.



Francesco Frangialli  
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*World Tourism Organization*



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*United Nations Environment*  
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# Acknowledgements

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This publication has been coordinated by Luigi Cabrini and Gabor Vereczi at the Sustainable Development of Tourism Department of UNWTO, in cooperation with Stefanos Fotiou at UNEP and Leslie Malone at WMO.

UNWTO, UNEP and WMO are grateful to the following for their contribution:

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## Introduction

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This publication reflects the importance attached by the tourism sector to the impacts of climate change and contains valuable scientific and technical information. It also constitutes an important input in the ongoing commitment of the United Nations to respond to the challenge of climate change. The publication contains two distinct parts.

The first, entitled “The International Debate” collects the main results of a series of events focused on climate change and tourism, which took place in the second half of 2007. The participants at the Davos International Conference (1-3 October 2007) adopted a Declaration, which represents the position of a wide spectrum of tourism stakeholders from the public and the private sector. The Davos Declaration acknowledges the urgency to further assess the impacts deriving from the relation between tourism and climate change and sets out directions for common actions from the tourism sector. At the Ministerial Summit held in London on 13 November 2007 and at the UNWTO General Assembly (Cartagena de Indias, Colombia, 23-29 November 2007) the Davos Declaration was extensively reviewed, and a number of important considerations, which complement and further elaborate on its content, were discussed and adopted.

The London Conclusions and the Resolution adopted by UNWTO Member States in Colombia reflect the consensus reached in these forums and reiterate some key messages: climate change should be addressed without losing sight of other priorities, especially poverty alleviation and tourism contribution to the Millennium Development Goals; there should be no discrimination against developing countries by creating obstacles to their economic development; financial resources should be secured for those especially vulnerable to climate change; a disproportionate burden should not be imposed on the tourism sector; and initiatives to address climate change in the tourism sector should be integrated within the existing UN framework.

The second part is a technical report, which analyzes in detail the relations between tourism and climate change, the impact of climate change at destinations, the adaptation options and strategies and the implications for tourism demand patterns. The report contains as well the first detailed assessment ever made of greenhouse gas emissions from tourism related activities, together with an analysis of mitigation policies and measures.

This study was committed by UNWTO, in cooperation with the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO), to a team of prominent experts, with reviews by relevant staff of the three international organizations as well as by other external reviewers. UNWTO elaborated a set of tourism statistical data to be used for the calculation of greenhouse gas emissions while the expert’s team took responsibility for the scientific aspects of the technical study relating to climate change, which are based on the broader research carried out by the Intergovernmental Panel on Climate Change (IPCC). The Annexes contain a detailed description on methodology and terminology used for these calculations. A summary of the preliminary findings of this report was presented at the Davos Conference, and it is included as the executive summary of this report.

We wish to thank all those who have contributed to this important work.



Luigi Cabrini  
*Director, Sustainable Development of Tourism  
World Tourism Organization*



# Part I

## The International Debate



# Second International Conference on Climate Change and Tourism (Davos, 1–3 October 2007)

## 1.1 Programme of the Second International Conference on Climate Change and Tourism

### Opening Session

- Ambassador Dr. Eric **Scheidegger**, Deputy Director of the Secretariat of State for Economic Affairs SECO, Switzerland
- Mr. Francesco **Frangialli**, Secretary-General, UNWTO
- Mr. Shafqat **Kakakhel**, Deputy Executive Director, UNEP
- Mr. R. D. J. **Lengoasa**, Assistant Secretary-General, WMO
- Mr. André **Schneider**, MD and COO, World Economic Forum

### Conference Overview and Key Trends

- Prof. Geoffrey **Lipman**, Assistant Secretary-General, UNWTO
- Dr. Youssef **Nassef**, Manager, Adaptation, UNFCCC
- Dr. Daniel **Scott**, UNWTO Expert, Canada Research Chair in Global Change and Tourism, Faculty of Environmental Studies, University of Waterloo

