

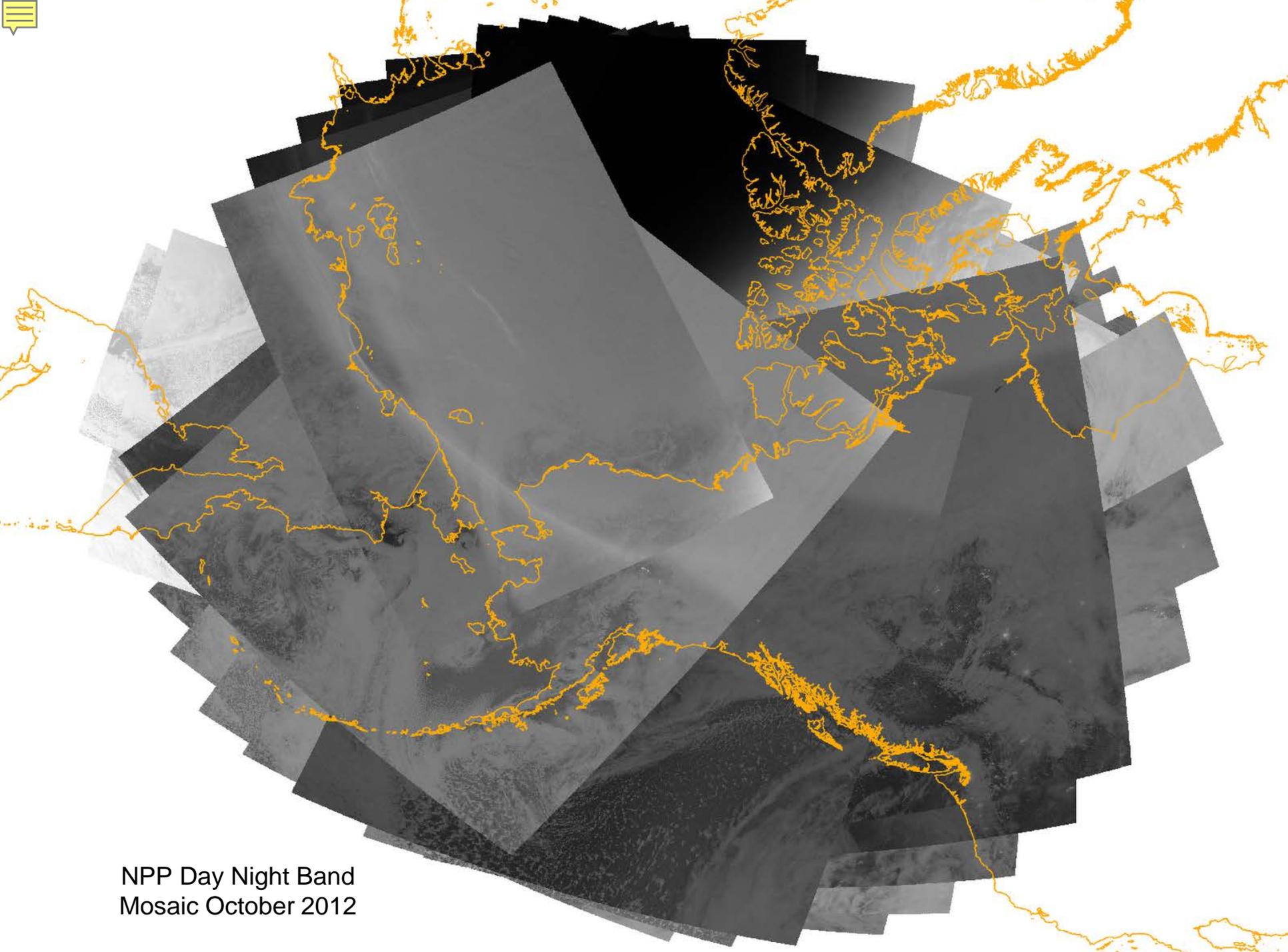


**Geographic Information
Network of Alaska**
www.gina.alaska.edu

High Latitude Satellite Proving