



Arctic-Boreal Vulnerability Experiment 2022 Airborne Flights



L-band SAR Deployment Part 2: 18-20 August 2022

Peter Griffith (GSFC)
Chip Miller (JPL)
Liz Hoy (GSFC)

Photo by Peter Griffith: Severe clear over Ft Providence NWT



Deployment Calendar – Plan as of 18 August 2022



The UAVSAR P-band radar ABoVE deployment has been cancelled. The JSC G-III (NASA992) underwent 72-month maintenance starting 9 months ago and additional aircraft issues were identified in the process. Although the G-III successfully completed Functional Check Flight on Tuesday, additional issues such as the stalling system and generator going offline during engine runs were identified, which will need several days to troubleshoot.

7	8	9	10	11	12	13
AFRC G-III Maintenance				AFRC G-III L-Band ABoVE Alaska / Canada		
				Pilot proficiency flight	L: Engineering	L: Hard Down Day / D
				L: Pod Upload	L: Transit to Saskatoon	
					Starlink VSFB Launch	
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/		



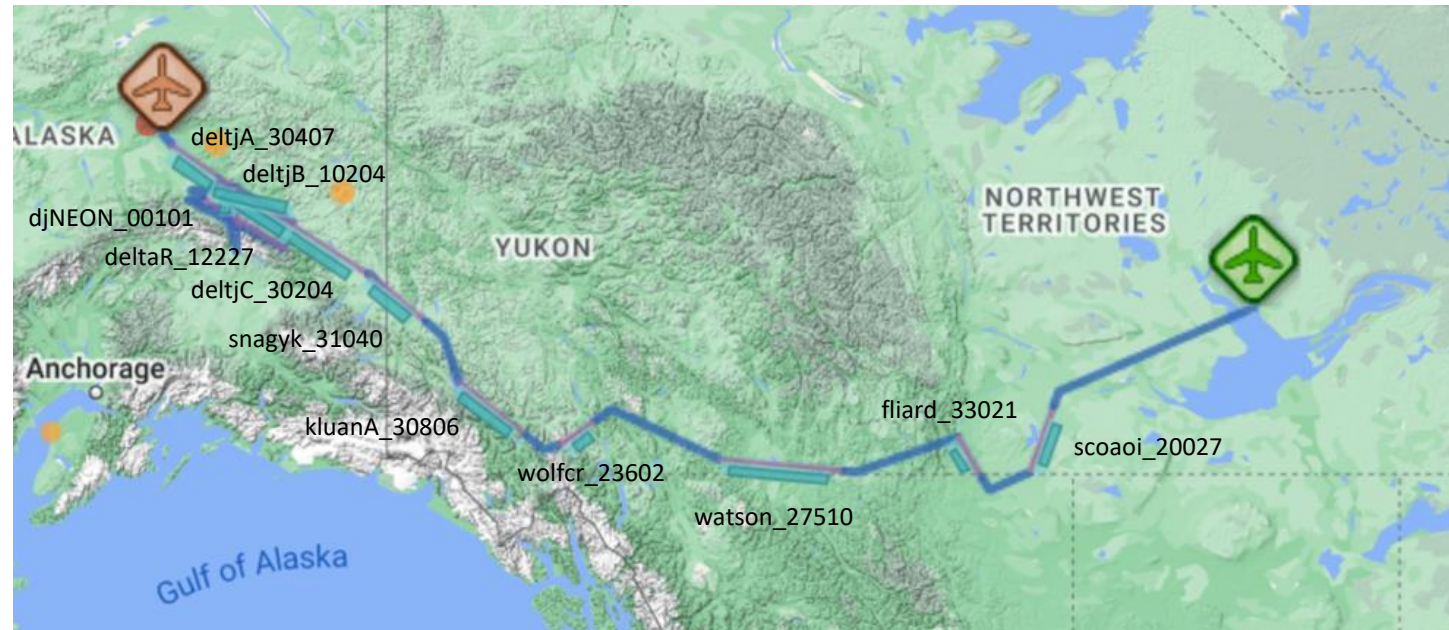
18 August 2022 – DOY 230

Transit Yellowknife to Fairbanks



Operations Summary:

- CYZF Yellowknife FBO Deton Cho
- Crew: Greg (Coach) Nelson, Shawn (Biggs) Kern, Joe Piotrowski, Carrie Worth, Vince Moreno, Steve Kuykendall, Otis Allen, Alvin Mitchell
- Instrument Operator: David Austerberry
- Data Processor: Brian Hawkins
- Scientist On Board: Peter Griffith
- Science Flight takeoff at 1045 local
- Flight Plan [1819 v01](#); Flown Plan: [22034](#)
- 11 lines planned, 10 lines flown with no issues
- Nominal Aircraft Operations
- Radar dropped half of 20027 Scotty AOI, did not repeat
- CFS PSPs, monitoring station at Wolf Creek Watershed, NEON Delta Junction
- Wx: severe clear over NWT; heavy clouds over Yukon and Alaska; Clear Air Turbulence at Delta Junction
- Landed in PAFA Fairbanks FBO Alaska Aerofuels

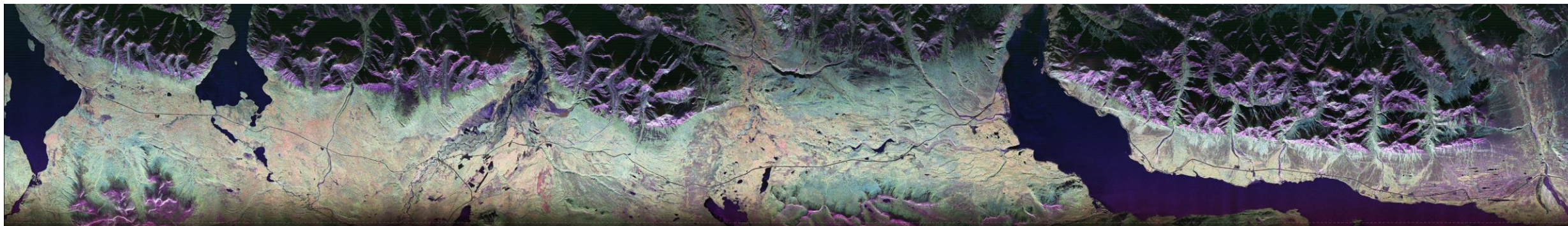




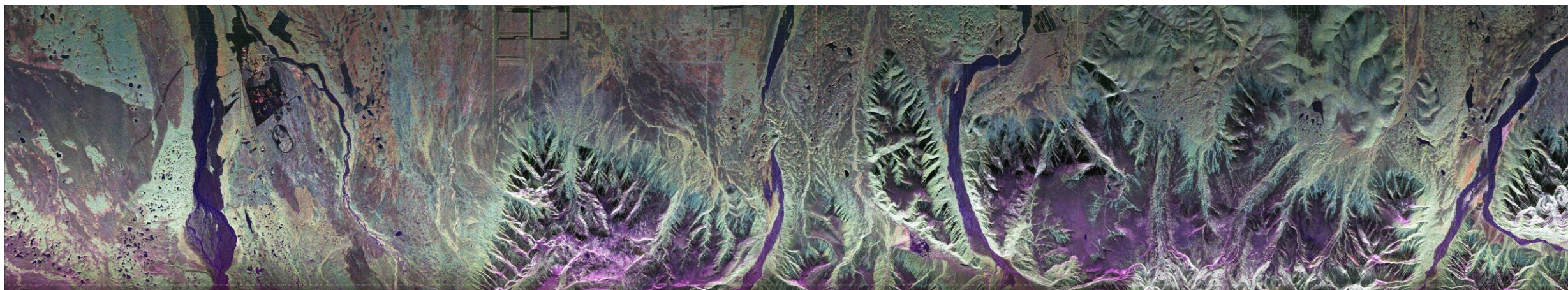
18 August 2022 – DOY 230 Transit Yellowknife to Fairbanks



False color PolSAR Quicklooks



kluane_30806 – Affiliated project Yaacoub beetle research



deltaR_12227 – TomoSAR reference line, Siquiera research site & coordination with NISAR planning



18 August 2022 – DOY 230 Transit Yellowknife to Fairbanks



Peter, "Biggs", Joe, Carrie, "Coach"

NASA802 on the ramp in Yellowknife





19 August 2022 – DOY 231 Seward Peninsula



Operations Summary:

- PAFA Fairbanks FBO Alaska Aerofuels
- Crew: Liz Ruth, Shawn “Biggs” Kern, Joe Piotrowski
- Instrument Operator: David Austerberry
- Data Processor: Brian Hawkins, Adam Vaccero
- Scientists On Board: Liz Hoy, Chip Miller
- Science Flight takeoff at 0900 local
- Flight Plan [1811_v01](#); Flown Plan: [22035](#)
- 8 lines planned, 8 lines flown with no issues
- Nominal Aircraft Operations
- Radar performed as planned on all lines
- DOE NGEE Arctic field crew in place
- Wx: partly to mostly cloudy, no precipitation
- Landed in PAFA Fairbanks FBO Alaska Aerofuels

