

GEOG 333 / GEOG 498

Physical Geography Field School

Mountain Glaciers, Landforms, and Environmental Change

UNBC UNIVERSITY OF
NORTHERN BRITISH COLUMBIA

Niut Lakes, Tatlayoko Lake area (Google Earth)

Hadih/Hello

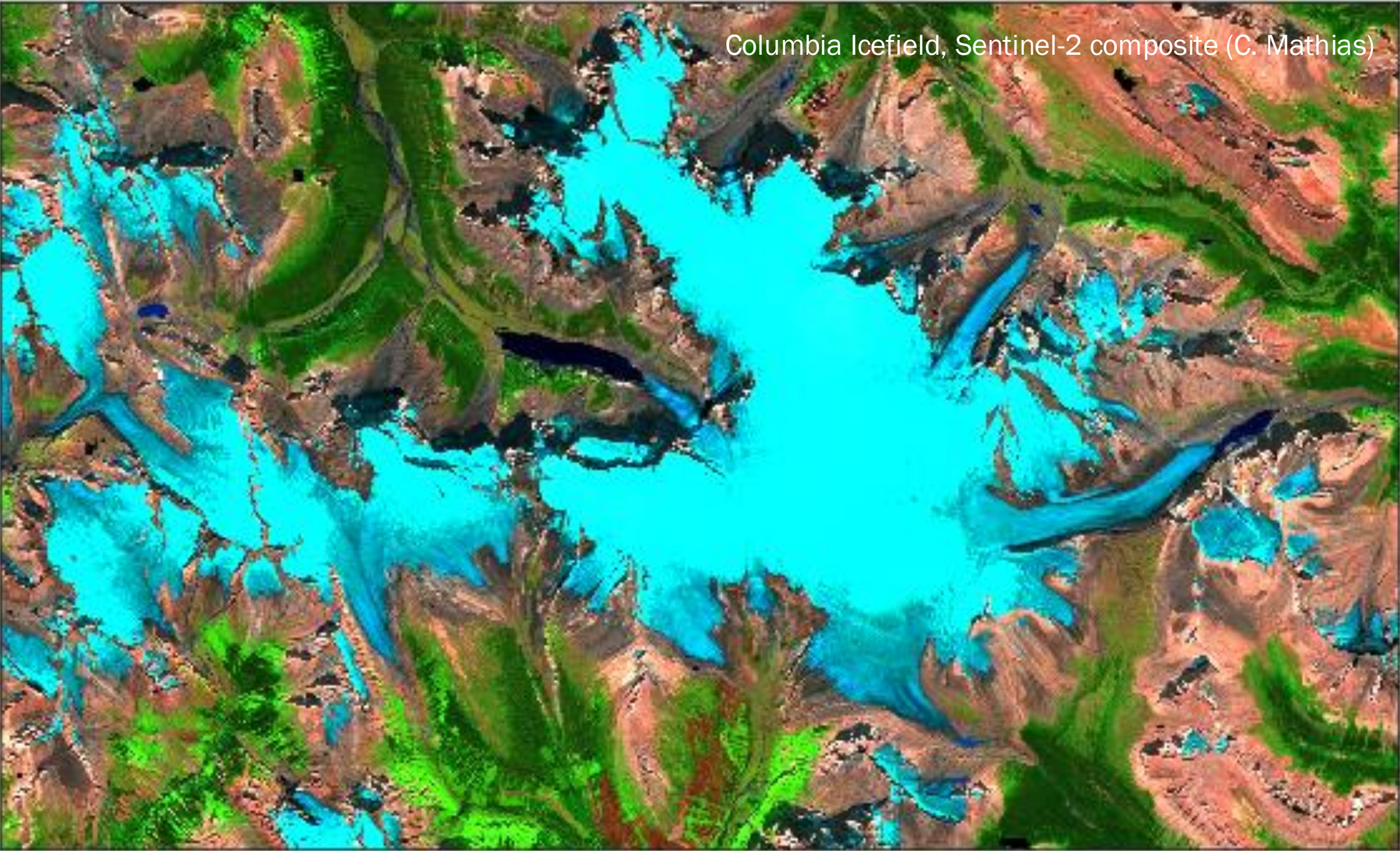
- This week: traditional and unceded territory of the Lhedli T'enneh