Ground All-hands Meeting Update

November 13, 2012

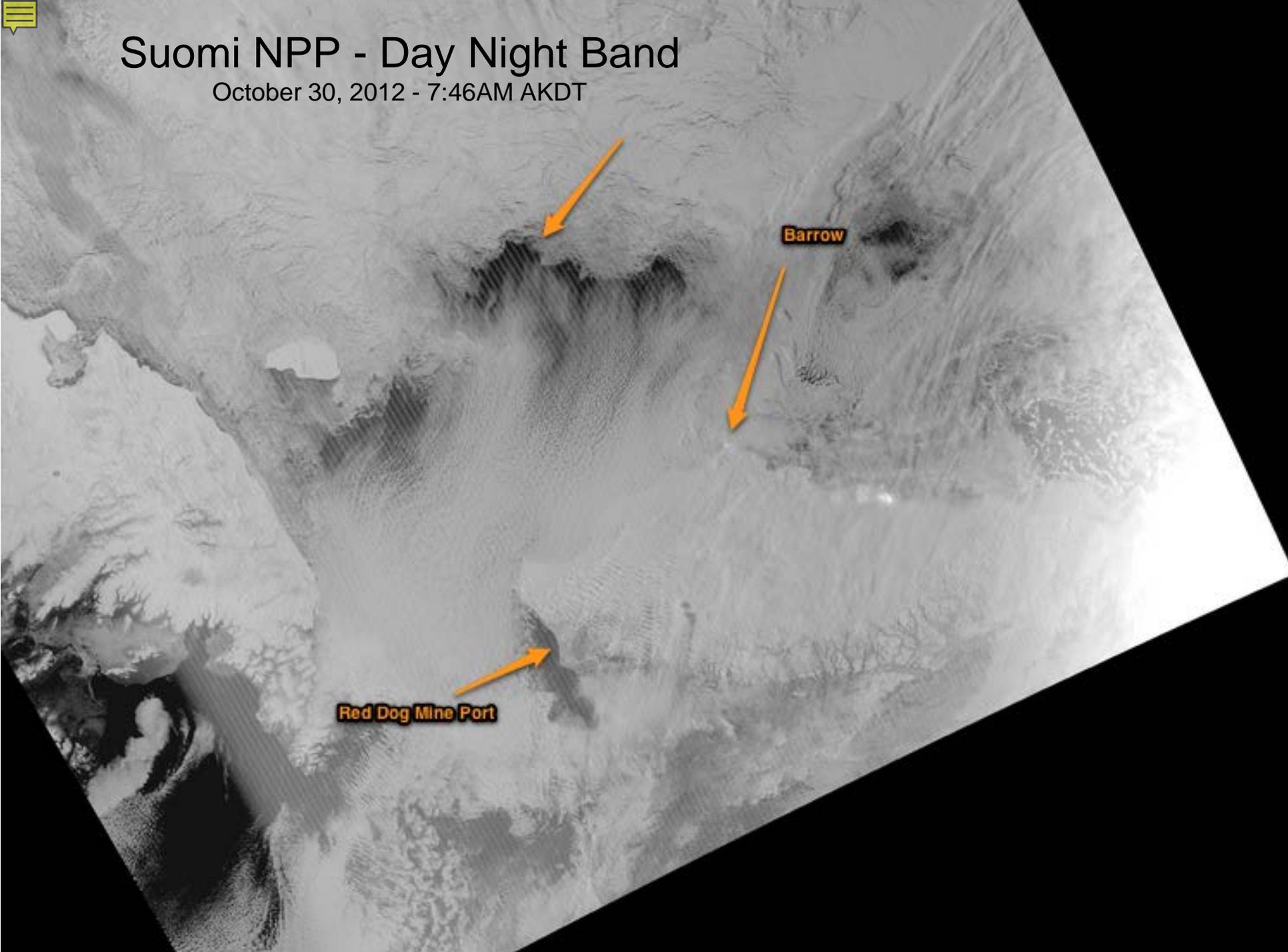
www.gina.alaska.edu tom.heinrichs@alaska.edu



