



# How Coastal Erosion is Impacting Cultural Sites and Changing the Landscape of Ivvavik National Park

### **Eroding Cultural Sites**

Cultural sites along the coast show how people lived and used the land in the past. Sod houses, cabins, a Hudson's Bay Company trading post, and graves are types of features found at sites. Several sites have already eroded and others are at increasing risk.

# Did you know?

By the year 2100, over 50% of cultural sites along the North Slope are estimated to erode. Impact of erosion at Nunaluk, 2015.

2000

Between 850 and 2660 *hectares of land along the* entire North Slope coast are predicted to erode by the year 2100;

*Currently, the shoreline* can erode up to 9 meters annually along the Ivvavik Coast;

In contrast to most areas along the Ivvavik Coast, gravel features such as Nunaluk spit are experiencing high rates of sediment accumulation, changing the shape and size of the spit.

2017





(Ptarmigan Bay)

2015









## **Ivvavik National Park**

Ivvavik National Park is located in the North Yukon, within the Inuvialuit Settlement Region, it borders Alaska to the west and the Beaufort Sea to the north. Its landscape is made up of the British Mountain range, river valleys and gorges, and coastal plains. The park is co-managed by Parks Canada and the Inuvialuit by way of the Wildlife Management Advisory Council (WMAC) of the North Slope. Parks Canada works closely with the community of Aklavik, specifically the Aklavik Community Corporation and the Aklavik Hunters and Trapper's Committee, to plan and carry out work in the park.

#### **Erosion in Ivvavik**

Climate change is affecting Arctic coastlines at an increasing severity. Ivvavik's 134 kilometres of coastline is no exception. Most of this coast is being constantly altered by erosion. Although coastal erosion is a natural process, climate change is causing it to be faster and more severe. Permafrost thawing, deepening of the active layer, sea level rise and an increasing number of severe storms and intensified wave action are all contributing factors to increase erosion.



Shoreline change along the Yukon coast. Source: Irrgang et al., 2018, Journal of Geophysical research: Earth Surface

We value your feedback. If you have questions or comments to share, please contact:

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#### How do we respond?

- Record traditional and local knowledge about the coast;
- Monitor changes over time through photographs, maps, and measurements;
- Work with scientists to predict future coastline changes to help with decision making on the management of sites;
- Consult with communities to decide on what to do at sites of imminent risk of erosion. In the past, certain sites have been excavated in order to gather as much information as possible before they were eroded.