



INTERNATIONAL COMMUNITY UNIVERSITY RESEARCH ALLIANCES (ICURA) MID-TERM REPORT 2012

As a condition of their grants, holders of International Community University Research Alliances (ICURA) are expected to provide an initial Milestone Framework (6 months); Milestone Report (12 months), annual financial reports, a Mid-term Report (30 months) and a Final Research Report. In addition to providing information on the overall performance of the ICURA program, these reports will also provide an opportunity for ICURA teams to report on the progress, outputs and outcomes of their activities as per the performance indicators they have identified at the milestone framework stage.

The Milestone Framework provided ICURA teams an opportunity to develop a framework for self-assessment. For the three Reports, ICURA teams are to utilize their proposed indicators and methods to report on their progress and results. Note: the requirements for financial reports are outlined in the funding agreements by SSHRC and IDRC, respectively.

The Mid-term Report asks grant holders to report on the activities delivered in the first 30 months of the project.

Specifically, the purpose of the Mid-term Report is to:

- update key information provided in the formal application stage, the Milestone Framework and in the Milestone Report, especially responsibilities of team members, clarify the goals of the research program, and describe governance and management structures;
- help the mid-term evaluation committee to determine which activities are on, ahead or behind schedule and establish the status of planned activities, outputs and generally, to assess progress achieved during the first half of your ICURA grant in relation to the objectives cited in your Milestone Framework and originally outlined in your application;
- understand how the ICURA may have evolved, or overcome challenges and readjusted plans to reach objectives.

Given the importance of the Mid-term Report, SSHRC and IDRC expect that the Principal Investigator/Co-Directors will ensure that core members of the ICURA team review the Mid-term Report *at the draft stage* and that all members of the ICURA team endorse the report's content.

The report is organized into two sections, as follows:



Part A: Quantitative results and short responses

This section includes an overview of the evolution of the ICURA's community and university partnerships, research training, research and knowledge production, and knowledge mobilization.

Part B: Narrative

The narrative section of the report (Part B) should be no more than 25 pages in length, single-spaced 12-point font (excluding appended documents). ICURA teams are strongly encouraged to present the indicators and findings they developed to assess progress and results.

Note: SSHRC and IDRC are well aware of the diversity of models of ICURA and of the varying ways in which answers to the questions in this report can be provided. As such, if you find that the reports asks for something that you have provided in a previous or subsequent report section, or that is clearly stated in an appended document, you may choose to provide a detailed reference in lieu of a response. It is your responsibility to ensure that SSHRC and IDRC staff, as well as adjudicators, are able to easily locate the referenced information.

When and how to submit: One electronic copy and one paper copy of the Mid-Term Report should be received by SSHRC and IDRC by **January 15, 2012** and sent to the following contact addresses:

By email:

- Crystal Sissons (SSHRC) crystal.sissons@sshrc-crsh.gc.ca
- David O'Brien (IDRC) dobrien@idrc.ca

By mail:

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Partnerships Portfolio

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Conseil de recherches en
sciences humaines du Canada

Social Sciences and Humanities
Research Council of Canada

Canada



C-Change ICURA MID-TERM REPORT

Identification		
SSHRC NUMBER 885-2008-1001	Title of ICURA MANAGING ADAPTION TO COASTAL ENVIRONMENTAL CHANGE (C-CHANGE): CANADA AND THE CARIBBEAN	
IDRC FILE NUMBER 104518-013		
Report completed by:		
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Date Submitted (dd/mm/yyyy):	15/01/2012	



PART A (Quantitative results and short responses)

1. Community and University Partnerships

1a. Using the table below, identify any ICURA team members (community and university researchers, community partners, students, knowledge users, etc.) that have joined or no longer participate in the project since the Milestone report.

Name	Affiliation	Role	Other Information
NEW STUDENTS (Since January 2011)			
Barghi, Sara	UOttawa	Graduate Student	MSc in Systems Science, started August 2011
Beard, Tracey	UWI, St Augustine	Graduate Student	MSc in Urban and Regional Planning
Fahandezhsaadi, Hومان	UNB	Graduate Student	MEng in Geodesy and Geomatics Engineering, started January 2012
Finch, Keston	UWI, St Augustine	Graduate Student	MSc in Coastal Engineering
Fortune, Hannah	UWI, St Augustine	Graduate Student	MSc in Urban and Regional Planning
Ganase, Sherry Ann	UWI, St Augustine	Graduate Student	MPhil in Economics, started October 2011
Lynch, Nolan	UWI, St Augustine	Graduate Student	MPhil in Science
Rak, Andriy	UNB	Graduate Student	MSc in Geodesy and Geomatics Engineering, started July 2011
Seeram, Amit	UWI, St Augustine	Graduate Student	MSc in Geoinformatics
Singh, Demi	UWI, St Augustine	Graduate Student	MSc in Geoinformatics
Tienaah, Titus	UNB	Graduate Student	PhD in Geomatics, started September 2011
GRADUATED STUDENTS (Since January 2011)			
Bowen, Kyana	UWI, St Augustine	Graduate Student	MSc (Urban and Regional Planning) submitted and under review, December 2011
Ganase, Sherry Ann	UWI, St Augustine	Graduate Student	MSc completed in Economics, September 2011
Hartt, Maxx	UOttawa	Graduate Student	MSc completed in Systems Science, February 2011
Hosein, Farah	UWI, St Augustine	Undergraduate Student	BSc completed, April 2011
Joseph, Alana	UWI, St Augustine	Graduate Student	Student has come to the end of her scholarship. Thesis to be submitted
Mostofi , Hومان	UOttawa	Graduate Student	MSc completed in Systems Science, July 2011
Pakdel, Sahar	UOttawa	Graduate Student	MSc completed in Systems Science, August 2011
Tienaah, Titus	UNB	Graduate Student	MScE completed in Geomatics,



Name	Affiliation	Role	Other Information
			June 2011
Udika, Rudo	UWI, St Augustine	Graduate Student	Student has come to the end of her scholarship. Thesis to be submitted
Wilson, Michael	UWI, St Augustine	Undergraduate Student	BSc completed, July 2011
ADDITIONAL COMMUNITY RESEARCHERS AND PARTNERS (Since January 2011)			
Boudreau, Aleasha	Centre de recherche marine, Université Sainte-Anne, Petit de Grat Campus, Isle Madame	Research associate	Historical and current photo documentation of Isle Madame coastline; application of VGI system, since September 2011
Clarke, Alexander	Certified Ontario Teacher	Research associate	Research and development of grade school lesson plans, since October 2011
Epp, Michael	Town Planner, Town of Gibsons, B.C.	Gibsons Community Partner	Since September 2011
Joshua, Bruce	Directeur, Université Sainte-Anne, Petit de Grat Campus, Isle Madame	Isle Madame Community Partner	Replaces former Directrice and C-Change Partner, Josette Marchand (see also below), July 2011
Leach, Meaghan	Director of Engineering and Sustainability, Town of Iqaluit, Nunavut	Iqaluit Community Partner	Since May 2011
CHANGES TO COMMUNITY RESEARCHERS AND PARTNERS (Since January 2011)			
Janyk, Barry	Past Mayor of Gibsons (up to November 2011)	Gibsons Community Partner	Defeated in civic elections, November 2011
Marchand, Josette	Director-Recreation, Leisure & Community Relations, Regional Municipality of Richmond County	Isle Madame Community Partner	Left position as Directrice, Université Sainte-Anne, Petit de Grat Campus, Isle Madame, July 2011
GOVERNANCE			
Cunningham, Kathy	UOttawa	C-Change (Canada) Administrator	Replaced former Administrator, Kaitlin Fahey, since October 2011
Fahey, Kaitlin	UOttawa	C-Change (Canada) Administrator	Discontinued for personal reasons, October 2011
Joseph, Cherrie Ann	UWI, St. Augustine	C-Change (Caribbean)	Since October 2011



Name	Affiliation	Role	Other Information
		Project Manager (Mid-Term Report)	
Seuraj, Simi	UWI, St. Augustine	C-Change (Caribbean) Administrative Assistant	August to September 2011
Shepherd, Marissa	UWI, St. Augustine	C-Change (Caribbean) Administrative Aide	Withdrew from project, November 2011
C-CHANGE RESEARCHERS			
Henry-Lee, Aldrie	UWI, Mona Campus	Co-applicant	Discontinued project activities for personal reasons; position to be replaced

1b. Include a description of any changes to the management structure and Advisory Board(s) including the names and responsibilities of additional members.

