

CLIMATE CHANGE AND TOURISM

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- Climate Change & Tourism – Impacts; Implications
- Adaptation in the Tourism Sector
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DEFINITION

Climate change refers to any change in *climate* over time, whether due to natural variability or as a result of human activity (IPCC).

Tourism is defined as ‘... the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited.’ (UNWTO/United Nations Recommendations on Tourism Statistics)

AN OVERVIEW

CLIMATE

A **principal resource** for tourism.

- A **principal driver** of global seasonality in tourism demand.
- A **co-determinant** to the suitability of locations for a wide range of tourist activities.
- An **important factor** in influencing operating costs.

Defines the length and quality of tourism seasons and plays a major role in destination choice and tourist spending.

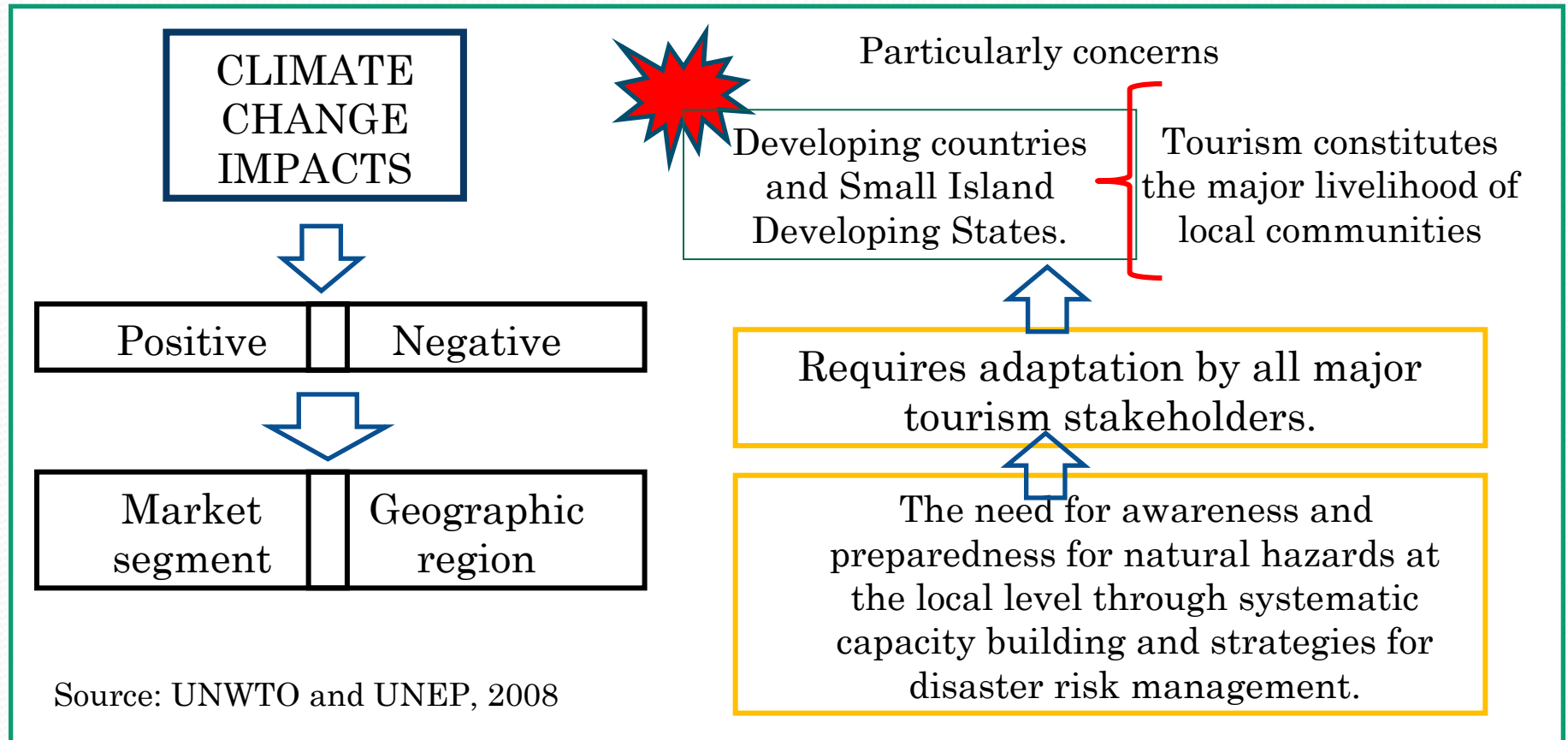
CLIMATE CHANGE

Redistribute climate resources for tourism geographically and seasonally and poses a **risk to ecosystems** worldwide.

