

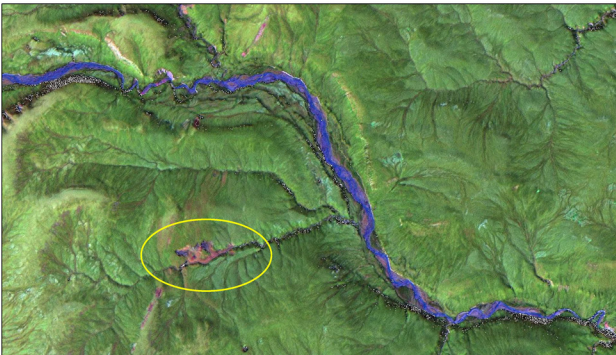
Cultural Vulnerability Site Mapping

The Prince of Wales Northern Heritage Center has collaborated with researchers from the University of Victoria and the Gwich'in Social and Cultural Institute to create a vulnerability index tool for climate change induced threats to archaeological sites within the Gwich'in Settlement Area (GSA).

CONTEXT

Climate change is increasing permafrost thaw in the NWT, and causing cultural, structural and economic damage to the North. The thaw of ice-rich permafrost can result in landscape changes, such as thaw slumps, which can expose preserved archaeological remains and alter traditional land use. In order to assess the vulnerability of these sites, the GNWT is collaborating with the University of Victoria and the Gwich'in Social and Cultural Institute to create a vulnerability index tool. This tool will map and predict areas susceptible to alterations in landscape due to the changing climate of the Northwest Territories.

Education, Culture and Employment



OBJECTIVE

This project is developing a vulnerability index tool for climate change induced threats to cultural resources in the Gwich'in Settlement Area (GSA). The project is building a GIS-based predictive model that uses spatial data on active thaw slumps, archaeological sites, Gwich'in traditional land use sites, and other landscape variables. The current year of the project has been dedicated to developing a

data inventory and preparing the necessary datasets for upcoming spatial analyses.

APPROACH

This project has undertaken several steps towards its completion this year. Importantly an inventory of growing thaw slumps has been created, which examined over 5,000, 225km² grid cells, to identify, record and characterize thaw slumps in the area.

Secondly, compilations of Gwich'in traditional land use data and known archaeological sites were utilized to develop a map of current and traditional land use. This map was overlain with water features, geological features and other environmental information.

RESULTS

The first stage of this project has resulted in the creation of a powerful traditional and current land use map in the GSA. This map (see figure on left) provides a reasonable approximation of areas of traditional importance for the Gwich'in, and will help to identify where sites of archeological importance may be found.

This map, when coupled with the thaw slump inventory, will identify potential and significant heritage use areas that are at risk of being destroyed by climate change related permafrost degradation. This resource will allow the project partners to prioritize areas that need to be investigated and documented before they are compromised by thawing permafrost.

Significance

Understanding how traditional lands have been used and how they are currently being used, as well as threatened, helps to save information about the NWT, before this information is lost due to climate change impacts.

Partners

- Prince of Wales Northern Heritage Centre
- University of Victoria
- NWT Geoscience Office
- Environment and Natural Resources
- Aboriginal Affairs and Northern Development Canada
- The Gwich'in Social and Cultural Institute

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