Since 2006, Dr. Jessica Cherry has conducted research at IARC relating to Arctic hydrology, climate, snow physics, permafrost, and the socio-economic impact of environmental change. In the past ten years, Cherry has received awards and support for her research from NASA, NSF, DOE, NOAA, BLM, USFWS, and private foundations.

What would people be interested to know about your current projects?

While I continue to focus my research on snow and water resources, particularly in Southeast Alaska, the Seward Peninsula, and the North Slope, I have also developed an extensive airborne research program. The two interests complement each other nicely, as airborne imagery and other measurements are a great way to add information to in situ (Latin for “in position,” or field) observations of climate and hydrology.

In January, I traveled to Nome to help with Unmanned Aeronautical Vehicle (UAV) observations of sea ice conditions there, contributing to the successful midwinter delivery of fuel by a Russian tanker and the USCG Healy. I have maintained weather stations in the Nome area for the past six years and consulted for the local watershed protection agencies. Helping to provide imagery of the sea ice during the fuel delivery was another great way to connect science and society. I also met with kids at a science magnet school in Nome and showed them the UAV. We talked about the benefits and possible negative implications of the increased use of airborne drones in our society.

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

Downward looking aerial photography can be used to create high resolution maps of hydrology and vegetation, down to the individual tree or tussock. Photo: J. Cherry.

Unfortunately, scientists are under tremendous pressure to find funding and to navigate the peer-review publication process. These pressures make it difficult to stay creative and push the frontiers of research, pursuits I think are essential to happiness as a scientist. The other important habit to maintain is critical thinking. I continue to ask questions about some of the most basic assumptions in our field and even how we go about doing research.

How has your background contributed to your scientific career?

I grew up in Nebraska’s farm country and then spent a decade in New York City, pursuing my education at Columbia University. I started out in environmental economics, but in 1998 decided to pursue a science career after following the Kyoto Climate Change Protocol negotiations. I realized that good policy required good science, and I enjoyed the opportunity to do field work. I think my interest in the Arctic actually grew from my love for the literature and film coming from the far North. I like the concept of living and working on the northern ‘frontier’ and the way our environment shapes our cultures.

More recently, my scientific work has connected with my interest in flight; I became a commercial pilot so that I could see the world from a new vantage point and explore more of our great state. Since then, I’ve also designed and operated airborne systems to collect imagery, biogeochemistry, and other remote sensing data.

What advice can you offer for students in the sciences?

I think it’s very important for students, at both the undergraduate and graduate levels, to form clear ideas of what they want from their degree. My students have a variety of career goals, and I try to steer their research in a direction that will help train them for their next job and hone their critical-thinking skills.