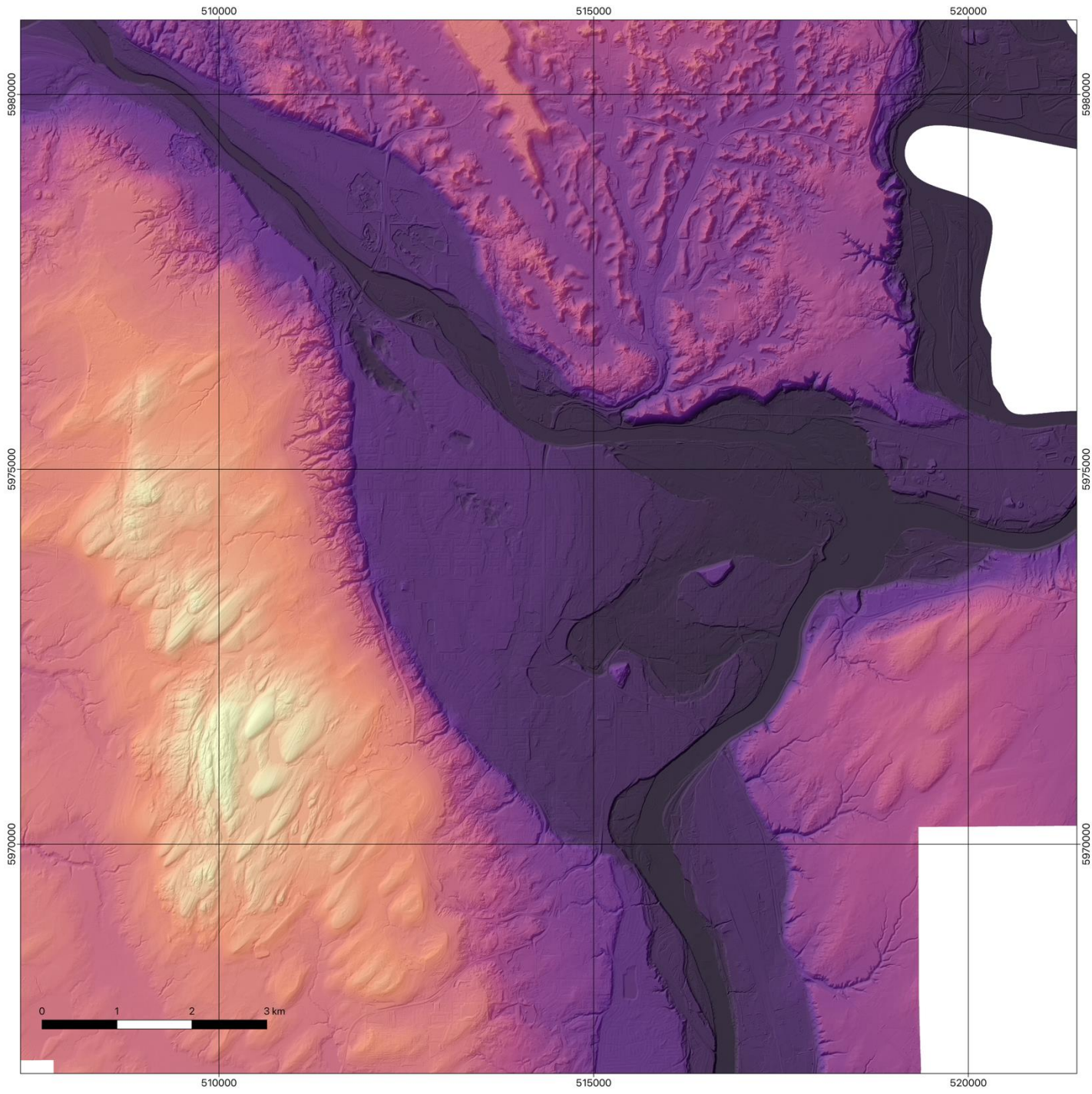


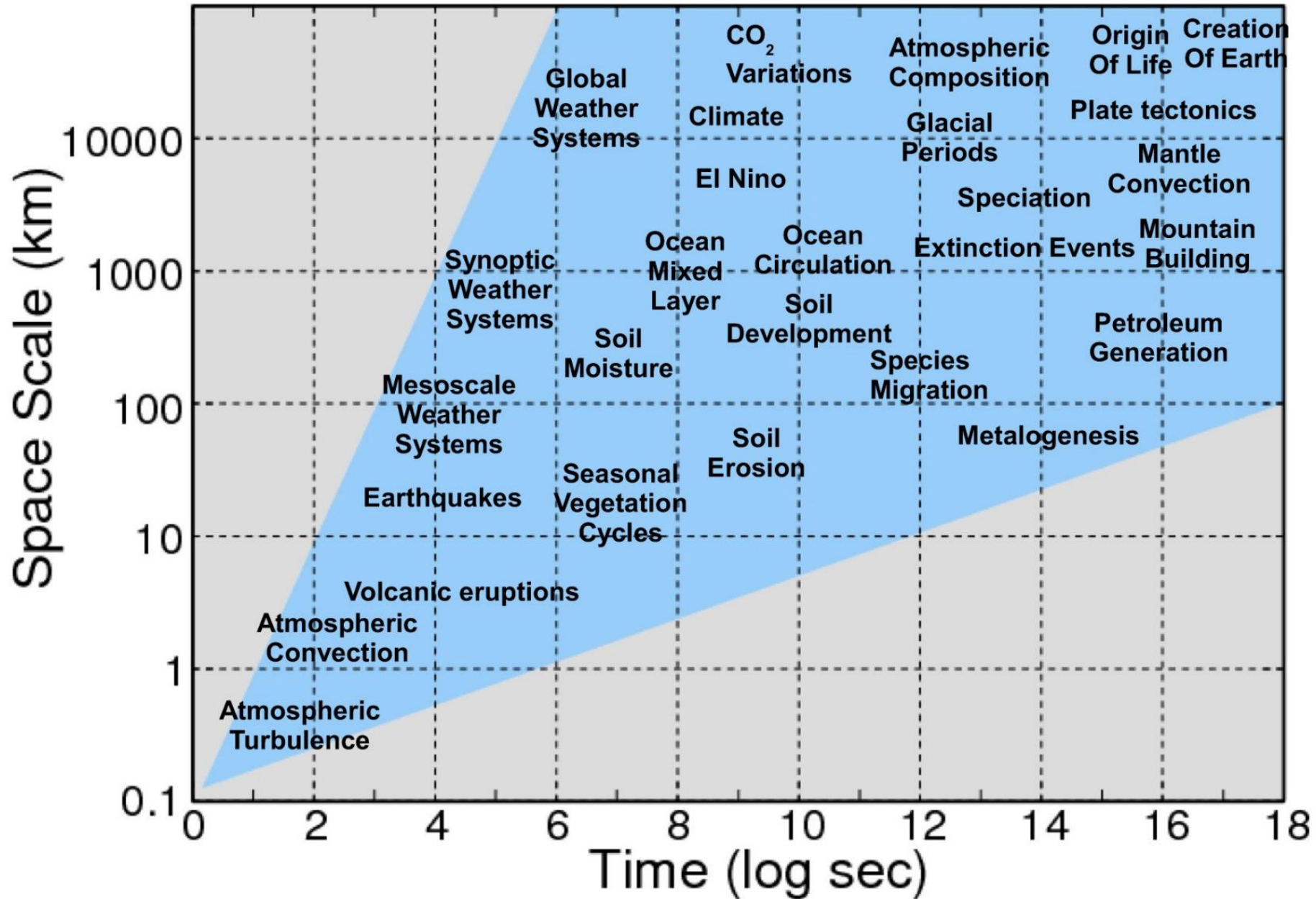
<https://native-land.ca/>

Every landscape tells a story.

Columbia Icefield, Sentinel-2 composite (C. Mathias)