NPP Day Night Band
Mosaic October 2012

Suomi NPP - Day Night Band

October 30, 2012 - 7:46AM AKDT



Barrow

Red Dog Mine Port



Barrow



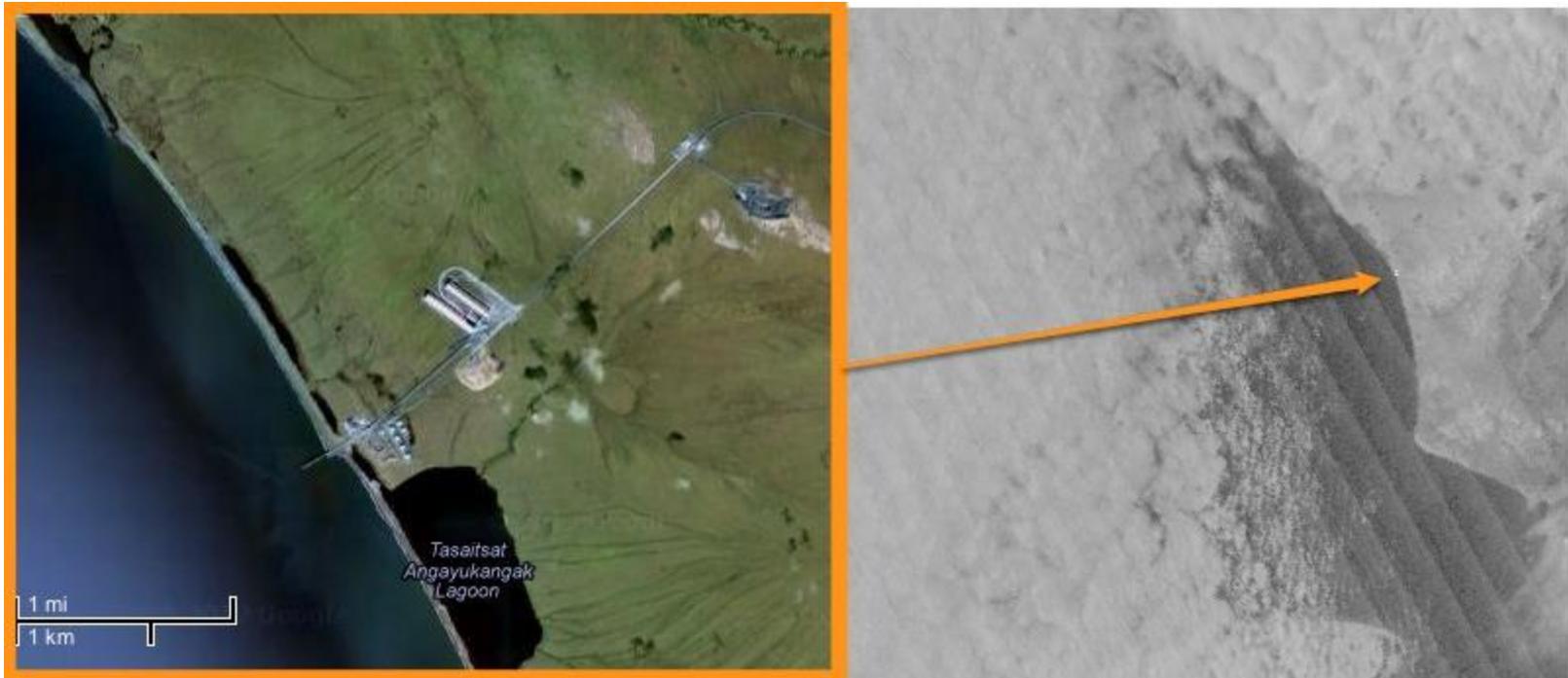
Prudhoe Bay



