



WINTER 2013 NEWSLETTER

From the Editor's Desk

Full steam ahead for C-Change! It's been a busy year and shows no signs of slowing. C-Changers from Canada and the Caribbean took part in the "Surveying the Past, Mapping the Future" Conference held in Grand Cayman in March 2012. This was a great networking opportunity and a very successful gathering. This past October saw the first Communities of Practice Meeting, held in Ottawa. We were so pleased to have several Caribbean counterparts join us for this informative and important session. Everyone is in prep mode now for the Caribbean Studies Association Conference this June in Grenada, including a full day C-Change meeting. Some of our C-Change Masters students have graduated, and we are welcoming new ones to our group, excited to see the new ideas and perspectives they bring to our research. Let's keep up the momentum!

Kathy Cunningham, Editor

C-Change is being recognized as a proponent in prioritizing adaptation to coastal environmental change. That's a good thing. Hurricane Sandy's devastating impact along New York illustrates how vulnerable are our coastal zones. That's a bad thing that compels us to take preparatory action now. However, just as quickly as such events hit, so too does our need for action dissipate. Let's all make the C-Change commitment to never relent in being a proponent for strategic planning, and evaluation of adaptation and preparedness opportunities. Think long, think often – let's get prepared before it is too late.

Dan Lane, Co-Director Canada

Inside this issue

Community Profile: Bequia.....	2
C-CATs Canada.....	2
Community Profile: Isle Madame.....	3
Communities in Focus.....	4
Events Calendar.....	4



Photo Courtesy of Donald MacLellan





Photo Courtesy of SPACC

C-CATs Canada

by Colleen Mercer Clarke, C-Change Community Coordinator and John Clarke, C-Change Operations Manager

As the C-Change project moves into its fourth year, research and community interests have begun to focus on the practical and appropriate options for *adaptation* to climate change impacts such as sea level rise, storm surge and severe weather. In Canada, our communities have been applying the research products to aspects of community planning and management such as waterfront development plans, sustainability plans and to everyday development decision-making. While communication and knowledge mobilization between C-Change researchers and each partner community has continued to grow and to improve, we noted that interactions *among* the community partners was more limited. The research team also noted that much of the readily available Canadian and international literature on climate change adaptation predominantly focussed on developing planning systems, and less on the more practical challenges facing communities as they weighed the available options and instruments for protection, accommodation, retreat and/or doing nothing. To address some of these issues and to build relationships across our partner communities, in the fall of 2012, the C-Change project established a Community of Practice on Adaptation to Climate Change (C-PAC³). "Communities of practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing ba-

(Continued on page 3)

By Sandra Sookram, C-Change Researcher, Caribbean and Dan Lane, C-Change Canada Co-Director

The Grenadine islands' geophysical formations are as a result of the tectonic subduction of the Caribbean and Atlantic plates and volcanic activity taking place on mainland St. Vincent and Grenada. Bequia shares a similar ancestry with the other populated Grenadine islands where Amerindians (Arawak) were the first settlers but were later displaced by the Caribs who inhabited the island until the arrival of the Europeans in the early 17th century (Mahon & Staskiewicz, 2007). The early Grenadine economy was built primarily on agriculture but witnessed a shift from land and soil to coast and sea thus adopting a fishers' livelihood. Despite the introduction of tourism and its significant contributions to the Grenadine economy, fishing is still a significant generator of income and employment in several coastal communities (Belmar 2006; FAO 2002).

In the 19th and 20th century, boat and shipbuilding were thriving industries for Bequia and it dominated the Grenadines in this particular skill set. Whaling is an important cultural and one

time major economic activity of the island. William Wallace Jr built the first whaling station in the 1870s; whale oil was ranked fourth in value of exports from Bequia. Whale meat is a staple for many Bequians; whale bones are used in making furniture, home and building decor (Bequia Tourism Association 2006).

Bequia is located at latitude 13 N and 60.15' West, in the southern part of the Caribbean chain known as the Windward Islands. Bequia is the second largest island of the Grenadines and the largest of the thirty-two islands and cays that make up the island state of St. Vincent & the Grenadines. In the archaic local language, Bequia means "island of the clouds". Structurally, the islands are part of the inner volcanic arc and are geologically the tops of a submarine ridge. The islands have a rugged terrain with little flat land. Bequia measures just 7 square miles or 18.1 square kilometers, and is home to about 5,000 people. Daytime temperatures in Bequia consistently average between 24C (75F) and 30C (86F) throughout the year.

