

Arctic Field Ecology  
BIO 332H (Biology Field Research)  
24 July – 7 August 2025

Instructor: Prof. Peter M. Kotanen  
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# Professor Kotanen

<https://w3.utm.utoronto.ca/~w3pkota/>



- I study invasions, plant-herbivore interactions
- I've worked in Churchill periodically since 1984
- Also western Hudson Bay (Kivalliq Region), Akimiski Island, Bylot Island, Southampton Island (53°N – 73°N)





# Location

- Churchill Northern Studies Centre (CNSC)  
<https://churchillscience.ca/>



# Town of Churchill

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- CNSC is 25 km east of Churchill, Manitoba
- Around 900 residents
- Local town and airport
- Hudson Bay Company post starting in 1717
- Grain port
- Does have grocery store, hardware store, liquor store, souvenir shop, restaurants, hospital



# Getting There

- No road access
- Can fly to Winnipeg on several carriers
- Fly from Winnipeg to Churchill on Calm Air International  
(not on Travelocity etc.; go to <http://www.calmair.com/>)
- Flights most days
- Some flights might go through Rankin Inlet, Nunavut
- Or take a passenger train from Winnipeg (multi-day trip)



# Environment

- At the edge of the tundra
- Permafrost is present
- Good tundra, treeline, and boreal forest areas are accessible from the CNSC
- Coastal habitats (Hudson Bay and the Churchill Estuary)
- Lots of wetlands, many lakes



# Plants

- Black spruce, white spruce, tamarack forest
- Heath and lichen dominated tundra
- Peatlands, sedge fens



# Wildlife

- Diverse bird community
- Breeding area for arctic and subarctic birds like Snow Geese, Ptarmigan, Parasitic Jaeger, shorebirds, songbirds
- Arctic mammals including Beluga Whales, Caribou, Arctic Fox, Polar Bears (especially in August)





# History and Culture

- For hundreds of years, contact point between Cree, Dene, Inuit, Métis, and Europeans
- Local museums document native peoples, Inuit art
- 18<sup>th</sup> century Hudson Bay Company's Prince of Wales Fort



# Course Content

- Not much spare time!
- Local trips (usually in the morning, afternoon)
- Lectures (usually in the evening)
- Mini-project
- Evaluation: quizzes, presentations, project report (due after the course)



# Conditions

- Usually nice in July/August
- Daily mean temperatures ~12C
- But can be close to 0C – or 30C
- Expect some rain
- Also coastal fog
- Mosquitos, blackflies, deerflies can be abundant



A few words about safety...



# Other Opportunities

- We'll spend at least a day in Churchill
- Can pay for local tours (visiting the fort, kayaking in the river, whale tours, etc.)



# Costs

- Course costs are \$1551 (room and board at the CNSC) plus the regular half course fee
- You also will be responsible for airfare (last year about \$550 to Winnipeg and \$1770 to Churchill) and/or train fare
- There will be bursaries from the Experiential Learning office for eligible U of T students (see <http://uoft.me/ELbursaries>)
- Up to \$500 for all students who are able to demonstrate financial need on the University of Toronto Undergraduate Grant application
- They will consider higher awards in cases of significant financial need

## A few travel tips...

- Can often get relatively cheap flights to Winnipeg
- Expensive part of the trip is Winnipeg-Churchill (~\$1700)
- Can use Air Canada frequent flier miles and Air Miles on  
Calm Air
- There are student fares if you're under 24
- When you book flights, make sure your ticket is as flexible  
as possible
- Also make sure there is LOTS of time (at least 3-4 hours) in  
Winnipeg for a connection, especially on the way back
- Can save about \$1000 by taking the train (Via) between  
Winnipeg and Churchill
- But it's a major time commitment (44 hr over 3 days)
- Can get an overnight berth, but costs a lot more!

Prerequisites: 6.0 credits and current registration in a Biology, Ecology, Environment/Geography or Earth Science program and permission of the instructor.

Recommended Preparation: STA215H5 or equivalent 200-level STA course

(or similar courses for non-U of Toronto students)

Admission is *not* directly through Acorn.

Instead, to apply, must submit CV, unofficial transcript, and a short paragraph explaining why you want to take the course to a web portal we have established



# Applications are now open!

(deadline 30 April for U of Toronto students, 17 April for non-U of Toronto students)

The application links are at the bottom of this webpage:

<https://www.utm.utoronto.ca/biology/bio332h-biology-field-research>

Note: there are two links, one for U of Toronto students (including UTM, UTStG, and UTSc), and one for students from other universities

If you're accepted, there will be a few additional waivers etc., and you'll be billed for the field station costs

# Contacts

Contact Prof. Kotanen for further details on this course:

Department of Biology

University of Toronto Mississauga

Tel: 905-828-5365

e-mail: peter.kotanen@utoronto.ca

<http://www.utm.utoronto.ca/~w3pkota/>

For registration questions, contact Stephanie doRego  
(stephanie.dorego@utoronto.ca)

See you there!