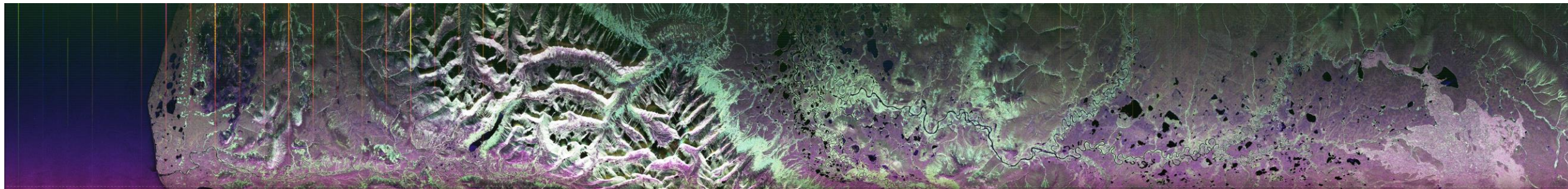




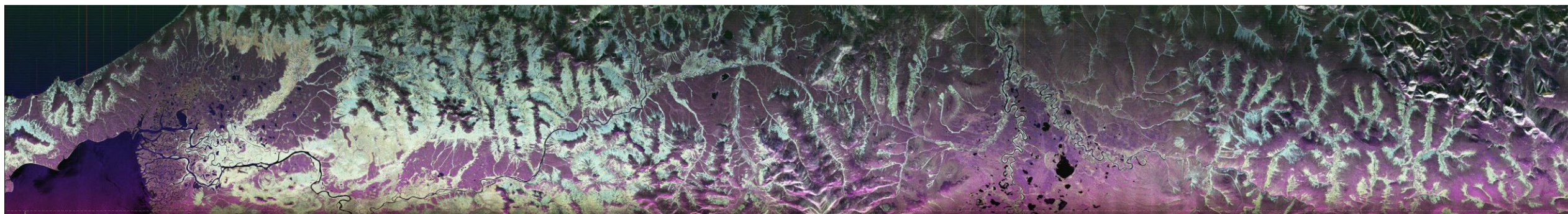
19 August 2022 – DOY 231
Seward Peninsula



False color PolSAR Quicklooks



teller_04901 – Coordination with NGEE Arctic, Teller and Kougarok watersheds, burn scar history



