

MANAGING ADAPTION TO ENVIRONMENTAL CHANGE IN COASTAL COMMUNITIES: CANADA & THE CARIBBEAN

C-CHANGE



CANADA-CARIBBEAN
Coastal Climate Adaptation Strategies

Managing Adaption to Environmental Change in Coastal Communities: Canada & the Caribbean, or C-Change for short, is a five year International Community-University Research Alliance project being carried out through the University of Ottawa, in partnership with the University of the West Indies, Trinidad.

C-Change attempts to link communities and university researchers from Canada and the Caribbean in support of research on coastal adaptation to climate change at the community level. Since 2008, this project has examined four coastal communities in the Caribbean and four coastal communities in Canada whose livelihoods will be affected by rising sea levels. This project will result in community awareness, proposals for new infrastructure, and decision support tools for developing adaptation and mitigation strategies for the impacts of sea-level rise and storm surges on the selected coastal communities.

For more information please visit our website: www.coastalchange.ca

CHARLOTTETOWN, PEI



Charlottetown is located on the south shore of PEI in the Gulf of St. Lawrence.

The city is situated on Charlottetown Harbour, which is formed at the confluence of three rivers and which opens onto the Northumberland Strait.

Although this unique position creates a beautiful landscape, it also leaves the city susceptible to impacts from flooding associated with predicted sea level rise and storm surges. Of particular concern to the city of Charlottetown is their extensive and distinct architectural history including individual heritage buildings and downtown heritage area.



IQALUIT, NT

Iqaluit, the capital city of Nunavut, is located on the mouth of Frobisher Bay on the southeast coast of Baffin Island. With more than 7,250 residents (2010) Iqaluit is the largest community in Nunavut. Iqaluit originated as a World War II military airfield; today the community serves as a key transportation and communication hub for the eastern Arctic.

The community is built upon a highly sensitive terrestrial and marine Arctic environment. Issues in Iqaluit include melting and destabilization of permafrost areas along the shoreline, which can lead to erosion and sedimentation. Changes in coastal hydrology and biodiversity has also resulted in negative impacts on the ecosystem and indigenous cultures in the area.



GIBSONS, BC

Gibsons is located in southwest BC, 64 kms north of Vancouver in the area known as the Sunshine Coast. There are three major habitat areas around Gibsons: woodland, streamside and coastal waterfront. Each area supports a variety of unique animal and plant species, including coniferous forest, deciduous trees, and a number of terrestrial mammals and birds. Marine mammals, such as harbour seals, sea lions, orcas, and dolphins are also in abundance. The area is a significant eco-tourism destination, known for hiking and camping. Vulnerabilities caused by climate change include sea level rise and impacts from severe storms, which can lead to erosion and salinisation of groundwater.



ISLE MADAME, NS

Isle Madame, located off the south-eastern corner of Cape Breton Island, consists of three main island communities: Isle Madame, Petit-de-Grat, and Janvrin's Island. The archipelago measures approximately 45 sq km and is jurisdictionally part of Richmond County.

Isle Madame is a small, aging community, separated from mainland Cape Breton by a narrow strait. Sea level rise and severe storms caused by climate change could potentially damage critical transportation routes and infrastructure, isolating residents and delaying aid and other emergency measures.



GEORGETOWN, GUYANA

Georgetown, the capital and largest city in Guyana, is located on the coast of the Atlantic Ocean at the mouth of the Demerara River. The city is about 40 sq km with an estimated population of 239,000 (2002) and lies one meter below the high-tide level. The historic downtown is defined by its quaint Dutch colonial and Victorian architecture.

Despite being interlaced with canals to provide drainage and a seawall that was built to help prevent flooding, the city regularly experiences flooding, cycles of erosion, and salt water contamination of drinking water supplies.



Central Housing & Planning Authority



BELIZE BARRIER REEF

Belize is located on the Caribbean coast of northern Central America. The Belize Barrier Reef, the 2nd longest barrier reef in the world and UNESCO World Heritage Site, flanks much of Belize's coastline. There reef is home to over 500 species of fish, a great diversity of corals, sponges, and crustaceans, a large population of manatees, and several species of sea turtles.

The Belize Barrier Reef is highly sensitive to sudden changes in conditions, such as water temperature, clarity, and salinity. Coral reefs and mangrove forests provide protection along the Belize coast against erosion and wave-induced damage. However, vulnerabilities brought about by climate change, such as ocean warming, rising sea levels, and ocean acidification, threaten both coral reefs and mangrove forests.



GRANDE RIVIERE, TRINIDAD

Grande Riviere is situated in the north-east coast of Trinidad. The community is both isolated and small; the area is accessible by a single mountainous road and home to only 300 residents (2000), mainly working as fishers and farmers. The area provides habitat for two endangered species, the leatherback turtle and the endemic pawi, around which a community-based eco-tourism industry has recently developed.

Impacts from climate change in Grande Riviere include sea level rise and severe storms, which could significantly alter coastal habitats and beaches in the community.



BEQUIA, ST. VINCENT & THE GRENADINES

The island of Bequia is part of the Caribbean archipelago of St. Vincent and the Grenadines. At only 18 sq km it is the largest of the 32 islands and cays that make up the island state and is home to approximately 6,000 people. The community is dedicated to sustainable development and sustainable tourism, one of the top industries on the island given the areas coral reefs, marine life, and natural features.

Due to Bequia's small size and remote location, damages from sea level rise and severe storms to transportation links could isolate the island, slowing recovery and adaptation to the effects of climate change.

