Polar Connections
Dartmouth and the Earth’s Cold Regions
In Ledyard’s Footsteps: Dartmouth in the North Today

“We’re meant to be the beacon, so that the rest of the world can understand what it’s doing to itself.”
~ Sheila Watt-Cloutier, Canadian Inuit leader, speaking about climate change and its impact on Native people of the Arctic.

Building on a long tradition in northern studies and drawing on the sciences, engineering, social sciences and the humanities, Dartmouth faculty and students are addressing such diverse issues as indigenous language loss and the physics of the northern lights. The programming of the Dickey Center Institute of Arctic Studies is designed to support such research and related teaching. The Institute administers the Stefanson Fellowship program, which has given students access to research and learning opportunities in remote locations in Alaska, the Canadian Arctic, Iceland, Greenland, and Russia. The snapshot accounts of faculty and student research below exemplify the creativity and dedication of Dartmouth’s community of scholars who are working to increase global understanding about the Arctic environment and its people.

Rockets, Balloons and the Aurora

Professor James H. Lubble, Kristina Lynch, and Robert Millar, members of Dartmouth’s Space Physics Group, study the earth’s radiation belts high above the poles and the atmospheric events we see as the aurora borealis. Scientists have learned much about our planet’s magnetic field and the radiation belts in recent years. Our understanding of the aurora has expanded due to satellite observations, rocket and balloon experiments, and fieldwork in the Arctic. The aurora is one of the most beautiful displays of natural beauty on our planet. Raindrops from the aurora fall to the earth along with snowflakes, forming unique patterns on the ground. The aurora is a spectacular display of light that can be seen from the northern hemisphere, providing a stunning natural phenomena that draws tourists to the Arctic.

Languages of the North: A Losing Proposition?

Glaciation and ecological change are among the many factors shaping changes half of the world’s languages in danger of becoming extinct. Today, we are facing a crisis of language loss and linguistic diversity. The United Nations has called for a “Year of Language Diversity” to raise awareness about the importance of maintaining linguistic diversity and promoting multilingualism as a tool for development.

Professor of anthropology, Anthony Sanfilippo, will explore the impact of climate change on language and culture in the Arctic. He will discuss the cultural significance of languages and the role they play in maintaining identity and community. His research focuses on the relationship between language and environment as well as the effects of global climate change on the survival of native languages.

Indigenous understandings of climate change - “Don’t worry, adapt!”

Climate change is a global phenomenon, but specific actions can be taken to mitigate its effects. In the Arctic, indigenous communities observe their environment with a deep understanding of local ecosystems. They use traditional practices such as hunting, fishing, gathering, and herding, to adapt to changing conditions. For example, the Inuit of the Arctic have developed a unique system of knowledge and survival skills that allow them to thrive in this harsh environment. They have developed strategies to adapt to changes in sea ice, wildlife populations, and weather patterns.

For more on Professor Sanfilippo’s research in Quebec and Labrador, see http://www.uqac.ca/ressources_en/recherche_saguenay-laurentides_en.html

Students Go North

Dartmouth undergraduates have the opportunity to participate in a variety of educational and research programs in the Arctic. These programs allow students to gain hands-on experience in areas such as environmental science, traditional knowledge, and cultural studies. Students can work with indigenous communities, conduct research on climate change, and learn about the unique ecosystems and wildlife of the Arctic.

Note: All photos are courtesy of Dartmouth College. The cover photo is by Joel Pollak, and the cover illustration is by John W. H. Mitchell. The text is from a Dartmouth Arctic Research Program (DARP) newsletter.