

The Geophysical Institute Magnetometer Array GIMA Status, Updates, Future

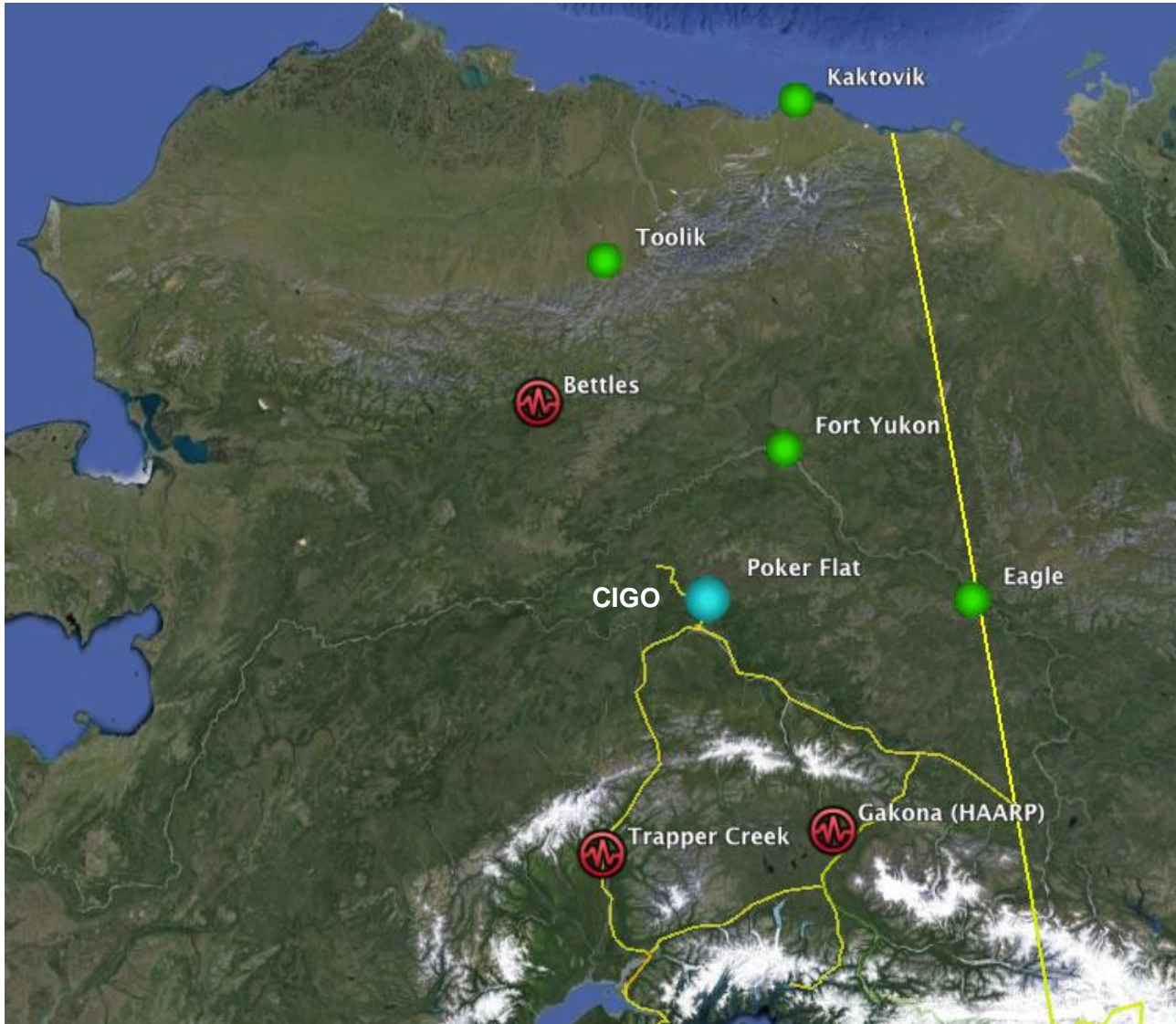
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Geophysical Institute
&
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Poker Flat Research Range
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Our Magnetometers