North slope seen through cloud cover



SNPP-DNB: Red Dog Mine port visible

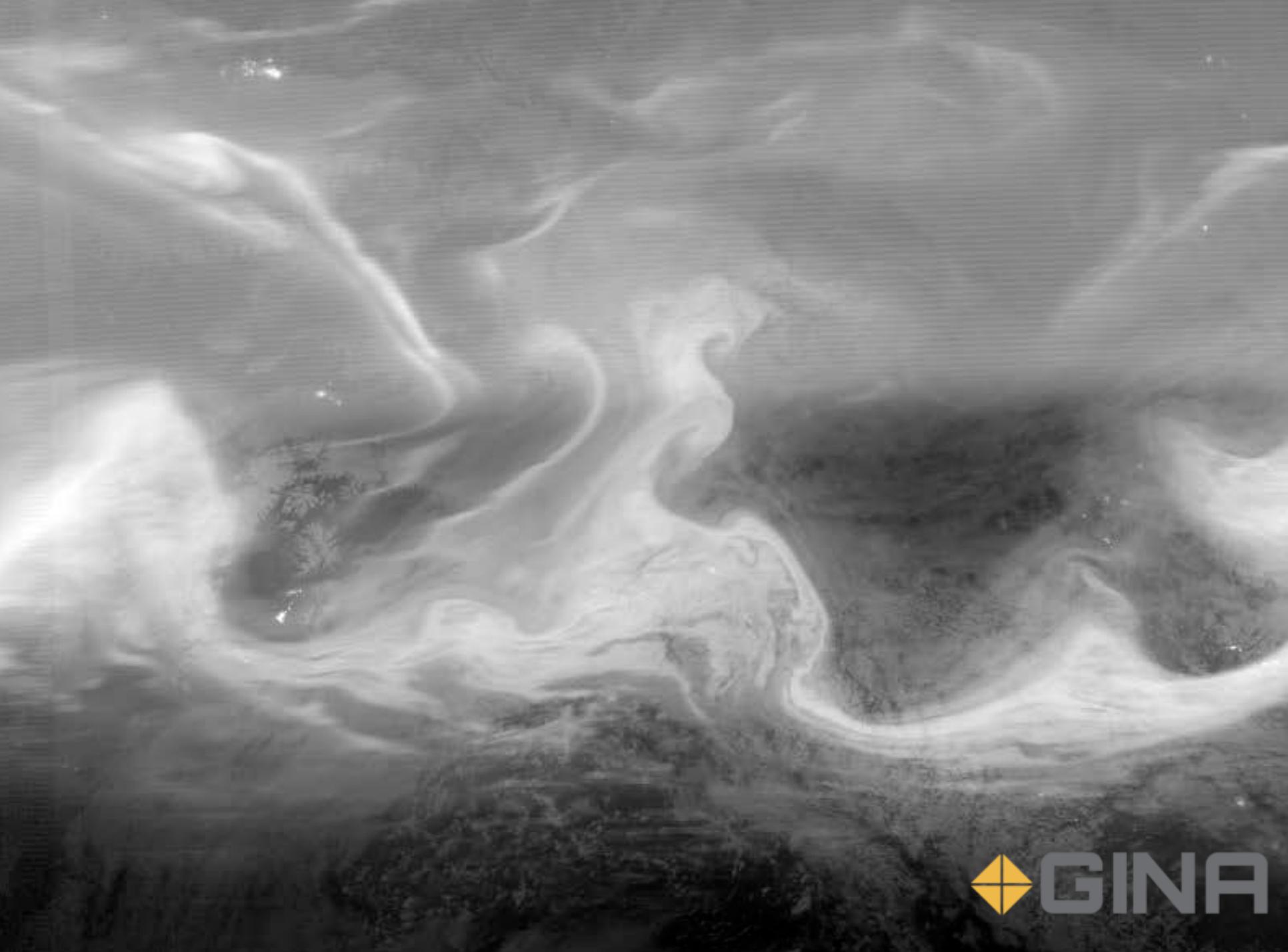


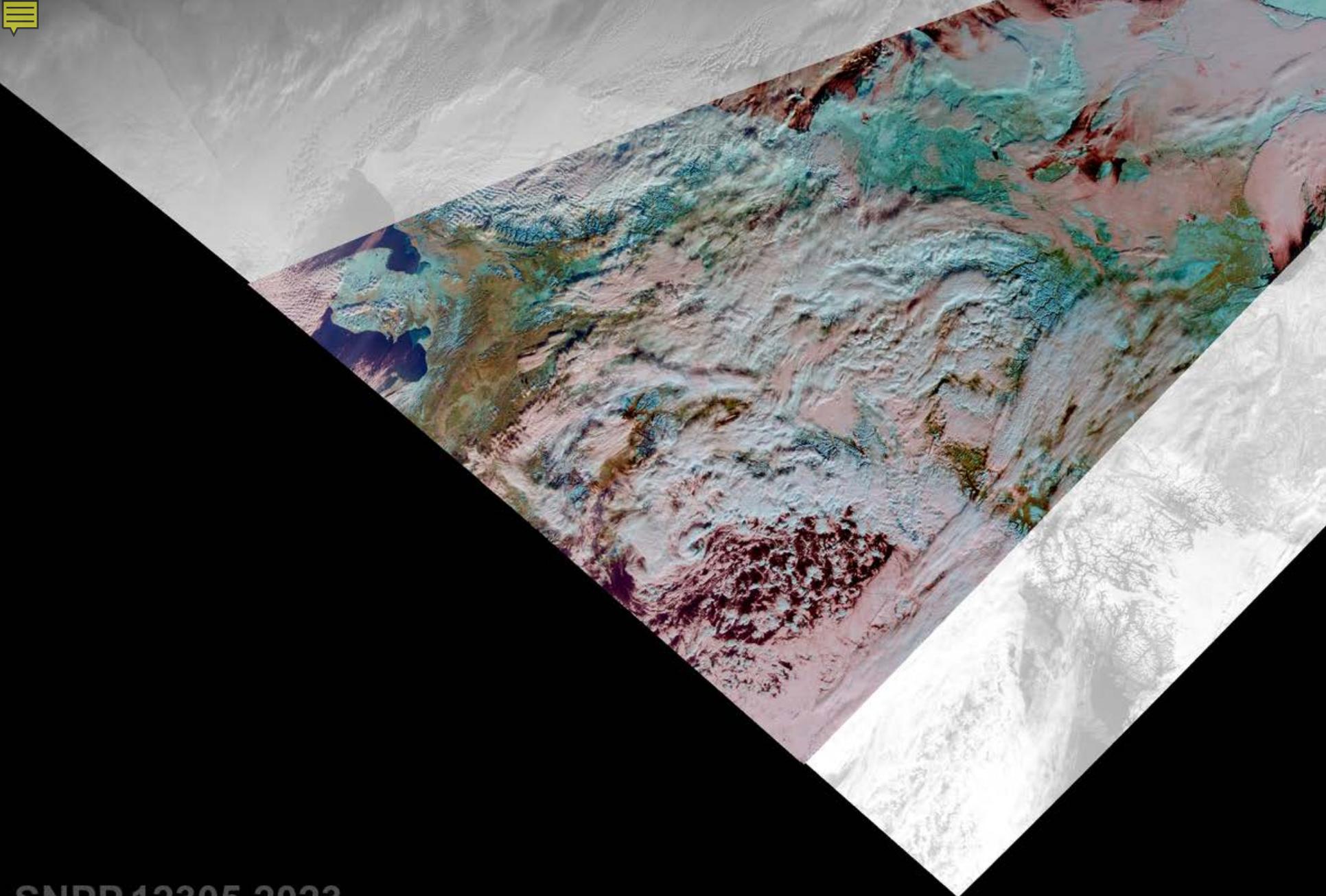
Arctic Ocean sea ice forming near the North Pole

