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Alumni Profile

Beth Rogers Thompson

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Exploring the nature of snow, ice

Now here's a seriously cool job.

Whether it is helping to take measurements of a glacier, finding technical data for a scientist or assisting a teacher with a classroom project, Molly McAllister '00 knows snow and ice.

McAllister serves as a link between the public and senior scientists and programmers at the National Snow and Ice Data Center in Boulder, Colo. NSIDC is part of the University of Colorado's Cooperative Institute for Research in Environmental Sciences. It supports research into the cryosphere, the world's snow, ice, glaciers, frozen ground and related climate interactions.

She is part of a six-person team that functions as a kind of library reference desk. She may retrieve highly technical data for a scientist, then respond to a fact-checker from *National Geographic*, and later answer an email from a teacher. She finds data, answers technical questions about data manipulation, recommends data sets for research and responds to questions about the cryosphere. She also works closely with the National Aeronautic and Space Administration's Earth Observing System Data and Information Services.

"Educators contact us for data to use in their classrooms," she says. "We also get college students, grad students, retired scientists and just people who are interested. People send us photos of strange ice formations in their back yards and want to know how that occurred. And then there's the man who swears that penguins in the Antarctic talk to him. He calls at least once a year."

Clients are international. In 2009 McAllister worked with Iraqi scientists developing a ground station to monitor their environment. She explained NASA's satellites, helping the scientists figure out how to process, interpret and apply relevant data.

"We're a data archive, mostly for satellite data,"

McAllister says. "One of the interesting things about the cryosphere, mainly the Arctic, is that because of its extreme climate, small changes have a big impact. You will see change sooner in this region than in regions with a more temperate climate."

Small changes can have a big impact on ecosystems, wildlife and people. Changes in sea ice, for example, hinder the ability to hunt. Native people accustomed to being in tune with Arctic nature now find it difficult to predict weather and migration patterns, she said.

McAllister usually works in a warm office, but she has assisted scientists taking thickness measurements to determine shrinkage of the Arapaho Glacier just west of Boulder. As a graduate student, she spent six weeks camping on the Greenland ice sheet in 2003, maintaining automated weather stations.

"Now I have a little different feeling about cold," she says. "It was minus 30."

McAllister grew up in Twin Falls, Idaho, and earned a B.S. in general science at Linfield, then an M.S. in geography at the University of Colorado, specializing in atmospheric dynamics, climatology and remote sensing.

"In hindsight I'm so glad I had the small-school experience before coming to this huge research institution," she says. "The liberal arts part helps me as an interpreter – I know a little bit about everything and can relate to someone who may not have a scientific background. I came out of Linfield with a really well-rounded education."

You can learn more about the cryosphere at <http://nsidc.org>.

– Beth Rogers Thompson



Molly McAllister '00



Molly McAllister '00 steam drilling through the Greenland ice sheet. As a graduate student, McAllister spent six weeks in Greenland maintaining automated weather stations.