
Science Flight Report

Operation IceBridge Arctic 2012



Flight: F24
Mission: Southeast Mopup 01

Flight Report Summary

Aircraft	P-3B (N426NA)
Flight Number	25
Flight Request	12P006
Date	Wednesday, April 18, 2012 (Z)
Purpose of Flight	Operation IceBridge Mission Southeast Mopup 01
Take off time	10:15 Zulu from Kangerlussuaq (BGSF)
Landing time	17:27 Zulu at Kangerlussuaq (BGSF)
Flight Hours	7.4 hours
Aircraft Status	Airworthy.
Sensor Status	All installed sensors operational.
Significant Issues	None.
Accomplishments	<ul style="list-style-type: none">• Low-altitude survey (1,500) of glaciers and ice sheet profiles.• ATM, snow, Ku-band, accumulation radar, MCoRDS gravimeter, magnetometer, DMS and KT-19 skin temperature sensor were operated on the survey lines.• Pitch and roll maneuvers for snow and Ku-band radar.• Ramp pass at 1,500 ft AGL at Kangerlussuaq.
Geographic Keywords	Kangerdlugssuaq Glacier
Satellite Tracks	ICESat 0263
Repeat Mission	None

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
ATM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6.9 GB	None
MCoRDS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.8 TB	None
Snow Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	700 GB	None
Ku-band Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	700 GB	None
Accumulation Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	180 GB	None
DMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	96.8 GB	None
KT-19 Skin Temp.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9.3 MB	None
Gravimeter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.5 GB	None
Magnetometer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	520 MB	None

Mission Report (Michael Studinger, Mission Scientist)

Today's mission was designed in the field to complete unfinished lines from the Helheim-Kangerdlugssuaq Gap 01 and Helheim-Kangerdlugssuaq missions previously flown. We also repeated some of the lines that have been covered in fog yesterday. We had a weather window that fit the spatial extend of this mission.

Thanks to the high pressure ridge along the northeast coast of Greenland, the weather was great as expected. We only lost 2% of ATM data because the range was exceeded over steep topography. We collected 6.9 hours of science data.

Individual instrument reports from experimenters on board the aircraft:

ATM: Both ATM systems worked well and collected good data along the entire line in cloud free conditions. ATM collected a total of 6.9 hours of science data with 98% coverage.

MCoRDS: The MCoRDS system worked well.

Snow and Ku-band radar: The snow and Ku-band radars worked well on the primary system.

Accumulation radar: Worked well today.

Gravimeter: Worked well.

Magnetometer: Worked well and used the SGL data logger today without problems.

DMS: DMS worked well.

KT-19 skin temperature sensor: System worked well.