Bequia has no surface water reserves, limited groundwater resources and a climatic regime which results in seasonal water shortages and drought-like conditions (Greaves 2012). As such, maintaining a secure water supply in Bequia presents a regular challenge since the island depends almost exclusively on rainwater harvesting for its water for approximately 5,000 inhabitants. However, increasing intensity and frequency of drought like conditions – notably the 2009-2010 drought that lasted approximately 6 months and caused "drought alerts" throughout the Eastern Caribbean region – represent serious threats to island sustainability.

In an effort to adapt to the changing climate, in October of 2011 a desalination plant was commissioned in the Bequia community of Paget Farms (C-Change Partner) by Caribbean Water Treatment Ltd. The plant was funded by the International Bank for Reconstruction and Development, and implemented through the Caribbean Community Climate Change Center (CCCCC) under the Special Program for Adaptation to Climate Change (SPACC): Implementation of Adaptation Measures in Coastal Zones. The objective of the project is to take advantage of the island's sunshine to demonstrate the feasibility of a carbon-neutral desalination system that relies on solar power, and provides a reliable supply of potable water to the residents of Paget Farms. The desalination plant, operating since 2011, has been built to specifications to enable provision of water for about 1,000 inhabitants, the projected population of Paget Farms by 2018, while working at approximately 65% of its full capacity (SPACC 2012). Bequia, through the Paget Farm desalination plant, is a model to small islands and coastal states throughout the Caribbean. This project demonstrates leadership in adaptation strategy development and implementation.

Trade winds bring cooling breezes for most of the year; the famous Christmas Winds bring stiffer steady breezes, lively seas and perfect sailing weather. The "dry" season is from December/January to late April/early May. Currently, tourism is the major driving economic force in Bequia and it is supported by the local fishing, arts (silk painting) and craft (boat - building) and yachting industries, which comprises crafts as diverse as boat building to silk painting.

Belmar, H. 2006. Presentation to Centre for Resource Management and Environmental Studies (CERMES) class on Bequia. 23rd May 2006.

Bequia Tourism Association. 2012. Bequia Tourism Association Website. <http://www.bequiatourism.com>. Accessed on the 7th of September 2012.

Caribbean Community Climate Change Centre. 2012. ENVIRONMENTAL IMPACT ASSESSMENT OF THE INSTALLATION OF A PHOTOVOLTAIC SOLAR POWERED SALT WATER REVERSE OSMOSIS PLANT AT PAGET FARM BEQUIA. Technical Report 5C/SPACC-11-08-02. Belmopan, Belize. January. 52p.

Food and Agriculture Organization (FAO). 2002. Fishery country profile: St. Vincent and the Grenadines. <http://www.fao.org/fi/fcp/en/VCT/profile.htm> (accessed 7th September 2012).

Greaves, Geneille E. 2012. On Water Augmentation Strategies for Small Island Developing States: Case Study of Bequia, St. Vincent. Master's Thesis. International Master's Program in Environmental Sustainable Development, National Central University, Taiwan. 106p.

Mahon Robin, and Staskiewicz Tanya. 2007. A livelihood Analysis of fishers in the Grenadine Islands. CERMES Technical Report No. 12. SPACC. 2012.

Implementation of adaptation measures to address the absence of fresh water and coastal vulnerabilities in Bequia, St. Vincent and the Grenadines. Special Programme for Adaptation to Climate Change (SPACC). TECHNICAL NOTE 5C/SPACC-12-05-01. 15 May. 7p.

By Kathy Cunningham, Kaitlin Fahey and Dan Lane, C-Change Canada

Isle Madame is located off the south-eastern corner of Cape Breton Island, Nova Scotia, Canada. Isle Madame consists of three main island communities: Isle Madame, Petit-de-Grat to the east, and Janvrin's Island to the west. The archipelago measures 16 km in length and is 11 km wide (approximately 130 square km). Isle Madame is jurisdictionally part of Richmond County and is separated from mainland Cape Breton Island by a narrow strait named Lennox Passage to the north.

