
Science Flight Report

Operation IceBridge Arctic 2012



Flight: F43
Mission: North Flux 01

Flight Report Summary

Aircraft	P-3B (N426NA)
Flight Number	44
Flight Request	12P006
Date	Wednesday, May 16, 2012 (Z)
Purpose of Flight	Operation IceBridge Mission North Flux 01
Take off time	11:00 Zulu from Thule Air Base (BGTL)
Landing time	18:37 Zulu at Thule Air Base (BGTL)
Flight Hours	8.0 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.• Completed entire mission as planned.• ATM, snow, Ku-band, accumulation radar, MCoRDS gravimeter, magnetometer, DMS and KT-19 skin temperature sensor were operated on the survey lines.
Geographic Keywords	North Greenland, Ryder, Ostenfeld, Academy and Hagen Glaciers
Satellite Tracks	1291,0056
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"/>	74 GB	None
MCoRDS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.9 TB	None
Snow Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	724 GB	None
Ku-band Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	724 GB	None
Accumulation Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	195 GB	None
DMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	85.2 GB	None
KT-19 Skin Temp.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10 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"/>	530 MB	None

Mission Report (Michael Studinger, Mission Scientist)

This is a new mission, designed to connect with and continue the coastal flux line in the Humboldt Petermann 01 flight to the east. It also augments this line with a pair of coast-parallel grids situated on the upstream areas of large outlet glaciers in the area, including Ryder, Ostenfeld, Academy and Hagen Glaciers. We also make a crossing pass of Academy Glacier nears its terminus and a centerline pass as well. The north coastal grid is continued in the east in the North Glaciers 02 mission. We transit to and from the area along ICESat ground tracks.

The weather could not have been better today.

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 7.1 hours of science data with 99% coverage. Only the lower parts of Academy Glacier had some clouds below the aircraft.

MCoRDS: The MCoRDS system worked well.

Snow and Ku-band radar: The snow and Ku-band radars worked well.

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.

