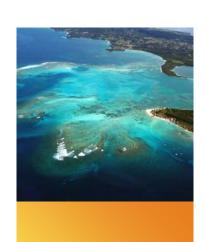


Working together in a changing climate

COASTAL TOURISM & CLIMATE CHANGE

4th Asia-Pacific Climate Change Adaptation Forum,
1-3 October 2014,
Kuala Lumpur, Malaysia

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In Partnership.....



- Supporting and enhancing livelihoods, economies and environments around the world
- INTASAVE-CARIBSAVE specialise in innovative climate change solutions and sustainable international development
- Global not-for-profit organisation with offices in Africa,
 Caribbean, Asia-Pacific, UK and China; operations in over 30 countries.





Tourism Environmental Challenges Changing Climate - Changing Coasts

- Rising sea levels
- Intense storms and rainfall events, and coastal siltation
- Beach Erosion
- Higher water temperatures
- Coral Bleaching
- Fish migration
- Ocean acidification









Coral Reef - Coastal Fabric of Asia-Pacific





IPCC AR5 for Asia – C14



- Observed climate change
- Warming trends and increasing temperature extremes have been observed;
- Projected climate change
- Tropical and Extra-Tropical Cyclones likely to vary by region in the future and uncertain frequency and intensity.
- Monsoons are very likely to increase in East, South and Southeast Asia.
- Impacts & vulnerabilities
- Multiple stresses caused by rapid urbanization, industrialization and economic development will be compounded by climate change
- The impacts of on food production & food security in Asia will vary by region with many regions to experience a decline in productivity
- Sealevel rise will inundate low lying areas and will especially affect rice growing regions.
- Water is expected to be a major challenge for most of the region due to increased water demand and lack of good management
- Coastal and marine systems and coral reefs in Asia under increasing strain
- Extreme climate events will have an increasing impact on human health, security, livelihoods, and poverty.

Coastal and Island Tourism

IMPACTS

Sea level rise poses a risk to major coastal tourism infrastructure, resorts and attractions around the world. Erosion of beaches will reduce the attractiveness of many coastal destinations, reducing the prices coastal resorts can charge for accommodation and the value of coastal vacation properties.



The insurance industry as already begun to adapt to climate change. Property insurance in high-risk areas, such as coasts in tropical cyclone regions, is anticipated to increase. Uninsurable areas will influence tourism development.

IMPACTS

Islands are among the most water scare destinations in the world and climate change is expected to reduce freshwater resources. Water costs for tourism will increase and tourism may need to become visible more efficient with its water use, with high water use tourism (e.g., golf tourism) restricted in some areas.

IM P

IMPACTS

It is anticipated that as tourists from temperate nations adapt their travel patterns to take advantage of new dimatic opportunities closer to home, demand for subtropical and tropical, destinations will decline.

IMPACTS

If more stringent global aviation mitigation policies are passed, more significant decreases in tourist arrivals are projected for small island developing states.



Coastal and Island Tourism

Rising sea levels and more extreme weather threaten beaches and coastal infrastructure enjoyed by hundreds of millions of tourists each year. While adaptation can protect at-risk infrastructure, beach nourishment is not affordable for most coastal destinations even where sustainable sand resources are available.

Ocean and Marine Life Tourism

ADAPTIONS

The reduction of sea-ice is expected to promote an already rapid increase in Arctic cruises. Much improved search and rescue capabilities are needed to develop this market safely.



IMPACTS

Ranges of fish and marine fauna will change as the oceans warm, impacting sport fishing and marine animal watching.

RISKS

Coral reefs draw thousands of visitors each year for scuba diving and snorkelling. 2°C of warming by 2050-2100 would see reef structures degrade with important consequences for dive tourism operators and destinations. Shipwrecks and artificial reefs can provide alternative attractions for recreational divers.



IMPACTS

Cruise tourism is among the most emissions intensive and will be influenced by future mitigation policies related to marine transport as well as air travel.



Ocean and Marine Life Tourism

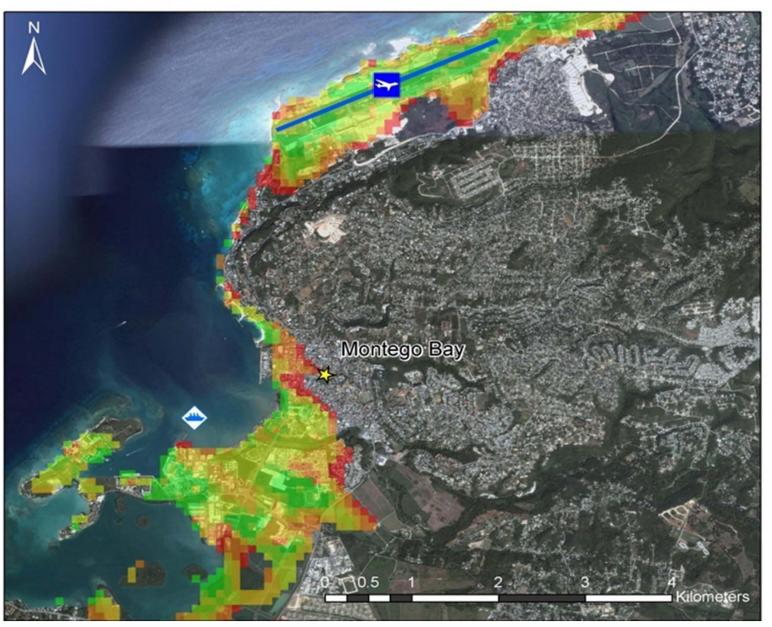
The combination of rising water temperatures and increasing ocean acidification, caused by the absorption of carbon dioxide, spell particular peril for reef ecosystems and the dive tourism they support. Warming sea temperatures will also change the ranges of key sport fish and marine mammals.