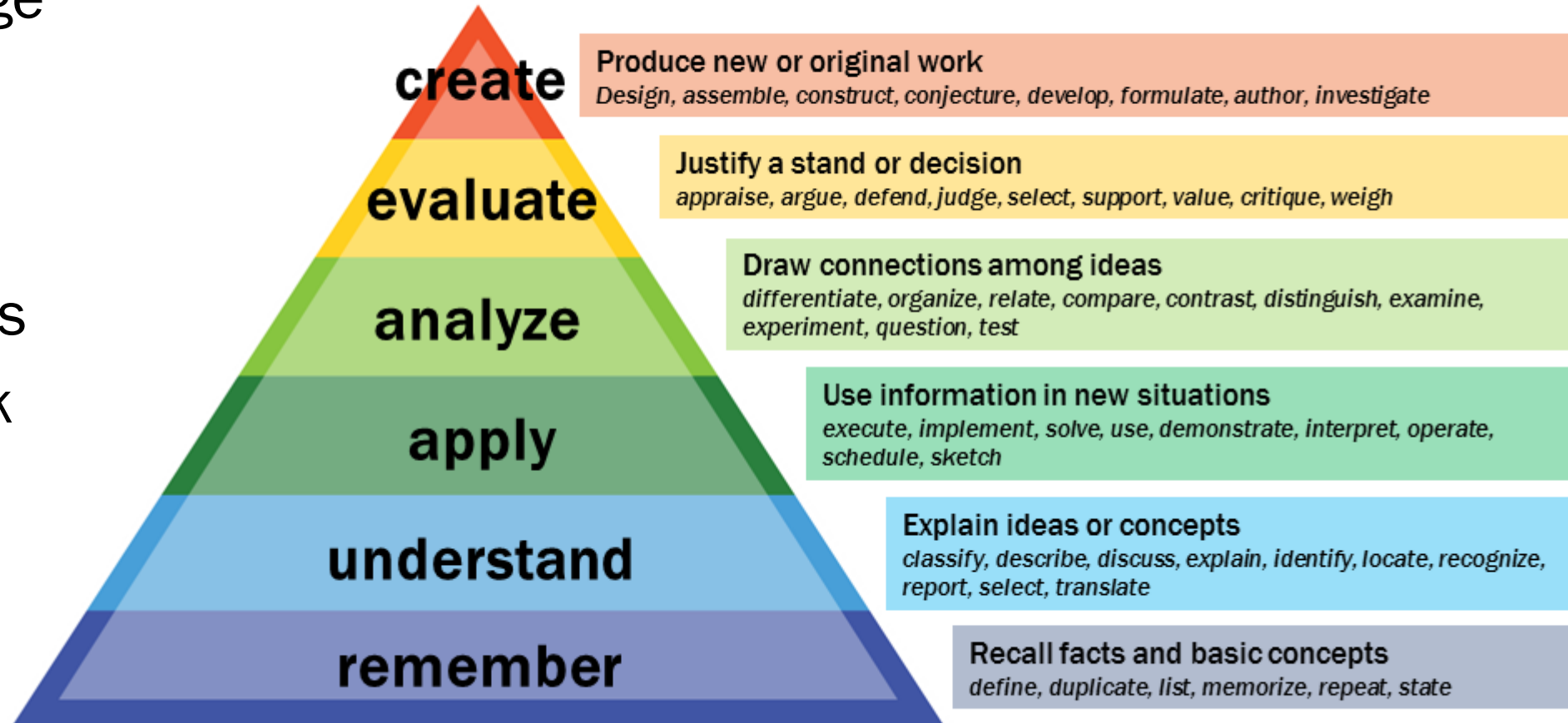


NASA: Earth System Science – a Closer View, 1988

Course Objectives

- Observe and understand landforms and environmental change
- Learn new field skills
- Apply knowledge
 - Field
 - Assignments
- Analyse data
- Evaluate results
- Build teamwork
- CURIOSITY

Bloom's Taxonomy



Course Website

- <https://jmshea.opened.ca/2026-fieldschool>
- Schedule/itinerary
- Lectures
- Readings
- Assignments

Two courses: GEOG 333-3 and GEOG 498-3

Introductions/Ice Breakers

- Introduction Interviews
 - Pair up
 - Get a short biography of your partner
 - Describe your partner to the group
- Your Objectives
 - Groups of three
 - What do you want to get out of the class?
 - What do you think you will get out of the class?
- Course Syllabi

GEOG 333/NRES 763 Syllabus

GEOG 333-3 / NRES 763-3: Geography Field School

Instructors: Dr. Joseph Shea, Dr. Adam Hawkins

joseph.shea@unbc.ca | adam.hawkins@unbc.ca

Teaching Assistant: Chelsea Cook

Lectures:

- 27 April - 01 May, 2026
- Location: UNBC Prince George campus (Room TBD)

Field:

- 3 - 15 May 2026
- Location: British Columbia and Alberta

GEOG 333/NRES 763 Syllabus

Grading

Grading for this course consists of the following components:

Category	Description	Weight
Participation	daily preparation, listening and asking questions, camp duties, etc.	50%
Field Notebook	daily entries, sketches, data recording, field notes (will be submitted on the final day of the field school). These will be marked for completeness, quality, and neatness.	50%

Specific Course Objectives

Students completing GEOG 333 will:

- develop skills in note taking and recording their observations in field settings
- apply the scientific method to design and complete research projects
- develop tools and understanding of RPAS research survey techniques
- apply code-based solutions to analyse climatological, hydrological, and remote sensing datasets
- develop understanding of the geology and geomorphology of western Canada
- understand the role of mountain snowpacks and glaciers in BC as water resources
- Contribute to expedition management through logistical planning and participating in camp tasks
- build leadership and teamwork skills

GEOG 333/NRES 763 Syllabus

- Field notes:
 - Neat, legible, helpful
 - Date, time, observer(s)
 - Latitude, longitude, elevation
 - Notes
 - Sketches
 - Data tables
 - Commentary



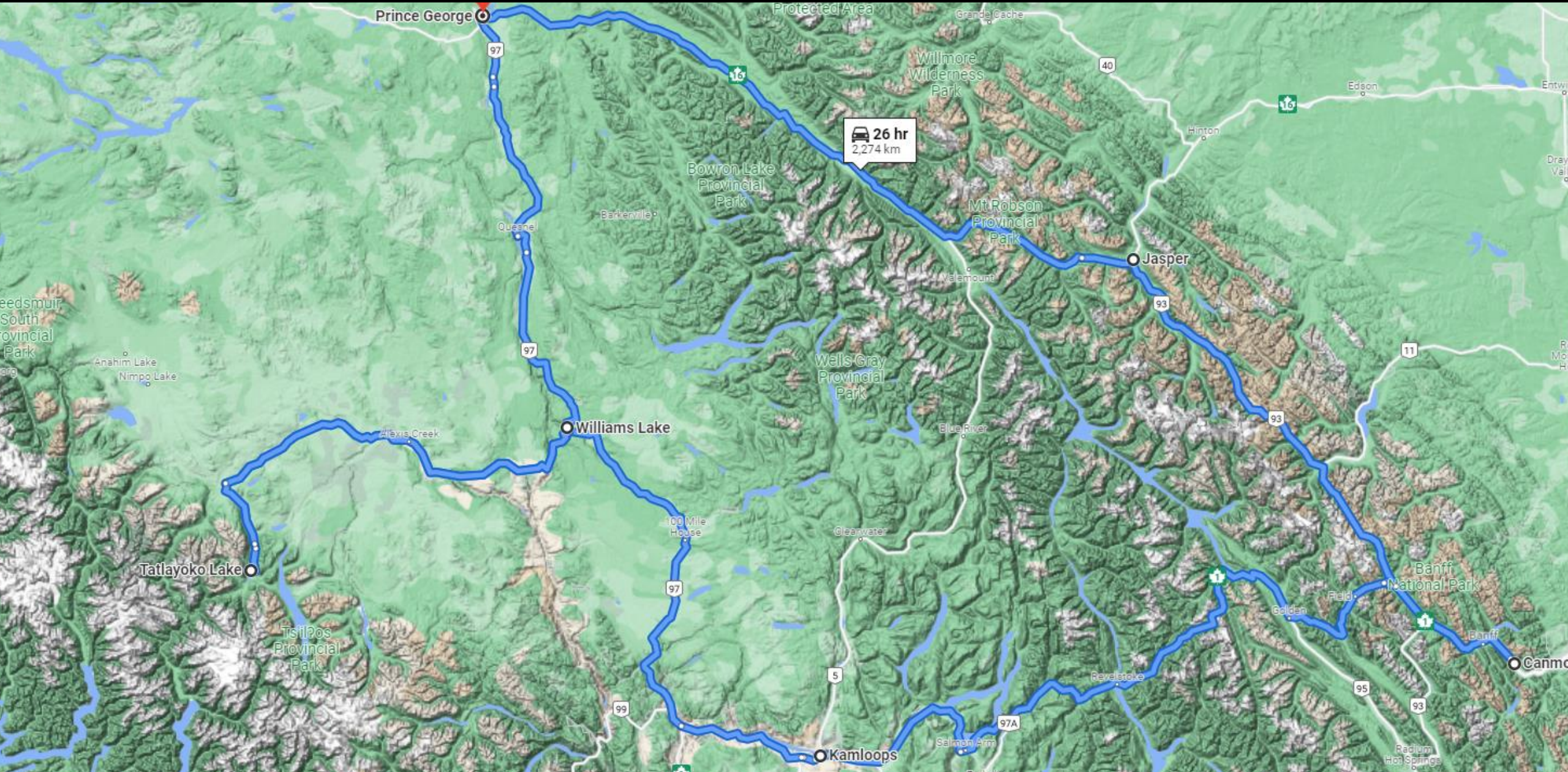
GEOG 498/NRES 798 Syllabus

Assignments (tentative) - 10% each. Must be submitted by June 10, 2026.