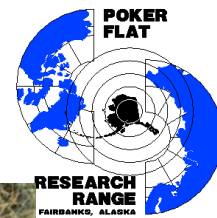
NAROD Three-axis fluxgate magnetometers
Temperature stability: < 0.1 nT/degree (sensor);
Long term drift: < 10 pT/day;
Noise: 7 pT/root Hz @ 1Hz;
Orthogonality error: < 0.1 degree;
Digitization: 16 bits;
Normal ops – 1Hz

Station Locations



 Mag Only

 Mag
+
Optics



System Diagram

Down – three chan. pegged

OK – 7 year old comp.

No net. – 10+ year old comp.

One channel down

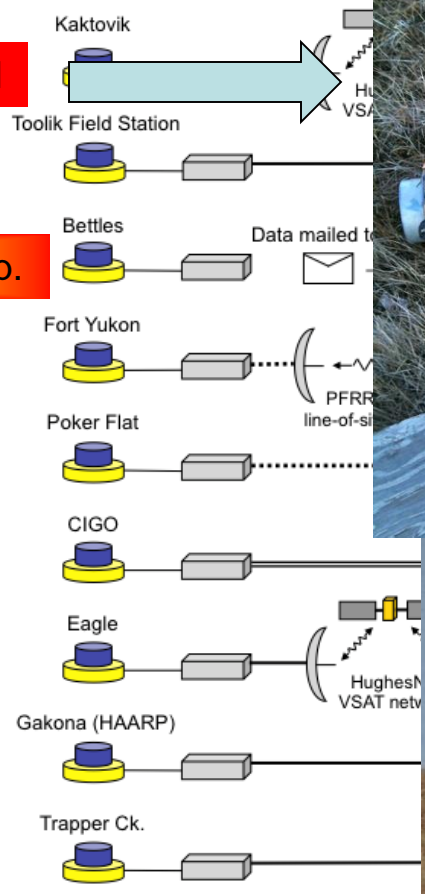
OK – 10+ year old comp.

OK – brand new NUC

OK – 6 year old comp.

One channel down.

OK – 10+ year old comp.



GIMA database

sf.alaska.edu



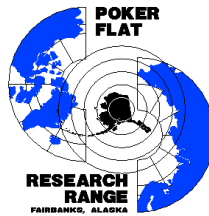
work

ical Institute
meter Array
n Diagram
20-May-2014

Operations and archiving funded by GPOverhead



What is different about these two plots?



Plot Reload Timer

13

On Off

[Reload Plots](#)

Traces Displayed

H D Z

Time Span (Hours)

2 6 **12** 24 36 48

Max Scale (nT)

