
Science Flight Report

Operation IceBridge Arctic 2012



Flight: F19
Mission: East Central Grid 01

Flight Report Summary

Aircraft	P-3B (N426NA)
Flight Number	20
Flight Request	12P006
Date	Friday, April 13, 2012 (Z)
Purpose of Flight	Operation IceBridge Mission East Central Grid 01
Take off time	10:34 Zulu from Kangerlussuaq (BGSF)
Landing time	16:06 Zulu at Kangerlussuaq (BGSF)
Flight Hours	7.7 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.• Several pitch and roll maneuvers for snow and Ku-band radar calibration.• Ramp pass at Kangerlussuaq at 1,500 ft AGL.
Geographic Keywords	Geikie Plateau
Satellite Tracks	ICESat tracks 0070,0314,0195,0189
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"/>	73 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"/>	680 GB	None
Ku-band Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	680 GB	None
Accumulation Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	190 GB	None
DMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	101 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"/>	350 MB	None

Mission Report (Michael Studinger, Mission Scientist)

This is a new mission, one of a series of three intended to connect with and continue the east Greenland coast-parallel grid along ICESat lines to the south from the suite of Northeast Grid missions. This particular flight also supplements the Geikie 03/04 missions with one additional east-west master grid line along the southern side of the Geikie Plateau.

Thanks to the high pressure ridge along the northeast coast of Greenland, the weather was great as expected. We only lost 3% of ATM data because the range of the lasers was exceeded over steep topography and because we encountered some ice fog along the coast.

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 97% coverage. 3% of data was lost because the range of the lasers was exceeded over steep topography and some ice fog.

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 LDEO data logger today without problems.

DMS: DMS worked well and collected 17550 frames on the primary system today.

KT-19 skin temperature sensor: System worked well, except for the beginning of the line.

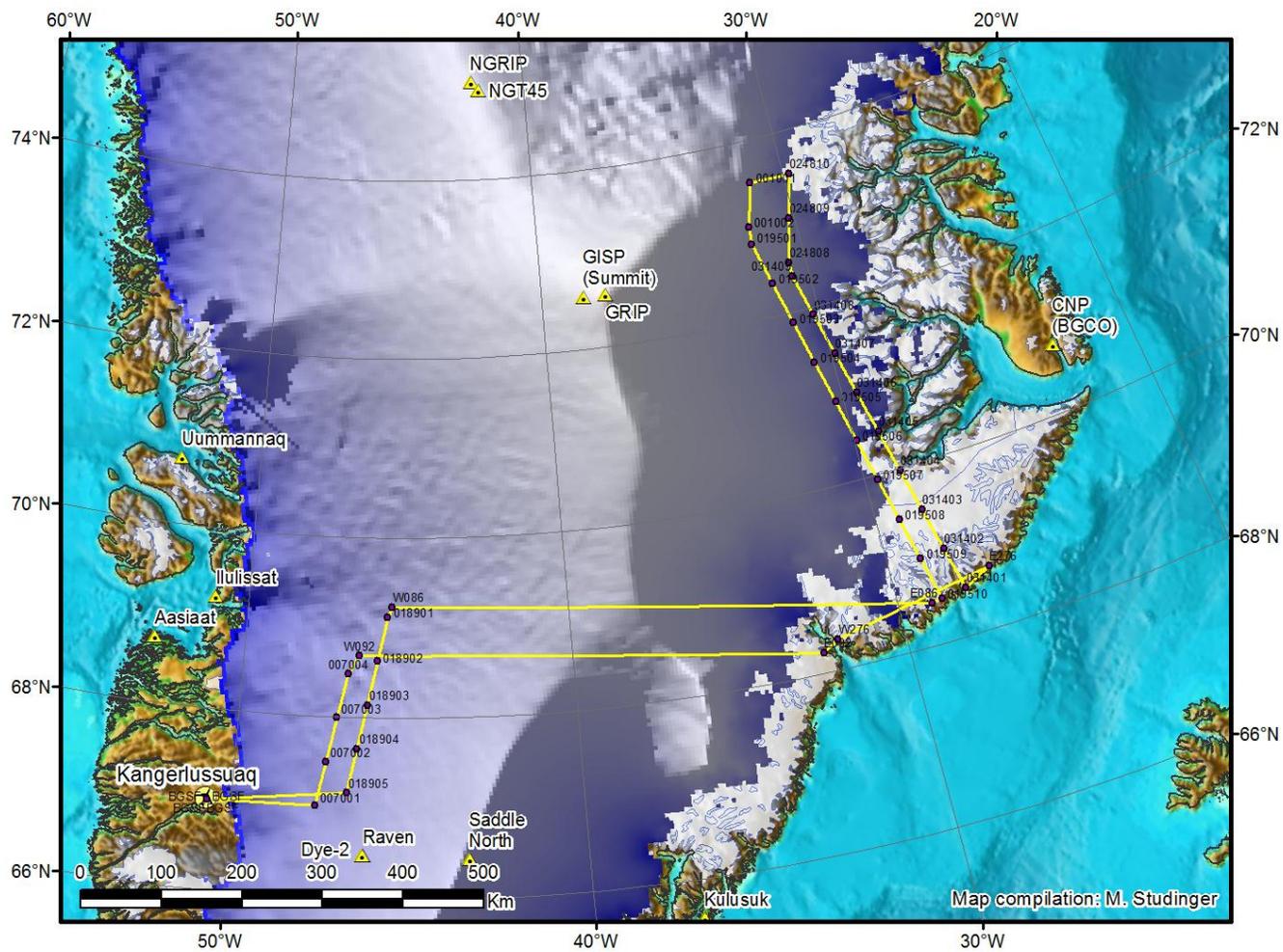


Figure 1: Today's mission plan (yellow).



Figure 2: DMS mosaic from today's flight from James Jacobson/DMS.