Sea ice in the visible spectrum in the dark months

Suomi NPP DNB - October 30, 2012



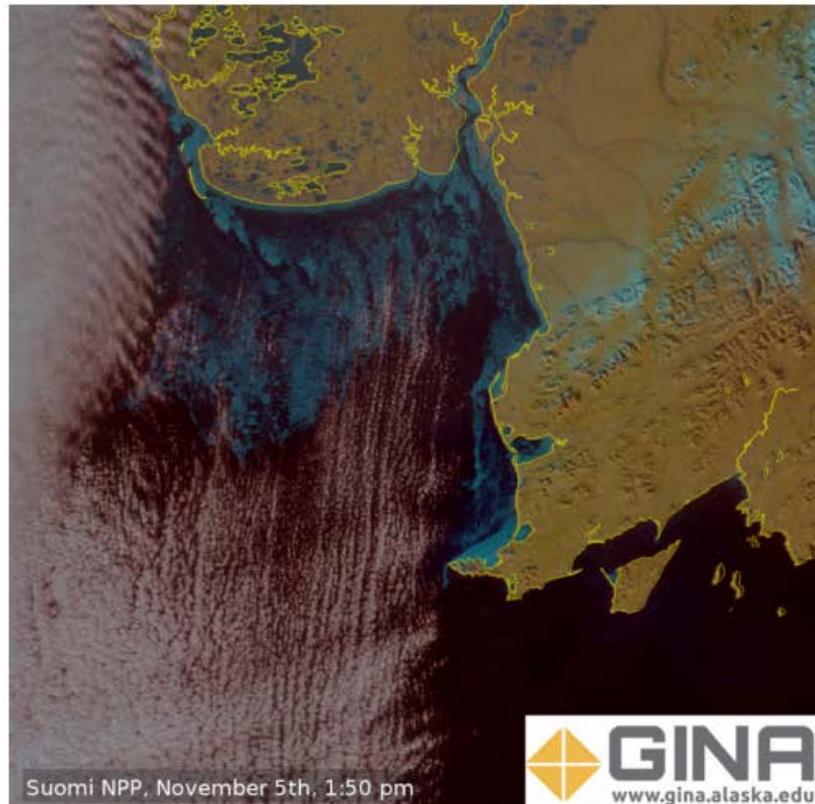




SNPP.12305.2023
Fusion Product - Landcover/DNB

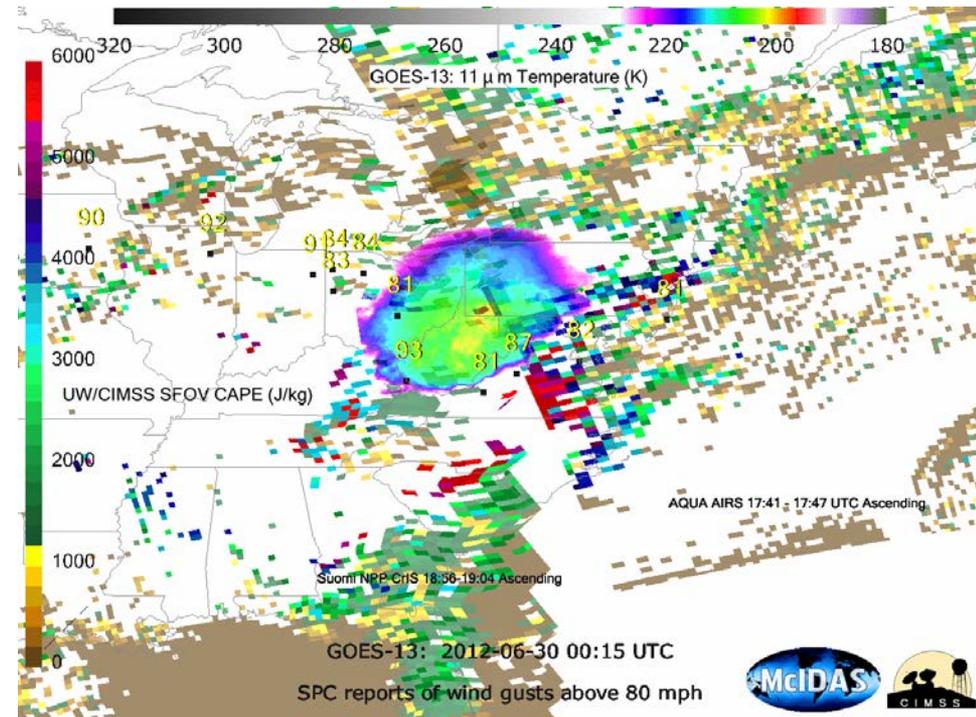


"Landcover" RGB
superior for
identifying sea ice



Sounder Data Assimilation

- AIRS, CrIS, and ATMS assimilation into regional WRF model (GINA-WRF)
- In partnership with NWS and WRF modelling community at UAF.