Changes to the C-Change Management Structure

As noted in the table above, a few changes have occurred in the C-Change management structures in both Canada and the Caribbean. With regard to research management, one change includes the withdrawal of C-Change (Caribbean) Co-applicant Dr. Aldrie Henry-Lee from active participation in C-Change research due to other commitments. Dr. Henry-Lee's position at the UWI (Mona Campus) will be replaced.

With regard to C-Change (Caribbean) management administration, Simi Seuraj was retained as Administrative Assistant in August 2011 for a scheduled contract period of six months to provide technical and administrative services to the C-Change ICURA Project including the preparation of reports, accounting reconciliation, and coordination as required. Subsequently, Ms. Seuraj received another job offer and left her duties September 2011.

In October 2011, C-Change (Caribbean) Project Manager Cherrie Ann Daria Joseph was retained for the period October-January (in the initial instance) to assist in managing the C-Change (Caribbean) academic team and, in particular, to assist in the completion of the C-Change Mid-Term Report.

In November 2011, C-Change (Caribbean) Administrator Marissa Shepherd left the project for personal reasons. A replacement search for the C-Change (Caribbean) Administrator position is currently underway and will be filled immediately in the New Year, 2012.

In Canada, C-Change (Canada) Administrator and research associate, Kaitlin Fahey was compelled to leave her position abruptly for personal reasons and return to her family. Prior to her leaving in October 2011, Kaitlin secured an immediate change in the C-Change (Canada) Administrator's position with her replacement Kathy Cunningham as of October 2011. Kathy's work and Kaitlin's assistance helped assure a smooth transition in this important position.



Changes to the C-Change (Canada) Advisory Board

The first meeting of the C-Change (Canada) Advisory Board was held on November 24, 2011 at the Telfer School of Management of the University of Ottawa. In addition to the assigned Advisory Board membership of the C-FOAM Research Group of the University of Ottawa, a special invitation was made to Kevin MacIntosh, CEO of Baird & Associates - Coastal Engineers (Ottawa), as a member of the C-Change (Canada) Advisory Board in recognition of Baird & Associates status as a C-Change Partner, and their extensive work on coastal engineering in both Canada and in the Caribbean region.

A special invitation was also made to C-FOAM colleague and Defence Research Development Canada (DRDC) and Centre for Operational Research Agency (CORA) member, Dr. Kendall Wheaton in recognition of his input and experience with disaster planning and simulation and the development of guideline protocols as part of the National Defence and Public Safety Canada analyses in which C-Change is interested in learning from the vast military gaming and planning work.

Finally, a special invitation to the C-Change (Canada) Advisory Board was made to Dr. Tracey O’Sullivan, Professor of Health Sciences, University of Ottawa for her expertise and on-going research into community disaster planning as part of the EnRiCH Research Project currently underway and in which C-Change has also been invited as a participating partner.

2a. Please describe to what extent the ICURA research partnership achieved an effective governance structure, facilitating the maximum participation and contribution of team members and partners?

Not at all	Moderately	Significantly
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The ICURA teams in Canada and in the Caribbean have developed governance structures that meet their specific needs, and that work collaboratively on Canada-Caribbean issues. The Canadian team is formed around a tight working relationship between the C-Change Secretariat management team (Co-Director and Administrator, Operations Manager, and Community Coordinator,) together with the Lead Co-applicant Researchers, and their research associates and students. Regular contact between members take place around three key events: (1) local C-Change Community meetings, led by the Community Champions and with the assistance and knowledge of the C-Change (Canada) Secretariat; (2) national Canadian Communities meetings and events (e.g., conferences, workshops) through the C-Change (Canada) Secretariat; and (3) international events, including international conferences attended by members, and organized C-Change events between the Canadian and Caribbean team members.

All C-Change members contribute to report writing for the C-Change Newsletter to raise awareness among C-Change team members, C-Change Community Partners, and the general public through hardcopy and electronic dissemination of these irregular reports. The



Newsletters provide a summary and public face on the activities of the project toward informing, facilitating, and encouraging the ongoing involvement and contribution of team members.

On behalf of the C-Change (Canada) team, the Operations Manager also collects and compiles quarterly activity reports from the Co-applicant Researchers. These reports are designed to assist in the ongoing budgeting, monitoring, and tracking of C-Change research activities that provide regular assessments of team progress. As such, these reports are very effective in contributing to overall project reporting, including the annual Milestone Reports and this current Mid-Term Report.

Similarly, in the Caribbean, the C-Change (Caribbean) team through (i) a series of team based meetings with researchers; (ii) community site visits with partners; along with (iii) C-Change (Caribbean) team – researchers and partners - participation in national and international conferences, is able to support C-Change activities contributing to effective governance, wide spread participation, and involvement of team members and community partners. Follow up from team leaders has resulted in the building of cross country cooperation and increased participation and improvement in momentum across the project.

2b. Please describe concrete actions undertaken to facilitate the involvement and contribution of team members and partners to develop the Alliance.

Concrete actions undertaken to facilitate the involvement and contribution of research team members and community partners to develop the Alliance include: (a) research team meetings; (b) conferences; (c) community and other site visits; (d) electronic media; and (e) advisory board meetings.

- **Research Team Meetings:** The C-Change team seeks continually to research team members and community partners in order to develop the alliance. Team meetings are the primary mechanism utilised to support work throughout the research partnership. Meetings among the academic teams are held regularly in both Trinidad and in Canada, often with the inclusion of some of the community partners.

To facilitate productive inter-team collaboration, members of the Canadian and Caribbean teams have participated together in a number of joint meetings, project specific symposia, and international conferences. C-Change research associates and students are frequently involved in these meetings that include their reports and presentations on the progress of their work. Team meetings, when paired with participation at national and international conferences, are able to cost-effectively support wider participation in associated C-Change activities.

A retreat was held in Grande Riviere from June 4-6, 2011, following the C-Change conference (see next section). This retreat, organised by the Caribbean team, brought together in a closed setting the academic and community members of the project who had travelled to Trinidad for the conference. In addition to discussion of project methodologies and progress, the concept of a community of practice was advanced at this meeting, as a further link among Caribbean and Canadian communities and ICURA project team members.



In November 2011, a highly productive three day meeting of the Canadian team and students was held in Ottawa bringing together for the first time representatives from the partner communities (Gibsons, Isle Madame and Iqaluit). Representatives from Charlottetown, though highly interested in the meeting, were unable to attend. The meeting focussed on progress to date, including a cross team dialogue on opportunities for useful application of tools developed to date, and next steps towards the development of additional tools and instruments of interest to the communities. The partners stated their feeling of really being part of the project after this meeting.