250 **500** 1000 1500

Stations Displayed

Kaktovik On Off

Toolik Lake On Off

Fort Yukon On Off

Poker Flat On Off

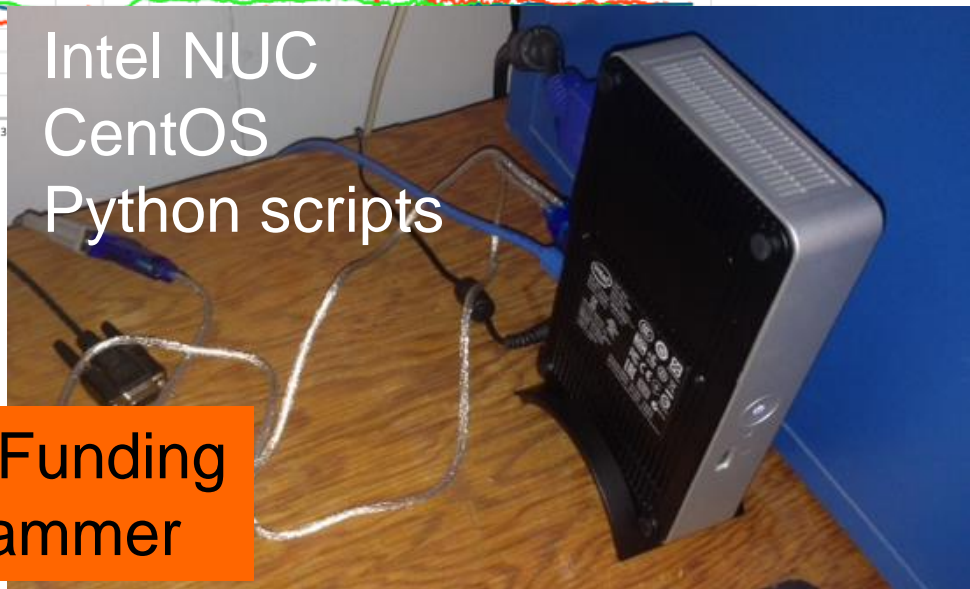
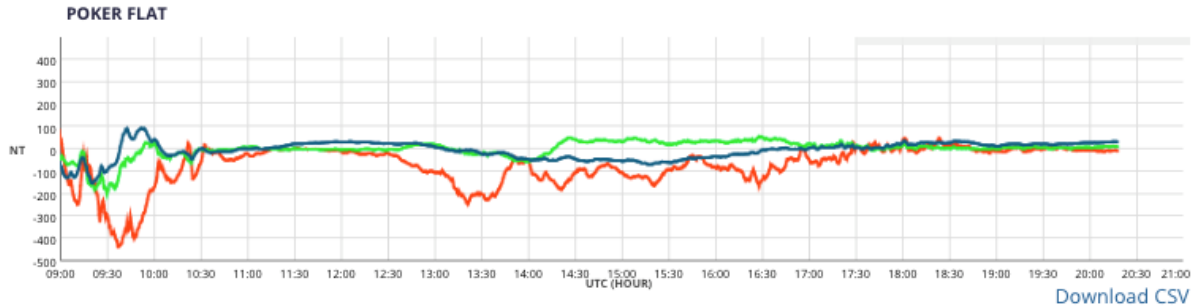
CIGO On Off

Eagle On Off

Gakona On Off

Trapper Creek On Off

Test Station Inactive

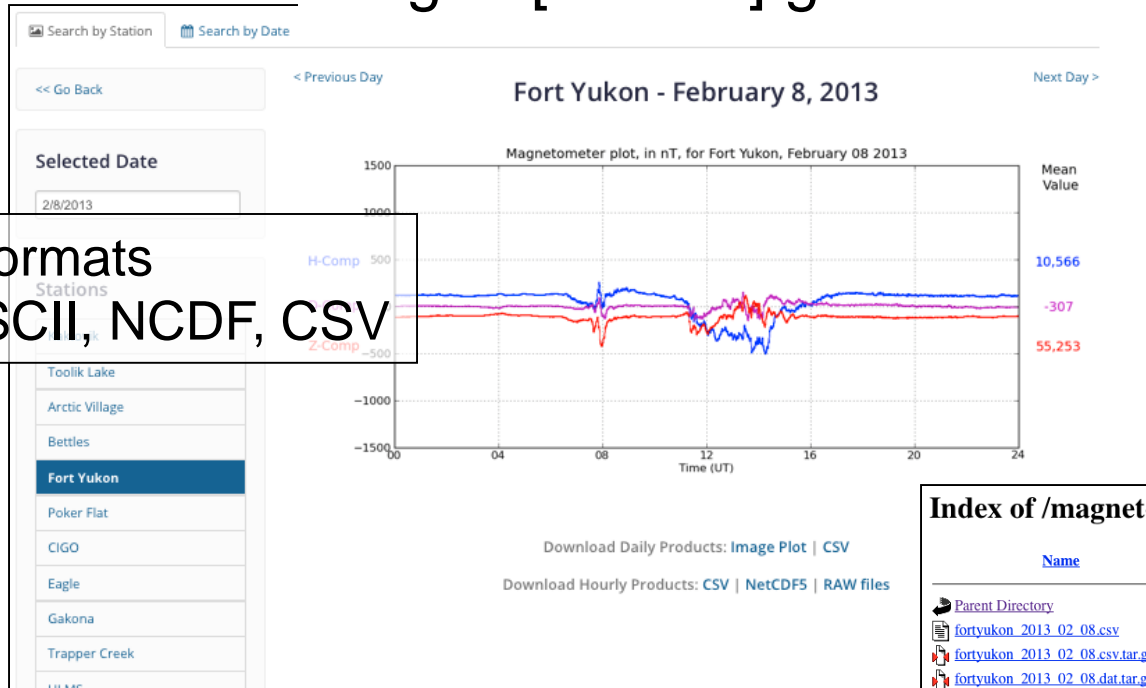
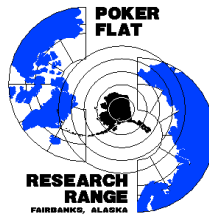