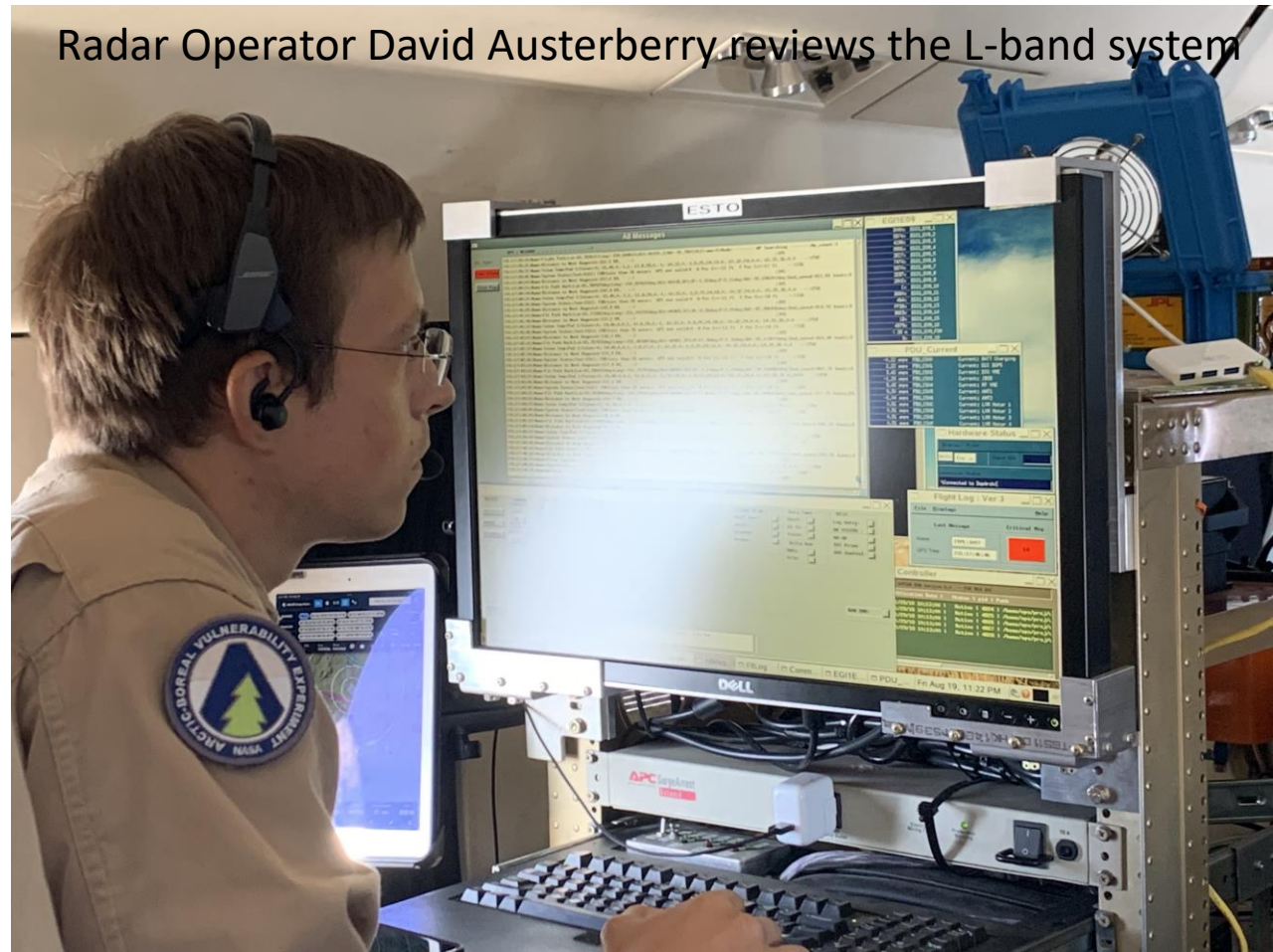
council_32519 – Coordination with NGEE Arctic, Council watershed, burn scar history