The response of tourists to the complexity of destination impacts will reshape demand patterns and play a pivotal role in the eventual impacts of climate change on the tourism industry.

AN OVERVIEW

With its close connections to the environment and climate itself, tourism is considered to be a highly climate-sensitive economic sector similar to agriculture, insurance, energy, and transportation (Wilbanks, T.J. et al., 2007).



Source: UNWTO and UNEP, 2008

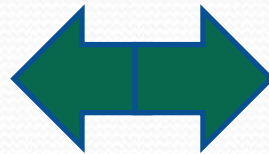
CLIMATE CHANGE AND TOURISM SECTOR

Impacts

Tourism destinations:

1. Coastal destinations and small islands
2. Mountain regions and winter sports
3. Nature-based destinations
4. Heritage destinations

Climate Change



Implications

Tourists response to the impacts on destinations.

Three primary factors:

1. Climate
2. The natural environment
3. Personal safety

Tourism demand:

1. Changes in global demand patterns.
2. Changes in regional-local demand patterns.

POTENTIAL IMPACTS & IMPLICATIONS AT TOURISM DESTINATIONS

Increasing frequency and intensity of extreme storms	Risk for tourism facilities, increased insurance costs/loss of insurability, business interruption costs
Reduced precipitation and increased evaporation in some regions	Water shortages, competition over water between tourism and other sectors, desertification, increased wildfires threatening infrastructure and affecting demand
Increased frequency of heavy precipitation in some regions	Flooding damage to historic architectural and cultural assets, damage to tourism infrastructure, altered seasonality
Sea level rise	Coastal erosion, loss of beach area, higher costs to protect and maintain waterfronts

Source: UNWTO & UNEP, 2008



IMPACTS & IMPLICATIONS: MOUNTAIN DESTINATIONS

Impact	Implications for tourism
Warmer temperatures	Altered seasonality, heat stress for tourists, cooling costs, changes in plant-wildlife-insect populations and distribution, infectious disease ranges
Decreasing snow cover and shrinking glaciers	Lack of snow in winter sport destinations, increased snow-making costs, shorter winter sports seasons, aesthetics of landscape reduced

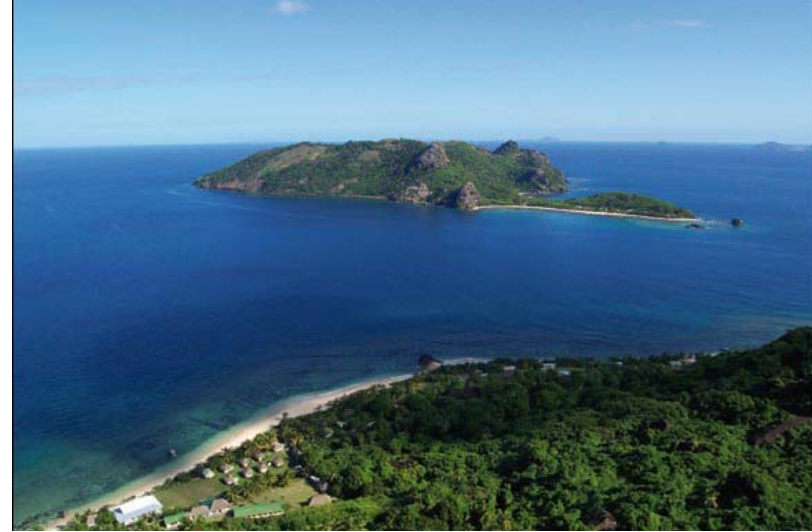


Source: UNWTO & UNEP, 2008



Glacial Retreat in Alaska, USA

IMPACTS & IMPLICATIONS: COASTAL DESTINATIONS



Sea surface temperatures rise

Increased coral bleaching and marine resource and aesthetics degradation in dive and snorkel destinations

