Juneau Icefield Research Program
Student Informational Webinar
Nov. 20, 2018
Introduction

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What is JIRP?

› Students: Undergraduate, postbaccalaureate, and graduate
› Staff: Student alumni, manage safety and logistics
› Faculty: PhD students, college + university faculty, and professionals
› Expedition-based
› Wilderness travel + ski-mountaineering
› Earth and climate science:

  • Glaciology
  • Geophysics
  • Geochemistry

  • Geomatics
  • Ecology
  • Science communication
Immersion in the glacial environment
Exploring the Juneau Icefield
Introduction to glacier science
Juneau Icefield Traverse

› Six-week ski traverse
› Covers 75 mile/120 km from Juneau, AK to Atlin, BC
› No pre-requisite wilderness experience
› Training in backcountry travel, skiing, and mountaineering
› Ski mountaineering skills are a tool for science research
Juneau Icefield Traverse Route

- Juneau, Alaska
- Camp 17
- Camp 10
- Camp 18
- Camp 26
- Atlin, BC
- Juneau, Alaska

Key Points:
1. Primary Research: C10 and C18
2. Field Camp Research: FC1 and FC2
3. Some Research: C17 and C26
The traverse starts on foot...
... and continues over ice and snow...
... covering a variety of terrain.
At our first camp, we spend two weeks going through glacier safety skills from the very beginning.
Icefield Life

› Permanent field camps (sleeping inside)
› Weather is chilly and often rainy
› Communal meals + chores
› Full days
› Close student-faculty mentorship
Living and working in permanent camps
Faculty, gear, groceries and mail come in weekly.
Warm, dry buildings let us re-group in questionable weather
Communal meals and atmosphere
Every minute of the summer is spent surrounded by the Icefield.
Expedition Dynamics

› Close living and working conditions
› Mutually respectful and supportive work environment
› Code of Conduct
› Positive team dynamic is the foundation for a successful expedition.
Every day is a learning opportunity when you live with your professors.
A collaborative and respectful team dynamic is critical for safely accessing remote corners of the Icefield.
By gradually developing safety skills, trust, and knowledge of the glacial environment, the JIRP Expedition allows students to explore the Icefield as safely as possible.
No academic pre-requisites
Introductory and intermediate glacier science
Every student’s summer looks different
High faculty:student ratio allows you to customize your education
Every day on the glacier is a lesson.
Student Research

› Six project groups
› Central focus of your academic experience
› Rotating advising team, close mentorship
› Design research question, collect data, and analyze preliminary results
› Plan a short “mini-expedition” to a remote field camp to conduct research
› Presentations in Atlin, Juneau, and at AGU
Mass Balance: How much mass has the glacier gained and lost in the last year?
Ecology: How does the geography of the Icefield affect the organisms that live on the mountains?
Geophysics: What is the vertical structure of the snow and ice?
Isotope Geochemistry: What can the isotopic signature of the snowpack tell us about the weather of the last year?
Biogeochemistry: How does deglaciation affect the chemistry of the supraglacial meltwater?
Geomatics: How fast are the glaciers flowing? How is the surface elevation changing?
Science Communication

› Over-arching theme of all academics
› Every step of the academic research is paralleled by science communication
› We focus on both specific skills and global scientific outreach to communicate science to the general public
› Practice methods through different learning experiences and workshops
› Science communication curriculum ranges from documentary photography to science illustration, presentation skills, journalism and social media, and experimental art
Science illustration faculty teach students the skills to observe and document their surroundings.
Artist in residence to represent the research expedition from a different perspective.
Students prepare findings for public presentation.
Outside “research-track” faculty
Involve small groups of students
Collaborative
Remote field camps allow for extended access and focused field time.
Research faculty involve students in funded data collection efforts.
Small groups can better explore different parts of the Icefield.
Application

› Opening in the next couple days! (will be open for six weeks)
› Academic and professional goals
› Outdoor and athletic background
› Why JIRP?
› Why you?
› Three letters of recommendation
› Transcripts
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Questions?