

Rising Sea Levels and Indigenous Communities

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Many people are aware of “fastfacts” about rising sea levels—such as which major cities, like New York and Miami, will be underwater one day. These tend to get the most attention because the media tends to contextualize climate change in terms of places and circumstances in the developed world. However, more people are at immediate risk due to rising sea levels than one might think. Many people don’t know that there have already been islands evacuated due to rising sea levels. There are already climate refugees as a result, and many people have already lost their homes. One group that have been disproportionately affected by rising sea levels are aboriginal communities. In this article, we will examine several aboriginal communities who are at risk of losing their homes, as well as some aspects of their cultures, due to the impact of climate change and rising sea levels.

Rising Sea Levels

Rising sea levels have been a concern for environmentalists everywhere for quite some time; however in the last 50 years, our planet has seen a dramatic increase in sea levels.

With fossil fuel consumption projected to continue to grow, sea levels will continue to rise as the climate warms.

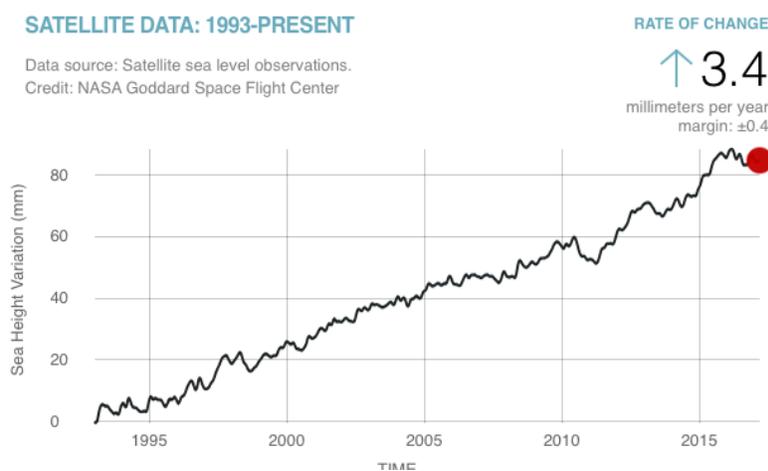


Figure 1: Source: NASA.
As seen in Figure 1, sea levels have risen, and have increased in rate as early as 1995.

Sea levels rose more in the 20th century than in any other previous century (Fig. 2). Disasters such as flooding have become more common, and many who are living on islands have already been evacuated from their homes.



Figure 2: Source: Climate Central.

This increase in sea levels is projected to keep growing. Data have shown that the rate of sea level rise has nearly tripled since the 1990's.¹ A recent study suggests that rapid thawing in Antarctica could raise sea levels by just under a meter (just over 3 feet) by 2100, nearly twice the amount predicted by previous estimates.²

With sea level rise already beginning to have an effect, and future levels projected to rise, there is one group at risk for serious impact that are not often talked about.

Aboriginal people are disproportionately affected by the effects of climate change, including rising sea levels, even though they contribute very little to the burning of fossil fuels and the production of greenhouse gases. Although the resilience and ingenuity of some indigenous communities in the face of a changing climate can be inspiring, it does not negate the responsibility that the developed world

has for creating the problem, nor does not negate the serious future impacts that aboriginal people will be facing if nothing changes.

The People

The Mi'kmaq

The Mi'kmaq people live on Lennox Island, just off the coast of Prince Edward Island in Canada. Although this community has lived on the island for thousands of years³, rising sea levels threaten their homes and way of life. “Lennox Island is also in danger of losing its cultural heritage, with water destroying areas where First Nations collect materials for ceremonies — such as feathers, shells, stones and wood — and even flooding burial grounds.”⁴ There is much to lose on Lennox Island, and much that has already been lost: “A generation ago, the island was 1,300 acres; today, it is 1,100. Once, all of its 79 homes—clustered at the southernmost tip, the island’s high point—were comfortably set back from the beach. Today 10 of them are perilously close to the shoreline as the sea reclaims land.”⁵ Over the course of one generation, as much as 200 acres have been lost to rising sea levels—an area equal to about one and a half football fields. Lennox island is being submerged so quickly that the Mi'kmaq feel they cannot wait for help to come, and have decided to take matters into their own hands. Not only are the Mi'kmaq trying to salvage historically significant sites and artifacts—which they find washed up on shore after being unearthed by the rising tides—they are also enlisting the help of computer simulators, in the hopes that mapping out the speed of the submersion, and the order of areas that will be hit first, will help them to better prepare.⁶ Although some island communities faced with rising sea levels are addressed in summits about the issues of climate change, small communities like Lennox island—“not much bigger than New York City’s Central Park”—can often go unnoticed. When the Lennox Island community property manager was asked “whether the UN talks will help his community. ‘No!’ he says, pursing his lips. ‘I think it’s a little too late.’”⁷ The usual safe holds that would keep the island safe from the rising tides are beginning to fail. The icy border that protects against the sea is melting, allowing for the tides to swallow parts of the land. And Hog Island, which helps protect Lennox Island from the rising tides of the Gulf of St. Lawrence, is slowly disappearing.⁸ “‘Two years ago, the shoreline was over here,’

he [the Lennox Island community property manager] says, gesturing. That's fully 15 to 20 feet from where it is now.”⁹