Changes in terrestrial and marine biodiversity

Loss of natural attractions and species from destinations, higher risk of diseases in tropical-subtropical countries

Source: UNWTO & UNEP, 2008

ADAPTATION IN THE TOURISM SECTOR

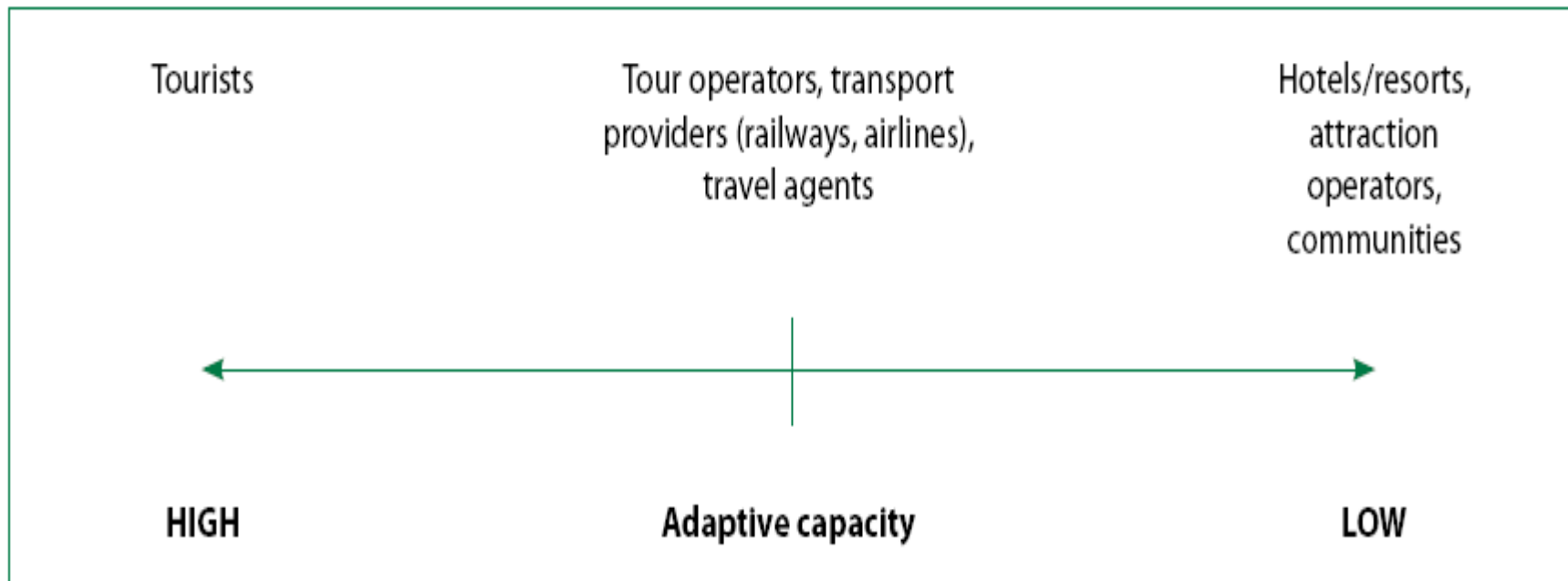
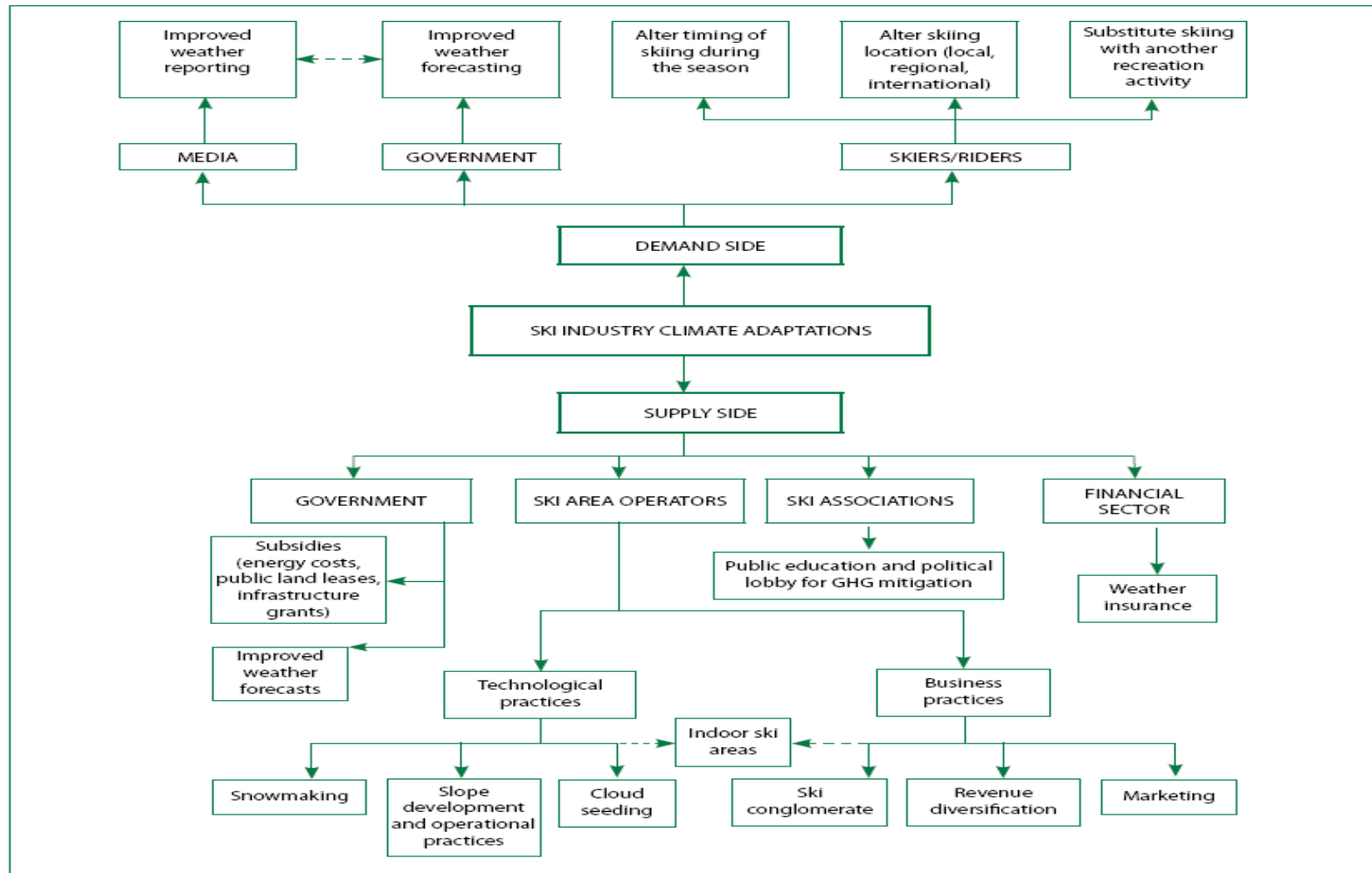