### Roundtable Discussion: How the tourism sector responds

Moderated by Ms. Fionnuala **Sweeney**, CNN Anchor

- Dr. Philippe **Rochat**, Executive Director, Air Transport Action Group
- Dr. Saptia **Nirwandar**, Secretary-General, Ministry of Culture and Tourism, Indonesia
- Mr. Renton **de Alwis**, Chairman, Sri Lanka Tourist Board
- Mr. Lelei **Lelaulu**, President, Counterpart International
- Ms. Cathleen **Johnson**, Executive Vice President, General Manager, Global Tourism Director, Edelman Inc.
- Mr. Christopher **Brown**, Chair, UNWTO Business Council, MD/CEO, TTF Australia
- Mr. Ghassan **Aïdi**, President, IH&RA

## Plenary Panel Sessions on Adaptation at Tourism Destinations

### Panel 1: Coastal Destinations and Small Islands

Moderated by Mr. Gabor **Vereczi**, Chief of Environment and Quality Section, Sustainable Development of Tourism Department, UNWTO

- Mr. Christopher **Rodrigues**, Chairman, VisitBritain
- Dr. Abdulla **Mausoom**, Director-General, Maldives Tourism Board
- Ms. Banuve **Kaumaitotoya**, Permanent Secretary for Tourism and Environment, Fiji
- Mr. Mahmoud **El Kaissouni**, Advisor to the Minister on Environment Affairs, Egypt
- Mr. Michael **Nalletamby**, Director-General, Policy and International Cooperation, Seychelles
- Mr. Andrew **Skeat**, Executive Director, Great Barrier Reef Marine Park Authority, Australia

### Panel 2: Mountain Regions and Winter Tourism

Moderated by Mr. Luigi **Cabrini**, Director, Sustainable Development of Tourism Department, UNWTO

- Dr. Shardul **Agrawala**, Principal Economist Climate Change, Environment Directorate, OECD
- Dr. Walter **Ammann**, Conference Chairman IDRC Davos, Swiss Federal Institute for Snow and Avalanche Research SLF
- Mr. Arthur **de Jong**, Mountain Planning and Environmental Resource Manager, Whistler and Blackcomb Mountain, Canada
- H.E. Mr. Predrag **Nenezic**, Minister of Tourism and Environment, Montenegro
- Mr. André **Vallerand**, President, World Centre of Excellence for Destinations of Montreal

### Panel 3: Nature-based Destinations

Moderated by Mr. Stefanos **Fotiou**, Programme Officer, Tourism and Environment, UNEP

- Mr. Wayne **Calder**, General Manager, Business Development Group, Tourism Division, Department of Industry, Tourism and Resources, Australia
- Dr. Andreas **Fischlin**, Group Director, Institute of Integrative Biology, Swiss Federal Institute of Technology, Zurich
- Dr. John **Hull**, Senior Lecturer, AUT University, New Zealand
- Ms. Desislava **Mihalkova**, Chief Expert, State Agency for Tourism, Bulgaria
- Ms. Ljubica **Milojevic**, Senior Advisor for International Tourism Affairs, Ministry of Economy and Regional Development, Republic of Serbia
- Mr. Engelbert **Ruoss**, Director, Venice Office, UNESCO
- Mr. Bruce **Poon Tip**, CEO, G.A.P. Adventures, Canada



## Plenary Panel Session on Mitigation in the Tourism Industry

### Panel 1: Transport, Tour Operation and Accommodation

Moderated by Prof. Geoffrey **Lipman**, Assistant Secretary-General, UNWTO

- Mr. Robert J. **Aaronson**, Director-General, Airport Council International
- Mr. Jeff **Gazzard**, Aviation Environment Federation, United Kingdom
- Mr. Jens **Hügel**, Head, Sustainable Development, International Road Transport Union
- Mr. Michel **Lavernhe**, Director of Environmental Affairs, AirFrance
- Mr. Christopher **Lyle**, UNWTO Representative to ICAO and Expert on Aviation Issues
- Dr. Philippe **Rochat**, President, Air Transport Action Group