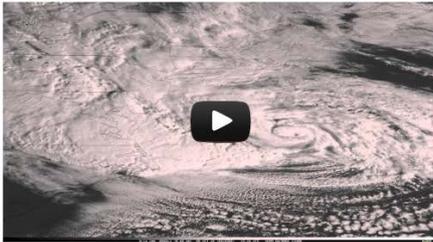
Suomi NPP CrIS and the Aqua AIRS instruments

<http://cimss.ssec.wisc.edu/goes/blog/archives/date/2012/06/29>

(image courtesy of Joleen Feltz)

More Blogging

<http://uafgina.tumblr.com/>



A long video loop of Hurricane Sandy captured by GOES-14; produced by our colleagues at NOAA and UW-SSEC CIMSS in Madison. In case you didn't know, they have an [awesome satellite blog](#) with all kinds of neat satellite products.

The loop is long and looks good if run at 2x speed in the YouTube settings.

The folks doing this work are GINA's collaborators in the High Latitude Satellite Proving Ground run out of the NOAA GOES-R and JPSS/NPP programs.

-Tom

Posted 1 week ago



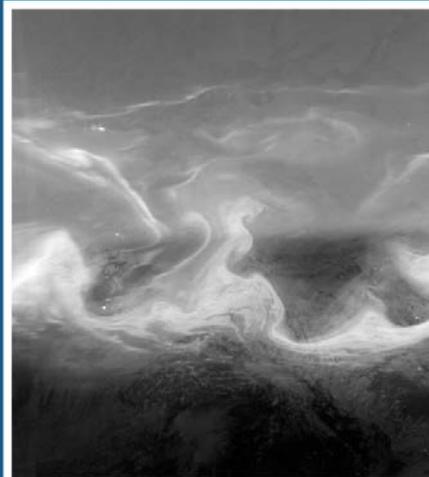
Blowing volcanic ash affects Kodiak aviation: GINA satellite data at work! You should follow the National Weather Service Alaska Region's [facebook page](#).

From the NWS Alaska Aviation Weather Unit:

A lack of snow combined with strong northerly winds and an unstable lower atmosphere combined to raise 100 year old Novarupta volcanic ash into the air. The ash lofted to about 4,000 feet and traveled across Kodiak Island south of the city of Kodiak and several miles to the east of Kodiak Island. SIGMETs and Volcanic Ash Advisories have been issued by the Alaska Aviation Weather and can be found at <http://aaaw.ah.noaa.gov/>.

-Tom

Geographic Information Network of Alaska



Aurora borealis satellite imagery captured in the Suomi NPP Day Night Band (DNB) north of Alaska on October 13, 2012 ([full size image](#)). This is a teaser for more DNB imagery and products to come as we perfect our processing of this very interesting new sensor. GINA is already processing DNB imagery in near-real-time and posting to our [Puffin Feeder DNB site](#). There are more and even better products in the pipeline for GINA DNB work with help from our colleagues at Colorado State's CIRA institute who are doing [bleeding edge DNB work](#).

Once again brought to you by the NOAA High Latitude Proving Ground here at UAF-GINA with thanks to the NOAA-NESDIS GOES-R and JPSS/NPP program offices.

-Tom

Posted 3 days ago



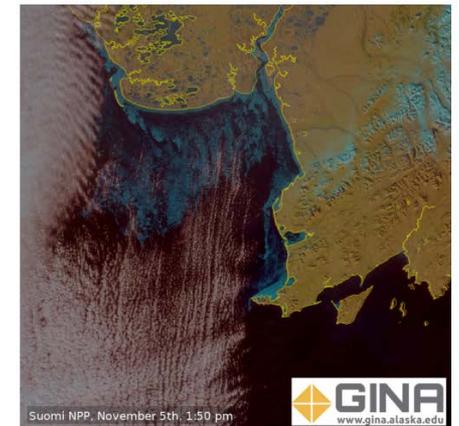
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Winter has arrived here in Alaska, and with it, newly formed sea ice as highlighted by the Alaska Ice Desk's [latest image](#). Sea ice is visible in our MODIS and Suomi NPP image products and is particularly noticeable in GINA's Landcover image products. Above we see ice forming in Kuskokwim Bay in southwestern Alaska. In the Landcover band combination the sea ice appears blue, making it easier to differentiate from the white clouds.

The NPP Landcover image is generated by combining the I03 (1610 nm - Shortwave IR), I02 (865nm - Near IR), and I01 (640nm - Red) bands from the [Suomi NPP VIIRS instrument](#). The product is 375-m resolution at nadir. The full resolution image can be found [on GINA's Feeder website](#).

