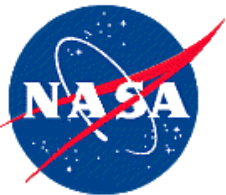




**Arctic-Boreal Vulnerability Experiment
2022 Airborne Flights**

**L-band SAR Deployment
Part 3: 22-25 August 2022**

Peter Griffith (GSFC)
Liz Hoy (GSFC)



Deployment Calendar 22 August 2022



The bonanW_03603 line from the Fairbanks Local sortie has been shortened, only the area North of the Murphy Dome Keepout Zone will be imaged. A mitigation plan was developed to image areas of interest. This change was necessary as the team could not get permission from the Air Force to transmit in the Murphy Dome Air Force Radar Keep Out Zone.

14	15	16	17	18	19	20
◀ AFRC G-III L-Band ABoVE Alaska / Canada ▶						
JSC G-III P-Band ABoVE Alaska / Canada						
L: TomoSAR	L: Transit to Yellowknife	L: Open House	L: Backup	L: Transit to Fairbanks	L: Seward Peninsula	L: North Slope
		L: Yellowknife				
		Minuteman III VSFB L				
21	22	23	24	25	26	27
◀ AFRC G-III L-Band ABoVE Alaska / Canada ▶						
◀ JSC G-III P-Band ABoVE Alaska / Canada ▶						
L: Hard Down Day / D	L: Mackenzie Valley	L: SW Alaska	L: Fairbanks	L: Transit to Palmdale	L: Pod Download	
			L: Open House	L: Transit to Portland/		

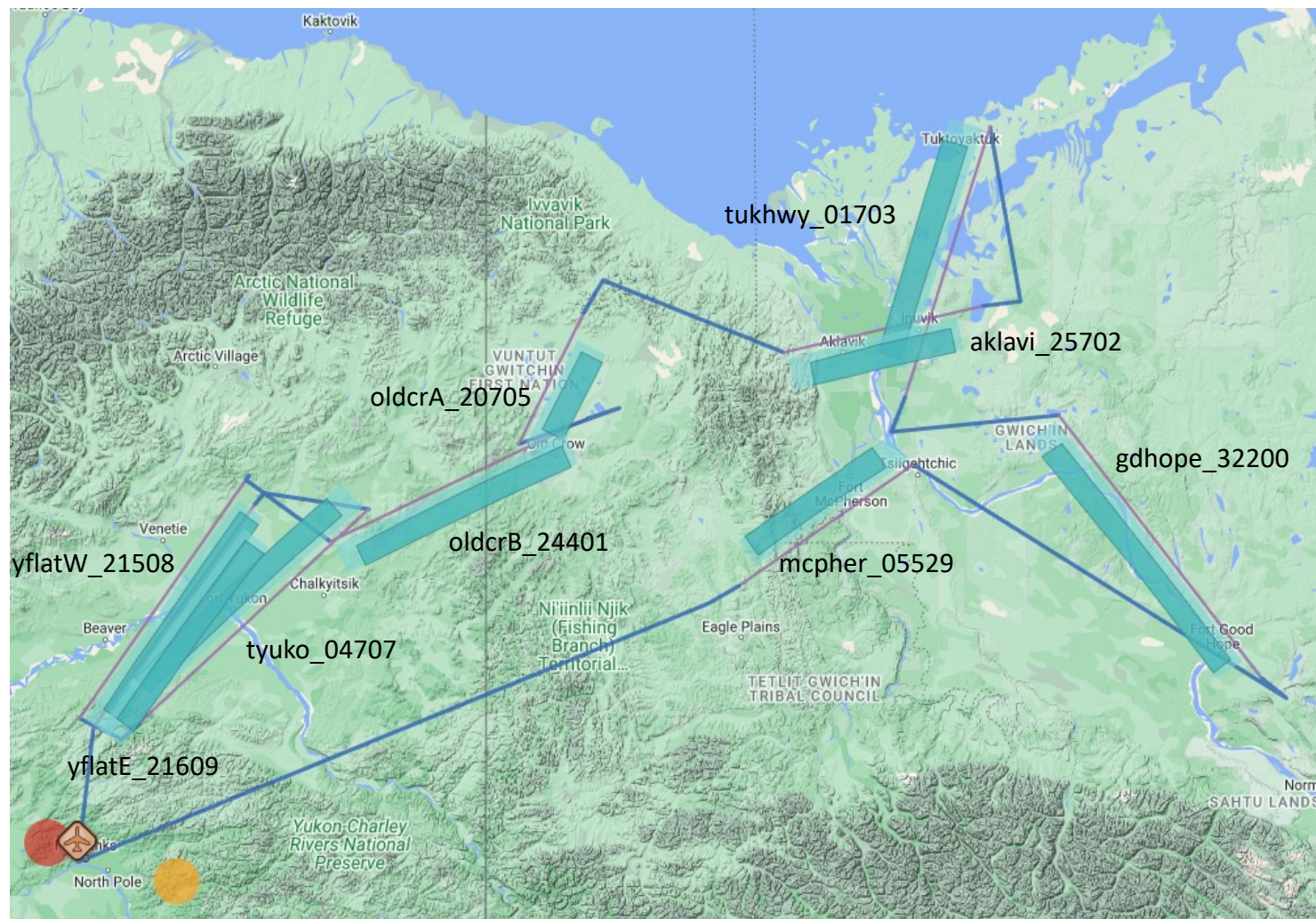


22 August 2022 – DOY 234 Mackenzie Valley



Operations Summary:

- PAFA Fairbanks FBO Alaska Aerofuel
- Crew: Liz Ruth, Shawn “Biggs” Kern, Joe Piotrowski
- Instrument Operator: David Austerberry
- Data Processor: Adam Vaccero
- Scientist On Board: Liz Hoy
- Science Flight takeoff at 0900 local
- Flight Plan [1813 v01](#); Flown Plan: [22037](#)
- 9 lines planned, 8 lines flown with no issues
- Nominal Aircraft Operations
- Radar dropped half of line 32200
- Sonnentag and K.Turner teams in the field
- Wx: partly to mostly cloudy, no precipitation
- Landed in PAFA Fairbanks FBO Alaska Aerofuel





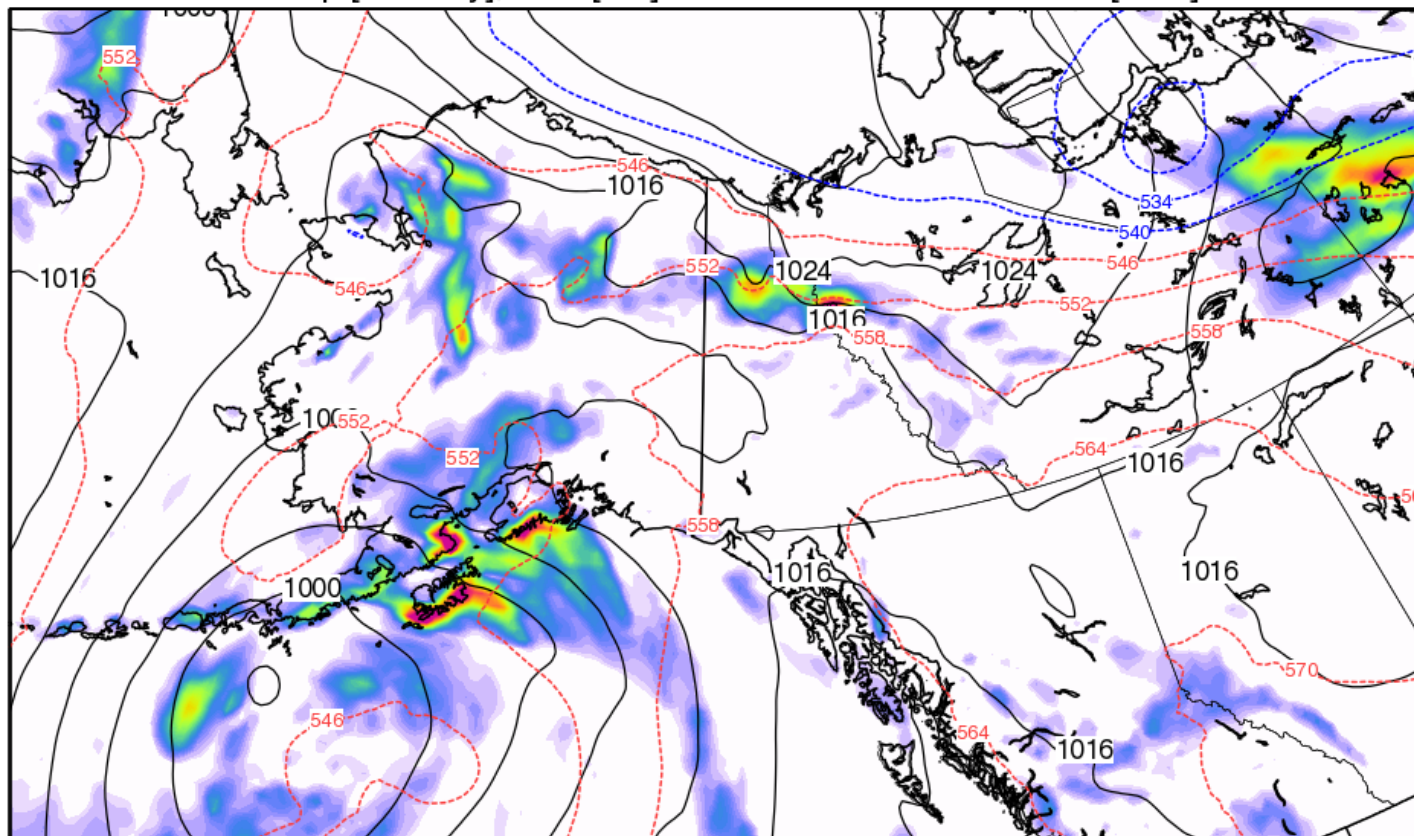
22 August 2022 – DOY 234 Mackenzie Valley



