

Ecosystem Models

Using bioclimate ecosystem models to interpret the effects of climate change on Yukon

CONTEXT

“Bioclimate” is the link between living organisms and the climate. Yukon communities rely upon surrounding ecosystems for drinking water, shelter and firewood. Understanding how Yukon ecosystems will be effected by a changing climate is important, especially for residents who rely on traditional food sources. As part of a larger cross-Canada study, Yukon researchers are studying “bioclimate envelopes”, the climate variables that influence ecosystem change within a particular landscape. Knowledge of how

Photo Credit: Government of Yukon



ecosystems respond to a changing climate can help us understand and prepare for future changes.

OBJECTIVE

To develop a field guide and map of Yukon’s bioclimate ecosystem zones and to produce detailed climate models that project current and future climate change impacts on ecosystems.

APPROACH

Building on existing bioclimatic ecosystem classification work in Yukon, researchers will describe climate patterns for each zone using climate models and climate station data. The models will use ecosystem classification data to predict future ecosystem changes due to climate change. Information about ecological communities (species sharing the same geographical area) will also be collected from field research and from local experts.

EXPECTED RESULTS

The anticipated outcomes of this project are to:

- Improve understanding of Yukon forest ecosystem resiliency (ability to withstand change);
- Use ecosystem resilience knowledge to understand how the use of land and resources may change;
- Inform land planners and managers in their planning of forest resources and habitat stressors;
- Create a specific Yukon bioclimatic ecosystem classification system that facilitates sharing of ecology and climate change knowledge between Yukon communities and the scientific community;
- Share information with the Canadian Forest Service to support bioclimate ecosystem models across Canada.

Significance

Knowing how Yukon forest ecosystems may be affected now and in the future will help Yukoners make better forest management decisions and effective adaptation strategies.

Partners

- Canadian Forest Service, Natural Resources Canada
- Department of Environment, Government of Yukon
- Aboriginal Affairs and Northern Development Canada

FOR MORE INFO

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