Suomi NPP is a precursor mission in the [Joint Polar Satellite System \(JPSS\)](#) program, testing sensors and technologies for NOAA's next generation of Polar orbiting satellites. GINA distributes Suomi NPP data through its High Latitude Satellite Proving Ground program. Polar orbiting satellites are absolutely critical for weather and ocean forecasting in the Arctic.

-Jay

Visiting Scientists - STAR & CIMSS

- Mike Pavolonis and Corey Calvert
September 10-14, 2012
- Installed updated GEOCAT volash and fog/cloud software in Fairbanks
- Met and worked with UAF research community
- Trained 19 forecasters in Fairbanks and Anchorage (WFOs, AAWU, and CWSU)
- Visited NESDIS Gilmore Creek facility
- Success: excellent outreach to NWS & UAF and GEOCAT software & flow streamlined



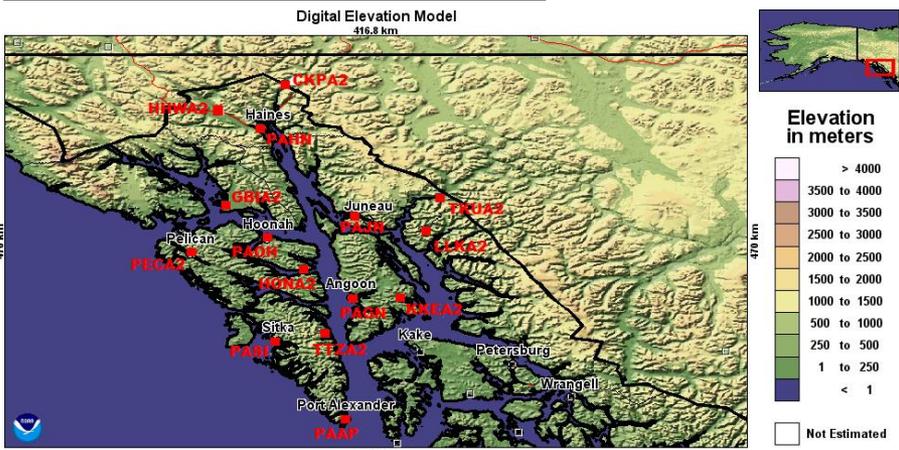
Visiting Scientist - CIRA

- Steve Miller October 2-4, 2012
- Installed updated DNB software in Fairbanks
- Gave seminar; met and worked with UAF research community
- Worked with Fairbanks NWS WFO
- Visited NESDIS Gilmore Creek facility
- Success: excellent outreach to NWS & UAF and DNB software & flow streamlined

Assembling Snow Hydrology Data from High Altitude Watersheds for Use in Climate Change Models Applied to Hydropower Forecasting in South Central and Southeast Alaska; a Proposed PhD Project

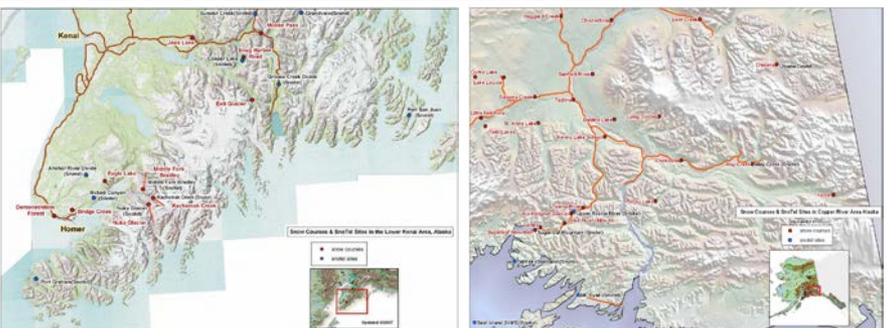
Molly Tedesche, MS and Dr. Jessica Cherry, IARC/INE, UAF