Initially crossed by ferries, the first bridge across Lennox Passage, connecting Isle Madame with Cape Breton Island, was opened in 1919 as a single lane swing bridge which was in service for nearly 50 years. During this time the Grandique Ferry service also crossed the passage between Martinique and Louisdale. In the early 1980's however, the bridge was demolished and the ferry service terminated after a new combined causeway and bridge, known as the Burnt Island Bridge, was constructed across Lennox Passage. Today, Isle Madame is also connected by bridge to neighbouring Petit-de-Grat Island and by causeway and bridge to Janvrin's Island.

Isle Madame was historically an important regional port for cod fishing and sea trade. The fishery continues to be a significant activity for Isle Madame especially the snow crab plant in Petit-de-Grat, and the international fishery operations of Premium Seafoods. Ltd., of Arichat. The 2006 Census (compiled on the Nova Scotia Community Counts website) reports that major industries, by number of workers, in Isle Madame include: Manufacturing and processing, employing 13.8% of the labour force; Trades and Transport, employing 25.2%; and Business, employing 15.6%. Additionally, 55% of the employed labour force in Isle Madame works within Richmond County. The Development Isle Madame Association (DIMA) seeks to identify and develop opportunities for continuing Isle Madame's tradition of being the best place to live.

Isle Madame is home to 3,285 residents (this represents a 4.9% drop since 2006), 87.1 % of which are over the age of 15 (2011 Census data, Statistics Canada). The island is divided into a number of small communities, including: Alderney Point; Arichat; Boudreauville; Cape August; Cap La Ronde; D'Escousse; Lennox Passage; Little Anse; Lochside; Martinique; Petit de Grat; Poirierville; Pondville; Pondville South; Port Royal; Poulamon; Rocky Bay; Samson's Cove; St. Marys; West Arichat and Janvrin's Island.

Arichat is the seat of local government for the Regional Municipality of Richmond County which convenes at the modern Municipal Building. Arichat is also the home to Telile, the local cable television station, St. Anne Community and Nursing Care Centre clinic, several commercial outlets including a co-operative grocery, hardware stores, a pharmacy, and professional services.

The island was originally settled by France as part of its colony of "Ile Royale" (present-day Cape Breton Island). It is presumed to have been named for Madame de Maintenon, the second wife of France's King Louis XIV. At the start of the Seven Years' War, 1756-63, many Acadians took refuge on Cape Breton Island, especially the Fortress at Louisbourg where many were subsequently deported by the English in La Grande Derangement of 1755. Some escaped deportation by fleeing to Isle Madame and hiding out in the country. Acadian families gradually established roots there.

Following the Seven Years' War, Ile Royale and its constituent territories such as Isle Madame, reverted to British control. In the 1820s, economic growth from fishing and sea trade attracted Irish, English, and Scottish immigrants mainly to Arichat. Arichat was chosen as the seat of the Catholic diocese in 1844 and the parish church became a cathedral much as it appears today. A seminar-college was founded in Arichat in 1853 later moving to Antigonish to become St. Francis Xavier University. Petit-de-Grat is home to the satellite campus of Université Ste.-Anne at Centre Communauté, La Picasse. Today, Isle Madame is enriched by its rich blend of Acadian, Irish, English, and Scottish heritages characterized by its unique bilingual style.

Isle Madame's cultural events make it a destination of choice for many tourists. The annual Codstock concert takes place in early to mid-July, and the Petit de Grat Festival Acadien takes place in August, with next year being the 40th annual. Many other activities, such as boating, kayaking, and baseball to name a few, draw visitors to experience the warm hospitality of the local people.

C-Change Research Associate Aleasha Boudreau, from the Centre du Recherche Marin at Université Sainte Anne, has put together a study of threats and vulnerabilities to Isle Madame from sea level rise and storm surge, supported by historical and current photo evidence. The document is listed on the C-Change website as Working Paper #42.

In the summer of 2011, students from the University of New Brunswick travelled to Isle Madame to conduct RTK surveys along the Lower Road in Arichat and at the Petit de Grat Crab Plant, under the supervision of Sue Nichols and Don Forbes.

C-Change Graduate Students Sahar Pakdel and Hooman Mostofi completed their theses on work focused on Isle Madame. We wish them well in future endeavours!