Summary of Integrating Project Meetings to Date

Date	Meeting and Location	Agenda / Minutes
June 22-25, 2008	Canada - Caribbean ICURA Team Workshop & LOI Full Proposal Preparation (Ottawa, ON)	2008.06.22 Agenda 2008.06.22 Minutes
June 4, 2009	ICURA Pre-announcement (Ottawa, ON)	2009.06.04 Agenda 2009.06.04 Minutes
June 28-July 2, 2009	IDRC-SSHRC Formal ICURA Announcements. (Ottawa, ON)	2009.06.28 Agenda
December 13-15, 2009	Milestone Framework Meeting. (Ottawa, ON)	2009.12.13 Agenda 2009.12.14 Minutes
December 15, 2009	General Team Meeting. (Ottawa, ON)	2009.12.15 Agenda 2009.12.15 Minutes
February 18, 2010	Canada-Caribbean Team, (Ottawa, ON)	2010.02.18 Agenda
March 23-26, 2010	C-Change meetings pre-SALISES Conference, Port-of-Spain, Trinidad, (Watson, Lane, Sutherland, Henry, Mycoo, Teelucksingh, students) (St. Augustine, T&T)	2010.03.23 Agenda
April 22, 2010	Presentation as a keynote speaker at Prince Edward Island Climate Change Symposium (Charlottetown, PEI) (Forbes)	Presentation file available
April 26 – 27, 2010	Presentation of C-Change M.Sc. thesis work at the Statistics Canada Socio-economic Conference 2010 (Gatineau, PQ) (Hartt, Mostofi, Pakdel)	Presentations and Abstracts available
May 9-11, 2010	C-Change Meeting with UOttawa and UNB Fredericton Research Associates (Tienaah invited), (Ottawa, ON)	2010.05.09 Agenda
May 31, 2010	C-Change UOttawa Meetings on Systems Dynamics (Crabbé, Lane and students) (Ottawa, ON)	2010.05.31 Agenda
July 25-29, 2010	Coastal Zone Canada conference on Healthy Oceans - Strong Coastal Communities (Charlottetown, PEI) (Mercer Clarke, Clarke, Lane, Nichols, students)	Conference Program & Abstracts Available
June 28 to July 2, 2010	Participation in the Fourth World Congress of Environmental and Resource Economists(Watson, Sutherland, Teelucksingh) (Montreal, PQ)	Conference Program & Abstracts Available
October 4-6, 2010	SSHRC-IDRC ICURA Workshop (Ottawa, ON)	2010.10.04 Agenda
Nov 31-Dec 1, 2010	C-Change Presentation to IDRC (Ottawa); meetings with Sutherland, Watson, Teelucksingh (Ottawa, ON)	Presentation file available



Date	Meeting and Location	Agenda / Minutes
June 1-3, 2011	The Sustainable Development of Coastal Communities: Challenges and Solutions Conference (Port-of-Spain, T&T)	Conference Program & Abstracts Available
June 4-6, 2011	Grande Riviere C-Change Community meetings (Grande Rivière, T&T)	Minutes & Agenda available in draft
June 13-17, 2011	World Congress of the Natural Resource Modeling Association on the Adaptation to the Changing Climate (Ottawa, ON)	Conference Program & Abstracts Available
July 14-17, 2011	Annual Congress of the Canadian Society of Landscape Architects, (Iqaluit, NU)	Conference Program & Abstracts Available
November 24, 2011	SSHRC-IDRC ICURA Meetings—C-Change (Canada) Advisory Board meeting on Curriculum(Ottawa, ON)	2011.11.24 Agenda 2011.11.24 Minutes
November 25-26, 2011	SSHRC-IDRC ICURA Meetings - Co-Applicants and Partners, (Ottawa, ON)	2011.11.24-26 Agenda 2011.11.25 Minutes 2011.11.26 Minutes
November 25, 2011	SSHRC-IDRC ICURA Meetings - Research Associates (Ottawa, ON)	2011.11.25 Agenda 2011.11.25 Minutes

- Conferences:** An international conference on the theme “The Sustainable Development of Coastal Communities: Challenges and Solutions” was held in Port-of-Spain, Trinidad in June 2011. C-Change team members from Canada and the Caribbean, together with community partners and graduate students, participated in the 3-day event. After the conference, the C-CHANGE team participated in a two day working retreat in the partner community of Grande Riviere, as noted above. In addition to the Canadian academic team and a student, a representative from one of the Canadian partner communities (Gibsons, BC) and two representatives from the Caribbean partner community of Georgetown, Guyana also participated.
- Community and Other Site Visits:** There have been numerous site visits to the partner communities involving direct interaction between team members, students, partners, collaborators and community advisory boards and members.
- School Visits:** C-Change community partners have several times noted the need to use public education as a vehicle to inform the current community and to prepare the next generation on the need and opportunities for adaptation to climate change. While school visits by team members are seen to be a critical outreach mechanism, the need for curriculum based resources for teachers was identified as an important tool to effectively engage the public education systems in both Canada and the Caribbean. Visits to schools are planned to begin in January 2012, with a first emphasis on Grande Riviere and Isle Madame. To support this effort, curriculum based lesson plans are being developed for use by teachers in middle grade and high school levels in both Canada and the Caribbean.
- Electronic Media:** Given the distances between researchers and communities, electronic means have been used to facilitate involvement and communication. A C-Change web site and a Facebook page have been developed, with considerable information on the project, the students and researchers, and the partners.



- **Community Advisory Boards and C-CATs:** The Caribbean team has met with key personnel in Georgetown, Bequia and Grande Riviere who are committed to collaborating in their various capacities on the project as follows:-

Date	Contact Name	Affiliation	Purpose of Meeting	C-Change Member(s)
BELIZE				
Oct 10-15	Alain Robinson	SIB – GIS Department	Data Collection, orientation to the project, collation of information and interviews	Sandra Sookram, Michael Sutherland, Michelle Mycoo
Oct 10-15	Chantalle Clarke	Coastal Zone Management Authority and Institute	Data Collection, orientation to the project, collation of information and interviews	Sandra Sookram, Michael Sutherland, Michelle Mycoo
Oct 10-15	Guadelupe Rosado	Environmentalist and part time student in M.SC Biodiversity Conservation and Sustainable Development at UWI, St Augustine	Data Collection, orientation to the project, collation of information and interviews	Sandra Sookram, Michael Sutherland, Michelle Mycoo
Oct 10-15	Joseph Chulin	Surveyor and recent graduate in Geomatics	Data Collection, orientation to the project, collation of information and interviews	Sandra Sookram, Michael Sutherland, Michelle Mycoo
Oct 10-15	Leandra Cho-Rickets	Faculty of Science and Technology, University of Belize	Data Collection, orientation to the project, collation of information and interviews	Sandra Sookram, Michael Sutherland, Michelle Mycoo
Oct 10-15	Marvin Moody	Statistical Institute of Belize (SIB)	Data Collection, orientation to the project, collation of information and interviews	Sandra Sookram, Michael Sutherland, Michelle Mycoo
Oct 10-15	Nadia Bood	World Wildlife Fund	Data Collection, orientation to the project, collation of information and interviews	Sandra Sookram, Michael Sutherland, Michelle Mycoo
BEQUIA				
June 17-19	Antoinette Cozier-Simmons	Bequia Tourism Association	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Dornet Hull	Physical Planning	Data Collection,	Patrick Watson,



Date	Contact Name	Affiliation	Purpose of Meeting	C-Change Member(s)
		Unit, Ministry of Housing	orientation to the project, collation of information and interviews	Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Eardly Simmons		Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Gatlin Roberts	Ministry of Finance and Planning	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Herman Belmar	Director of Grenadine Affairs	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Lezian James	Fisheries Division P.F.S.C.E.O.	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Ralphie Raugette	Coast Guard SVG	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Tashana Providence, Trelson Mapp	Central Planning Division, SVG	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
June 17-19	Yasa Belmar	Environmental Management Department- Ministry of Health SVG	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Sonja Teelucksingh, Sandra Sookram, Michelle Mycoo
GRANDE RIVIERE, TRINIDAD AND TOBAGO				
May-June 2011	Keshwar Maharaj	Chairman – Sangre Grande Regional Corporation	Data Collection, orientation to the project, collation of information and interviews	All Caribbean co-applicants and governance support staff
May-June 2011	Kevin Muhammad Len Peters, Marcia Barker	Grande Rivière Tour Guides Association	Data Collection, orientation to the project, collation of information and interviews	All Caribbean co-applicants and governance support staff
May-June 2011	Martin Rondon	Councillor-Toco/Fishing Pond Corporation	Data Collection, orientation to the project, collation of information and interviews	All Caribbean co-applicants and governance support staff



Date	Contact Name	Affiliation	Purpose of Meeting	C-Change Member(s)
GEORGETOWN, GUYANA				
Jul 07-08	Annie Pitamber, George Jarvis, George Walkins	Ministry of Agriculture	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Martin Franklin, Michael Sutherland, Michelle Mycoo
Jul 07-08	Bobby Gossai	Climate Change Unit (Office of the President)	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Martin Franklin, Michael Sutherland, Michelle Mycoo
Jul 07-08	Germene Stewart, Khadija Benn	GIS Department - Central Housing and Planning Authority (CHPA) in Georgetown	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Martin Franklin, Michael Sutherland, Michelle Mycoo
Jul 07-08	Linda Johnson-Bhola, Paulette Bynoe	University of Guyana	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Martin Franklin, Michael Sutherland, Michelle Mycoo
Jul 07-08	Priya Singh	Guyana Red Cross	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Martin Franklin, Michael Sutherland, Michelle Mycoo
Jul 07-08	Rawle Edinboro	Central Planning and Housing Authority	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Martin Franklin, Michael Sutherland, Michelle Mycoo
Jul 07-08	Shyam Nokta	Office of Climate Change- Government of Guyana	Data Collection, orientation to the project, collation of information and interviews	Patrick Watson, Martin Franklin, Michael Sutherland, Michelle Mycoo

- The Canadian team has met with key personnel in all the C-Change communities in Canada as summarized in the table below.

