International Arctic Research Center presents Scientist of the Month

Amy Jacobs

As a Research Professional at IARC, Amy Jacobs designs and supports the technical components of some of the organization’s most complex and innovative projects. A lifelong Alaskan and an expert in the integration of advanced databases and web development, Jacobs continues to advance IARC’s technological and place-based research capabilities.

IARC’s Publications team interviewed Amy Jacobs recently to discuss her research and personal interests.

What would people be interested to know about your work?

Between the observation and collection of raw data by scientists and its use by other researchers and the public, there is often a great deal of production and processing needed to make it manageable. At IARC, I have recently worked primarily with Jessica Cherry in the design and production of the innovative Imiq Hydroclimate Database, as well as the establishment of real-time networks and web-based interfaces for weather stations across the state of Alaska.

Regarding the Imiq database in particular, we are continuing to develop a resource that is unique in both its breadth and accessibility. With the use of 11,477 data streams and 72 physical variables (related to weather, permafrost, streams, water chemistry, and snow surveys, among others), Imiq (Inupiat for “freshwater”) strives to provide researchers with immediate access to a single- and multi-point data inventory, supplemented by widely collaborative sources of funding and technology.

What do you think is important for people to understand about your work?

I feel good about working with data, and making it usable and understandable for wider audiences, especially when I am able to collaborate with primary researchers who are passionate about their work and its potential. With Imiq, we’ve also experienced the added fulfillment of “rescuing” a wide array of historical Alaska data sources, many of which have never before been accessible to the extent we’re offering.

I also appreciate the chance to work between a variety of projects and challenges. Currently, I’m able to focus on the importance of meteorology, data visualization, inventory/summary, and web interfaces, all in service of progressive and place-based science. Especially regarding my work with visualization, I’m glad to work with Jessica on projects that feature the processing of new and quickly developing technologies, including UAV tracking, carbon data representation, water vapor isotope identification, and large-scale moisture cycling. The way this data is represented to the wider scientific community and the public can mean a great deal for its acceptance and viability moving forward.

How have your background and personal interests affected your scientific career?

Growing up in Sitka, which has a much different, usually rainier, climate than Fairbanks, I remember a school field trip to a weather station, where we learned about the importance of collecting and studying weather information. Since then, I developed a continuing interest in engineering, math, and data processing. The way these fields can feel stable, in terms of their fundamentals, as well as dynamic, in terms of the technologies they employ and push forward, continue to make them fulfilling and exciting to me. Together with my husband Phil, four kids, two dogs, a cat, a guinea pig, and school bunny responsibilities, it all makes for a fun and fulfilling life.