#6 Real-time, GIS satellite data feeds to NWS Alaska Sea Ice Program

Tom Heinrichs, William Fisher, Dayne Broderson, Jay Cable, Scott Macfarlane, and Eric Stevens
University of Alaska Fairbanks Geographic Information Network of Alaska

and
Kathleen Cole and Rebecca Leggatt
Alaska NWS, Anchorage WFO, Sea Ice Program

The Anchorage WFO includes the Alaska Sea Ice Program, whose analysts chart and forecast sea ice three time per week year round. Their work impacts major shipping routes and the largest fisheries in the world. Through the High Latitude Proving Ground (HLPG), near-real-time satellite imagery is provided to the Sea Ice Program in formats that explicitly suit their operational needs. Unlike the general forecasters at the Anchorage WFO who use AWIPS as their primary decision support and forecasting tool, the Sea Ice Program works primarily in the desktop GIS package ArcGIS. Sea ice analysts consult model and satellite data using AWIPS, especially for forecasting, but their primary work is executed using desktop GIS. Environmental prediction has been greatly enhanced through close collaboration between the Sea Ice Program staff and University of Alaska Fairbanks Geographic Information Network of Alaska (UAF-GINA) HLPG staff. GINA created a web application specifically to serve the Sea Ice Program, called Puffin Feeder - feeder.gina.alaska.edu, that serves data in GIS-ready formats to sea ice analysts. Feedback and collaboration has been informal, but very close and effective. Sea Ice Program staff express needs and critique products through routine phone calls, email exchanges, and site visits. UAF-GINA HLPG staff have suggested various natural color, infrared, day-night band, and RGB satellite products and then refined them based upon analyst feedback. The advantages that this type of collaboration has include: a small number of staff involved on both sides which enables relationship building and a highly visible, impactful product to collaborate in creating. The primary disadvantage and risk is: a small number of staff involved puts corporate knowledge in a few hands making it at risk to personnel changes. The HLPG and Sea Ice Program work together provides an excellent model for collaborations on non-mainstream but locally vital applications with the NWS.

The High Latitude Proving Ground is supported by the GOES-R and JPSS program offices. Work is executed in a close partnership among NWS Alaska Region, NESDIS Fairbanks Command and Data Acquisition Station, and UAF-GINA.