



Fact Sheet #1: Climate Change and Tourism

What's the Situation?

Climate change – caused when carbon dioxide (CO₂) and other greenhouse gases (GHGs) trap heat around the Earth – is a reality. Throughout history, the earth has experienced a series of natural warming periods and ice ages. However, for the first time we are now seeing the impact of man-made greenhouse gas emissions on our climate. This is known as *anthropogenic* climate change. As carbon dioxide increases, so does average temperature.ⁱ According to NASA and NOAA, the ten warmest years since 1880 (when record keeping began), have all occurred since 2000, and 2014 ranks as the warmest year on record.ⁱⁱ

What are the Impacts of Climate Change?

Up to 90% of the Earth's warming is taking place in oceans, and this is having a significant impact on marine ecosystems, severity of ocean-based storms, and rising sea-level.ⁱⁱⁱ The rate of glacial and polar ice cap melting has also increased considerably, setting off alarms about sea-level rise among scientists and coastal communities world-wide. Also, warmer air has the capacity to hold more water (up to 7% more for each 1 degree Celsius rise in temperature^{iv}), creating both heavier rain falls and deeper droughts. These changes are negatively impacting agriculture, reducing biodiversity, destroying infrastructure and diminishing supplies of fresh water. The subsequent Fact Sheets discuss each of these negative changes in relation to tourism in Grenada.

What is the Connection to the Tourism Industry?

The economies of many Caribbean countries depend on tourism which is heavily dependent on natural resources. Tourism represents 31% of the GDP of the Caribbean region and provides nearly three million jobs.^v Tourism is estimated to account for 5% of global GHG emissions. However, according to the United Nations Environmental Programme (UNEP), the Caribbean and other small island states produce less than 1 per cent of global emissions. At the same time, these islands are *the most vulnerable to changes in climate patterns*, as sea level rise causes loss of land along coastlines, disrupting economies and livelihoods.^{vi}

In Grenada, tourism accounts for 20% of GDP and 19% of overall employment.^{vii} While on a global scale Grenada's GHG emissions are very small, its tourism industry is contributing 59% to the country's total CO₂ emissions.^{viii} Given its economic importance, eliminating tourism is not the answer; rather we must adopt measures to manage tourism sustainably and in line with the realities of climate change. We have a choice: tourism can be a part of the climate change problem or part of the solution.

Negative Tourism Impacts:

According to the United Nations World Tourism Organization (UNWTO), the greatest carbon emissions within the tourism industry come from air transport, followed by automobiles, and then accommodation. Air conditioning, refrigeration, and agriculture (all used in tourism) are also culprits. Unless changes are made, tourism's contribution to climate change will continue to grow. A UNWTO, UNEP, and World Meteorological Organization study predicts that by 2035, "in terms of the number of trips made, global tourism will grow by 179%, while guest nights will grow by 156%. Passenger kilometers travelled will rise by 222%." This 2008 study concludes, "In less than thirty years and if no action is taken now, the CO2 emission generated by tourism will be more than three times higher than today."^{ix}

The tourism industry doesn't just contribute to climate change; it can also make the situation much worse. For example, in order to build new hotels, resorts, and vacation homes, developers often destroy mangrove forests and dunes, which absorb greenhouse gases and protect the coastline from erosion and storm surges. Dumping of garbage and inappropriate diving/snorkeling harm coral reefs, while hotels, golf courses, and spas consume large quantities of scarce fresh water and energy.

Tourism Solutions:

At the same time, the tourism industry has great potential to adapt to climate change impacts, as well as to lower GHG emissions. Natural assets are tourism assets, and the sector should be interested in keeping the environment healthy and strengthening the functions of ecosystems. Tourism businesses have an increasingly wide range of environmentally sustainable options, including low impact & resilient design and construction, renewable energy and energy efficient systems, alternative modes of transport, fresh water collection and recycling, sustainable waste management programs, and much more.

Tools are also available for travelers -- as well as businesses -- to give back to tourism destinations. They can offset their carbon emissions by contributing to projects that reduce greenhouse gas emissions, protect old growth forests, or pioneer renewable energies. Carefully controlled diving and snorkeling can both protect and monitor ocean life, while tourists and businesses can contribute to coral replanting initiatives. Projects such as these offer opportunities for travelers to donate time, skills and financial resources to support environmental conservation and reduce the causes of climate change.

Steps Forward: How Can Tourism in Grenada Address Climate Change?

Grenada and its tourism industry are already taking a number of steps to address climate change. To strengthen these efforts, the country's tourism sector needs a comprehensive strategy to mitigate and adapt to the impacts of climate change. The government should provide incentives for tourism businesses to adhere to the Global Sustainable Tourism Council's criteria for sustainability, and new projects should be required to incorporate siting, design, construction, and operating techniques sufficient to cope with the realities. The following Fact Sheets highlight these and other critical measures required if tourism in Grenada is to survive and thrive in this age of climate change.

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- ⁱ NOAA, "Carbon Dioxide at NOAA's Mauna Loa Observatory reaches new milestones: Tops 400 ppm," May 10, 2013, <http://www.esrl.noaa.gov/news/2013/CO2400.html>
- ⁱⁱ NASA, "NASA, NOAA Find 2014 Warmest Year in Modern Record," January 16, 2015, <http://www.nasa.gov/press/2015/january/nasa-determines-2014-warmest-year-in-modern-record/#.VP2zBuHA3fc>.
- ⁱⁱⁱ NOAA, "Climate Change: Ocean Heat Content," March 5, 2011, <http://www.climatewatch.noaa.gov/article/2011/climate-change-ocean-heat-content>
- ^{iv} * K.E. Trenberth, "Changes in precipitation with climate change," *Climate Research* 47, March 31, 2011, 122-138, http://www.int-res.com/articles/cr_oa/c047p123.pdf
- ^v NOAA, "NOAA Caribbean Strategy Draft," March 18, 2013, <http://www.regions.noaa.gov/secar/wp-content/uploads/2013/05/NOAA-Caribbean-Strategy-for-Public-Review-May-2013.pdf>
- ^{vi} UNEP, "Sea-Level Rise in Small Island Nations – Up to Four Times the Global Average – to Cost US\$ Trillions in Annual Economic Loss and Impede Future Development: Shift to Green Policies & Investment Critical," June 5, 2014, <http://www.unep.org/wed/news/shift-to-green-policies-and-investment-critical.asp#.VP30i-HA3fc>
- ^{vii} World Travel & Tourism Council, "Travel & Tourism: Economic Impact 2014 Grenada," 2014, <http://www.wttc.org/-/media/files/reports/economic%20impact%20research/country%20reports/grenada2014.pdf>
- ^{viii} CARIBSAVE, "Climate Change Risk Profile for Grenada," March 2012, www.caribbeanclimate.bz
- ^{ix} United Nations World Tourism Organization, "Climate Change and Tourism: Responding to Global Challenges," 2008, <http://www.unwto.org/sdt/news/en/pdf/climate2008.pdf>