Date	Contact Name	Affiliation	Purpose of Meeting	C-Change Member(s)
GIBSONS, BRITISH COLUMBIA				
June through November	Various	Local government, community groups, local arts and culture, local business persons, members of industry, environmental groups,	Interviews	Nathan Vadeboncoeur



Date	Contact Name	Affiliation	Purpose of Meeting	C-Change Member(s)
		churches, local businesses		
June through November	Various + Michael Epp	Local government, Head Planner, Town of Gibsons	Interviews, collaboration on Town Plan	Nathan Vadeboncoeur
June through November	Various	Community groups, churches, local government	Interviews, survey distribution	Nathan Vadeboncoeur
May 2010	Council and Town Planners	Municipal and regional government	Interviews, presentation, looking for data sources	Sue Nichols Ralph Mathews
Nov 25 2011	Michael Epp	Head Planner, Town of Gibsons	C-Change meeting in Ottawa	Dan Lane John Clarke Colleen Mercer Clarke Sue Nichols Donald Forbes
IQALUIT, NUNAVUT				
Aug 03 2010	Michèle Bertol	Director of Planning, City of Iqaluit	Project planning	Donald Forbes
Aug 03 2010	Michèle Bertol	Director of Planning, City of Iqaluit	CIP meeting in Montréal	Donald Forbes
Jan 12 2011	Robyn Campbell	Sustainability Coordinator, City of Iqaluit	Consultation	Gavin Manson Scott Hatcher
Mar 10 2011	Meagan Leach & Arif Sayani	Director of Engineering & Sustainability & Director of Planning, City of Iqaluit	Consultation & reporting	Donald Forbes
Mar 11 2011	Mary Ellen Thomas	Director, Nunavut Research Institute	Consultation & permitting	Donald Forbes
Mar 11 2011	Jason Carpenter	Senior Instructor, Nunavut Arctic College	Curriculum discussion	Donald Forbes
Jul 14 2011	Mary Ellen Thomas	Director, Nunavut Research Institute	Permitting	Donald Forbes Scott Hatcher
Jul 15 2011	Meagan Leach & Robyn Campbell	Director of Engineering & Sustainability & Sustainability Coordinator, City of Iqaluit	Workshop presentations	Donald Forbes John Clarke Colleen Mercer Clarke, Scott Hatcher
Jul 22 2011	Colleen Healey	Climate Change Coordinator, Government of Nunavut (Environment)	Consultation	Donald Forbes Scott Hatcher



Date	Contact Name	Affiliation	Purpose of Meeting	C-Change Member(s)
Jul 22 2011	Meagan Leach	Director of Engineering & Sustainability, City of Iqaluit	Consultation & planning	Donald Forbes Scott Hatcher
Nov 21 2011	Mary Ellen Thomas	Director, Nunavut Research Institute	Consultation	Donald Forbes Scott Hatcher
Nov 24 2011	Meagan Leach	Director of Engineering & Sustainability, City of Iqaluit	Consultation & planning	Donald Forbes Scott Hatcher
Nov 24 2011	Colleen Healey	Climate Change Coordinator, Government of Nunavut (Environment)	Consultation	Donald Forbes
Nov 25 2011	Meagan Leach	Director of Engineering & Sustainability, City of Iqaluit	C-Change meeting in Ottawa	Dan Lane John Clarke Colleen Mercer Clarke Sue Nichols Donald Forbes
CHARLOTTETOWN, PRINCE EDWARD ISLAND				
Jul 29 2010	Don Poole	Director of Planning, City of Charlottetown	Review of Conference presentations and status of project to date	Colleen Mercer Clarke John Clarke Sue Nichols Don Forbes Dan Lane 5 students
May 24 2011	Don Poole	Director of Planning, City of Charlottetown	Review of new Charlottetown sea level rise data and projections, preparation for presentation to Council	Colleen Mercer Clarke Don Forbes Sue Nichols Dan Lane Tim Webster
May 24 2011	Mayor and Council, Senior Staff	City of Charlottetown	Presentation to City of Charlottetown Council, C-Change Partner update	Colleen Mercer Clarke Don Forbes Sue Nichols Dan Lane Tim Webster
May 29 2011	Various national and local participants	UPEI Forum on Climate Change	Presentation to UPEI Forum on Climate Change	Don Poole, Community Partner C-Change Project
ISLE MADAME, NOVA SCOTIA				
Aug 03-05 2010	Warren Olsen, Brian Samson,		Meetings with: DIMA, Premium	Dan Lane Colleen Mercer



Date	Contact Name	Affiliation	Purpose of Meeting	C-Change Member(s)
	Gloria Hill, Joan Clannon, Michelle Thériault, Aleasha Boudreau		Seafood, Université Sainte-Anne, Telile, Richmond County Municipal Office	Clarke John Clarke
May 16 2011	Warren Olsen, Gloria Hill, Joan Clannon, Michelle Thériault, Aleasha Boudreau		Meetings with: DIMA, Université Sainte-Anne, Telile, Richmond County Municipal Office	Dan Lane Colleen Mercer Clarke Don Forbes Dan Lane
Jul 27-29 2011	Darren McLean, Michelle Thériault, Aleasha Boudreau		RTK Survey and meetings with Community Partners	Dan Lane Don Forbes Sue Nichols Titus Tienaah Andriy Rak
Aug 01 2011	Aleasha Boudreau Michelle Therault Bruce Joshua	C-Change Community Partners, Université Sainte-Anne	Workshop planning,	Dan Lane
Sep 04 2011	Aleasha Boudreau Michelle Therault Bruce Joshua	C-Change Community Partners, Université Sainte-Anne	Isle Madame Vulnerability	Dan Lane
Nov 25 2011	Aleasha Boudreau Michelle Therault Joel Bowen	Université Sainte- Anne, Development Isle Madame Association (DIMA)	C-Change meeting in Ottawa	Dan Lane John Clarke Colleen Mercer Clarke Sue Nichols Donald Forbes
Dec 12 2011	Victor David, Warren Olsen, Councillors, Michelle Thériault, Aleasha Boudreau	Richmond County Council,	Presentation to Richmond County Council, C-Change updates	Dan Lane Sue Nichols Don Forbes
Dec 12-13 2011	Aleasha Boudreau Michelle Therault Bruce Joshua	Université Sainte-Anne	Curriculum Development and Tour of Centre de Recherche Marine, Université Sainte- Anne	Dan Lane Don Forbes Sue Nichols



N.B. In some cases such as the Gibsons interviews and meetings, it is contrary to the academic ethics approvals obtained for the research to reveal information that would identify individuals, such as names and/or affiliations of those who were interviewed.

3a. Has the ICURA developed new approaches that are responsive to the communities' research questions/needs?

- Yes (go to 3b.)
 No

3b. Explain the novelty or utility of approaches and how they were developed.

Some approaches are unique to each community, reflecting their unique situation.