GMAO

NASA/GMAO - GEOS Forecast Initialized on 18z 08/22/2022

Precip [mm/day], SLP [mb] and 1000-500mb Thickness [dam]



000 hr forecast valid Mon 18z 2022-08-22

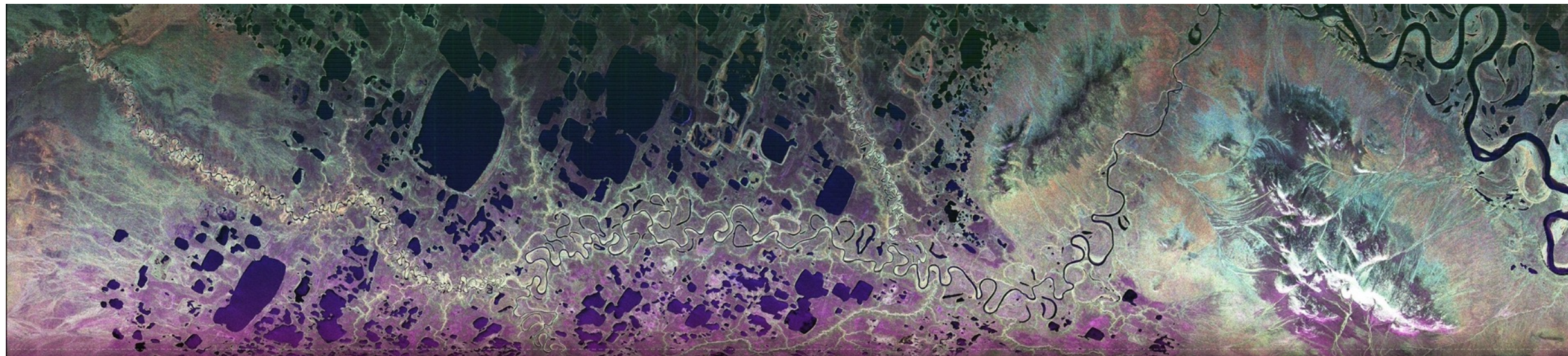




22 August 2022 – DOY 234
Mackenzie Valley

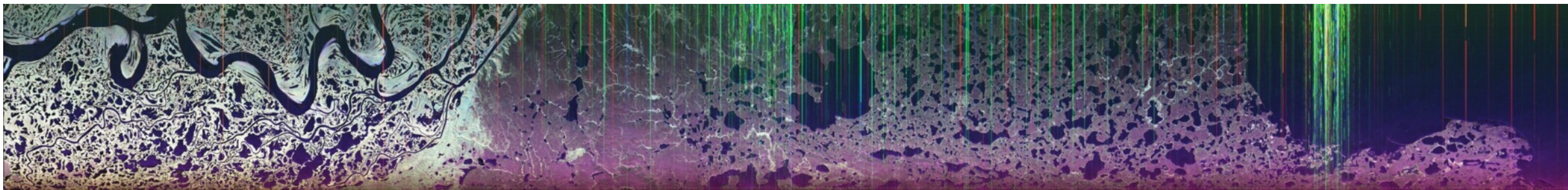


False color PolSAR Quicklooks



oldcrA_20705 - Old Crow Flats – K. Turner team is on site, recent burn scar under study, hydrological changes, permafrost

tukhwy_01703 - Tuk Highway - Sonnentag team is on site, Radio Frequency Interference will be removed during post-processing





22 August 2022 – DOY 234 Mackenzie Valley



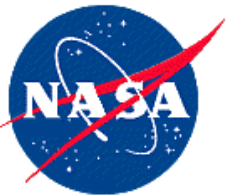
David and Joe discuss performance of the precision autopilot (PPA)