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ECF/WTTC (INTASAVE 2014)









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52009 Google

Adaptation for the Tourism Industry



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When is adaptation needed?

...when the anticipated risks or experienced impacts of climate change require action to ensure the safety of populations and the security of assets, including ecosystems and their services

What is adaptation?

...adjustment to actual or expected climate and its effects





Autonomous adaptation





Adaptation goals include:



building resistance (worst possible case)



building resilience (quick recovery)



static robustness



dynamic robustness (flexibility)



....

Current focus is on:

- emphasis on building resistance and building resilience
- need to move towards more integrated approach

What are adaptation options?



- · engineering and other technical measures
- strategy and policy measures
- non-structural measures

Who are the main actors?



- national governments
- local government, NGO. civil society and private sector



What is required?

- information
- public and private sector financing
- acceptance policy making complex & ongoing
- · vulnerability and risk can be difficult to assess if data is of low quality
- integrated, interdisciplinary & cross-sector approaches
- adequate adaptive response

What is the adaptation challenge?



- seldom a single measure
- integrated, cross-sector approaches
- no standardized methods for conducting VA & RA
- adaptation presents us with a 'wicked problem'

Inter-Sectoral linkages and Tourism

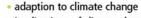


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1 Insurance Industry







- implications of climate change for the insurance sector
- regulatory changes
- costs and availability
- business implications important

Adaptation Measure



 economic-vulnerability reduction via insurance & risk transfer systems

Climate Impacts & Associated Risks



- affects insurance systems
- as industry adapts the costs and availability of public and private sector insurance will change

Water Services Climate Impacts



& Associated Risks

 vulnerable to extreme weather

Adaptation Measure



- understanding position of tourism in inter-sectoral water rights/priorities is critical
- management & conservation

Energy Supply & Demand

Climate Impacts & Associated Risks



- energy demand
- changes in temperature could thus affect energy demand and therefore price for hoteliers and operators

EXAMPLES OF INTER-SECTORAL LINKAGES BETWEEN TOURISM AND OTHER SECTORS

Climate impacts and adaptation/mitigation measures taken by these sectors can have policy, regulatory and physical risk implications for the tourism sector



Transport

Climate Impacts & Associated Risks



- change affects infrastructure
 - infrastructure malfunctions if the weather is outside the design range
 - infrastructure vulnerable to temperature extremes

Examples:



 susceptible to increases in precipitation, flooding and subsidence, sea level rise, extreme events and incidence of freeze-thaw cycles



 increased temperatures pose a threat to underground transport systems that will see a burden on increased need for cooling systems



 limitations for freight capacity, safety and weather-related delays, storminess, turbulence



Animal & Crop Production

Climate Impacts & Associated Risks



 food access, utilization, and price stability

response measures (policy, regulatory)

.....

Climate

Change

impacts on

Adaptation

other sectors

All adaptation response measures, regardless of sector, have limits by other sectors



Engineering Options – Approach/Examples

- Sound science, detailed planning and intensive modeling
- Integrate climate change knowledge and expertise
- Public consultations
- Quality engineering
- Maintenance and monitoring
- Soft and Hard!
- •Integrated with management of coastal ecosystems coral reef

Beach Stabilisation & Marine Conservation







Ecosystem-Based Adaptation

"Ecosystem-based adaptation (EbA) harnesses the adaptive forces of nature and provides one of the most widely applicable, economically viable and effective tools to combat the impacts of climate change.

The low-cost, flexible approaches of EbA can also provide multiple other benefits, such as poverty alleviation, sustainable development, carbon storage and biodiversity protection."

Dr Pam Berry, Environmental Change Institute, University of Oxford
Science for Environment Policy
THEMATIC ISSUE: Ecosystem-based Adaptation
March 2013 Issue 37



Key Stages in Ecosystem-Based Adaptation

Stage 1 – Good Scientific Understanding of Ecological and Social System

Stage 2 – Appropriate Policy Frameworks and Planning

Stage 3 – Making it Happen: Incentives for short, medium and long Term

Administer Grants and Provide Technical support

Focus on livelihoods

Sectors; MSMEs & Big Business e.g. tourism

Develop Partnership with Private sector

Sustainable financing linked to local livelihoods

Innovative solutions – hard/soft engineering

Focus on Gender - the role of women

Example of INTASAVE's Tourism Work



- Climate Change Risk Atlas; 15 Countries
- Quantification & Magnitude; SLR Loss and Damage
- Climate Change Vulnerability, Impact and Adaptation Analysis in the Caribbean Region, 2013
- Climate Change, Coastal Community Enterprises –
 Adaptation, Resilience and Knowledge (CCCCE-ARK)
 Project, 2012
- EU Sustainable Tourism Indictors, 2012
- Caribbean Fish (C-Fish) Sanctuaries Initiative, 2009
- Domestic policy work & advice for governments in SIDS
- 10 major projects profiled in our leaflet



Thank You

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