1. Snow surveys
2. Geomorphic interpretations: Columbia Icefield
3. Tsilhqot'in Landscapes
4. Homathko River and Climate data analysis
5. Remote sensing: RPAS Survey of Tatlayoko wetlands
6. Field data: meteorology and soil/water temperatures in Tatlayoko area
7. Remote sensing: snow covered area in Tatlayoko area

Final Project - 20%. Must be submitted by June 10, 2026.

Itinerary



Itinerary

Date	Itinerary	Stops/Activities
May 3	PG --> Valemount	Ancient Forest; Crescent Spur outcrop; McBride/Mt. Robson (geohazards, heat dome impacts); Owen Torgerson
May 4	Valemount --> Jasper	Swift Creek landslide, north end of Kinbasket
May 5	Jasper --> Rampart Creek	Maligne Canyon, Athabasca Falls; Icefields Centre/Parker Ridge (snow survey)
May 6	Rampart Creek --> Canmore	Bow Lake; Bow Summit (snow survey); Lake Louise; Minnewanka Reservoir; Felix (Town of Canmore)
May 7	Canmore --> Golden	Cougar Creek Debris Floods @ 9am with ; Radium Hot Springs; Rocky Mountain Trench history; Charlie Bourque?
May 8	Golden --> Kamloops	Illecillewaet; Roger's Pass; Revelstoke Dam/BC Forest Museum
May 9	Kamloops --> Williams Lake -> Chilcotin	Crystal Huscroft meeting at TRU; Savonna; Chasm; Siobhan Klassen
May 10	Chilcotin --> Tatlayoko Lake	Nagwentled/Farwell Canyon (with Shane and Tsilhqot'in FN); Siobhan Klassen; Tatla Lake; Homathko station/gauging site
May 11	Tatlayoko	Weather station setup; stream temperature measurement install, water system tour with Rod!
May 12	Tatlayoko	RPAS wetland survey; geomorph mapping
May 13	Tatlayoko	Anahim Peak with Tsilhqot'in
May 14	Tatlayoko	Alpine hike/rest/work day
May 15	Tatlayoko --> Prince George	Return to PG

Farwell Canyon, BC (<https://meganexploresbc.wordpress.com/>)