- **Charlottetown:** In Charlottetown, municipal staff are implementing guidance for new development in areas potentially affected by rising water levels. C-Change researchers are providing the scientific support for these new guidelines for building elevations that take into account both sea level rise and storm surges.
- **Isle Madame:** The community of Isle Madame needed current land elevations in order to assess the impacts of predicted sea level rise and storm surges but could not afford the cost of a very accurate aerial LIDAR survey. Ground-based real-time kinematic GPS surveys were conducted at several locations, giving good accuracy at specific points for a much lower cost. Mapping of low, flood-prone sections of the road network for the entire island was completed using non-differential GPS. In addition, one of our partners was contracted to conduct local research and photograph storm surges and impacts over the fall and winter periods. This investigation of low cost approaches could prove beneficial in other data poor locations that have few monetary resources for this kind of work.

The idea for lesson plans for teachers also came from interaction with our partners in this community. These activities go beyond the original project plan but respond to identified community needs.

- **Gibsons:** There is a data sharing agreement in place between the Town of Gibsons and the C-Change team for LiDAR and GIS data that was used to create a sea level rise scenario model for the Town. Also, a public survey was administered to residents of the Sunshine Coast in the fall of 2011 to ascertain how the public perceives environmental risks and locally contentious environmentally-framed issues (activities in a nearby watershed and a prospective residential development). The questions explored how risk perception is influenced by location of one's residence relative to particular natural features (e.g. ocean front, forest interface), breadth of environmental knowledge, knowledge of climate change, and world-view. Results are not yet available. In addition to advertising the survey through standard press releases, community organizations were contacted to distribute the survey, which produced six times the response rate of the press release.
- **Iqaluit:** Iqaluit had already completed preliminary assessments of climate-change vulnerability prior to the start of this project. However, it lacked quantitative information on



coastal hazards in addition to a number of other potential impacts such as thawing permafrost and storm runoff. A digital elevation model derived from stereo Geo-Eye satellite images was acquired through partnership with NRCan and supplemented by extensive real-time kinematic GPS surveys of the waterfront area, including elevations of buildings and other infrastructure. Measurements of tides and waves were obtained over several summer and fall months in 2010 and 2011, supplementing the meagre historical tide-gauge record. Flooding from the record water level event in December 1964 was simulated using the DEM, demonstrating that had existing infrastructure been present at that time, there would have been extensive and costly impacts. Results of the work are feeding into the municipal sustainability plan, which will include adaptation to climate change.

- **Georgetown:** Data were handed over to the Central Housing and Planning Authority in Guyana through the formalisation of data sharing agreement between the Georgetown collaborators (Rawle Edinboro) and the C-Change team.
- **Bequia and Belize:** Arrangements have been made to conduct socio-economic surveys in both of these sites, collaboratively developed between the Bequia and Belize team, and the C-Change co applicants.
- **Grande Riviere:** The planned school visits and the erection of a billboard promoting the C-Change message in Grande Riviere are ideas which stemmed from interacting with the community. The idea for lesson plans for teachers also came from interaction with our partners in this community. These activities go beyond the original project plan but respond to identified community needs.

In addition, we have developed some approaches that apply to more than one community.

- **Public Awareness Campaign Pre-Packaged Information Sets** - PANOS Caribbean, Jamaica was retained in September 2011 to “Develop a Communication and Knowledge Dissemination Package for Climate Change Education and Awareness in Coastal Caribbean Communities” to be used in regional communities to disseminate C-Change’s message. In the conduct of the consultancy, they will prepare and produce three packages of integrated training modules appropriate to address the communication, dissemination and training needs of the C-Change project. Each package will target one of the following segments of the case study community, namely Primary and Secondary schools along with the adult community.
- **Formal Data Sharing Agreements** have been entered into with regional partners. The results include a hard copy of a climate change survey used in St. Vincent and the Grenadines received from the Central Planning Division. The Canadian data sharing agreements have started to be arranged as various data sources of existing data have been identified. These include an agreement with the City of Charlottetown, and new agreements are being arranged with the Province of Prince Edward Island, the Nova Scotia Community College, NRCan, The Municipality of Richmond (NS), the Province of Nova Scotia, the Town of Gibsons, and the Sunshine Coast Regional District (BC). A major difficulty with the agreements has been the number of educational institutions involved, each of which has to be part of each agreement, although the central clearing house is UNB. Also each agreement is specific to meet the needs of the data source as well as the project.



- **Multimedia:** A DVD compilation of sea level rise in Grande Riviere is in development by Michael Sutherland and will be used as an awareness instrument.
- **Communities of Practice:** The development of a *community of practice* is being pursued to link professionals from all eight communities and advance their capacity to deliver the tools and instruments being developed through the ICURA project as practical assists to local planning for adaptation. The C-CHANGE community of practice should also support the creation and development of cross-community relationships that, it is expected, will outlast the term of the ICURA project. For further details, see also Part B, Section II – Community and University Partnerships.

4a. Which of the following obstacles have you encountered with your ICURA project? (check all that apply)

- Student recruitment
- Availability of/access to data
- Receiving pledged cash and in-kind support
- Ethics approval
- Insufficient institutional support
- Obtaining licences, permits, visas
- Partnership negotiation
- Physical / material resources (e.g., office space)
- Finding qualified personnel
- Research Time Stipend (SSHRC)
- Insufficient SSHRC funding
- Financial management and transfers among partners
- International travel
- Working in different languages / cultures
- Team collaboration
- Other(s) -: Funding

4b. How have you dealt with or overcome these obstacles?

- **Student Recruitment:** Within C-Change (Canada), the issue is managing and coordinating available graduate students' multidisciplinary research work across four Canadian universities and with limited funds. The approach to address this obstacle continues to be to promote the expertise of the co-applicants matched with the availability and commitment of quality masters and doctoral students.
- **Availability of/Access to Data:** Difficulty has been encountered in obtaining complete, uniform, and quality spatial data for the C-Change project sites. Differences in data availability and protocols among official sources in each Caribbean country, and among provinces in Canada, result in data gaps. In some instances, data were obtained from sources other than in the target countries, and in other instances primary data were collected and/or updated. For example, in the C-Change (Canada) community of Isle Madame, Real-Time Kinematic (RTK)



surveys of selected vulnerable coastal areas were conducted to provide highly accurate data over small areas, as opposed to larger area but more expensive LIDAR data. In the C-Change community of Grande Riviere, Trinidad and Tobago, local elevation data were acquired to project the impact of local flooding from storm surge and sea level rise. Where data are available, the mechanics of setting up data sharing agreements has continued to take considerable time. It should be noted that the team has found that even where data are readily available and partner organizations are willing to share their data without cost to the project, issues related to the licensing of access and use of data among the university partners can take time and involve complex legal agreements. Perseverance and the insight to access other data to achieve the objective continue to be used to overcome these issues.

- **Obtaining Licences and Permits:** Work in Iqaluit (Nunavut) required a research licence from the Nunavut Research Institute and translation of application materials into Inuktitut. Delay in issuance of the licence in 2011 resulted from late completion of translation, causing some delay in the start-up of work at that location.

- **Partnership Negotiation:** In Canada, early engagement with partner communities through the C-CATS (Community Action Teams) initiative, though initially positively received, did not generate an immediate response from the intended self-generated community groups acting on the C-Change agenda. Over time, accumulated and new information on changes to the coastal zone, as provided by other sources including C-Change and local media, has increased, prompting partner communities that are more and more impacted by rising sea levels and severe weather to provide greater priority and information needs for the issue. As a result, there is an increasing interest and eagerness to participate in C-Change adaptation management activities by local partners. The nature of the C-CAT is therefore being modified in communities in order to address differing local priorities among selected groups of community members by meeting separately with these community groups with the C-Change team providing greater leadership in capturing the community partners' perspectives and priorities.

- **Finding Qualified Personnel:** In the Caribbean, there were challenges with project management reporting and activity execution delays along with changes in Administrative staff (given the temporary nature of the contractual arrangements). In October 2011, the project retained a Project Manager with expertise in project reporting, monitoring and evaluation who will support the project through the execution of the following:-
 - collation and completion of project conditionalities including but not exclusive to project reports;
 - establishment of Formal Governance Systems, tools and techniques; and
 - training of staff in project management, the logical framework method and the use of tools and techniques.

- **Team Collaboration:** Conducting research collaboratively and across widespread geographical areas has been challenging, because the researchers have limited control over both the internal and external environments and because of the high level of collaboration needed between the researchers and the community staff to support the research, as well as between the researchers in the two countries. Since this research involves interdisciplinary research teams consisting of faculty members, staff, students, and community teams and



agencies staff with varying degrees of demanding primary responsibilities, there have been several challenges which have included:

- establishing productive staff-researcher and researcher-partner relationships;
- recruiting highly active team members;
- ensuring face time (both within the team and with communities) on a regular basis.

To overcome these obstacles, team meetings in each country and between the countries have been planned and conducted as often as feasible. Team members have gone to the communities to meet with partners, provide updates on the progress of the work, and obtain data.

- **Leveraged Funding:** The level of interaction with communities that is necessary to establish and maintain effective linkages was neither recognized nor budgeted in the proposal. To meet the need without excessive cost, we are enlisting measures such as remote, web-based communications and coordinating community meetings with other events and meetings. Face-to-face meetings are still necessary to some extent. The leveraging of additional funding, especially to facilitate interactions between the two regions at researcher, student and partner levels, has recently started to bear fruit and will be further pursued. For example, recent confirmation of two funding grants to support the transfer of knowledge from UNB to UWI of Titus Tienaah’s PPGIS (Public Participatory GIS, technical construction), which he developed as part of his Master’s degree will lead to student exchange. The intention is to develop similar software for use in the Caribbean communities that are part of our ICURA project, and at the same time to develop the skills of Caribbean researchers and students.

In other examples, Donald Forbes has been able to coordinate travel for C-Change activities with other work, thus leveraging his time and costs, and Daniel Lane has used conference invitations and attendance not paid by C-Change to promote and conduct C-Change activities.

5. *At this time, what is the likelihood that the community and university institutions involved in the ICURA will continue conducting research projects together once the ICURA is complete?*

Unlikely	Possibly	Likely	Definitely	Unknown
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



2. Research Training and Development

1. *Students and Postdoctoral Researchers: Indicate the total number of students and postdoctoral researchers (both paid and unpaid) that have participated or, are currently participating in the ICURA. Elaborate on the nature and quality of these training experiences in section III of Part B. (Please note that total figures will be required in your Final Research Report).*

Students and Postdoctoral Researchers		
Paid	# at Canadian universities	# at Trinidad and Tobago universities
Undergraduate		8
Masters	9	13
Doctoral	6	5
Postdoctoral		
Unpaid	# at Canadian universities	# at Trinidad and Tobago universities
Undergraduate	2	8
Masters		7
Doctoral	1	1
Postdoctoral		-

Using the template below, append a list of: (include list of completion dates and/or anticipated completion dates as well as the project titles).

Appendix A, Table A1 contains the complete listing of major research papers and theses that have been or will be produced following the students or researchers' involvement in the ICURA research activities.

2. *What type of research skills have students acquired through the ICURA? (Check all that apply and where possible, indicate number of students):*

Research Skills	Most Students (#)	Some Students (#)	Limited Students (#)	None
Data collection	✓			
Data entry	✓			
Data analysis	✓			
Computer skills (use of specialized software)	✓			
Proposal writing / preparation		✓		



Research planning	✓			
Report writing	✓			
Presentation at Conferences, Symposiums		✓		
Publication experience		✓		
Opportunity for thesis work	✓			
Networking	✓			
Other(s): GIS tools		✓		
Field Work	✓			

3. *Non-Students: Indicate the number of non-student staff (excluding postdoctoral researchers) that have been hired by the ICURA to date. (Please note that total figures will be required in your Final Research Report).*

Role	#
Technician	2
Research Associate/Consultant	10
Administrative Support Staff	5
Others: Please specify: _____	

- **Research Associates /Consultants:** Demi Singh, Farah Hosein, PANOS, Jason Alexander, Dickson Chiedozi Osuala, Mohammad Alzoubi, John Clarke, Colleen Mercer Clarke, Aleasha Boudreau, Alexander Clarke
- **Administrative Support Staff:** Marissa Sheppard, Simi Seuraj, Cherrie Ann Joseph (Project Manager), Kaitlin Fahey, Kathy Cunningham
- **Technicians:** Anna-lee Ali, Amanda Bhagwandeem

4a *Indicate the total number of courses (university or other) in which ICURA research mechanisms, processes or results have been presented (to date):*

It is noted that approximately 25 courses – including the 13 courses in the table below for which data have been collected – have been offered since 2009 through the participating Universities that form part of the C-Change University Network throughout Canada (UOttawa, UNB, MUN, UBC) and in the Caribbean (UWI). These courses represent those courses that are offered by the C-Change Co-Applicants in undergraduate and graduate offerings. It is acknowledged by the Co-Applicants that C-Change mechanisms, processes or results have been presented in all of the offered courses.



4b *If you have collected data, report on the reach of these courses in terms of type of organizations involved, # of attendees, topics and location.*

Information on courses referring to C-Change has been collected on 13 of the UWI courses. The requested information is provided for this subset of courses in the table below.

Course	Organization	No of attendees	Topics	Location
ECON 6005	UWI	40	Climate Change Vulnerability and Adaptation in Developing Countries (Reading Course)	St Augustine, Trinidad
ECON 6010	UWI	50	Linking Vulnerability, Adaptation and Mitigation in SIDS: Climate Change and the Community of Grande Riviere, Trinidad	St Augustine, Trinidad
GEOM 2010	UWI	45	Information System and Geographic Information Systems, hardware and software systems, Spatial data issues - acquisition and input, data structures, data management, data processing, data manipulation, data analysis, spatial data quality, Designing and implementing GIS: data requirement, technical requirement,	St Augustine, Trinidad
GEOM 3050	UWI	30	Land technical, socioeconomic, political, and environmental concepts and theoretical issues from the perspective of a surveyor's role	St Augustine, Trinidad
GINF 6021	UWI	25	How GIS systems and spatial data are embedded in particular economic, political, social and legal structures affect the wider use of GIS	St Augustine, Trinidad
LAND 5006	UWI	8	GIS applications to social, political, economic and environmental issues	St Augustine, Trinidad
PLAN 6014 Planning in Coastal Zone	UWI	14	Climate Change Impacts on SIDS Natural Resources	St. Augustine, Trinidad
PLAN 6025	UWI	5	Climate Change Impacts on Coastal and Terrestrial Ecosystems and Physical Planning Adaptation Measures	St. Augustine, Trinidad
PLAN 6030	UWI	14	Climate Change, SLR, Flooding and	St. Augustine,



			Adaptation using Physical Planning measures	Trinidad
SALI 7000/8000	UWI		Research Dissertation	St. Augustine, Trinidad
SALI 7001/8001	UWI		Directed Readings On Thesis Topic	St. Augustine, Trinidad
SALI 7002/8002	UWI		Research design and management	St. Augustine, Trinidad
SALI 7101/8101	UWI		Specialised research methods	St. Augustine, Trinidad

5. *Indicate the total number and append a list of new courses, programs or streams of study that are being offered by institutions affiliated with the ICURA as a result of the ICURA's activities and accomplishments (to date):*

Curriculum development is an acknowledged deliverable of the C-Change project. This topic was the focused subject of the November 24, 2011 meeting of the C-Change Advisory Board at meeting held recently in Ottawa (and as noted above). However, to date, no new courses or programs have explicitly been prepared and presented at C-Change institutions.

3. Research and Knowledge Production

1. *Using the template below, provide a brief overview of the way in which the research team is organized (e.g., units, clusters, themes, teams, departments), as well as a description of achieved and projected research projects.*

Note: The TT dollars in the table have been converted to Canadian dollars using temporal conversion factors.