NASA HIDEE Funding
Student programmer



Data Portal – File access

magnet[ometer].gi.alaska.edu



TDAS?
FYU, GAK

Three formats
Raw ASCII, NCDF, CSV

Index of /magnetometer/archive/2013/02/08

Name	Last modified	Size	Description
Parent Directory		-	
cigo/	15-Nov-2014 10:19	-	
fortyukon/	16-Nov-2014 02:37	-	
gakona/	17-Nov-2014 22:49	-	
kaktovik/	15-Nov-2014 14:29	-	
poker/	15-Nov-2014 05:37	-	

Apache/2.2.15 (Red Hat) Server at www.asf.alaska.edu Port 443

Index of /magnetometer/archive/2013/02/08/fortyukon

Name	Last modified	Size	Description
Parent Directory		-	
fortyukon_2013_02_08.csv	16-Nov-2014 02:37	4.1M	
fortyukon_2013_02_08.csv.tar.gz	16-Nov-2014 02:37	2.2M	
fortyukon_2013_02_08.dat.tar.gz	16-Nov-2014 02:37	1.5M	
fortyukon_2013_02_08.nc.tar.gz	16-Nov-2014 02:37	2.6M	
fortyukon_2013_02_08.png	16-Nov-2014 02:37	55K	
fortyukon_2013_02_08_00.csv	16-Nov-2014 02:37	172K	
fortyukon_2013_02_08_00.nc	16-Nov-2014 02:37	668K	
fortyukon_2013_02_08_01.csv	16-Nov-2014 02:37	172K	
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fortyukon_2013_02_08_06.csv	16-Nov-2014 02:37	172K	
fortyukon_2013_02_08_06.nc	16-Nov-2014 02:37	668K	
fortyukon_2013_02_08_07.csv	16-Nov-2014 02:37	172K	

SuperMAG ready



Current State



Google Earth interface showing a map of Alaska with various research sites marked. A yellow dashed line outlines a specific region in the interior. The interface includes search, places, and layers panels.

Search: ex: 37 25' 19.1"N, 122 05' 06"W

Places:

- IIT-12 Environmental Trailer
- IIT-14 Launchers
- IIT-15
- IIT-16
- IIT-17
- Denali Park Hdqts
- Arctic Village
- Kenai
- Kodiak SD
- CIGO
- Beaver
- coldfoot
- Chincoteague

Layers: Earth Gallery

- Primary Database
- Voyager
- Borders and La...
- Borders
 - Internationa...
 - Country Na...
 - Coastlines
 - 1st Level Ad...
 - 1st Level Ad...
 - 2nd Level A...
- Labels
- Places
- Photos
- Roads
- 3D Buildings
- Ocean
- Weather