Team visit to the Permafrost Tunnel with Tom Douglas

NASA802 preparing for takeoff from Fairbanks



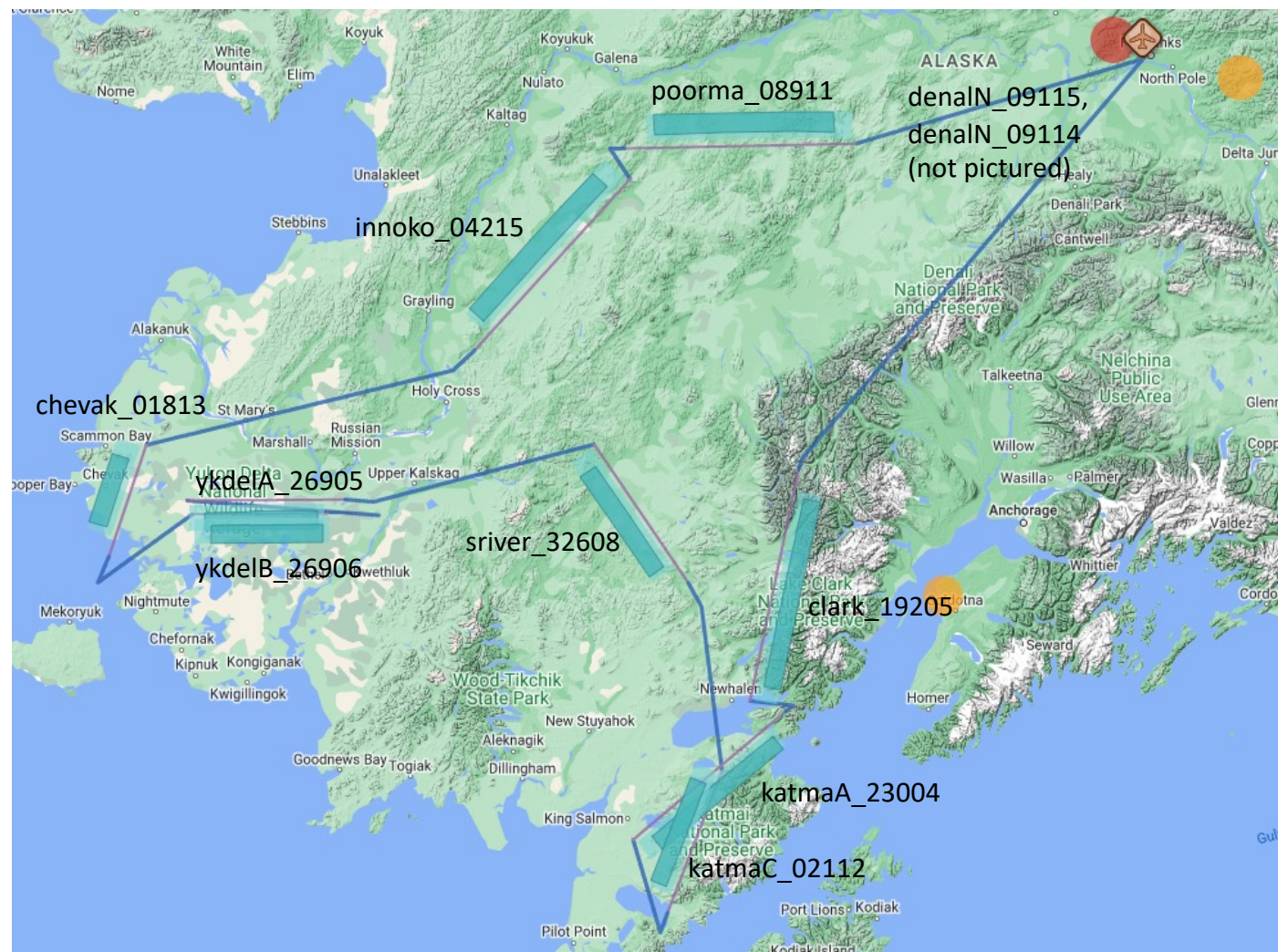


23 August 2022 – DOY 235 SW Alaska



Operations Summary:

- PAFA Fairbanks FBO Alaska Aerofuel
- Crew: Liz Ruth, Shawn “Biggs” Kern, Joe Piotrowski
- Instrument Operator: David Austerberry
- Data Processor: Adam Vaccero
- Scientist On Board: Liz Hoy
- Guest Scientist: Franz Meyer
- NASA Communications: Katie Jepson, Sofie Bates
- Science Flight takeoff at 0900 local
- Flight Plan [1814 v01](#)
- 11 lines planned, 10 lines flown with no issues
- Nominal Aircraft Operations
- Radar dropped half of line denalN_09114 – this will be included in the Fairbanks Local plan
- Peter Kirchner’s monitoring stations collecting in SW Alaska
- Wx: partly to mostly cloudy, some light precipitation possible
- Landed in PAFA Fairbanks FBO Alaska Aerofuel





