

Climate Change & Tourism:

Impacts and Adaptation for Coastal Communities in Nova Scotia

MARCH 2012



Climate Change facts:

There is a scientific consensus that atmospheric warming is a result of increased greenhouse gas emissions from the burning of fossil fuels. Average global temperature is expected to **increase by between 1 and 3.5°C** by the end of the century. The resulting melting ice sheets and glaciers, as well as land subsidence, are predicted to increase sea levels by **70 to 140cm** in Nova Scotia over the next 100 years. Other general effects of climate change include: storm surges, flooding, accelerated erosion, changes in temperature and precipitation patterns, ocean acidification, salt water intrusion, changes in ocean circulation, sea ice changes, and species migrations¹.

How climate change will affect tourism:

Some level of climate change is inevitable, even if we stop burning fossil fuels today. As a result, future experiences and visitor trends are likely to be different than what they are today. On a global scale, it is projected that climate change will not lead to a net loss in demand for leisure tourism. However, climate change may very well lead to decreases or even increases in the tourism industry of a given destination². Climate change will affect a given destination in various ways based on: geographic location and attractions/vacation type.

Geographic Location

Rural regions will be vulnerable to climate change due to:

- Their distance from urban centers and transportation hubs²,
- Increased travel costs due to rising price of fuel and potential carbon offsetting,³ and
- Increased small business costs related to the transportation of goods and raw materials, insurance, and electricity.³

Coastal destinations are vulnerable¹ due to:

- More frequent and intense storm events,
- Sea level rise, erosion, and flooding,
- Damages to infrastructure such as wharves, boardwalks, walking paths, beaches and businesses, and
- The vulnerability of natural coastal habitats such as salt marshes, mudflats, estuaries and beaches.

Potential Opportunities⁴

- Ideal tourism weather will shift away from the equator;
- Colder locations may experience a lengthening of their summer and shoulder seasons, and
- Domestic tourism may double in colder countries since people won't have to travel as far to find more desirable weather and it may fall by 20% in warmer countries as people try to escape uncomfortably hot temperatures.

Attractions/vacation type

Destinations that rely on natural resources and the natural beauty of their area stand to be negatively affected and become less appealing⁴ due to:

- Changes in species migration (whales for example),
- Changes in forest composition and spread of pests,
- Increased incidence of forest fires,
- Species extirpations/migrations
- Collapse of other supporting economies such as the fishing or the agro-forestry industries, and
- Drought / excessive rain.

Golfing destinations⁵ will have to consider many new challenges such as:

- The need for higher turf grass irrigation,
- Water scarcity,
- New turf grass selection, and
- An increase of turf diseases and pests.

However, they may actually benefit from climate change due to:

- Lengthened golf seasons and
- Canadian East Coast golf industry is projected to see increases of up to 40-48%⁵.

National parks are also expected to be affected by climate change.

- Visitation in Canada is expected to increase between 10% and 40% with increases in shoulder seasons⁶.
- Landscapes and species composition may drastically change, hence affecting their attractiveness.

Weather based vacations may be negatively affected:

- Unpredictable weather patterns will cause tourists to book their trips later.
- Swimming, lounging on a beach, boating, fishing and camping rely on predictable weather conditions.

What is adaptation?

Adapting to climate change means taking actions to reduce the risk or to reap the benefits associated with predicted physical climate effects (flooding, erosion, drought...) and the associated changes it will bring to economies and natural systems (travel costs, food costs, loss of species...)⁷.

The benefits of adapting:

- Long term money savings
- Appealing to eco-visitors
- Longer term sustainability
- Potential funding
- Competitive advantage
- Reduce future negative impacts

Adapting is not only beneficial to business owners! On a global scale, it is estimated that tourism and its related activities contributes to 5% of global CO₂ emissions⁸, and so adapting can also lead to mitigating climate change and decreasing the severity of future impacts.

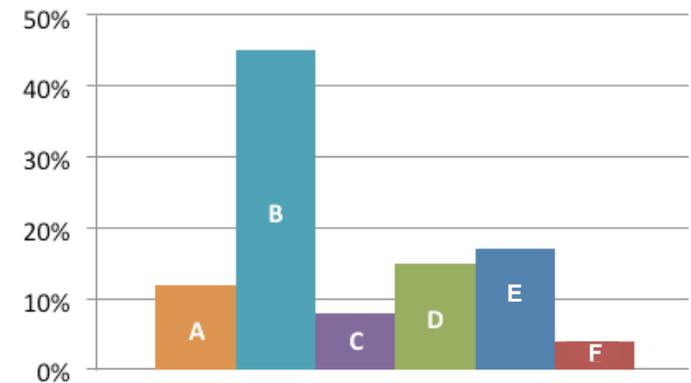
Cultural, experiential, educational and wellness based tourism will be less affected by climate change due to their potential to be non-weather related activities⁹. As awareness of environmental issues become more prevalent, eco-tourism may also become a strong sector.