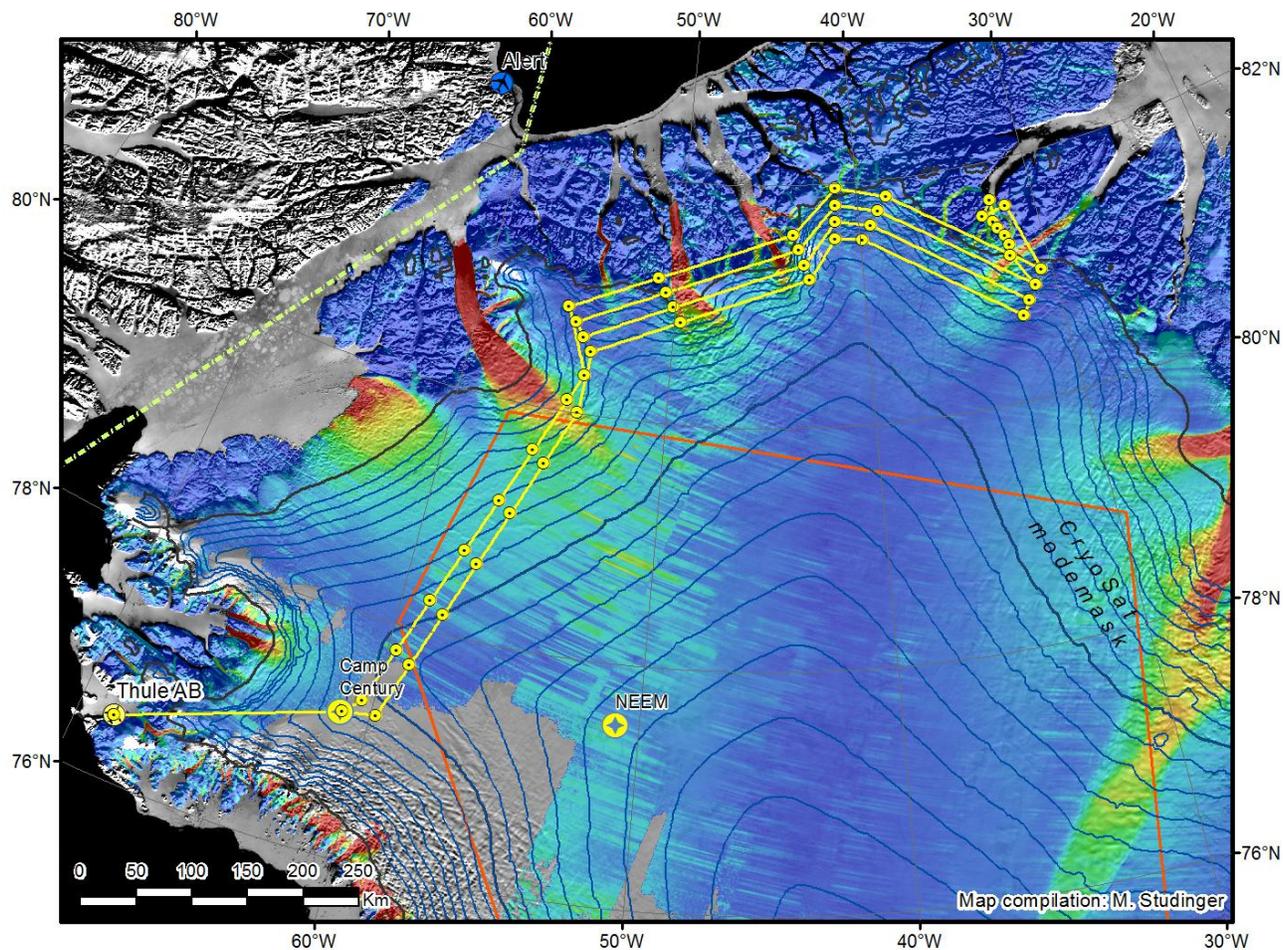


Figure 1: Today's mission plan in yellow.

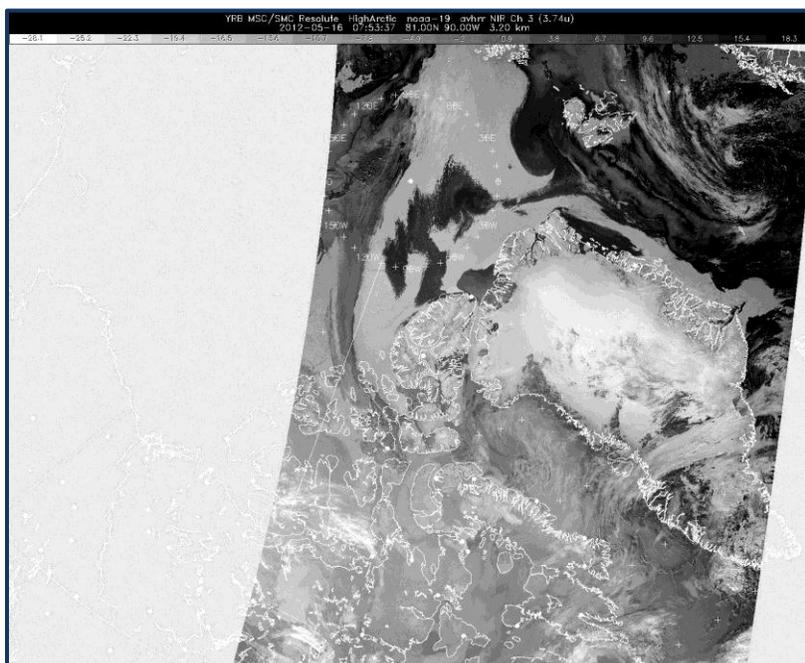


Figure 2: Satellite image showing severe clear conditions today and low coastal clouds.