Figure 3 Relative adaptative capacity of major tourism sub-sectors.

Source: Scott, D. and Jones, B. (2006a)

ADAPTATION IN THE TOURISM SECTOR

Climate adaptation options in the **ski industry**



Source: Scott, D. and McBoyle, G. (2006)

ADAPTATION IN THE TOURISM SECTOR

Possible adaptation measures for tourism in **small island countries** and barriers to implementation.

Adaptation measures	Relevance to tourism	Barriers to implementation	Measures to remove barriers
'Soft' coastal protection	Many valuable tourism assets at growing risk from coastal erosion	Lack of credible options that have been demonstrated and accepted	Demonstration of protection for tourism assets and communities
Enhanced design, siting standards and planning guidelines	Many valuable tourism assets at growing risk from climate extremes	Lack of information needed to strengthen design and siting standards	Provide and ensure utilisation of targeted information
Improved insurance cover	Growing likelihood that tourists and operators will make insurance claims	Lack of access to affordable insurance and lack of finance	Ensure insurance sector is aware of actual risk levels and adjusts premiums
Shade provision and crop diversification	Additional shade increases tourist comfort	Lack of awareness of growing heat stress for people and crops	Identify, evaluate and implement measures to reduce heat stress
Reduce tourism pressures on coral	Reefs are a major tourist attraction	Reducing pressures without degrading tourist experience	Improve off-island tourism waste management
Desalination, rainwater storage	Tourist resorts are major consumers of fresh water	Lack of information on future security of freshwater supplies	Provide and ensure utilisation of targeted information
Tourism activity/product diversification	Need to reduce dependency of tourism on 'sun, sea and sand'	Lack of credible alternatives that have been demonstrated and accepted	Identify and evaluate alternative activities and demonstrate their feasibility
Education/awareness raising	Need to motivate tourism staff and also tourists	Lack of education and resources that support behavioural change	Undertake education/awareness programmes

Source: Becken, S. and Hay, J. (2007)

