



ATLANTIC COASTAL ZONE
INFORMATION STEERING COMMITTEE



COINAtlantic Climate Forum & ACZISC Meeting #78

Minutes for 04 October 2016 – 13:00 - 16:00

Newfoundland and Labrador Housing & Homelessness Network Learning Centre
1 East Drive, St. John's, Newfoundland

Upcoming Meetings:

Spring 2017: ACZISC Meeting #79, St. John, NB

Summer 2017: ACZISC Meeting #80, Halifax, NS

Fall 2017: ACZISC #81, Charlottetown, PEI

Climate Forum Participants

The following guests provided consent to share their contact information.

Name, First	Name, Last	Affiliation	Email	Telephone #
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Note: Scott Coffen-Smout (scott.coffen-smout@dfo-mpo.gc.ca) and Gary Pardy (gspardy@gmail.com) joined the workshop by teleconference.

1. Welcome and Introductions

Andy Sherin, COINAtlantic Director and ACZISC Secretariat, called the Climate Forum / ACZISC Meeting #78 to order at 1300 hrs on Tuesday, 04 October 2016. He welcomed members and guests; a roundtable introduction of all the workshop participants followed.

2. Presentations

The Forum's presentations, as provided by directly the respective presenters, have been made available online; audio/video recordings of the presentations have been uploaded to the ACZISC YouTube channel and can be publically accessible online.

A summary of the questions and answers to each of the four presentations are provided below:

1) ***Dynamic Coasts in a Changing Climate***, Don Forbes, Emeritus Scientist, Geological Survey of Canada.

- No Q/A

2) ***Climate Change Perspectives for Canada's East Coast***, Norm Catto, Memorial University.

- Q1: Please describe the breakwaters in Maryland.
A1: The breakwater has been anthropogenically rebuilt several times in the previous years. Tentative analyses suggest that the colony of Avalon make it very worthwhile to rebuild; without human settlement in this area, it is doubtful that I would have been rebuilt at all.

- Q2: Was the breakwater in Placentia Bay successful?

- A2: Professional engineers have assessed the breakwater for adaptations – vulnerable to storms and storm surges, and so there is risk of flooding. There has been successful community consultation – reports are available online.

3) ***Coastal Activities of the NL Geological Survey***, Melanie Irvine, NL Geological Survey.

- Q1: Is the public and critical infrastructure at Norris Point threatened?

- A1: Roads, cemeteries, and homes are all at risk of erosion – not presently, but if you were to apply the projected rates of erosion onto the area, they will be.

- Q2: What about the power lines in the photo, were they moved?

- A2: The municipalities have had to move much of the local infrastructure in recent years, including the power lines, due to dramatic shoreline erosion.

- Q3: Have there been many land-slides in this area?

- A3: There have been three (3) significant land-slides in recent years.

- Q4: What makes the NE Avalon so susceptible to erosion?
- A4: A combination of unconsolidated cliffs and lots of barrier beaches, sea level rise and the fact that the land is actually subsiding quickly makes the area at high risk of erosion.

4) ***Climate Change Adaptation Initiatives of the NL Government***, Chad Blundon, Department of Environment and Climate Change.

- No Q/A

3. Identifying Knowledge Gaps, Panel Discussion

Panelists: Don Forbes, Norm Catto, Melanie Irvine, and Chad Blundon.

The following items are a summary of the **key messages** discussed by the panelists:

- 1) Need more data, such as site-specific monitoring. Drones have been very useful so far with regard to long-term and site-specific monitoring, and will likely continue to be used to help mitigate some of the financial challenges.
 - a) Shoreline erosion and coastal change are occurring more rapidly, and drones will help in effectively surveying a site to better understand it as a coastal system using 3D models. Satellite imagery is also useful to document change over large areas; LiDAR is useful for mid-range surveys, and is most effective for its ability to collect bare-earth topography for flood simulation mapping.
- 2) Need to incorporate an integrated model (such as integrated coastal and ocean management; ICOM) for all planning and consultation aspects of a project. This is especially important to measure the relevance of coastal erosion to a specific site.
 - a) Many products and tools available already to help with risk screening, but they aren't well integrated, or perhaps they are too site-specific.
 - b) Need to find a way to integrate all relevant information into one robust source tool for multiple users.
 - i) The government is uniquely positioned and capable to provide an umbrella for all the information. Individual communities don't necessarily have the capacity (e.g., to make a portal or offer long-term monitoring, comply with safety standards), and the NL government is making public data programs and making a repository that we data-users can query when specific questions arise.
- 3) Need teams of people with diverse skillsets, and expand the knowledge laterally.
 - a) Project officers should therefore collect data in a way that will be useful to the data-users.

- b) Making data publically accessible needs to be a part of the initial project plan – but who is the end-user will determine the data format and output.
- 4) Need to perform cost-benefit analyses to demonstrate the clear economic and social benefits as a result of the resource expenditures. This can be a challenge for long-term projects, and it can be difficult to obtain resources for new or ongoing monitoring stations.
 - a) More must be done than just a cost-benefit analysis; need to act on results. A good example is the Placenta Bay case studies from 1981-1982 that examined flood events, but many modern public infrastructures have since been built on known flood plains.
- 5) Need to build a case for province-wide and larger area mapping, especially considering the many and diverse uses that these maps could have (e.g., coastal erosion and flooding, engineering, hydrology, etc).
 - a) NL is lagging behind other Atlantic Canadian provinces with regard to flood risk mapping; PEI has had the entire province surveyed, and much of NS around Halifax has also been surveyed.
- 6) Need to make good use of the knowledge resources already available.
 - a) Community consultations take time and resources, but it is a very effective approach to collect TEK and perceived risks from within the communities.
 - b) Citizen science monitoring stations have been established in a few communities where the municipality has requested it.
 - c) Need to make all raw data available because you cannot anticipate all the intended uses at the time of project planning. Primary and secondary uses for data is becoming increasingly common, and the uses are becoming more diverse – so data must be available, and organized in a format that will be useful to multiple users.
 - d) Must keep online and accessible data in a “living” and continuously updated format so as to stay relevant and useful to the users and decision-makers?

The following items are a summary of **identified gaps** as discussed by the panelists:

- 1) Despite the need for more data, there are many resource challenges involved for long-term and site-specific monitoring, resulting in the gap of connectivity and coverage of large survey areas.
- 2) Project outcomes do not necessarily match the needs of the decision-makers, and available platforms do not yet connect the user to the data effectively.

- a) Greater support in the platforms and structures that house this information is required to actualize the openness of the data.
- 3) Many datasets would be incomplete and/or inconsistent upon mapping.
 - a) There are no guidelines for how to compare the existing data with what is being presently collected.
 - b) The 3D drone footage and resulting models are present in some bays, while other bays use LiDAR – no overlap in bays yet (i.e., no bay has had both techniques used for comparison).
- 4) A lack of an ICOM plan is impeding the resilience of coastal communities and their socio-economic growth by not having a comprehensive perspective of their infrastructure and the risks they face. Traditional ecological knowledge (TEK) won't be enough in a changing climate, either; rather, we must link new technologically-informed knowledge with TEK so as to best integrate all information and how that links to all aspects of a community.
- 5) NL's open data policy does not offer guidelines to reconcile data repository issues, and there is no security in data longevity or accessibility this way.
 - a) It is undetermined what level of government is responsible for archiving and making information accessible.
 - b) Information that presently exists but cannot be readily accessed or is too complicated to access can result in the lack of its uptake by the data user.

4. Next Steps/ Closing.

5. Adjournment