At the C-Change Communities of Practice workshop, held October 29 – 31, 2012, Jeff Stanley, Director of Tourism and Economic Development for Richmond County, travelled to Ottawa and presented a glimpse of the risks, vulnerabilities and work to date regarding climate change adaptation on Isle Madame.

Preparation of brief for ECBC to consider mapping of IM – We have been involved in the preparation of a brief to be submitted to ECBC (Enterprise Cape Breton Corporation) regarding the opportunity to consider some mapping of Isle Madame. This proposal is still on the drawing board, we will provide an update at a later time.



Photo Courtesy of Donald MacLellan

(Continued from page 2)

sis." (Wenger et al. 2007, p 4). They are neither new nor unusual, but have been part of society since people gathered together to hunt. Communities of practice differ from networks primarily as a result of the interaction of their members. While you may belong to a network, you might not have much personal interaction with other members. In a community of practice, members are known to each other, they ponder common challenges, they freely share knowledge and experience, and they work together to create new tools and to find solutions. The C-Change community of practice is focussed on the tools and instruments necessary for adaptation, and acts as a bridge that links individuals and C-PACs from all partner communities.

To begin the process, last winter C-Change Canada extended an invitation to all project communities in Canada and the Caribbean to join with us to form the community of practice. The response was swift and positive. An initial planning meeting to discuss structure and function was held in Grand Cayman in March, where it was decided to prepare for a working session on adaptation tools and instruments scheduled for the fall of 2012.

In October 2012, we were immensely gratified when representatives of seven of the eight C-Change partner communities convened in Ottawa, Ontario for the inaugural C-PAC³ meeting. (Belize was unable to attend as visas to enter Canada did not come through in time). Researchers and community partners worked amazingly well together, updating each other on progress and issues in their respective areas. In addition to the community updates, there were presentations on new climate change science, on policy and land development planning options and adaptation instruments, and on risk management. The C-PAC³ members worked together in a very collegial atmosphere, clearly demonstrating their shared challenges, freely exchanging knowledge, and building new friendships. Perhaps most importantly, partners from Canada and the Caribbean, from Iqaluit in the North to Guyana in the South, were delighted by how much they had in common, and how relevant their shared experiences were to each other. In the coming months the C-PAC³ will build on this first highly successful meeting, working to advance knowledge mobilization and to assist the communities with their adaptation planning.

Communities in Focus

Do you have photographs of one (or more) of the C-Change Communities that you would like to share with the C-Change Team?

Please email your high resolution photos (along with your name, and date & location of photo) to: administrator@coastalchange.ca

Photos will be posted on the C-Change Facebook site, and may be featured in future issues of the C-Change Newsletter (credit will be given to photographer).



C-Change 2013 Upcoming Events

OCT	29-31	Communities of Practice Workshop (2012)	Ottawa, ON
MAR	18-20	First European Conference on Climate Change Adaptation	Hamburg, Germany
APRIL	22-24	SALISES Conference—Towards a New Development Paradigm for the Caribbean: The Next 50 Years	Cave Hill, Barbados
MAY	12-15	10 International Conference on Info Systems for Crisis Response and Management	Baden, Germany
JUN	3-7	38th Annual Conference of the Caribbean Studies Association	Grand Anse, Grenada
AUG	29-30	European and Latin American Conference on Climate Change Management	Antigua, Guatemala
OCT-NOV	28-1	40th CIESM Congress	Marseille, France

© D. Poole, Charlottetown, Dec. 2010 Flooding

C-Change

C-Change acknowledges the Social Science and Humanities Research Council of Canada and the International Development Research Centre for their generous support under the International Community-University Research Alliance (ICURA) program.

**Social Sciences and Humanities
Research Council of Canada**



**Conseil de recherches en
sciences humaines du Canada**



C-Change Secretariat: Canada

University of Ottawa
Telfer School of Management
55 Laurier Ave E
Ottawa, ON Canada K1N 6N5

☎ 613.562.5800 x.2933
☎ 613.562.5164
✉ administrator@coastalchange.ca



C-Change Secretariat: Caribbean

University of the West Indies
Sir Arthur Lewis Institute of Social & Economic Studies, SALISES
St. Augustine, Trinidad & Tobago

☎ 868.662.2002 x.2394
☎ 868.645.6329
✉ cchange.carib@gmail.com