19 August 2022 – DOY 231 Seward Peninsula



Pilots "Biggs" and Liz Ruth at work



Radar Operator David Austerberry reviews the L-band system

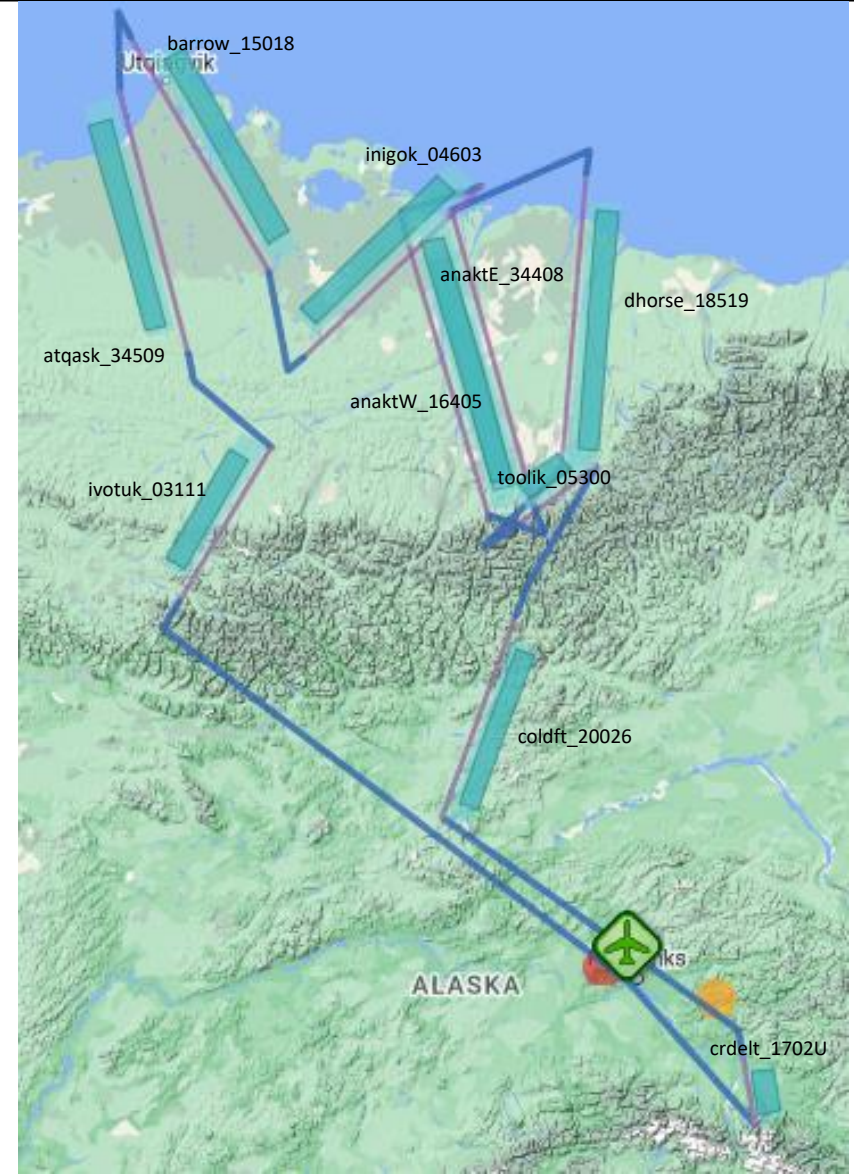


20 August 2022 – DOY 232 North Slope



Operations Summary:

- PAFA Fairbanks FBO Alaska Aerofuels
- Crew: Liz Ruth, Shawn (Biggs) Kern, Joe Piotrowski, Carrie Worth
- Instrument Operator: David Austerberry
- Data Processor: Adam Vaccero
- Scientists On Board: Liz Hoy, Chip Miller
- NASA Communications On Board: Katie Jepson, Sofie Bates
- Science Flight takeoff at 0900 local
- Flight Plan: [1825 v01](#); Flown Plan: [22036](#)
- 10 lines planned, 10 lines flown with no issues
- Nominal Aircraft Operations
- Radar performed as planned on all lines
- 4 teams in the field under the lines (Oechel, Douglas, Rocha, Iwahana)
- Wx: mostly cloudy, no precipitation
- Landed in PAFA Fairbanks FBO Alaska Aerofuels

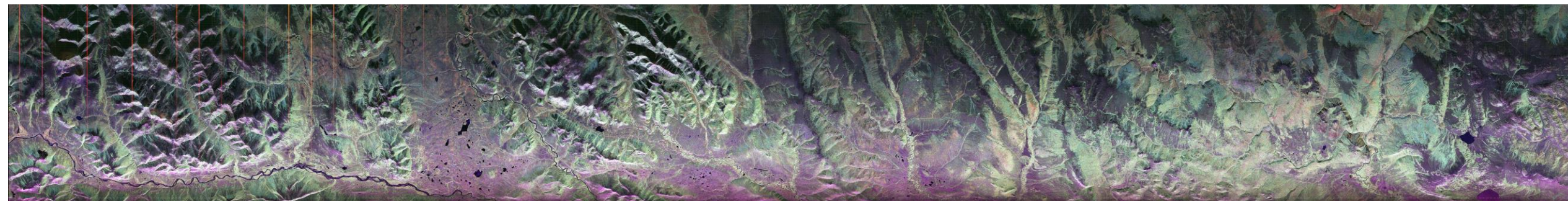




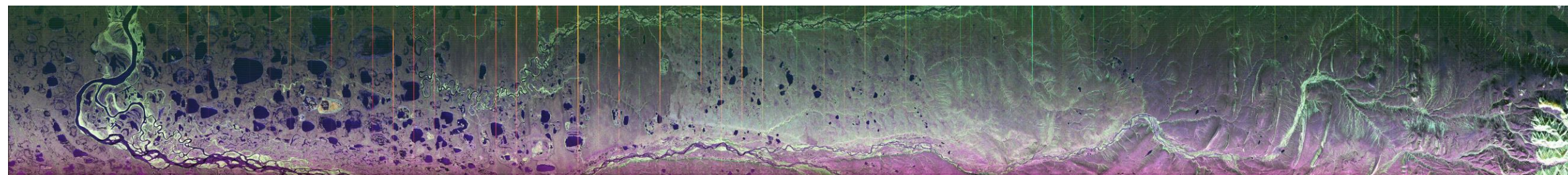
20 August 2022 – DOY 232
North Slope



False color PolSAR Quicklooks



coldfo_20026 – recent fire scars (from 2022)



anaktW_16405 – Anaktuvuk fire scar, Rocha team in field, recent sampling by Iwahana team



20 August 2022 – DOY 232 North Slope



Chip, Joe, "Biggs", David, Liz R., Katie J., Carrie, Liz H. prep for the flight



Carrie explains the flight tracks to the NASA Communications team