23 August 2022 – DOY 235

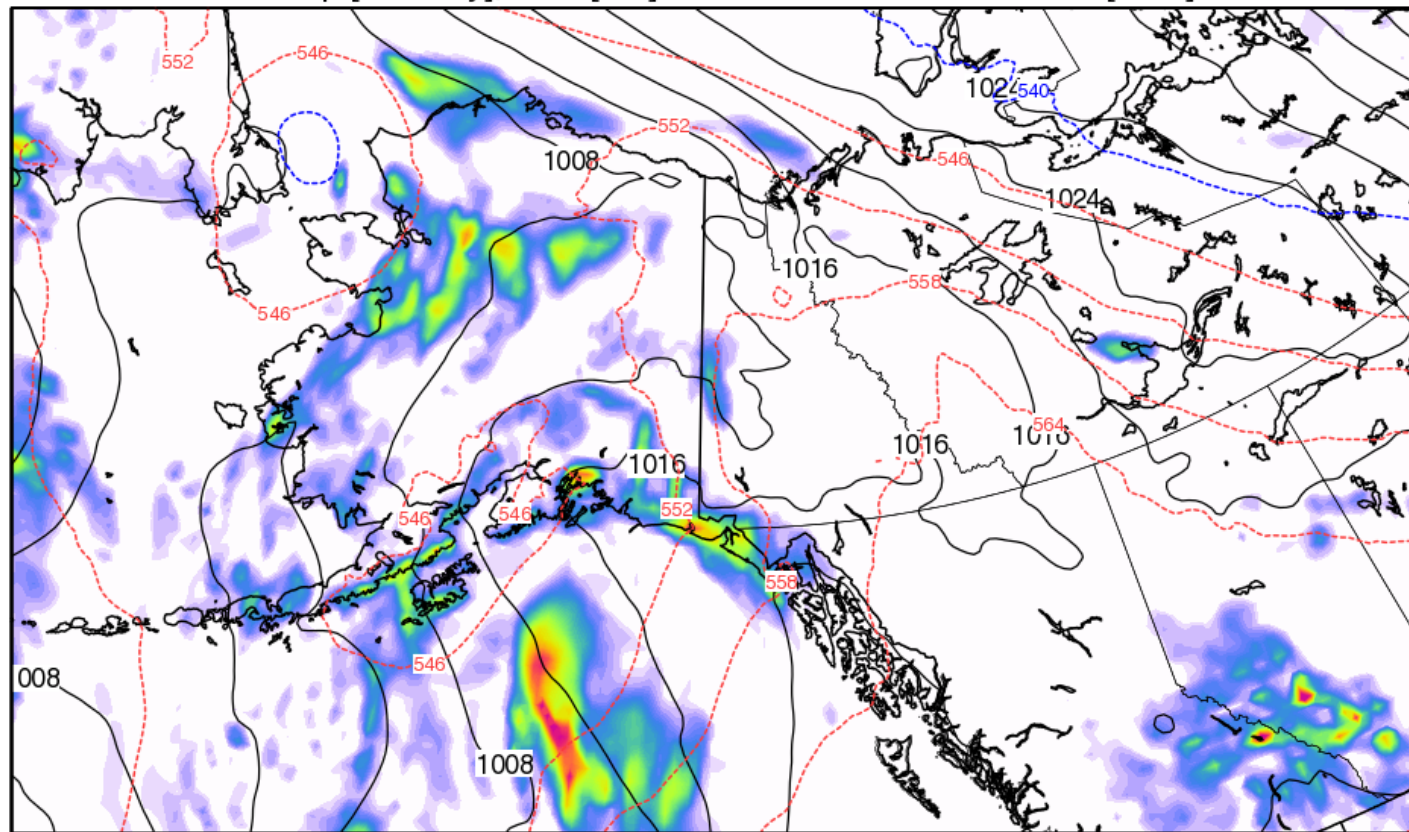
SW Alaska



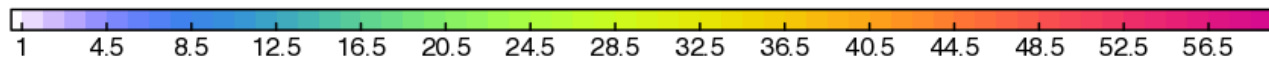
GMAO

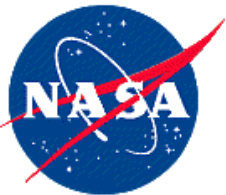
NASA/GMAO - GEOS Forecast Initialized on 18z 08/23/2022

Precip [mm/day], SLP [mb] and 1000-500mb Thickness [dam]



000 hr forecast valid Tue 18z 2022-08-23

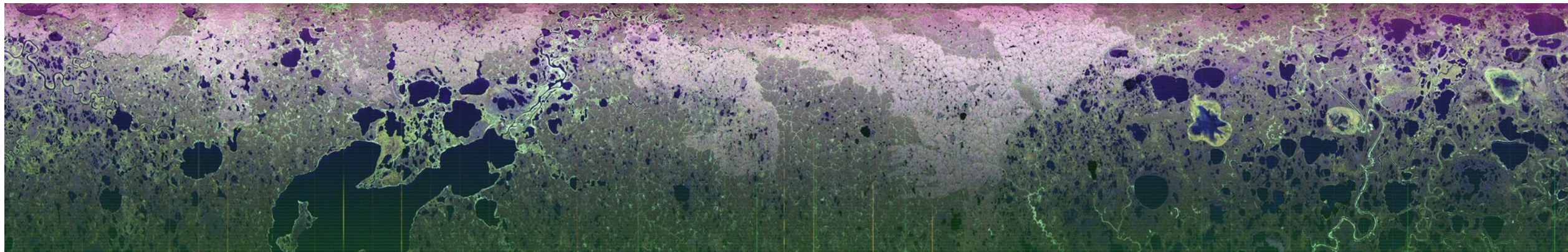




23 August 2022 – DOY 235
SW Alaska



False color PolSAR Quicklooks



ykdelA_26905 – rich fire history visible



denalN_09115 – Eight Mile Lake and NEON site in Healy, Matt Macander in the field