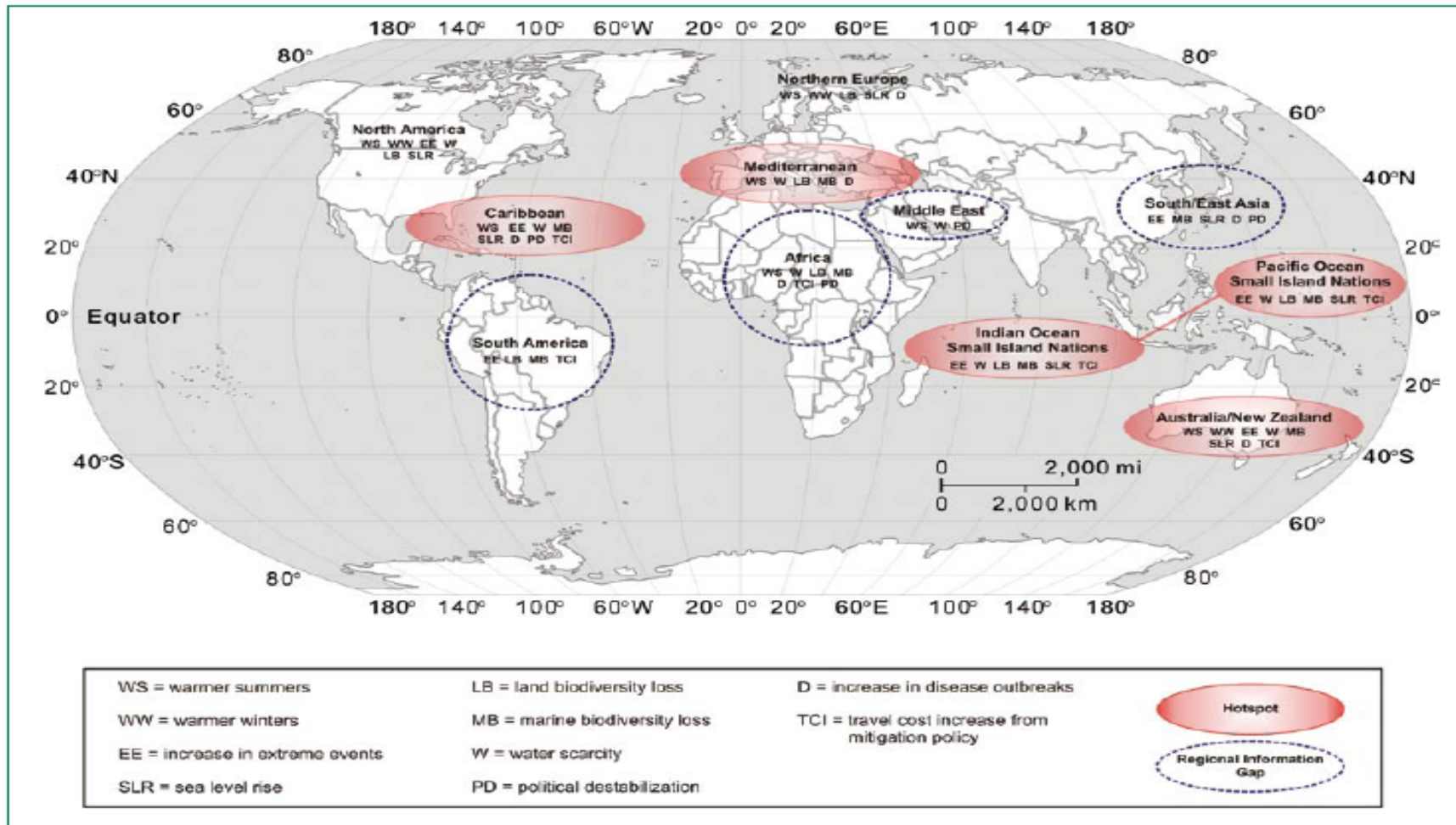
ADAPTATION IN THE TOURISM SECTOR

Possible adaptation strategies for **natural and cultural heritage destinations**

- Master plans and response plans: e.g., water supply planning (in drought susceptible destinations), risk assessment and preparedness strategies, and implementation of early warning systems (e.g., flooding).
- Scientific monitoring survey programmes to assess changes and necessary protection (e.g., levels of endemic species Cape Floral, South Africa; flood protection Thames Barrier, London; glacial lake levels to prevent outburst flooding, Sagarmatha National Park, Nepal).
- Reconstruction and stabilization of historic assets such as architecturally rich buildings and archaeological sites using a combination of traditional materials and skills (to preserve their historic aesthetics and attraction), and modern engineering techniques to enhance their longevity.
- Product diversification; for example: opening up new 'micro' destinations and attractions within an adjacent to an already popular heritage site.
- Translocation; a final strategy for species such as flowering plants that will not survive in their current location involving safer wild habitats or storing the genetic resources in gene or seed banks.
- Protected area re-design/redefinition; i.e., zoning certain areas, protecting a larger area, creation of migratory corridors to allow threatened species to more easily find new geographic ranges and alleviate the effects of climate change.
- Combining traditional materials and skills with modern engineering when reinforcing, stabilizing and renovating historic sites.
- Education and awareness raising on minimising external stresses; increasing the profile and knowledge base of users and stakeholders of the undermining nature of external stresses to a destination struggling to deal with the impacts of climate change.
- Reduction or removal of external stresses such as overuse, pollution and in the case of marine resources, agricultural run-off.

Source: UNESCO-WHC (2007)

INFORMATION GAPS & HOTSPOTS OF IMPACTS ON TOURISM DESTINATIONS



Geographic distribution of major climate change impacts affecting tourism destinations

Source: UNWTO and UNEP, 2008

REGIONAL KNOWLEDGE GAPS

Relative level of regional knowledge on climate change and tourism ^(a)

