



Climate Change Brief No 3: Climate Change and Caribbean SIDS

The Vulnerability of SIDS

Small Island Developing States (SIDS) are among the most vulnerable countries to the impacts of climate change. These countries all have innate high levels of social, economic and environmental vulnerability. This places Caribbean countries, which are all SIDS, with most of their economic and social infrastructure within close proximity to the coastline, on the frontline of the battle against climate change.

The Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) provides clear evidence that our planet's climate is changing, and SIDS are bearing the brunt of the negative impacts of these changes. The AR5 demonstrates that for SIDS, climate change represents an existential threat and the economic cost of adapting to the impacts of climate change is high. It indicated that in urban areas, climate change is projected to increase risks for people, assets, economies and ecosystems, including threats from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scarcity, sea level rise and storm surges.

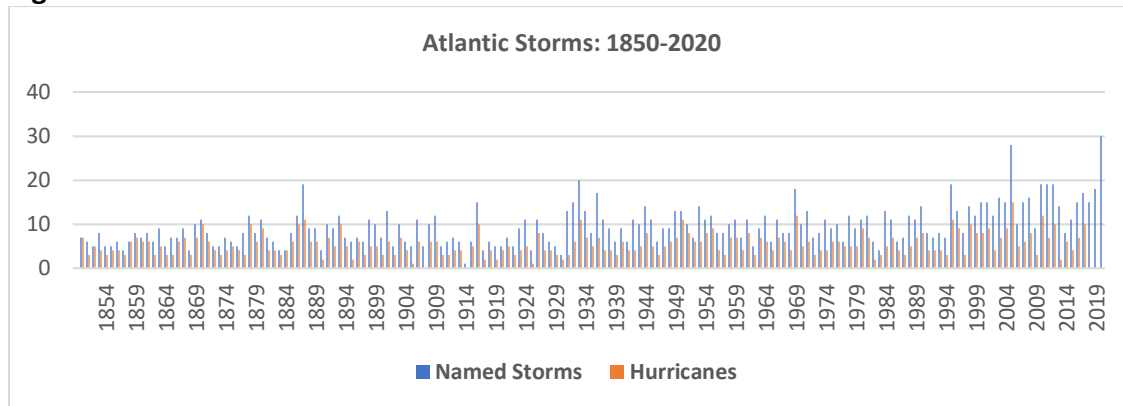
Rural areas in particular are expected to experience major impacts on water availability and supply, food security, infrastructure and agricultural incomes, including shifts in the production areas of food and non-food crops around the world (IPCC, 2014).

The Impact of Hurricanes

The islands of the Caribbean are traditionally very heavily impacted by cyclone activity in the tropical North Atlantic. These cyclones have caused significant damage to infrastructure, lives and livelihoods, and have had dramatic negative impacts on economic development in the Caribbean. The severity of these hurricanes is expected to increase with warmer global temperatures.



Figure 1. Number of Named Storms and Hurricanes in the Atlantic from 1850-2020



The Regional Response

In response to the vulnerability of Caribbean SIDS to the impacts of climate change, the Heads of Government of the Caribbean Community, CARICOM in July 2009 approved a 'Regional Framework for Achieving Development Resilient to a Changing Climate.' The regional framework has five strategic elements: (i) mainstreaming climate change adaptation strategies into the sustainable development agendas of CARICOM states, (ii) promoting the implementation of specific adaptation measures to address key vulnerabilities in the region, (iii) promoting actions to reduce greenhouse gas emissions through fossil fuel reduction and conservation, and switching to renewable and cleaner energy sources, (iv) encouraging action to reduce the vulnerability of natural and human systems in CARICOM countries to the impacts of climate change, and (v) promoting action to derive social, economic and environmental benefits through the prudent management of standing forests in CARICOM countries.

Three years later, in 2012, the CARICOM heads approved an implementation plan for the Regional Framework. Activities on climate change. This plan involves (i) establishing how regional and country bodies will work together, (ii) securing investment to support the action plan, (iii) proposing a monitoring and evaluation system, and (iv) obtaining buy-in from governments and relevant funders across the region.

The regional institution responsible for leading and coordinating actions on climate change within CARICOM is the Caribbean Community Climate Change Centre (5Cs), which was established in 2004 and is headquartered in Belize.

The Impacts of Climate Change on Caribbean Countries

Climate change will have several negative impacts on a variety of sectors. Increasing global temperatures are already causing melting of polar ice caps, which in turn is contributing to sea level rise. Almost all of the countries in the Caribbean have important economic and social infrastructure located within close proximity to the coast. Consequently, sea level rise will have profound negative socio-economic impacts in all Caribbean countries. Climate change is expected to affect the

hydrological (water) cycle. In the Caribbean, this will manifest as more frequent and pronounced droughts and more frequent flooding.

Ocean temperatures have already started to increase due to higher levels of greenhouse gas emissions. This will have impacts on coral reefs, with coral bleaching expected to occur. It will also affect the migratory patterns of fish. The fishing sector is an important source of livelihoods for Caribbean people and fish represents an important source of protein in Caribbean diets. Oceans are also being affected by the higher levels of carbon dioxide in the atmosphere. Like trees, oceans are a sink for carbon dioxide and are absorbing higher concentrations of carbon dioxide, which is leading to an increase in the acidity of the oceans. This will have negative consequences for many species of marine life.

Variability in the water cycle and salt water intrusion from sea level rise will cause increased water insecurity. Water insecurity, in turn, will lead to food insecurity, since much of the small farmer agriculture in the Caribbean is irrigated by rainfall (rain-fed). Hurricane severity is expected to increase because of warmer ocean temperatures, and this will cause damage to public and private infrastructure, as well as pose serious threats to lives and livelihoods. The health sector is also expected to be severely impacted by climate change, with children, pregnant women and the elderly expected to be affected the most.

The impacts of climate change on all of these sectors will be considered in more detail in subsequent climate change briefs in this series of publications.

References

1. IPCC 2014. Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA