

Clayoquot Biosphere Trust 2008 Call for Projects

Application for Funding

All applicants must complete this form (available on our website -- www.clayoquotbiosphere.org). Please save the document under a new file name before completing. Once finished, please submit electronically to Curtis Cook, CBT Executive Director, via email at curtis.cook@clayoquotbiosphere.org. In addition, please electronically attach any letters of support specific to your application. Additional information should not exceed 3 pages. Please contact CBT staff if you need assistance or have any questions. Applications must be received by our office by 4p.m. September 30, 2008. Applicants will then be invited to meet with a committee to present their application. Approval of funding will be announced by December 18, 2008.

1. Lead Organization

Organization Name: Department of Geography, University of Victoria
Mailing Address: [REDACTED] STN CSC, Victoria, BC V8W 2R4
Contact person: Dr. Ian J. Walker Job Title: Associate Professor
Telephone: [REDACTED] Fax: [REDACTED]
Email: [REDACTED]
Has this organization applied for CBT funding in the past? Yes
Has this organization received CBT funding in the past? Yes

2. Project Details

Project Title: Coastal Erosion and Climate Change Impacts Monitoring Program in Pacific Rim National Park Reserve
Funds Requested: \$5820.00 Total Project Budget: \$21220.00
Start Date: 1 May 2009 End Date: 31 August 2009
Is this a new or an existing project? New When are the funds required? April - May 2009

3. Project Partners (please use additional pages if required): The CBT considers project partners to be organizations or individuals that are contributing to the project either financially or in-kind.

Organization Name: Pacific Rim National Park Reserve (PR-NPR) of Canada
Address: [REDACTED] BC V0R 3A
Contact person: Dr. Yuri Zharikov Job Title: Park Monitoring Ecologist
Telephone: [REDACTED] Fax: [REDACTED]
Email: [REDACTED] Is this partnership confirmed? Yes

Organization Name: _____
Address: _____
Contact person: _____ Job Title: _____
Telephone: _____ Fax: _____
Email: _____ Is this partnership confirmed? _____



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4. Application for Funding Questions: Please briefly answer the following questions in point form or paragraph format. Please limit your responses to the space provided.

a. Introduction to your organization:

The Boundary Layer Airflow & Sediment Transport (BLAST) Research Unit focuses its research on the study of sedimentary and erosion processes in coastal environments. The purpose of the BLAST program is to examine the contemporary morphological and sedimentary dynamics of beach-dune systems with the aim of developing a better understanding of how these systems respond to broader scale climate changes, sea-level rise and land use pressures (e.g., tourism).

b. Tell us about your project. Include a description, goals and a timeline for completion:

Reviews of recent research on climate variability and change impacts in British Columbia show that extreme climate variability events are increasing in frequency &/or magnitude with climate change (Walker & Sydneysmith, 2007). This holds serious implications for coastal systems, which are expected to experience increased erosion/sedimentation, landward migration or loss of beach-dune and barrier systems, higher tidal inundation and flooding, ecosystem &/or biome shifts, and increasing incidents of natural hazards. Concurrently, these impacts pose considerable challenges for coastal communities and protected areas in the planning and management of ecological integrity, infrastructure, and public safety.

The proposed project aims to develop a coastal erosion and climate change impacts monitoring program within PR-NPR, part of the Clayoquot Biosphere Reserve's Core Protected Area. This program will examine a suite of geoindicators proposed by Welch (2002), including: beach-dune systems, sea-level change, shorelines, extreme events, erosion and infrastructure. The objectives of the program are:

- (1) to analyse regional wind and water level regimes from existing data and, from this, develop onshore (wind-blown) sand transport potentials and recurrence curves for erosive water levels;
- (2) to identify regional trends in sea-level and storm surges and to correlate these with known climate variability indices (e.g., El Niño Southern Oscillation/Northern Oscillation Index, Pacific Decadal Oscillation, Aleutian Low Pressure Index);
- (3) to map and interpret historical changes in shoreline positions and beach-dune geomorphology within the Long Beach unit using aerial photography;
- (4) to identify areas and activities of interest to PR-NPR at risk to climate change &/or coastal erosion hazards and, with their involvement, develop risk mitigation and climate change adaptation strategies.

This research will involve common geomorphology methods (e.g., cross-shore profile surveys, sediment transport measurements, airphoto interpretation) and GIS techniques.

