

Science Flight Report

Operation IceBridge Arctic 2010



Flight: 16
Mission: Transit Thule Air Base – Kangerlussuaq (SFJ)

Flight Report Summary

Aircraft	DC-8 (N817NA)
Flight Number	100217
Flight Request	108013
Date	Thursday, April 22, 2010 (Z), Day of Year 112
Purpose of Flight	Operation IceBridge transit flight Thule Air Base to Kangerlussuaq
Take off time	14:09:16 Zulu from Thule Air Base (BGTL)
Landing time	16:01:13 Zulu at Kangerlussuaq (SFJ)
Flight Hours	1.9
Aircraft Status	Airworthy. Maximum flight elevation is limited to 25,000 ft because of a leak in the cabin oxygen regulator.
Sensor Status	All installed sensors operational.
Significant Issues	None
Accomplishments	<ul style="list-style-type: none"> • High-altitude survey (25,000 ft AGL) of targets of opportunity along the transit route from Thule Air Base to Kangerlussuaq (SFJ). • LVIS, DMS, and POS/AV in operation throughout target areas. • Gravimeter was operated during the entire flight. • ATM, MCoRDS, Ku-band and snow radar were not operated on this mission due to high altitude transit flight. • Conducted LVIS instrument calibration maneuvers over sea ice.
Geographic Keywords	Baffin Bay, Rink Isbræ, Jakobshavn Isbræ, Sermeq Kujatdleq, Kangia, Thule, Kangerlussuaq, Søndre Strømfjord, Greenland
ICESat Tracks	None
Repeat Mission	No

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
ATM + Cambot	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
MCoRDS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
Snow Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
Ku-band Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
LVIS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	20 GB	None
DMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	11 GB	None
POS/AV (510 + 610)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 GB	None
Gravimeter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	40 MB	None
DC-8 Onboard Data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10 MB	None

Mission Log (Michael Studinger, Mission Scientist)

Today's mission is a target of opportunity survey along the transit route from Thule Air Base to Kangerlussuaq/Søndre Strømfjord. After takeoff in Thule we crossed Baffin Bay on the way to Upernavik. We then continued on towards Rink Isbræ to collect a cross-line over a previous LVIS data set that we have collected on Flight 09 in support for DESDynI mission development (Flight No 100301, Flight Request No 108014). From there we flew straight down towards Kangerlussuaq/Søndre Strømfjord with spectacular views of Jakobshavn Isbræ and the Ilulisat Ice Fjord along the way.

We offloaded science equipment in Kangerlussuaq for the upcoming P-3 deployment.

Individual instrument reports from experimenters on board the aircraft:

LVIS: LVIS collected data over the sea ice and over selected land ice targets.

ATM: Was not in operation during today's flight.

MCoRDS: Was not in operation during today's flight.

Snow and Ku-Band radar: Not in operation during today's flight.

Gravimeter: System worked normally. No problems.

DMS: System worked well. No problems. DMS collected data over selected land ice targets.

POS/AV: System worked well. No issues.

DC8 on board data: System worked well.

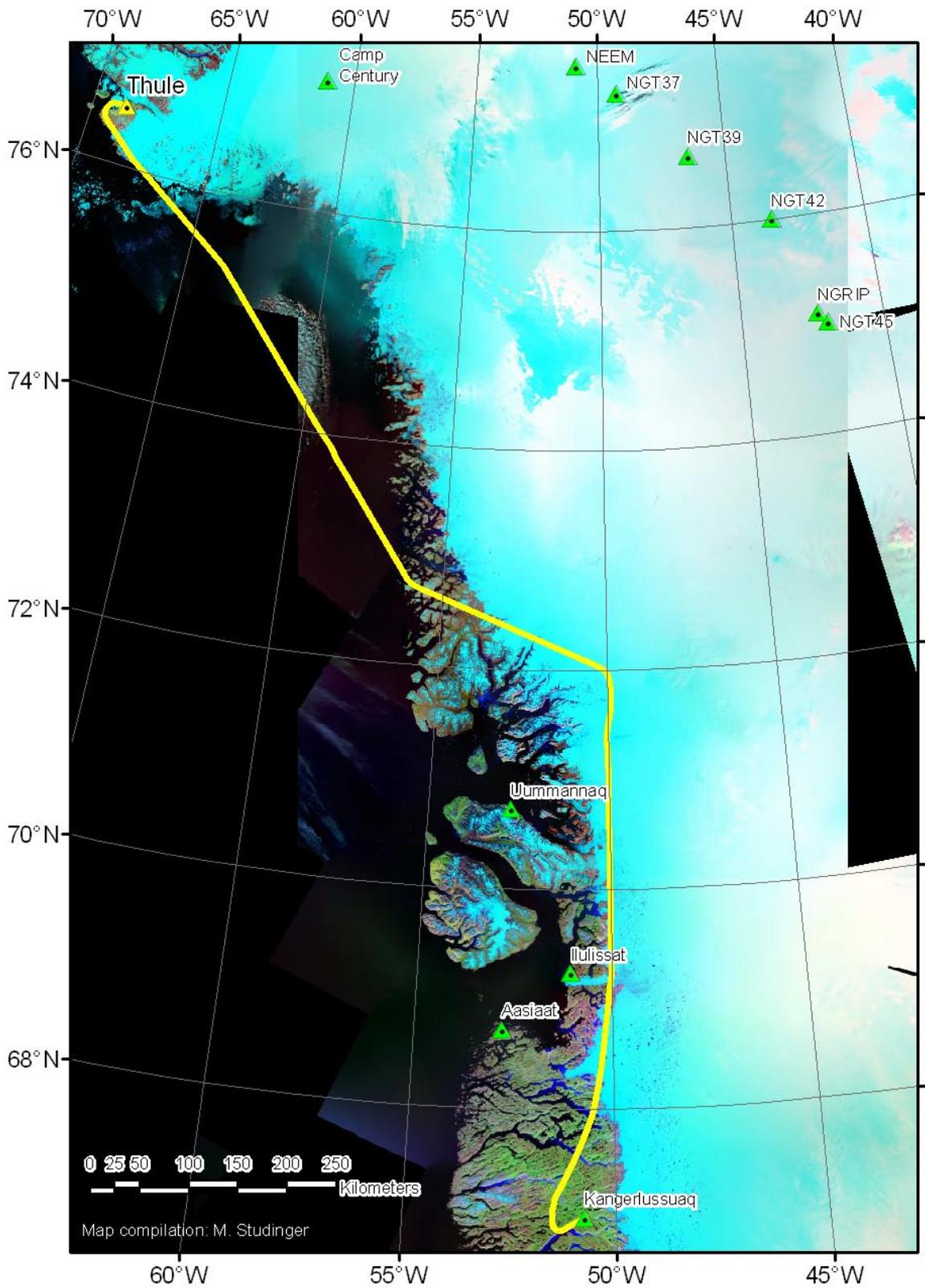


Figure 1: Flight 16 transit from Thule to Kangerlussuaq. Basemap are Landsat 7 mosaic.