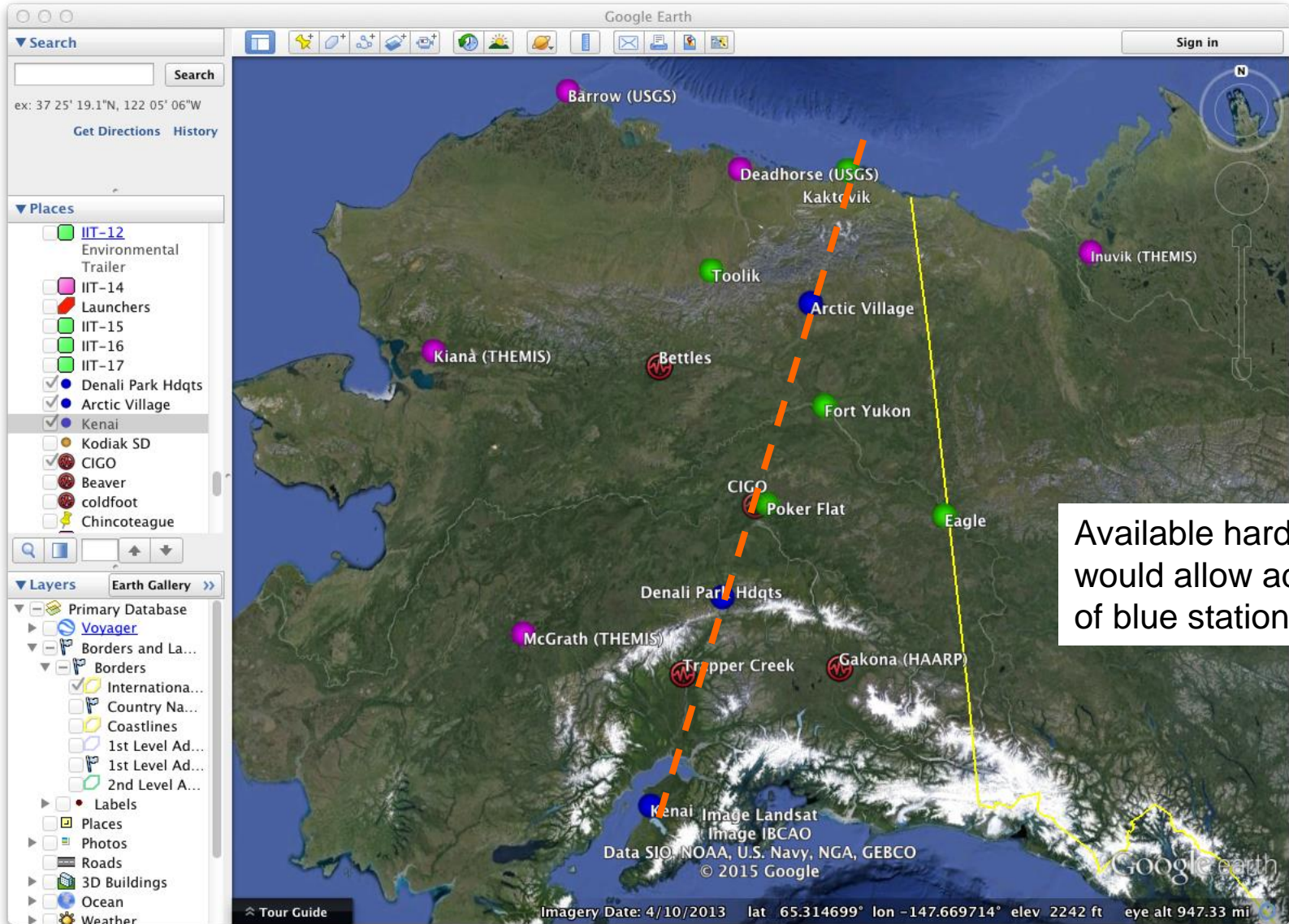
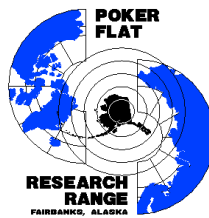
Map Labels: Barrow (USGS), Deadhorse (USGS), Kaktovik, Toolik, Inuvik (THEMIS), Kiana (THEMIS), Bettles, Fort Yukon, CIGO, Poker Flat, Eagle, McGrath (THEMIS), Trapper Creek, Gakona (HAARP)

Image Landsat
Image IBCAO
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2015 Google

Imagery Date: 4/10/2013 lat 65.314699° lon -147.669714° elev 2242 ft eye alt 947.33 mi