Project Lead Affiliation	Specific Project-Level Research Objectives	Deliverables Achieved	Delivery Date	Expenditures
PROJECT UNIT/CLUSTER/ETC. BELIZE – 3 Visits				
M. Mycoo, S. Sookram, M. Sutherland S. Teelucksingh	1-Data collection 2-Community visits 3-Vulnerability Index	1 Initial meetings with potential partners and collaborators in pre-project stage. 2 Site visit 3 Case studies to be selected in collaboration with partners and collaborators 4 Research on potential case studies completed by research assistant. 5 Reports to be acquired from partner	Oct 10-15, 2011	\$ 48 188 TT (\$ 7 793 CDN)



Project Lead Affiliation	Specific Project-Level Research Objectives	Deliverables Achieved	Delivery Date	Expenditures
		(University of Belize) 6 Processing of WRI spatial data to support socioeconomic impact analysis 7 Questionnaire being designed		
PROJECT UNIT/CLUSTER/ETC. BEQUIA – 5 VISITS				
S. Sookram S. Teelucksingh M. Mycoo M. Sutherland P. Watson	1 Community visits 2 Collect data 3 Data collection 4 Community visits 5 Vulnerability Index	1 Three ICURA community visits 2 Preliminary digital elevation modelling 3 Initial meetings with potential partners and collaborators in pre-project stage. 4 Land use map to be obtained from Physical Planning Unit (SVG) 5 Data requirements to conduct investigation of coastal community adaptation 6 Review of literature on Bequia 7 Some socio-economic country-level data collected 8 Spatial data collection to complete climate change/SLR models (mean sea level) 9 Baseline data being collected 10 Questionnaire being designed 11 Review of satellite imagery to determine land uses, built development and community that may be impacted by SLR 12 Awaiting spatial analyses based upon socioeconomic data to complete adaptation study	June 17-19, 2011	\$ 31 972 TT (\$ 4 761 CDN)
PROJECT UNIT/CLUSTER/ETC. GEORGETOWN – 3 VISITS				
M. Sutherland M. Mycoo S. Sookram S. Teelucksingh M. Franklin	1 Community visits 2 Collect data 3 Vulnerability Index	1 Three ICURA community visits 2 Spatial data collected and digitized by ICURA, climate change/SLR modeling in progress 3 Digitization of buildings, wards, streets, coastline 4 Delivered spatial datasets to CHPA, Georgetown – Building spatial dataset with approx. 29800 buildings footprints 5 Socioeconomic data collected, coded, entered into database, conducted spatial analyses 6 Calculation of a preliminary Vulnerability Index for Georgetown, development of methodology 7 Questionnaire administered to	July 7-8, 2011	\$ 15 013 TT (\$ 2 243 CDN)



Project Lead Affiliation	Specific Project-Level Research Objectives	Deliverables Achieved	Delivery Date	Expenditures
		households in Georgetown 8 Report completed on adaptation measures, pending refinement 9 Design of geomatics training for CHPA 10 Community outreach and education packages being developed in conjunction with Panos Caribbean 11 Development of communication strategy and products to build adaptive capacity 12 Meeting with Ministry of Agriculture 13 Meeting with Stakeholders involved in Climate Change Initiatives in Guyana 14 Meeting at University of Guyana with Dr Paulette Bynoe and a Representative of the Guyanan Red Cross		
PROJECT UNIT/CLUSTER/ETC. GRANDE RIVIERE - 4 VISITS				
S.Teelucksingh M. Mycoo S. Sookram M. Sutherland M. Franklin	1 Data collection 2 Community visits 3 Vulnerability Index 4 Develop sea level rise models 5 Post Conference workshop	1 Field trips to meet the community, administer questionnaires and supervise enumerators 2 Socioeconomic data collected, coded, entered into database 3 Calculation of a preliminary Vulnerability Index for Grande Riviere 4 Spatial data collected 5 Awaiting Vulnerability Assessment to fine tune adaptation measures 6 Options for adaptation researched and documented 7 Options based on sea level rise Vulnerability Index calculation model and adaptive capacity of community 8 Options based on 2000 Census and BIOLAC/ICURA survey 9 Preliminary findings presented at SALISES conference attended by key community members 10 Advanced spatial analyses of projected sea level rise impacts 11 Advanced spatial analyses based upon socioeconomic data 12 Video animation of sea level rise model for delivery to community groups (including schools) 13 Presentation material for community school children 14 Poster for community school	May - June 2011	\$ 23 061 TT (\$ 3 483 CDN)



Project Lead Affiliation	Specific Project-Level Research Objectives	Deliverables Achieved	Delivery Date	Expenditures
		children showing community-based adaptation options and actual options used elsewhere 15 Bullet point policy brief on adaptation measures 16 The intersect between GIS as communication tool to build community awareness of adaptation options needs to be explored more fully. PANOS to be consulted 17 Presentation on sea level rise model. 18 Sea level rise models 19 Preliminary presentation of sea level rise data in Google Earth 20 Post Conference Workshop (Caribbean and Canadian team)		
S. Teelucksingh		1 Community outreach and education packages being developed in conjunction with Panos Caribbean 2 New questionnaire being developed for further round of data collection	January, 2012	\$ 68 384 TT (\$10 328 CDN)

Project Lead Affiliation	Specific Project-Level Research Objectives	Deliverables Achieved	Delivery Date	Expenditures (CDN)
PROJECT UNIT/CLUSTER/ETC. CHARLOTTETOWN - 4 VISITS				
Nichols (UNB)	Community contact	Alliances formed, data collected	Various	
PROJECT UNIT/CLUSTER/ETC. ISLE MADAME – 8 VISITS				
Lane (UOttawa)	Community contact	Alliances formed, data collected	Various	
PROJECT UNIT/CLUSTER/ETC. IQALUIT - 7 VISITS				
Forbes (MUN)	Project planning, consultation, curriculum development, permitting, workshop		Mar 8, 2010 Oct 3, 2010 Jan 12, 2011 Mar 10-11, 2011 Jul 14-15, 2011 Jul 22, 2011 Nov 21-24, 2011	



Project Lead Affiliation	Specific Project-Level Research Objectives	Deliverables Achieved	Delivery Date	Expenditures (CDN)
PROJECT UNIT/CLUSTER/ETC. GIBSONS - 10 VISITS				
Matthews (UBC)	Data collection for survey, partner collaboration	1 Survey questionnaire drafted and modified with input from community 2 Survey administered directly to selected officials and public 3 Data collection completed 4 Data analysis under way	Jun-Nov, 2011	

2. *Research Publications: Indicate the total number of peer-reviewed publications and non-peer-reviewed research outputs that have been completed by the ICURA to date.*

Type	# Submitted		# Accepted for publication		# Published	
	# Peer-reviewed	# Non Peer-reviewed	# Peer-reviewed	# Non Peer-reviewed	# Peer-reviewed	# Non Peer-reviewed
Book					3	
Book Chapter						
Article in Research Journal	5		3			

Append a complete bibliography of publications sorted by peer reviewed and non peer-reviewed research outputs and clearly indicate the type of publication (e.g., book, book chapter, article, news article, video/audio materials on or produced by teams) and their status (i.e., submitted; accepted for publication; published).*

The complete bibliography of publications as per the IDRC Data Library and as identified in the Appendix A1, Table A1 of Part A (Section 2.1) is provided as required, in Appendix A2, C-Change – Bibliography of Research Outputs of the Mid-Term Report.

3. *List the measures taken to promote free access to research results as follows:*
- *For research funded by SSHRC refer to the 'Open access' policy http://www.sshrc-crsh.gc.ca/about-au_sujet/policies-politiques/open_access-libre_acces/index-eng.aspx*
 - *For research funded by IDRC, discuss compliance with Article A6 of the Memorandum of Grant Conditions on making research outputs publically accessible.*

As per the December 2010 guidelines presented for the 2011 Milestone Report regarding the IDL Library and the "open access" policy, the C-Change website (www.coastalchange.ca) presents all C-Change produced materials including working papers, reports, meetings agendas and minutes, newsletters, photos, and related and relevant information to the project. As such, all production of the project is made publicly available as per the stated policy.



