

GEOS/MSL 695, Module 9. Iñupiaq Sea Ice Knowledge

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Aims

This module will introduce you to collaborative research with indigenous peoples of the Arctic. We will accompany an Iñupiaq whaler on the sea ice to examine the features that are significant to whaling crews and to learn about their use of the sea ice environment. We will also have an evening discussion with Barrow whalers and elders about sea ice, its use, and recent changes.

Reading

- Huntington (in prep.) Community-based observation programs and indigenous and local sea-ice knowledge. In: *Sea Ice Field Techniques Handbook*. University of Alaska Press. To be published in 2009
- Gearheard, S., W. Matumeak, I. Angutikjuaq, J. Maslanik, H.P. Huntington, J. Leavitt, D. Matumeak Kagak, G. Tigullaraq, and R.G. Barry. 2006. "It's not that simple": a collaborative comparison of sea ice environments, their uses, observed changes, and adaptations in Barrow, Alaska, USA, and Clyde River, Nunavut, Canada. *Ambio* 35(4):203-211.
- George, J.C., H.P. Huntington, K. Brewster, H. Eicken, D.W. Norton, and R. Glenn. 2004. Observations on shorefast ice failures in Arctic Alaska and the responses of the Inupiat hunting community. *Arctic* 57(4): 363-374.

All three papers can be downloaded at <ftp://gi.alaska.edu/pub/eicken/G695/Module9>

Equipment

Notebook, pen/pencil, camera (optional), listening skills.

Introduction

Iñupiaq knowledge of sea ice has developed through countless generations of using the sea ice environment for travel and hunting. Iñupiat are concerned primarily with safety (e.g., avoiding ice break-offs that carry hunters out to sea, or avoiding major ridging events that can bury equipment or even people). They are also concerned with access and habitat of the species they hunt. Building trails and whaling camps and hunting whales and seals require extensive knowledge of the local sea ice environment. We will explore how this knowledge compares with scientific studies and instrumental measurements and how both approaches to knowledge can inform one another.

Field Methods

We will spend time on the ice with one or more Iñupiaq whalers, examining sea ice characteristics of relevance to whaling crews and other local users of sea ice. We will also have

an evening discussion session with local whalers and elders, reviewing what we learned on the ice and addressing other topics. The details of both the trip on the ice and the evening discussion will depend on conditions at the time and other factors. The draft chapter of the sea ice handbook describes various methods that can be used in community-based research. Students should be prepared to engage actively in discussion and field observations.

Data Analysis

We will not gather quantitative data in this module. Instead, students should be prepared to consider how Iñupiaq use of sea ice does or does not relate to scientific methods and measurements. What can the Iñupiat contribute to scientific understanding? What can scientific research contribute to the Iñupiat?

Assignment

Students will write a brief essay (~500 words) reflecting on what they have learned from the trip on the sea ice and from the evening discussion. A more specific topic may be given at the time of the module, depending on what we are able to see and hear. Potential essay topics include:

- A review of which ice characteristics are crucial for Iñupiaq whalers and why
- An assessment of the ways in which changing sea ice may affect whalers
- A discussion of the ways in which Iñupiaq and scientific knowledge do or do not connect with each other
- A reflection on how Iñupiaq knowledge could benefit the student's research interests