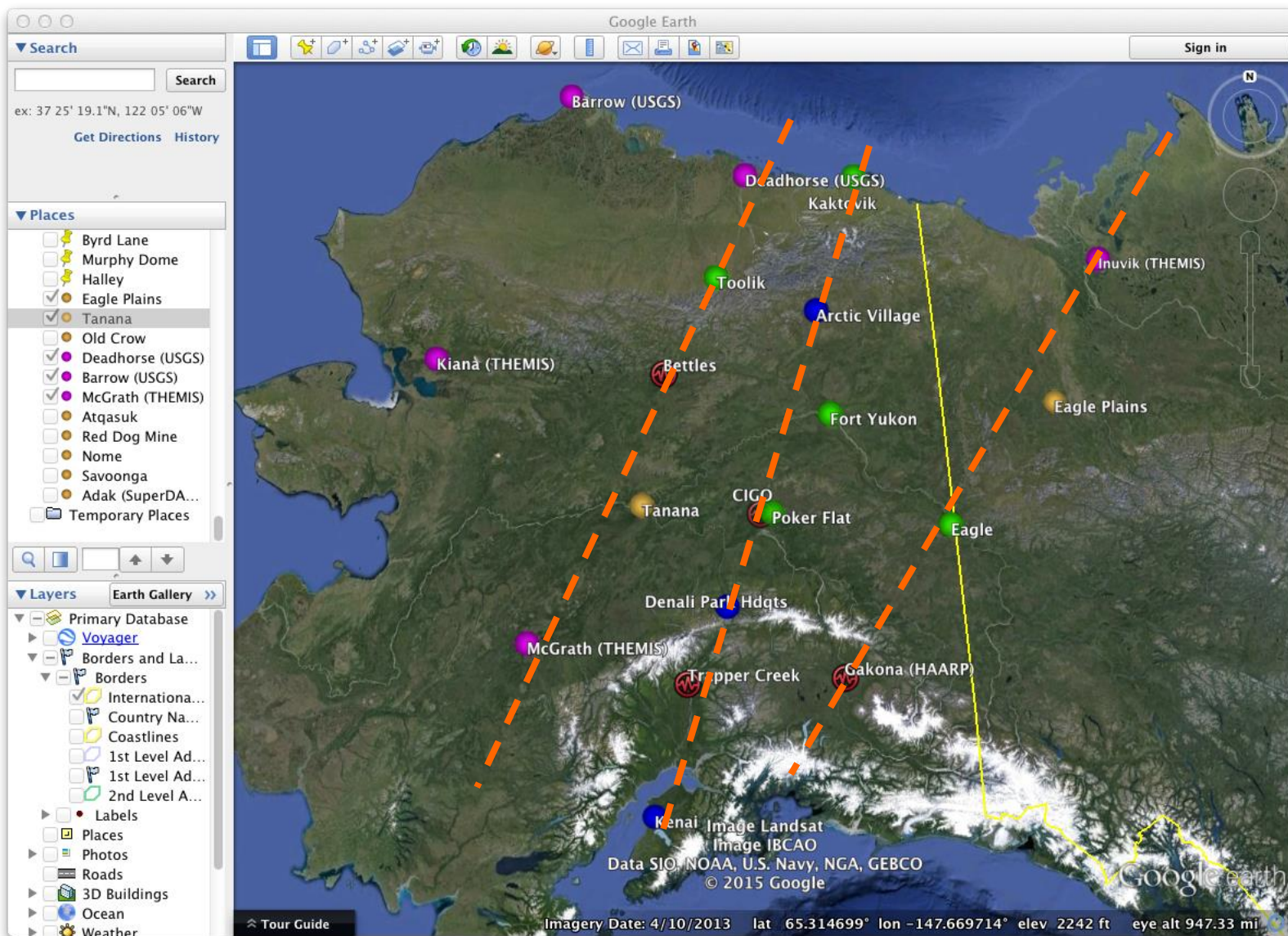


Summer, 2016





Stage 1





Stage 2?

