Arctic-Boreal Vulnerability Experiment
2022 Airborne Flights

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

Peter Griffith (GSFC)
Liz Hoy (GSFC)

Denali as seen from NASA802 (photo by Peter Griffith)
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.
**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
- Sonnettage 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

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
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
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
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

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

Captain Liz and Doctor Liz

ASF Rooftop Antenna
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
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

The Grillmaster

Britta, Adam, David

BBQ at the Logistics Office

Open House at the FBO

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