Impacts	Examples of adaptations to consider
Droughts and high temperatures	Conserve water and keep cool <ul style="list-style-type: none"> • Install on site water tanks • Install water efficiency devices • Ask if visitors want their linens washed. • Plant trees around your building to provide shade and save on electricity
Physical impacts on infrastructure	Prepare for infrastructure failure <ul style="list-style-type: none"> • Ensure that climate change is integrated in local planning • Prepare for power outages • Reduce dependence on imported electricity, look into on-site production
Coastal Erosion	Address vulnerable coastal areas <ul style="list-style-type: none"> • Naturalize your shoreline with trees and shrubs to prevent land loss and increase property values • Develop further away from the coast
Ecosystem Health	Know your impacts on the local environment <ul style="list-style-type: none"> • Show visitors what you are doing to reduce your environmental impacts. • Consult the local national park for information • Voice your opinions on any potential developments that may harm the local ecology and natural attractiveness
Reduced operating days due to bad weather	Plan for unpredictable weather patterns <ul style="list-style-type: none"> • Diversify products to ensure that there are more non-weather dependant activities
Reduced availability and increased expense of food	Enhance local production and security <ul style="list-style-type: none"> • Diversify ingredient dependence, don't concentrate on one • Gain access to local food and use in-season or abundant produce to reduce transportation costs
Increased transportation costs	Ensure your area is accessible and affordable <ul style="list-style-type: none"> • Offer public transportation to and within your destination • Offer active transportation within your destination (bikes, walking...) • Offer alternative transportation service (electric car rentals, scooter rentals...)
Increased awareness of issues	Be part of the global solution <ul style="list-style-type: none"> • Offer/purchase carbon offsets • Inform tourists of local actions or greening projects

ref 7

1 Graham, J, and R. Musselman, 2010. Coastal Climate Change Adaptation: An Opportunity for Nova Scotia's Towns & Municipalities. Ecology Action Centre. Jul. 2010. . http://www.ecologyaction.ca/files/images/file/Coastal/info_sheets_summaries.pdf 2 Wall, G. 2006. *The Tourism Industry: Its Vulnerability and Adaptability to Climate Change*. Acta Touristica. 18(2), pp.171-192. 3 Tourism Victoria. 2010. *How might tourism be affected?* <http://www.tourismexcellence.com.au/Sustainability-in-Tourism/How-Might-Tourism-Be-Affected.html> 4 Fischer, J. 2007. *Current issues in the interdisciplinary research field of climate change and tourism*. Tourism vision. http://tourism-climate.de/documents/Julian_Fischer_CC-Tourism_14-02-2008.pdf 5 Scott, D., and B. Jones. 2006 *The Impact of Climate Change on Golf Participation in the Greater Toronto Area (GTA): A Case Study*. Journal of Leisure Research. 38(3),pp.363-380. 6 Scott, D., and B. Jones. 2006. *Climate Change and Nature-based Tourism: Implication for Park Visitation in Canada*. Faculty of Environmental Studies, University of Waterloo. http://www.geography.uwaterloo.ca/faculty/danielscott/PDFFiles/NATURE_Final%20copy.pdf 7 Australian government department of resources, energy and tourism. 2009. *Climate Change Guide: Mitigation and Adaptation Measures for Australian Tourism Operators*. Commonwealth of Australia. http://www.ret.gov.au/tourism/Documents/Tourism%20and%20Climate%20Change/2141259A_TOURISM_CLIMATE_CHANGE_Workshop%20guide_v12.pdf 8 UNWTO and UNEP and WMO. 2008. *Climate Change and Tourism: Responding to Global Challenges*. UNWTO, Madrid, and UNER, Paris. <http://sdt.unwto.org/sites/all/files/docpdf/climate2008.pdf> 9 Ehmer, P., and E. Heymann 2008. *Climate Change and Tourism: Where will the journey lead?* Deutsche Bank Research. http://www.dbresearch.com/PROD/DBR_INTERNET_EN-PROD/PROD000000000222943.pdf 10 Tourism Division, Economic & Rural Development & Tourism. 2010. *2010 Nova Scotia Visitor Exit Survey*. http://www.govns.ca/econ/tourism/docs/2010_Visitor_Exit_Survey_Report.pdf

Survey of interest in sustainable tourism products



The above graph displays results from a Nova Scotia 2010 Visitor Exit Survey Statistic indicating visitor interest in sustainable tourism products¹⁰.

A: Have no interest

B: Have an interest but have not changed the way they travel

C: Have researched products but have not changed the way they travel

D: Have researched products and have made more environmentally sustainable choices when they travel

E: Make travel decisions based on the availability of products

F: Ensure that their travels minimized any impact on the environment.

In summary, over 85% of visitors coming to Nova Scotia have some level of interest in sustainable tourism and related products.



**Ecology
Action
Centre**

www.cccheticamp.ca
or contact us at
Cheticamp@ecologyaction.ca



This project is funded in part by
Canada's Rural Partnership, an
initiative of the government of Canada.