Planning for the future of Lennox Island is something that people of the island have taken into their own hands, but, unfortunately, that does not change the island's fate. When looking at maps, it “shows which parts of Lennox Island will be swamped as the sea rises or surges in heavy storms as much as three meters (9.8 feet). Another shows coastal erosion to the end of the century, based on historical rates rather than those enhanced by climate change.”¹⁰

Homes are at risk of flooding, or being washed away to sea. Vital infrastructure is also imperiled. “At great risk are its only bridge to the province of Prince Edward Island and its sewage lagoon, both just above sea level. Fortifications won't help.”¹¹ Without access to their sewage storage, coupled with being the island being completely cut off from Prince Edward Island, the dire situation that the Mi'kmaq people find themselves in could escalate rapidly. This also means that if a flooding disaster were to occur, and the people of Lennox island needed emergency services, no one would be able to access the island by car, ambulance, or firetruck, and no citizens would have a way out by land.¹²

Although the Mi'kmaq are making an inspiring effort to protect their home, it does not negate the responsibility of those who caused the problem. As an elder of the Mi'kmaq community ponders, “We can do all this stuff, send things halfway around the world [...] You'd think we would find a way to fix what we broke.”¹³

Australia

Kowanyama is a region in Queensland, Australia that has been called the Aboriginal Shire of Kowanyama, and there are several indigenous groups that inhabit the area. “Kowanyama means ‘plenty of water’ and for centuries the Kokomnjena, the Kunjen, and the Kokobera Aboriginal groups of Kowanyama have thrived on the abundance of water — the months of rain and floods during the wet season, the vast ocean waters, and the freshwater rivers and streams.”¹⁴

Although Koawanyama is rich with culture and tradition, it is at risk of flooding due to rising sea levels. “Kowanyama is no more than 10 metres above sea level and is 20 kilometres from the coast of the Gulf of Carpentaria.”¹⁵ This proximity to the sea means that those living in Koawanyama are especially vulnerable to flooding and other complications due to sea level rise. “[S]ea level rise could also result in the intrusion of saltwater into the freshwater ecosystem and

this fusion of waters would lead to environmental changes that even the ‘plenty of water’ Aboriginal people are not prepared for.”¹⁶

It is not just the tangible effects of rising sea levels that impact the people living in Koowanyama. “For those living in Kowanyama, the balance of saltwater and freshwater not only nurtures the physical body but also sustains spiritual and cultural life”¹⁷ The culture of many indigenous people world-wide are linked to their surrounding environment. “[L]oss of access to traditional lands, waters and natural resources as well as a loss of ancestral, spiritual, totemic and language connections to lands and associated areas are a major concern”¹⁸ Therefore, if an entire region is lost to rising sea levels, so too are the cultural traditions and knowledge that are tied to it. Projections for sea level rise are also difficult to contextualize. As observed, “recent sea level rise has been near the upper bound of the range reported in IPCC,”¹⁹ who also note that “that emissions have increased faster than the highest emission scenario included in the IPCC (2007a), increasing the likelihood of sea level rise being at or above the highest projections for 2100.”²⁰