Funding awarded to this program will predominantly support baseline data analyses and education/training of PR-NPR staff responsible for future monitoring. The project aims to complete the outlined goals by August 2009. Future annual monitoring is to be carried out by PR-NPR staff according to the experiences gained with the researcher in the baseline study and a research protocol developed in August 2008.



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References

Welch, D., 2002. Geoindicators for Monitoring Canada's National Parks. Parks Canada Ecosystem Science Review Report No. 017.

Walker, I. J. & Sydneysmith, R., 2007. Ch. 8: British Columbia; in Lemmen, D., Warren, F., Bush, E. & Lacroix, J. (eds). From Impacts to Adaptation: Canada in a Changing Climate. Government of Canada, Ottawa. pp. 329-386.

c. What will be the impact of your project at the individual, community and regional level?

The researcher and PR-NPR staff will benefit from this project through the opportunity for scientific inquiry, teaching and education. However, beyond the individual level, the proposed project is strongly related to community and regional health through its implications for the planning and management of ecological integrity, infrastructure, and public safety. The project intends to inform the development of risk mitigation and climate change adaptation strategies for PR-NPR, which will aid in reducing the impacts of climate variability and change on the Clayoquot Biosphere Reserve Region.

d. Describe the community involvement and collaboration with other agencies.

The researcher plans to work in collaboration with Danielle Bellefleur, a PR-NPR biologist, who is currently heading a restoration project for the park which chiefly focus' on the state of dune vegetation. This collaboration is beneficial as it fosters understanding of both the biological and geomorphological perspectives of dune health, and can better inform the researcher and community of climate change adaptation strategies and risk mitigation.

Extensive community involvement will be required in the climate change adaptation strategies to be identified through this research (e.g., European beachgrass removal, alteration to infrastructure).



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e. How do you plan to communicate the results of your project?

The results of the project will be communicated in four ways:

- (1) The results will be presented at a community forum held following the completion of the baseline analysis (August 2009).
- (2) An environmental education program based on the proposed project is to be developed targeting youth in the Clayoquot Biosphere Reserve region. It is to operate through Ucluelet Elementary & Secondary Schools and the Wickaninnish Elementary School.
- (3) The results will appear in an annual report for PR-NPR. The report will be based on the outline provided in the protocol for the coastal erosion and climate change impacts monitoring program produced in August 2008.
- (4) The data collected during the summer of 2009 will be analyzed and reported on in Hawley Beaugrand's graduate thesis.

f. How will your project help to achieve the CBT's *Mission*?

The proposed project will help achieve the CBT's Mission through:

- (1) Researching coastal erosion and climate change impacts in the Clayoquot Biosphere Reserve region;
- (2) Developing risk mitigation and climate change adaptation strategies to promote conservation and sustainable development;
- (3) Educating and training individuals who will take on the proposed monitoring program following baseline analysis, and;
- (4) Sharing and exchanging knowledge through collaboration with other agencies, community forums and environmental education programs.

g. How will your project contribute to the CBT's Measuring Community Health Initiative?

Please see our website for a description of this project and a list of indicators that we are interested in.

The proposed project addresses the climate change indicator identified in the CBT's Measuring Community Health Initiative. However, the measure of climate change is different than that which is suggested on the CBT website.



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5. Project Budget

Please complete the following project budget including contributions from partner organizations and any other funding sources.

Item & Description	CBT Funds Requested	Confirmed Contributions	Unconfirmed Contributions	Total Cost
Salaries & Benefits				
Primary Researcher	\$1,000.00	\$6,000.00	\$6,000.00	\$13,000.00
Biologist (Interpreter for Enviro. Ed. Program)	\$1,500.00			\$1,500.00
Field Assistant	\$3,000.00	\$1,000.00		\$4,000.00
Facilities Rental				
Tofino Community Hall (Presentation)	\$60.00			\$60.00
Ucluelet Secondary Gym (Presentation)	\$60.00			\$60.00
Materials & Supplies				
Field Supplies		\$300.00		\$300.00
Presentation Supplies	\$100.00			
Other (please specify)				
Travel	\$100.00	\$900.00		\$1,000.00
Accommodation			\$1,200.00	\$1,200.00
Total	\$5,820.00	\$8,200.00	\$7,200.00	\$21,220.00



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