23 August 2022 – DOY 235 SW Alaska



Katie, Sofie, Joe, Liz R., Peter, "Biggs", David, Franz



Captain Liz and Doctor Liz



Franz, Liz H., Sofie, David review the radar performance



ASF
Rooftop
Antenna



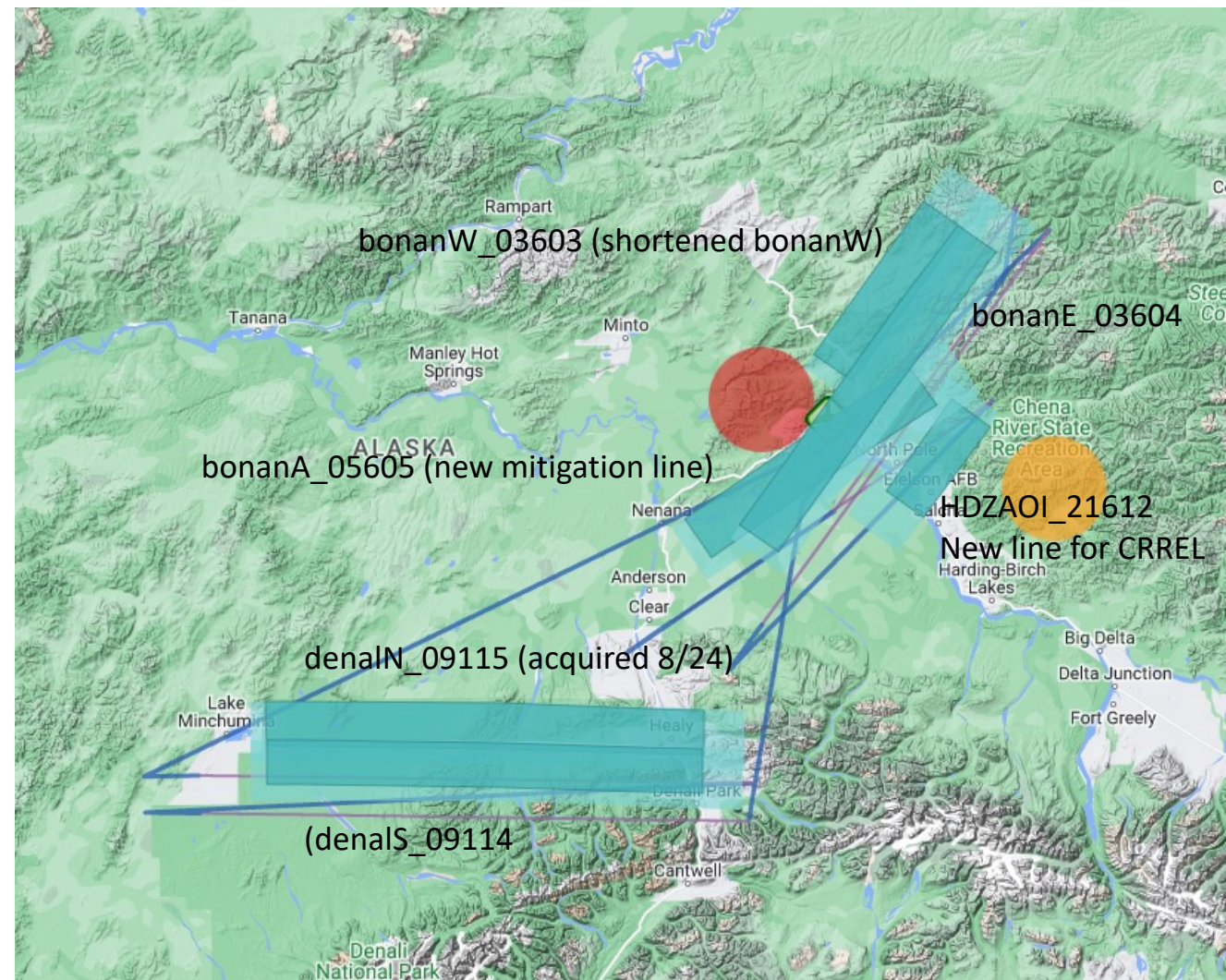
24 August 2022 – DOY 236

Local Fairbanks



Operations Summary:

- PAFA Fairbanks FBO Alaska Aerofuel
- Crew: Liz Ruth, Shawn “Biggs” Kern, Joe Piotrowski
- Instrument Operator: David Austerberry
- Data Processor: Adam Vaccero
- Scientist On Board: Peter Griffith
- Guest Scientist: Britta Schroeder, Denali National Park GIS Analyst
- Science Flight takeoff at 0900 local
- Flight Plan 1813_v01
- 5 lines planned, 5 lines flown with no issues (denalN_09115 collected on 23 August)
- Nominal Aircraft Operations
- No issues with the radar
- Matt Macander in field at Eight Mile Lake & Liz Hoy in the field at Creamers Field
- Wx: partly to mostly cloudy, scattered light precipitation
- Landed in PAFA Fairbanks FBO Alaska Aerofuel
- Open House





24 August 2022 – DOY 236

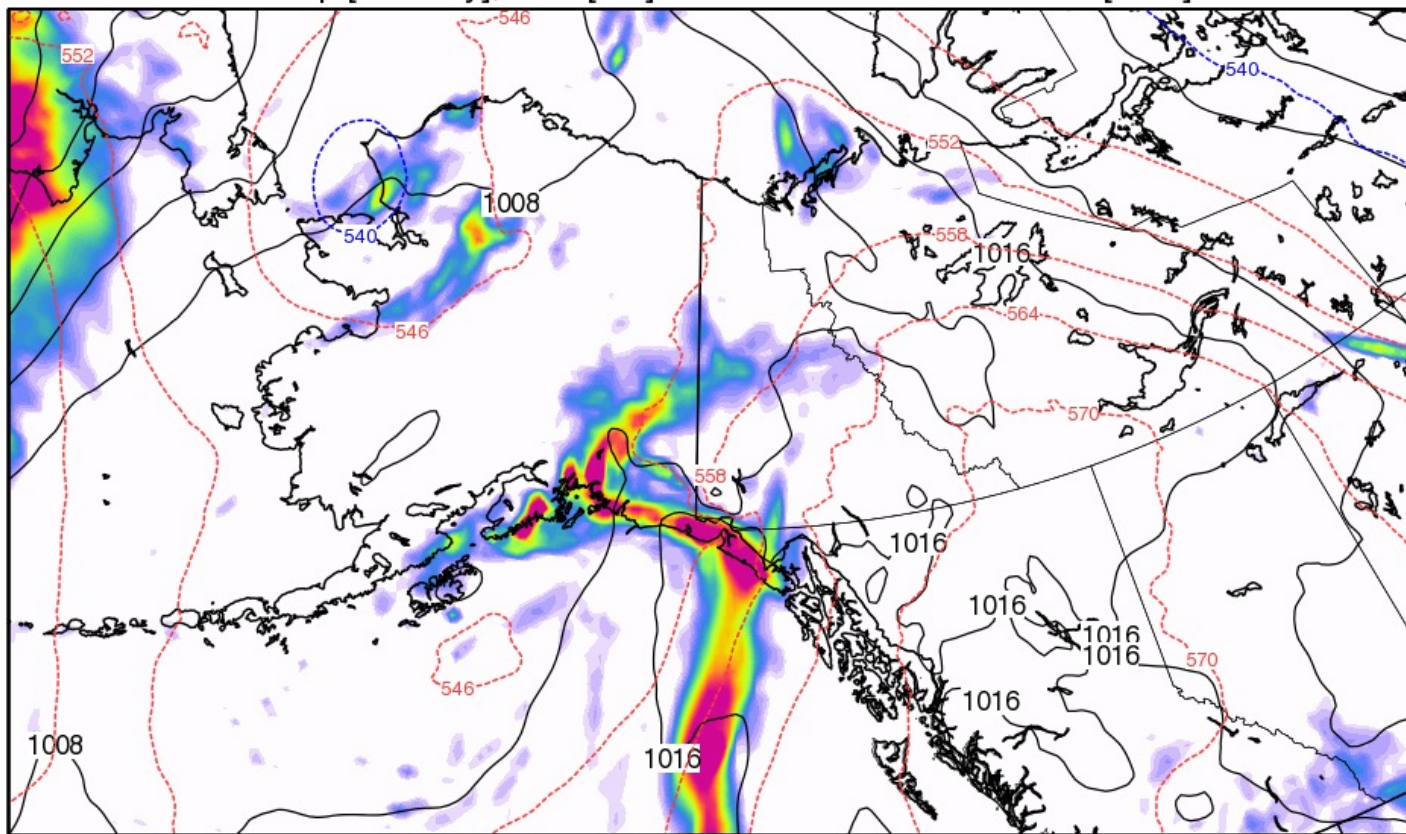
Local Fairbanks



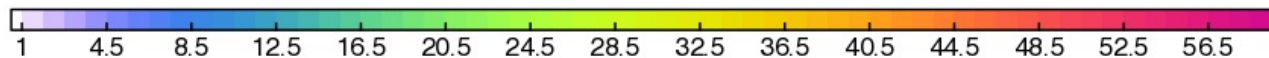
GMAO

NASA/GMAO - GEOS Forecast Initialized on 18z 08/24/2022

Precip [mm/day], SLP [mb] and 1000-500mb Thickness [dam]