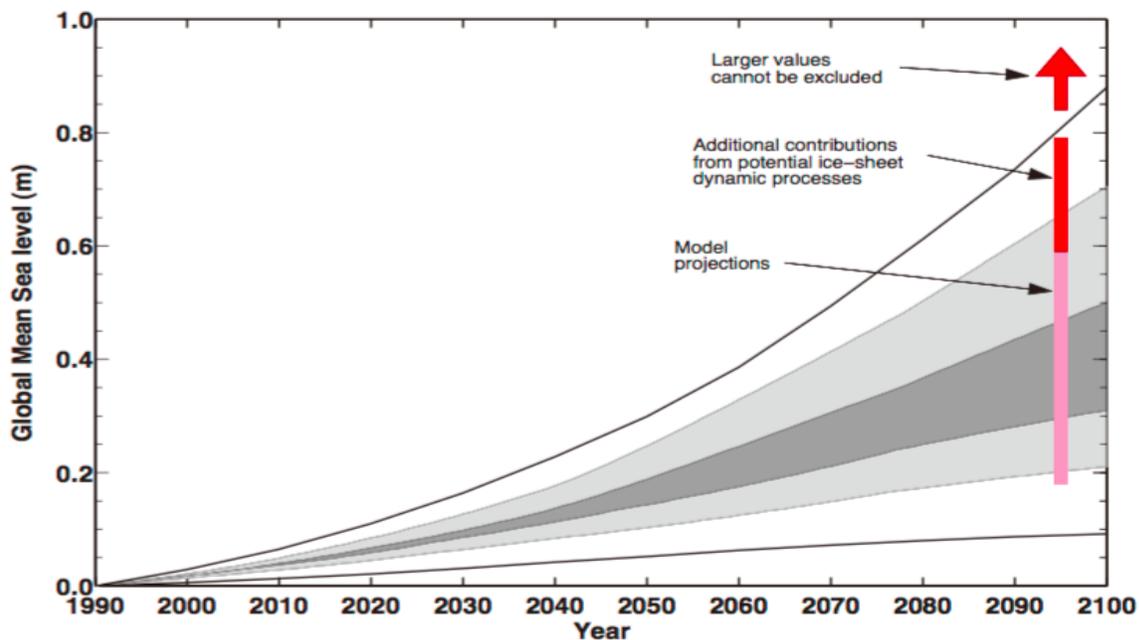


Figure 5: A summary of the globally averaged sea level rise projections for 1990–2100 (Source: Church et al.20).

Figure 3: Source: Queensland Government.

As seen in Figure 3, the projected estimates of sea level rise are only going to rise with time as long as climate change remains on the same upward trajectory, and many believe that given past data, the highest estimate of rising sea levels will be exceeded by 2100.

The Arctic

When discussing sea level rise, many think of communities who will be affected by flooding. However, at the heart of the issue are those indigenous groups who live in the Arctic. Melting ice caps are one of the reasons that sea level rise is such an issue, followed by thermal expansion due to warming ocean temperatures. However melting ice caps and ice sheets greatly impact the culture of those indigenous people who live in the regions affected by loss of ice and warming temperatures. “Reductions in sea ice during the last several years have impacted Arctic indigenous people by forcing them to change their hunting strategies, and by posing serious safety concerns.”²¹ As stated before, the surrounding environment for many indigenous groups is tightly bound to the way of life, culture and traditions. The National Snow and Ice Data Center quotes a resident of Banks Island who states,

“We don't know when to travel on the ice and our food sources are getting further and further away [...] Our way of life is being permanently altered [...] We have no other sources of food. The people in my community are completely dependent on hunting, trapping and fishing [...] We have no means of adapting to a different environmental reality, and that is why our situation is so critical.”²²

Not only are culturally significant practices and areas at risk of disappearing, but the melting ice cover also means danger for many residents. Slushy ice makes for more dangerous hunting grounds, and thinner ice sheets increases the risk of hunters and fishermen falling through the ice and into sub-zero waters.²³

Having said that, hunting and fishing is becoming even more difficult, even in ideal conditions. “The rapid retreat of the sea ice that has defined the Arctic ecosystem for thousands of years is threatening the existence and movements of creatures that have long been at the heart of Inuit subsistence culture—whales, seals, polar bears, and fish. And the transformation to a largely ice-free Arctic Ocean in summer — Arctic sea ice extent last month hit a stunning new low of 1.3 million square miles, a 50 percent decline from the 1979 to 2000 average—also has meant a new and at times threatening influx of human outsiders to the region.”²⁴

With locals and government officials disagreeing on what is the right decision moving forward with climate change and indigenous cultural survival in the Arctic, one environmental scientist in the region sums up the sentiment of the locals: “Those who think that they can map out a future for the Arctic without meaningful consultations with the Inuit are mistaken.”²⁵

This not only shines a light on the potential disconnect between indigenous peoples and governments’ execution of plans for prevention, remediation, and relocation; it also predicts potential issues with preserving all indigenous cultures when we ask the question, “how can you move a rooted culture?”

Conclusion

Although rising sea levels are one of the most well-known and pressing issues regarding climate change, there is not much literature or policies regarding the mitigation, remediation, and potential relocation of many indigenous cultures around the world. One of the reasons for this may be the complications that would arise with a one-size-fits-all plan. Each indigenous and aboriginal culture is different, and attempting to implement a policy created for indigenous peoples on the whole will fail to take into account the needs of different cultures. For example, how can there be one policy that deals both with the cultural and geographical migration of those living in Queensland, Australia, versus those living in the Arctic?

At the moment, there are no concrete plans that specifically address these at-risk communities. We as a society and as a government are not currently fulfilling our roles to work with indigenous people in the face of climate change, and we must come to an understanding that we need to do better. The current lack of policy and concern for these issues are unacceptable.

The solution here may not be to implement a singular policy, but instead a coalition. Many of the issues facing indigenous people regarding climate change and rising sea levels would be better dealt with by local indigenous groups working closely with members of the IPCC, the UN and/or other organizations that implement or propose climate change policy. Local and indigenous knowledge is invaluable when discussing the environment it is rooted in. Therefore, local and indigenous leaders would have invaluable knowledge about the culture, environment, and needs of the people at their fingertips.

In order to save a culture, it must not only be protected with environmental policy and comprehensive relocation planning, but it must also be celebrated as a culture, and as part of the solution.

Lauren Bennett is a Graduate Research Fellow at the Climate Institute.

Notes

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