NWS Weather Station Network



Map taken from www.nohrsc.noaa.gov

NRCS SNOTEL & Snow Course Network



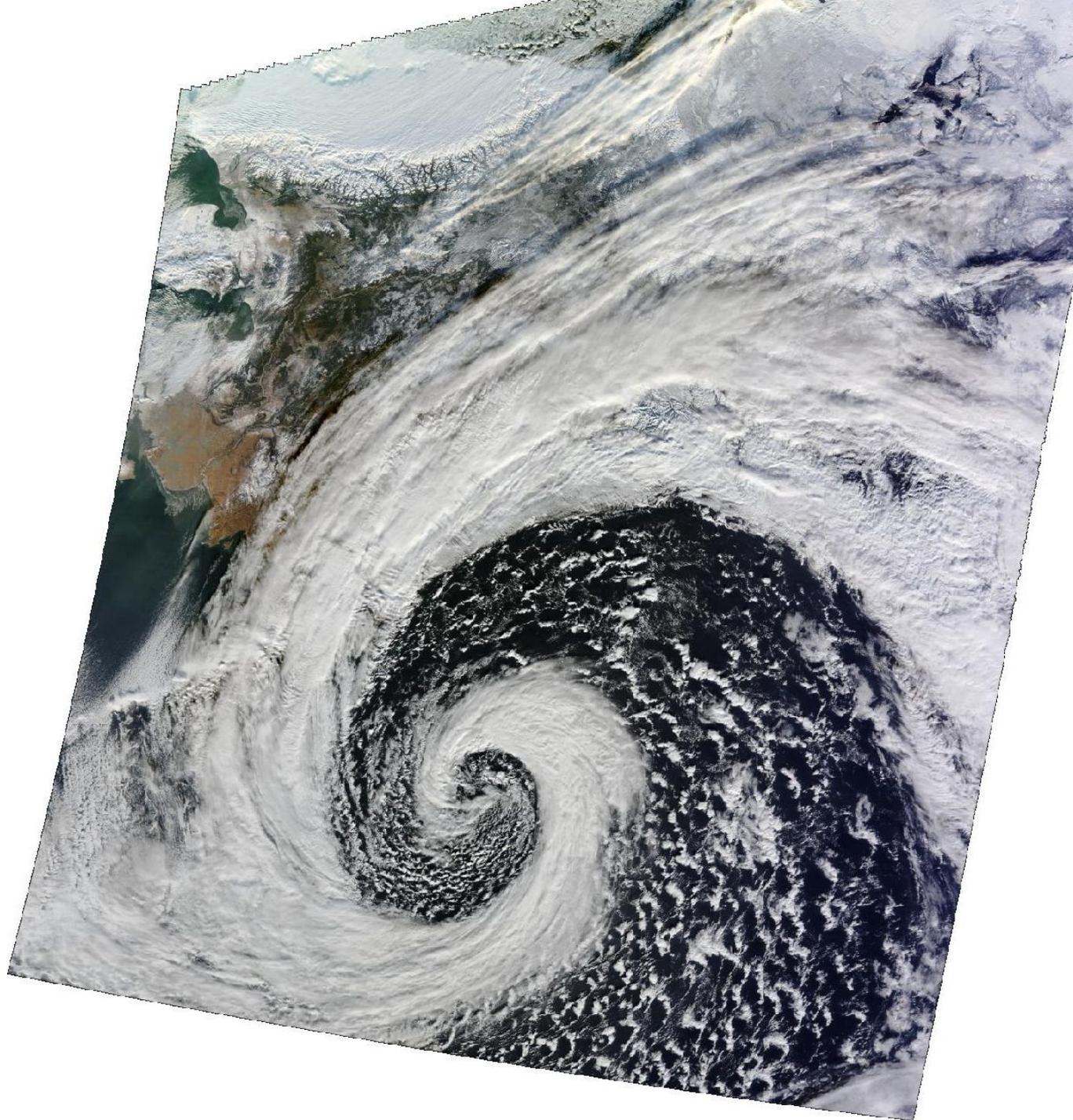
Maps taken from www.ak.nrcs.usda.gov/snow

NWS NOHRSC has very limited airborne datasets in these areas of Alaska. Flight lines primarily lie over South Central AK (Prince William Sound and Kenai Peninsula), leaving SEAK unmonitored possibly because of the extreme terrain of SEAK.

- Collaboration of UAF, the National Weather Service's (NWS) Alaska-Pacific River Forecast Center (RFC), the USDA NRCS Snow monitoring program, and the National Operational Hydrologic Remote Sensing Center.
- Explore satellite-based snow products (such as MODIS snow-covered area) to make statistical comparisons with in-situ and airborne datasets, as part of the NESDIS High Latitude GOES-R Proving Ground project.
- Investigate how snow hydrology data might be affected by measurement resolution and method.
- Test various interpolation techniques in an attempt to translate airport observations from existing low elevation weather stations into potential weather patterns in higher elevation mountain watersheds surrounding these airports in several South East Alaska (SEAK) and South Central AK communities.
- The NWS RFC has very little weather station input for use in snowmelt and flood forecasting models, since these stations exist primarily at low elevation airports.
- Currently in Northern SEAK, the only NRCS SNOTEL sites and Snow Courses are near Skagway, AK and Juneau, AK; leaving the majority of SEAK unmonitored by either real time NRCS infrastructure or in-situ measurements.
- In Prince William Sound and on the Kenai Peninsula, the NRCS network is slightly more robust, though still limited. Real time SNOTEL sites, as well as Snow Courses, exist near Valdez, Glen Allen, Cordova, Moose Pass, Seward, Cooper Landing, Kenai Fjords National Park, and Homer.

Solidifying Operations

- Making GINA interactions with NWS more robust is a task in both our GOES-R and JPSS work on the High Latitude PG
- LDM; NWAWE; IT Staff
- NWS is updating network configuration to enhance transfer of HLPG products to FOs
- shaving time off delivery; documenting data flows; identifying bottlenecks



Thank you

Terra MODIS
Nov. 2, 2012

