

New Brunswick Researches its Capacity for Climate Change

Project Summary/Overview

In 2010, the Province of New Brunswick released a report called Capacity for Climate Change Adaptation in New Brunswick Municipalities. The report compiled feedback from municipalities about climate change adaptation. The study was developed and administered by the Province with the assistance of the Department of Environment. The study was designed to further understand six things:

- What the current state of knowledge is in New Brunswick municipalities related to climate change.
- If municipal elected officials and/or staff are concerned about climate change.
- If municipal staff and/or elected officials are experiencing effects of climate change in their communities and what those effects are.
- What capacities municipalities have to deal with climate change issues.
- What kinds of plans, resources, etc. have been put in place in New Brunswick municipalities to deal with effects of a changing climate.
- What more needs to be done in terms of building capacity and resources to deal with a changing climate at the local government level.

Project Background

New Brunswick is located South of Quebec's Gaspé Peninsula and just North of the State of Maine. Due to its proximity to the Atlantic Ocean, not only is it Canada's largest Maritime Province, but it is also susceptible to climate change and rising sea level. In fact, the Province has already seen the effects of climate change in the form of milder winters and sea level rise. For example, in the last thirty years snow pack in the Northern regions has decreased by 25% and in the last 100 years sea level has risen by thirty centimeters. Sea level rise in New Brunswick is forecasted to rise by as much as sixty centimeters by 2100. Thus, the Province views climate change adaptation and mitigation planning not only as important, but necessary.

Each municipality in New Brunswick is governed by the 1966 Municipalities Act. The Municipalities Act mandates that the local municipalities be the service provider for their citizens. As a result, such services as fire, policing, and water and wastewater systems fall under the jurisdiction of the local governments, not the provincial or federal government. However, the Municipalities Act does not require that the local governments provide climate change adaptation and/or mitigation plans to protect its citizens. As a result, the level of protection in each municipality varies. Some municipalities have climate change plans, but the plans are based on past weather and climate patterns, not the future predicted changes.

Project Implementation

In 2007, New Brunswick, Canada issued its New Brunswick Climate Change Action Plan. One of the tasks in the plan included getting municipalities involved in reducing greenhouse gases and protecting the health and safety of its citizens and visitors as climate change sets in. To get municipality input in future planning, in 2010, New Brunswick developed a mail survey and sent it to its 104 municipalities.

To develop the survey, the Province first looked at past and existing surveys to determine what areas to focus on. The Province decided to focus on four areas: education; institutions and people; resources; and community leadership. In order to understand how to develop an adaptation plan, the current knowledge and capacity of each of the four categories was imperative. The final survey sent to municipalities included a combination of quantitative and qualitative questions. The questions formed included open-ended, scale, check boxes, and fill in the blank questions.

The municipalities were requested to return the surveys within three weeks. After the three weeks follow-up emails, phone calls, and visits to the municipal offices occurred. The Province received 39% of the surveys back. The response rate should be seen as a success because in the case of mail surveys, typically a response rate of 25% is viewed as successful. The Province found that overall response rate was lower with open-ended questions and greater with the scale and check boxes questions.

The results of the survey revealed that majority of municipalities believed that climate change will be an issue for them in the next twenty years. However, many also reported that they were not overly concerned about the impacts of climate change events beyond impacts to water, such as water quality and ground water quality. As a result, majority of local municipal plans include only standards for installing or repairing new or old drinking water, waste water, and storm water management infrastructure.

Most interestingly, there were some municipalities that believed that climate change is not a threat to their community. In fact, many municipalities reported that they did not believe that storm surges and sea level rise were current or possible events that would occur. The Province believes this to be a significant issue and area to improve upon in the future because sea level rise and storm surges pose the greatest threat to the municipalities. If a municipality perceives it is not threatened by sea level rise or severe storms, then it will not set adaptation as a high priority, and its citizens may be in grave danger.

Despite believing that climate change is not a significant threat to their communities, most municipalities that responded to the survey have plans in place to deal with severe storm events. Approximately twenty percent of municipalities reported that they have flood plans in place if a severe storm hits. Additionally, some municipalities have prevention and mitigation plans for severe storm events, such as sea level rise, hurricanes, and heat waves. It is important to note that the plans are reactive in nature and lay out what to do in an emergency rather than steps that should be taken to prevent an emergency and prevent citizens from being in danger.

One of the largest criticisms noted by municipalities in the survey was that at the Province has done little to

support municipalities, in the form of resources, to develop adaptation and mitigation plans. Municipalities commented that they are small and have limited staff and finances; as a result, they do not have the resources to expand adaptation planning. Several municipalities noted that they would expand planning if they had the resources.

Project Outcomes and Conclusions

Following the survey, the Province made recommendations for municipalities, planning commissions, the provincial government, and the federal government to undertake for climate change adaptation. On the municipal level, taking climate change seriously, passing by-laws, and allocating staff to develop adaptation policies will be most critical. The planning commissions should work with the government at all levels to provide knowledge and guidance. At the provincial government level, working with the municipalities will be important for implementing successful plans. New Brunswick can achieve this goal by: funding; open communication with the municipalities; leadership by showing support for municipalities' plans; and working with the federal government to get legislation passed that supports the municipal plans. Lastly, the Province suggested that the federal government become a leader in the implementation of plans by setting public policy mandates, providing funding for climate change adaptation plan development and enforcement, and providing accurate scientific information to the Province and the municipalities.

There have been some actions that the Province and municipalities have taken to increase planning and awareness of climate change and sea level rise. Some of the actions have been training sessions for the local communities, amendments to local statutes, regulations, and zoning policies, encouragement of improved conservation, and development of strategic transportation and tourism plans.

Moving forward, education will be crucial in increasing municipality awareness of the effects of climate change and the importance of having a provincial and local climate change plan. If citizens and stakeholders understand how climate change can personally impact them, they will be more likely to support the allocation of resources to develop more effective plans. Additionally, for the health and safety of their citizens, it will be important for municipalities to implement proactive plans rather than reactive plans.

Part of the Northeast Climate Change Adaptation Project

*In 2011, the [Northeast Regional Ocean Council \(NROC\)](#) and the [Gulf of Maine Council on the Marine Environment \(GOMC\)](#) received funding from the [National Oceanic and Atmospheric Administration's \(NOAA's\) Climate and Societal Interactions Program \(CSI\)](#) to examine innovative municipal approaches to climate change adaptation in the coastal zone of the Northeast and Bay of Fundy. The two-year project, *Stimulate Innovation and Increase the Pace of Municipal Responses to a Changing Climate in the Coastal Zone of the Northeast and Bay of Fundy*, was completed in June, 2013. The research and outreach for the project was conducted by the following partners: the [Marine Affairs Institute](#), a partnership of [Roger Williams University School of Law](#), [Rhode Island Sea Grant Legal Program](#), and [University of Rhode Island](#); [Blue Urchin](#); [StormSmart Coasts Network](#); and [Clean Air-Cool Planet](#).*

Read more about the Northeast Climate Change Adaptation Project on our website:

<http://necca.stormsmart.org/>