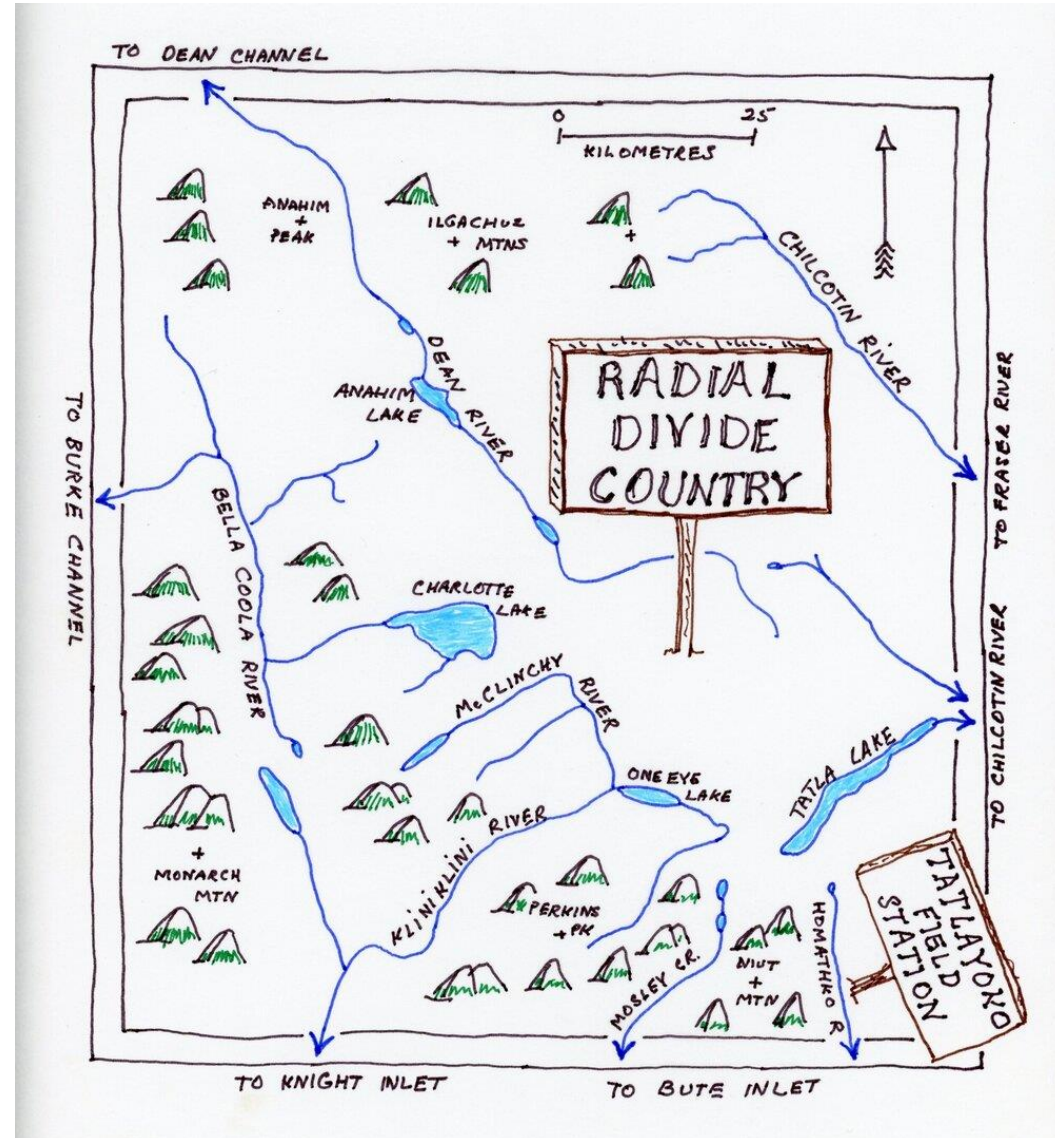
Hay Meadow, Kananaskis Country, AB



Explore: Tatlayoko Field Station

- <https://www.tatlayokofieldstation.org/>
- Partner up, browse the website, and find something interesting (10 minutes)
- Share your findings with the others

<https://www.tatlayokofieldstation.org>



Road Trip Logistics

- Two vehicle convoy (with radios)
- Camping with some hostels (Rampart)
- Meal planning and execution
 - Give us a shopping list and we'll get the groceries
 - Propane stoves + jet-boil (hot water)
 - Pots/pans/cutting boards/utensils
 - Breakfast: two cooks, two clean-up
 - Lunch: two cooks, two clean-up
 - Dinner: three cooks, two clean-up staff each evening
- Showers: on occasion
- Laundry: on occasion or by hand

Field Camp Daily Schedule

- Use <https://native-land.ca> to identify each day's territory/language/treaty
- 06:30: breakfast, pack lunches, break camp
- 08:00 or 09:00 departure
- Stops, walks/hikes, meetings, photos/video
- Data collection (some days)
- Arrive at camp by 5:00
- Setup camp, start dinner
- CHECKIN (6pm → please remind me)

QUESTIONS (so far)



Maligne Canyon, Jasper NP, AB

Block Week Schedule

	2026-04-27	2024-04-28	2026-04-29	2026-04-30	2026-05-01
08:30	Wintergarden			First Aid course	
09:00	Landscapes through time (Canfor)	10 Calls (Joe)	Mountain Weather and Climate (Joe)	(@ overhang climbing gym)	Stream Temperatures (Javed) and Introduction to Python
10:30	Break/Coffee	Break	Break		
11:00	Field school introduction (Joe)	Geology/geomorphology (Adam)	Meal planning (Team)		Introduction to Python (con't)
12:00	Lunch	Lunch	FFTW lunch (with Victor)		Lunch
13:00	Landscapes through time (1:30 start)	Safety, field skills (Adam)	Gear lists, grocery lists (Team)		Packing up, final details...
14:30	Break/Coffee	Break	Break		
15:00	Avenza Maps (Joe/Chelsea)	Glaciers (Chelsea)	Weather station / sensors (Joe)		Van pickup
19:00	John Clague public lecture (Canfor/Online)				