4. Knowledge Mobilization

1. Indicate the total number of staff (student and non-student) that was hired for knowledge mobilization purposes to date (e.g., research coordinator, staff for dissemination activities, webmaster, etc.).

Three staff have been hired. PANOS Caribbean, Jamaica was retained in September 2011 to “Develop a Communication and Knowledge Dissemination Package for Climate Change Education and Awareness in Coastal Caribbean Communities” to be used in regional communities to disseminate C-Change’s message. Alexander Clarke was engaged in October 2011 to develop lesson plans related to C-Change for 2 grade levels. The results should be applicable in both Canada and the Caribbean. Mohammad Alzoubi has been hired on an occasional basis to develop and update the C-Change web site and Facebook page.

2. Use the table below to indicate the number of knowledge dissemination mechanisms/tools/vehicles the team has already developed (D) or plans to develop (P). Also indicate whether the events are aimed at primarily academic or primarily non-academic audiences, or both.

Contribution Type	# Aimed at academic audiences		# Aimed at non-academic audiences		# Aimed at both academic and non-academic audiences	
	D	P	D	P	D	P
Advisory services			2	2		
Article in popular media			2	4	1	1
Article in Professional or trade journal	3	12				
Conference paper					25	25
Conference proceedings					6	6
Consultancy						
Creative work					2	
Database/dataset/archive					4	4
Development of policies and programs				4		4
Educational aid			2	4		
Medias (e.g., interview, etc.)			8	6	2	4
Newsletter/press release/pamphlet			10	10		
Public lecture or address						
Radio broadcast						
Reports	13	6				26



Social Media (Facebook, Twitter etc.)					2	1
Television broadcast			2			
Textbook	2					
Thesis	14	16				
Web site					1	
Other(s) - Please specify:						

3. Use the table below to indicate the number of knowledge-dissemination events that have already been held (H) or that you plan to hold (P). Also indicate whether the events are aimed at primarily academic audiences or primarily non-academic audiences, or both.

Event Type	# Aimed at academic audiences		# Aimed at non-academic audiences		# Aimed at both academic and non-academic audiences	
	H	P	H	P	H	P
Workshop	4	4		8	2	2
Conference	4	8			4	4
Congress						
Symposium						
Meetings	5	10	9	10	5	5
Webinars or web based meetings						
Other(s): Community presentations			14	12		

4. Knowledge Mobilization Audiences: Who are the main audiences of the ICURA's knowledge mobilization efforts? Please check all that apply, then priority rank the top three identified audiences (#1, #2 and #3).

Audience	Rank
<input checked="" type="checkbox"/> Academic and Other Experts	
<input checked="" type="checkbox"/> Administrators	1
<input checked="" type="checkbox"/> Community Groups	
<input checked="" type="checkbox"/> Community Leaders	1
<input checked="" type="checkbox"/> Decision-Makers	3
<input type="checkbox"/> Federal Government	
<input checked="" type="checkbox"/> General Public	
<input type="checkbox"/> International Intergovernmental Body	
<input type="checkbox"/> International Organization	
<input checked="" type="checkbox"/> International Research Communities	
<input checked="" type="checkbox"/> Learned Societies (discipline-based)	
<input type="checkbox"/> Libraries, Museums, Archives	
<input checked="" type="checkbox"/> Municipal Government	1



<input checked="" type="checkbox"/> Non-Profit Organizations	
<input checked="" type="checkbox"/> Policy-Makers	2
<input checked="" type="checkbox"/> Private Sector	
<input checked="" type="checkbox"/> Professionals/Practitioners	
<input type="checkbox"/> Provincial Government	
<input checked="" type="checkbox"/> Students: Undergraduate – Graduate	
<input type="checkbox"/> Unions	
<input checked="" type="checkbox"/> Universities	
<input checked="" type="checkbox"/> Foreign Government	
<input checked="" type="checkbox"/> Informed Public	
<input checked="" type="checkbox"/> Media	

5. Given the top three ranked audiences above, please rate each audience’s level of influence on the social, cultural and / or economic development of the communities with which the ICURA is involved and provide some examples of how knowledge mobilization activities are influencing the policies or practices of these audiences.

Audiences	Low Degree of Influence	Moderate Degree of Influence	High Degree of Influence	Unknown
#1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
#2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
#3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

In Charlottetown, the Planning Department has included a sea level rise parameter in their development guidelines, which is supported by the work that C-Change has done. In several communities, educational materials from the project will shortly influence children who in turn have a major influence on the activities of their parents.

6. Provide any additional information collected using the indicators and methods proposed in your Milestone Report to assess the influence of knowledge mobilization activities that has not yet been discussed in this report.

Additional Information and Funding

Indicate the source, the role of the organization or person in the ICURA, the nature and amount of support of any additional support (in kind or cash) received since the formal application, in the table below. Please also indicate whether the support is confirmed (C) or anticipated (A).

Source (Organization or Person Name)	Role in ICURA (Partner, collaborator, other)	Nature (Financial, intellectual, In kind, other)	Amount (For financial contributions only)	Support (Confirmed (C) or anticipated (A))
ArcticNet	Partner	In kind and cash	\$7,657 CDN	C



Source (Organization or Person Name)	Role in ICURA (Partner, collaborator, other)	Nature (Financial, intellectual, In kind, other)	Amount (For financial contributions only)	Support (Confirmed (C) or anticipated (A))
BGTT (conference)	Other	Cash	\$10,000.00 TT	C
BPTT (conference)	Other	Cash	\$155,500.00 TT	C
Canada-Nunavut Geoscience Office	Interested party	In kind		C
C-FOAM	Partner	Cash	\$1,500 CDN	C
CHONe	Interested party	Intellectual		C
CHPA	Partner	In kind		C
City of Charlottetown	Partner	Intellectual, In kind		C
Climate Change Unit, Office of the President, Guyana (Gopnauth Bobby Gossai)	other	In kind		C
COGS/AGRG	Partner	In kind, intellectual		C
DFO	Interested party	Intellectual		C
FCM	Interested party	Intellectual, In kind		A
Grande Rivière Tour Guide Association	Other	In kind		C
Housing Development Corporation (Trinidad) (conference)	Other	Cash	\$ 55,361.61 TT	C
Ministry of Health and the Environment (Yasa Belmar)	Other	In kind and cash	\$8,000 CDN	C
MUN	Partner	In kind		C
NRCan	Interested party	Intellectual, In kind		C
NRMA	Interested party	Intellectual, In kind		A
Northern Scientific Training Program (AANDC)	Other	Cash	\$3,368 CDN	C
Office of Grenadines Affairs (Herman Belmar)	Other	In kind		C
OMRN	Partner	Intellectual, In kind		C
RMRC, Arichat	Partner	Intellectual, In kind		C
Sangre Grande Regional Corp	Other	In kind		C
Telfer (SMURF)	Partner	Cash	\$1,500 CDN	C
Town Council Gibsons	Partner	Intellectual, In		C



Source (Organization or Person Name)	Role in ICURA (Partner, collaborator, other)	Nature (Financial, intellectual, In kind, other)	Amount (For financial contributions only)	Support (Confirmed (C) or anticipated (A))
		kind		
U Sainte-Anne	Partner	In kind		C
UBC	Partner	In kind		C
UNB	Partner	In kind		C
UOttawa	Partner	In kind		C
UWI,	Partner	In kind		C
UWI Campus Research and Publication Grant 2011		Cash	\$44,225 TT	C
UNB	Partner	Cash, In kind	\$25,500 CDN	C
UWI	Partner	Cash	\$37,500 CDN	C
LACREG (IDRC)	Sponsor	Cash	\$14,775 CDN	C

The last four items in the list are recent confirmation of two additional funding grants to support the transfer of knowledge from UNB to UWI, of Titus Tienaah's PPGIS (Public Participatory GIS, technical construction), which he developed as part of his Master's degree. The intention is to develop similar software for use in the Caribbean communities that are part of our ICURA project, and at the same time to develop the skills of Caribbean researchers and students. This will involve a student exchange between the regions.