Rocket launch building



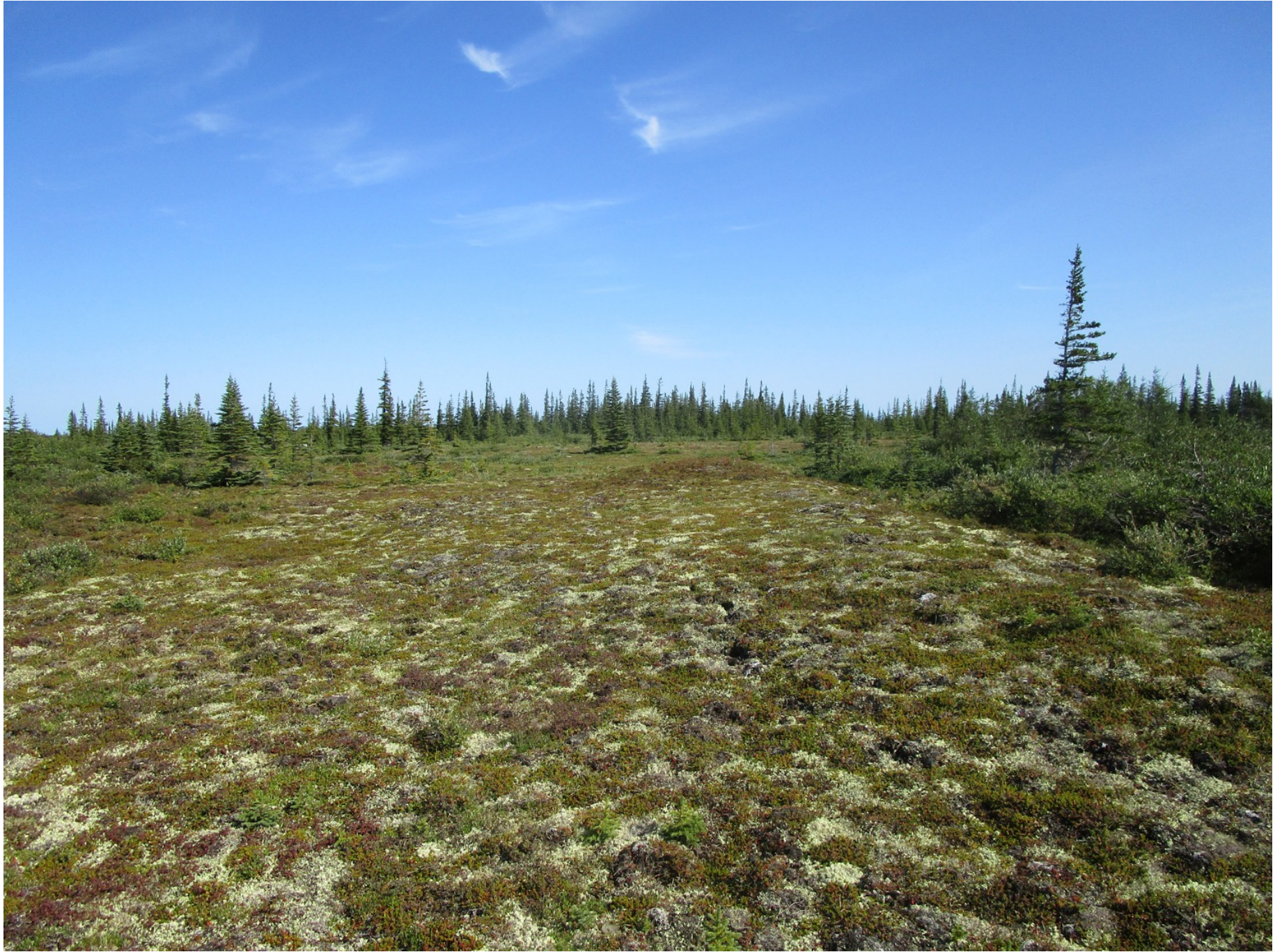
Northern Lights



Coastal Tundra



Taiga



Palsas





Cottongrass



*Hedysarum mackenzii*



Bald Eagle



Snow Geese



Arctic Fox



Red Fox



Pacific Loon



Willow Ptarmigan





Beluga Whales



Hudsonian Godwit



Polar Bear