000 hr forecast valid Wed 18z 2022-08-24





24 August 2022 – DOY 236
Local Fairbanks

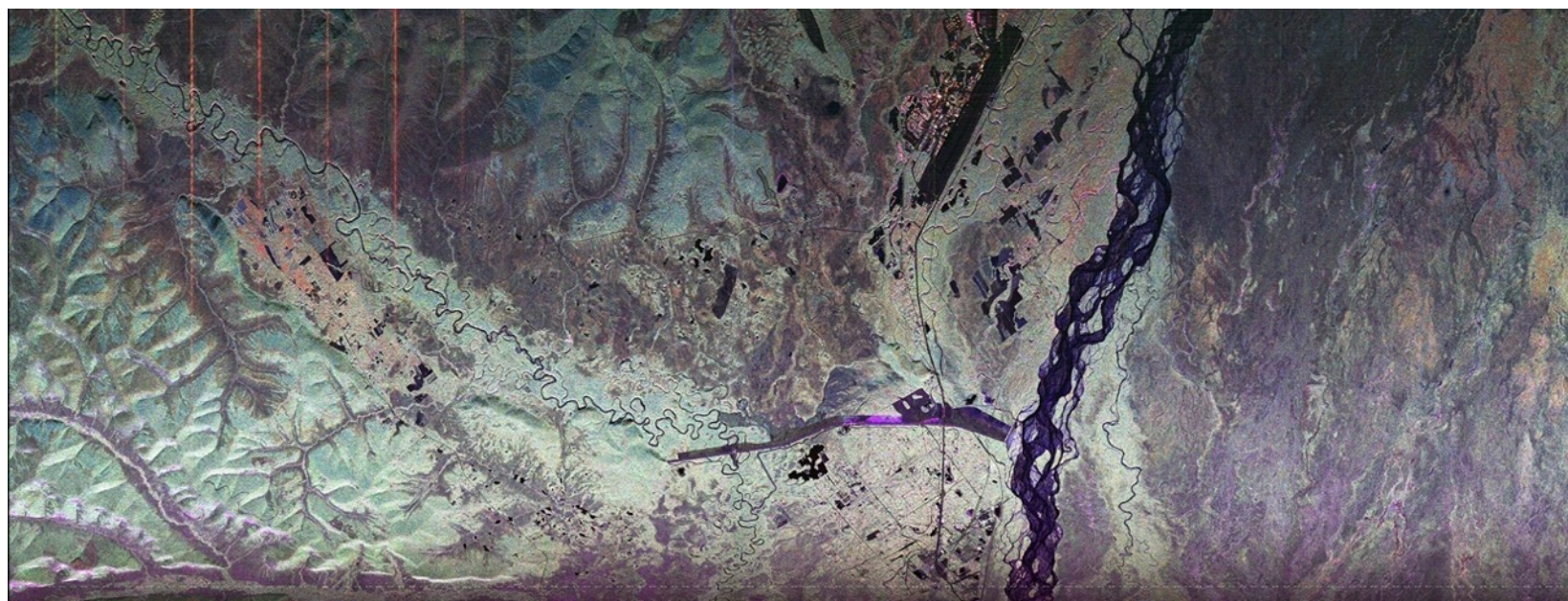


False color PolSAR Quicklooks



bonanW_03603 –
collaborations
with CRREL and
others, Liz Hoy in
the field

HDZAOI_21612 –
collaborations with
CRREL and others





24 August 2022 – DOY 236 Local Fairbanks



Liz Hoy, outstanding in Creamers Field



Britta Schroeder, Denali NP GIS analyst



Britta, Adam, David



Open House at the FBO



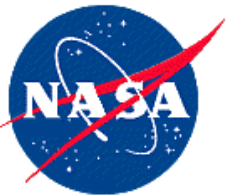
The Grillmaster



BBQ at the Logistics Office



Nick makes off with all the leftovers



25 August 2022

Transit Fairbanks via Portland to Palmdale



Operations Summary:

- PAFA FBO Alaska Aerofuel
- Crew: Liz Ruth, Shawn (Biggs) Kern, Joe Piotrowski, Carrie Worth, Vince Moreno, Steve Kuykendall, Otis Allen, Alvin Mitchell
- Instrument Operator: David Austerberry
- Data Processor: Adam Vaccero
- Transit Flight takeoff at 0900 local
- Flight Plan 1816_v01
- 2 lines planned for Natural Resources Canada Glacier studies, 2 lines flown with no issues
- Nominal Aircraft Operations
- Wx: scattered light precipitation
- Gas-and-go in Portland OR
- Landed in Palmdale California