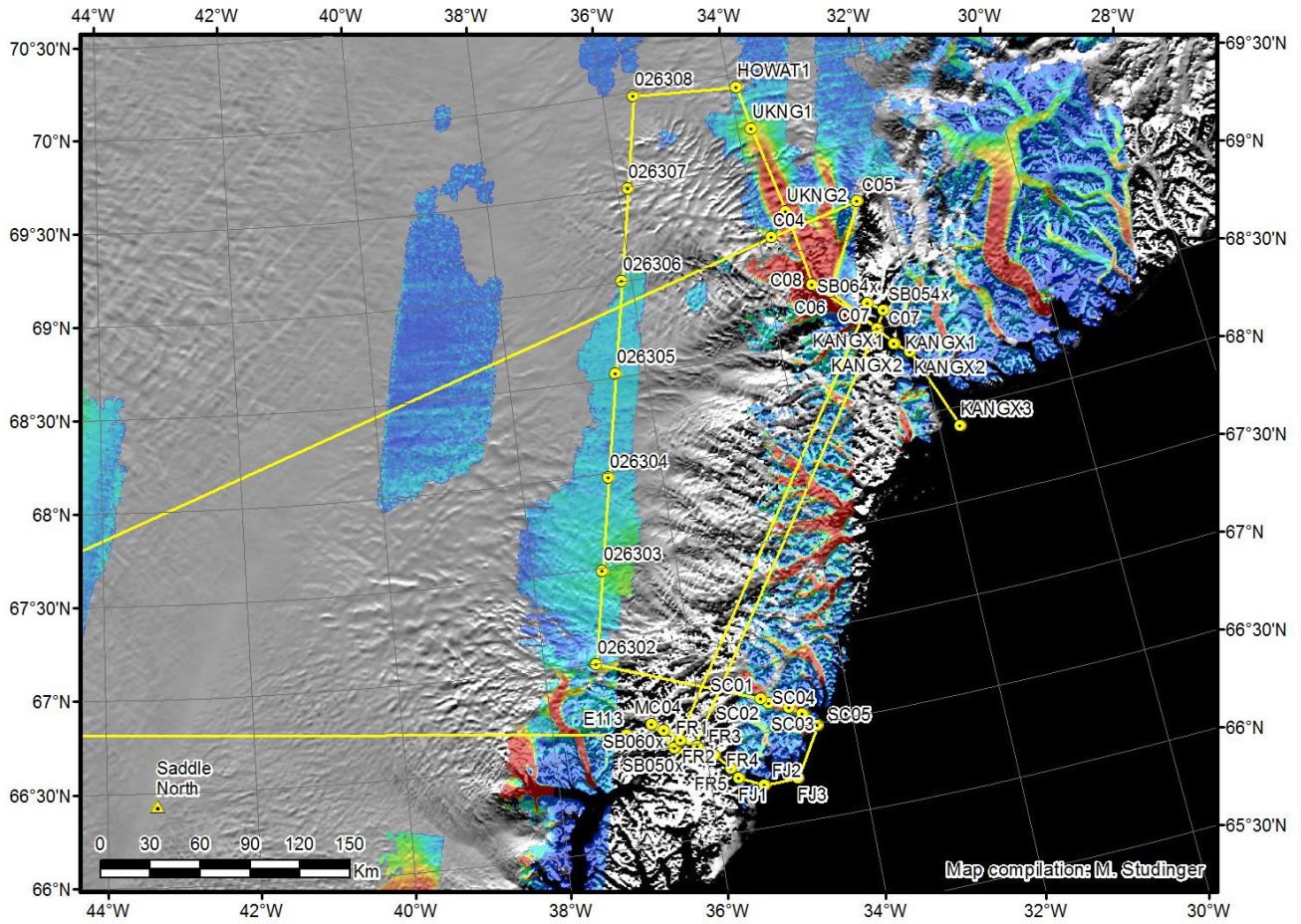


Figure 1: Today's mission plan (yellow).

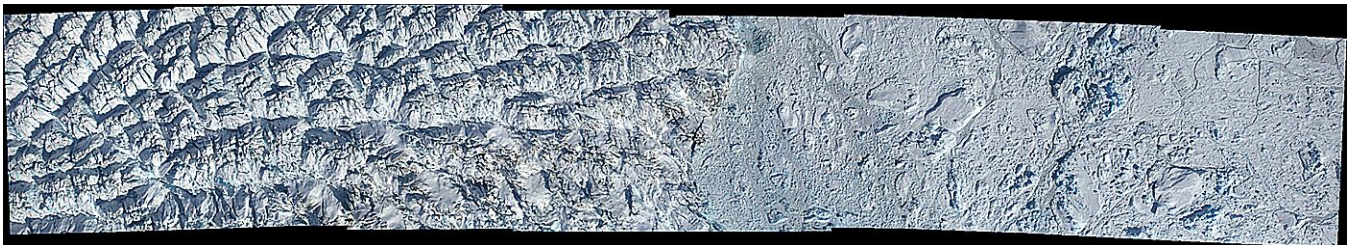


Figure 2: DMS mosaic of the calving front of Glacier de France. DMS/James Jacobson.