### Panel 2: Transport, Tour Operation and Accommodation

Moderated by Mr. Eugenio **Yunis**, Director of Programme and Coordination, UNWTO

- Mr. Martin **Brackenbury**, President, IFTO
- Ms. Thea **Chiesa**, Associate Director, Head Aviation, Travel & Tourism Industries, World Economic Forum
- Dr. Wolf Michael **Iwand**, Executive Director, Group Corporate Environmental Management/ Sustainable Development, TUI AG
- Dr. Tom **Selänniemi**, Chairman, Tour operators Initiative

### Panel 3: Transport, Tour Operation and Accommodation

Moderated by Mrs. Leslie **Malone**, Scientific Officer, WMO

- Mr. Ghassan **Aïdi**, President, IH&RA
- Mr. Antoni **Costa i Costa**, President, Paradores, Spain
- Mr. Peter **de Jong**, President and CEO, PATA
- Ms. Hélène **Roques**, Director, Sustainable Development Department, Accor Group, France

## Conclusions and Davos Declaration

Co-chaired by

- Mr. Luigi **Cabrini**, Director, Sustainable Development of Tourism Department, UNWTO
- Mr. Stefanos **Fotiou**, Programme Officer, Tourism and Environment, UNEP
- Prof. Dr. Peter **Keller**, Head Tourism, State Secretariat Economic Affairs, Switzerland
- Prof. Geoffrey **Lipman**, Assistant Secretary-General, UNWTO
- Mrs. Leslie **Malone**, Scientific Officer, WMO

## 1.2 Conclusions from the Panel Sessions

The following conclusions have been derived from presentations delivered by panellists representing public, private, NGO and research institutions, and the subsequent interventions and debates involving the audience at the Second International Conference on Climate Change and Tourism, held in Davos, Switzerland, 1–3 October 2007.

### 1.2.1 Adaptation Responses in Specific Types of Destinations

#### 1.2.1.1 Coastal and island destinations

**Conclusions:**

Beach tourism remains the dominating market segment, constituting a key part of the economy of most SIDS and developing countries.

Coastal and island destinations are highly vulnerable to direct and indirect impacts of climate change (such as storms and extreme climatic events, coastal erosion, physical damage to infrastructure, sea level rise, flooding, water shortages and water contamination), given that most infrastructure is located within short distance of the shoreline. This high vulnerability often couples with a low adaptive capacity, especially in SIDS and coastal destinations of developing countries.

The strong seasonality of beach tourism has to be taken into consideration, as it can be exacerbated by climate change. In many beach destinations the high tourist season coincides with low water regimes in dry seasons, aggravating water management and environmental issues.

The impacts of climate change and global warming will vary greatly in the different coastal regions, and might bring opportunities as well. For example, in traditional summer beach destinations (like the Mediterranean) shoulder seasons might lengthen, and winter season might be more appealing to tourists, providing opportunities to reduce seasonality and expand the tourism product. Northern coastal areas might benefit from warmer summers, attracting more tourists and lengthening summer season.

**Recommended measures:**

- ‘Soft’ coastal protection to prevent erosion (e.g., reforestation of mangroves, reef protection);
- enhanced design, siting standards and planning guidelines for tourism establishments;
- integrate climate change factors into regulatory frameworks for tourism development, such as Environmental Impact Assessment for tourism infrastructure and establishments;
- implementation of tourism development plans within the framework of Integrated Coastal Zone Management (ICZM) processes and spatial planning such as zoning;
- shade provision and crop diversification;
- reduce tourism pressures on coral reefs;
- water conservation techniques, such as rainwater storage, the use of water-saving devices, or waste-water recycling;
- diversification of the tourism product to less-climate dependent and seasonal activities, such as ecotourism;