

HONING SKILLS AT GINA

For Roberta Glenn, the North Slope isn't just a space on a map: it's her home. So when the Inupiat native of Utqiagvik (nee Barrow) and then-UAF undergrad interned with the Geographic Information Network of Alaska (GINA) – first through the Arctic Slope Regional Corporation (ASRC) and then through Alaska EPSCoR – her interests gravitated north. And when she was tasked with populating a water supply index for the community of her choice, she turned her attention home.

Vulnerability Index (AWRVI), an online product that quantifies the vulnerability of a community's water supply. Filling out an index requires inputting up to 27 variables, including physical parameters like acreage, precipitation, and wastewater treatment, and social data such as education and income levels, subsistence use, and transportation to and from the community.

"It includes these social and physical factors," she said, "and I always like looking for the social side of things, the anthropology side of things, and I like that it pulls together two fields of science."

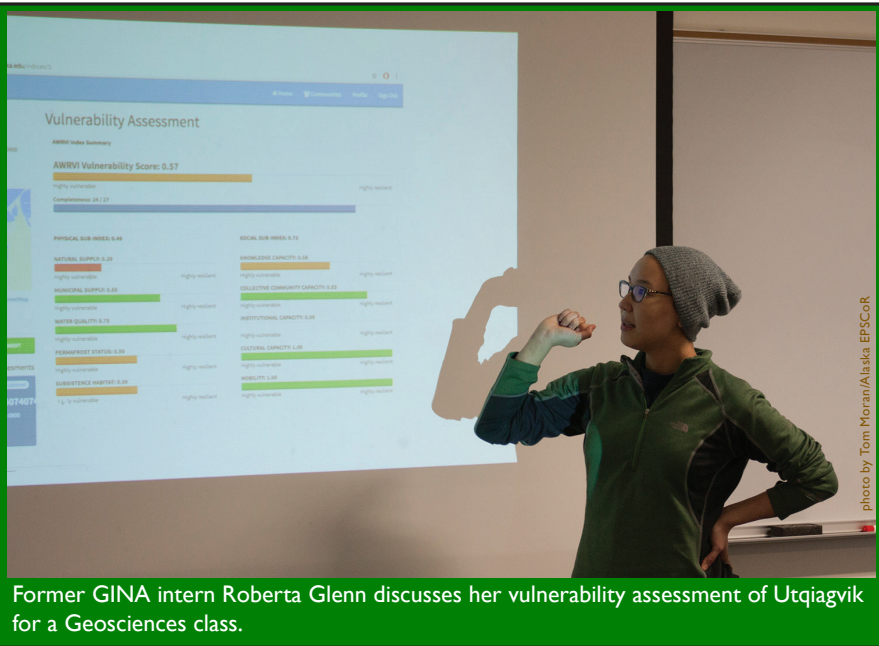
Glenn completed the index for Utqiagvik through prior knowledge, research, and contacting local officials. Though she graduated from UAF in spring 2017 with a degree in Geography and a minor in GIS, she's still continuing work on AWRVI for EPSCoR.

"One of the reasons I think they wanted me to work on AWRVI again this semester is not only because I had completed one by myself for Utqiagvik, but also, because I'm from a small Arctic community, I was able to speak to some of the low-scoring indicators and point out that maybe this low score isn't representative of what it's really like," she noted. "And, because of my

familiarity both with the index and with Arctic communities, I have something to bring to the table in trying to improve the usability of the index."

Her internship took Glenn far: in fall 2016 she traveled to Washington D.C. to personally present on Alaska NSF EPSCoR research to Alaska's entire Congressional delegation, as well as to Alaska Gov. Bill Walker. In addition to her current work with EPSCoR, she worked this summer with both ASRC and the state's Coastal Hazards Program, and has more work lined up with the latter.

Glenn said one of the most eye-opening elements of her work with GINA and EPSCoR was finding out the amount of research that takes place on the North Slope. She said one of her long-term goals is to pursue a Master's in Communication so she can learn how to communicate science at a local level, both on the North Slope and elsewhere.



Former GINA intern Roberta Glenn discusses her vulnerability assessment of Utqiagvik for a Geosciences class.

"I chose Utqiagvik," she said. "That was my idea because it was my hometown. Also I figured that was the community with the most data, and one where I could answer some questions because I know some of the indicators already"

Glenn is one of nine GINA undergraduate interns Alaska NSF EPSCoR has supported since summer 2016. Students are taught some basic coding skills at "boot camps," then set to work on a variety of projects related to EPSCoR's online data portals, the Decision Theater North (DTN) visualization space, instruction in Geographic Information Systems (GIS), and other facets of GINA work.

Glenn's first task was to use GIS to delineate historical changes to the shoreline of the North Slope. Then she shifted to helping analyze data for North Slope lakes near the village of Nuiqsut, trying to determine whether variations in lake sizes in imagery from different decades were a result of long-term change or just seasonal fluctuations.

Next came her work on the Arctic Water Resources