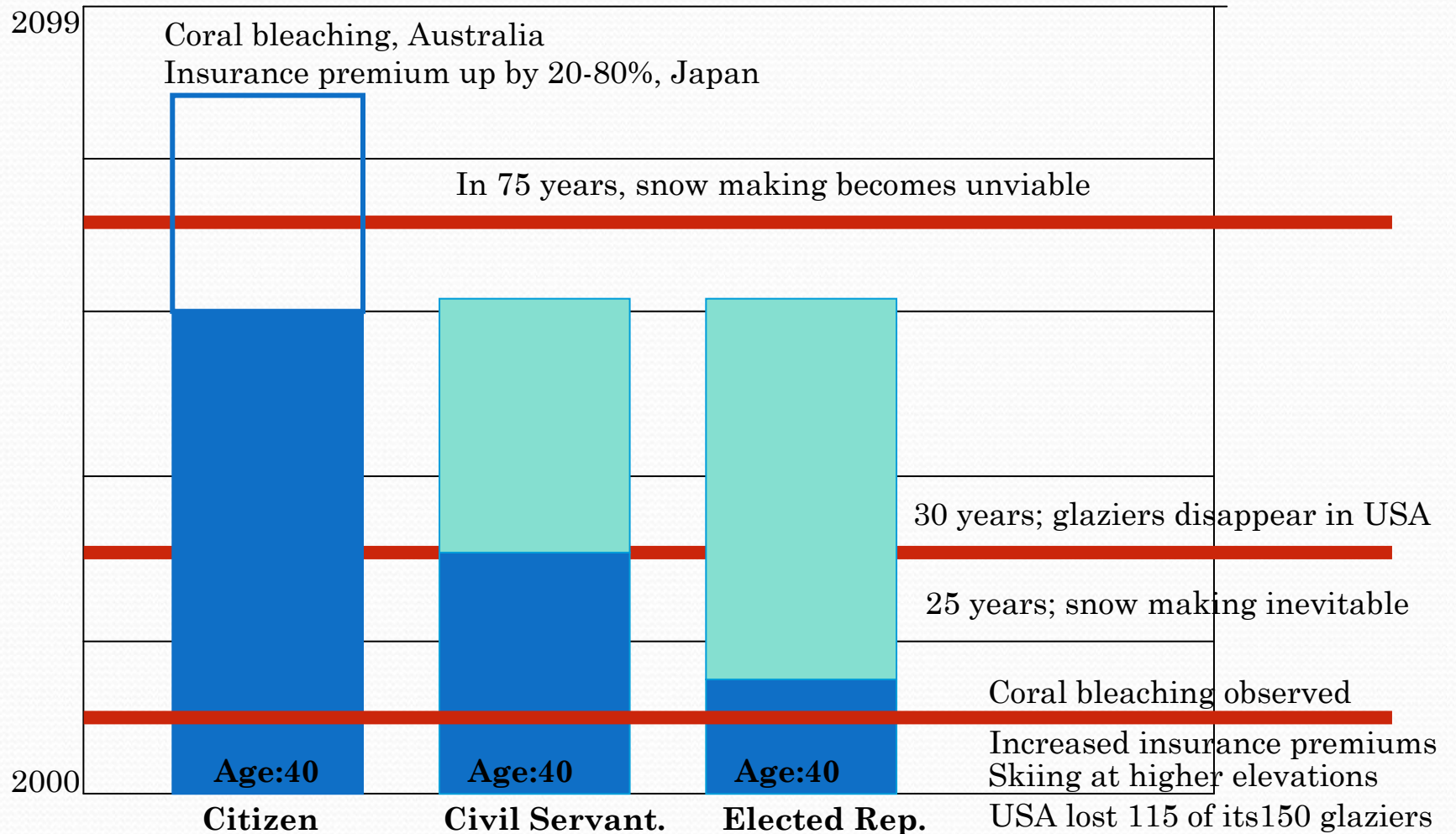
Region (as defined in IPCC AR4)	Relative level of knowledge on climate change impacts
Africa	Extremely poor
Asia	Japan – Poor Southeast Asia – Extremely poor Middle East – Extremely poor Central Asia – Extremely poor
Australia and New Zealand	Moderate
Europe	Moderate
Latin America	South America – Extremely poor Caribbean – Extremely poor
North America	Moderate
Polar Regions	Poor
Small islands	Poor – Moderate

(a) Based on independent evaluations of: IPCC (2007(b), Summary for Policymakers; Hall, C.M. (2008-submitted), Tourism and Climate Change: Knowledge Gaps and Issues; and Report of the Authors.

CONCLUDING REMARKS

- In an era of global climate change, it will no longer be sufficient to rely on past experience.
- Catastrophic and insidious extreme events can occur which is beyond the range of experience of the tourism sector; thus vulnerable areas need to be identified.
- The information requirements for effective, anticipatory climate change adaptation will be substantial and therefore adaptation is a critical area for future research.
- Consequently, there is a real need for effective communication and partnership between the climate science community and tourism operators at the regional and local scale, particularly with respect to the development of climate change scenarios and the indicators catered toward local tourism decision-making.
- Coherent policy strategies are required to balance adaptation and mitigation, so as to allow tourism growth to simultaneously contribute to poverty alleviation and play a major role in achieving the UN MDG.

FOOD FOR THOUGHT...



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Thank You Very Much!

