
Preliminary Science Flight Report

Operation IceBridge Arctic 2011



Flight: F22
Mission: SE Fjords 01

Flight Report Summary

Aircraft	P-3B (N426NA)
Flight Number	022
Flight Request	11P006
Date	Monday, April 18, 2011 (Z)
Purpose of Flight	Mission SE Fjords 01
Take off time	10:33 Zulu from Kangerlussuaq (BGSF)
Landing time	18:35 Zulu at Kangerlussuaq (BGSF)
Flight Hours	8.1 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 ft AGL) of four lines along the southeast coast of Greenland.• Completed two east-west master grid lines.• ATM, MCoRDS, accumulation, snow and Ku-band radars, gravimeter, magnetometer, POS/AV, and DMS were operated on the survey lines.• Ramp pass at 1,500 ft AGL for ATM calibration.• Pitch maneuvers over fjord for snow and Ku-band radar.
Geographic Keywords	Southeast Greenland
ICESat/CryoSat Track	ICESat track 0159
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"/>	63 GB	None
MCoRDS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2.3 TB	None
Snow Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	360 GB	None
Ku-band Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	390 GB	None
Accumulation Radar	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	315 GB	None
DMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	143 GB	None
POS/AV	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 GB	None
Gravimeter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	640 MB	None
Magnetometer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	480 MB	None

Mission Report (Michael Studinger, Mission Scientist)

Today's mission is a new design, which extends the southeast coastal grid to the seaward and to the south. The grid lines are spaced at 10 km. The main motivation for this mission is to get gravity and ice thickness data over the fjords.

The weather forecast predicted clouds and moderate turbulence on the northern side and a frontal system moving in from the south. The high cirrus clouds in the south did not pose a challenge but we had to climb above the clouds on the northern end of the lines, as expected, to maintain visibility. Other than that it was a perfect day.

Individual instrument reports from experimenters on board the aircraft:

ATM: worked very well.

MCoRDS: The MCoRDS system worked well.

Snow and Ku-band radar: The snow and Ku-band radars collected 100% data along the line. The four coastal lines have limited value because of the large elevation change.

Accumulation radar: worked well.

Gravimeter: Worked well. No issues.

Magnetometer: worked well.

DMS: worked very well.

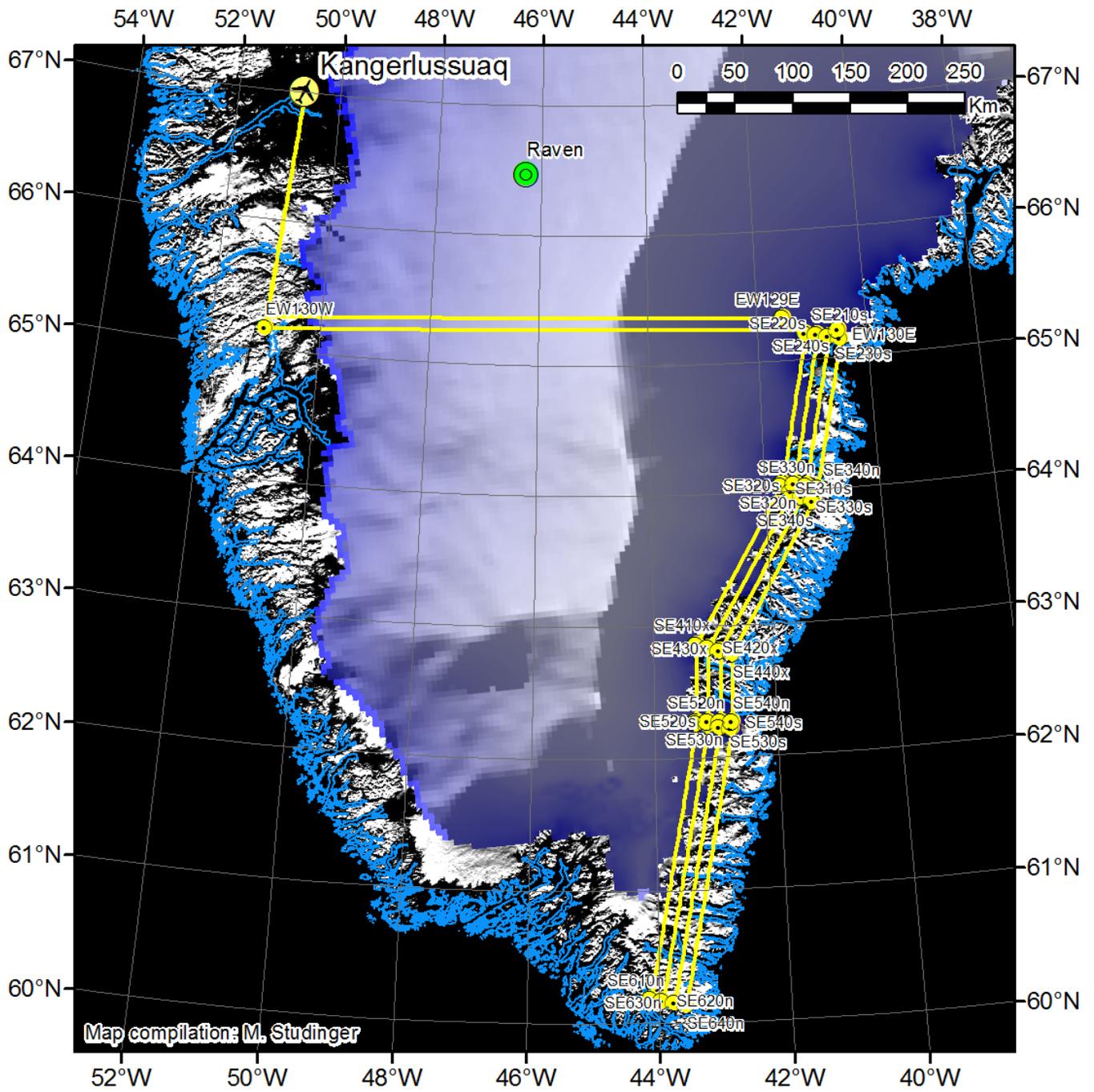


Figure 1: Mission plan for today's flight.

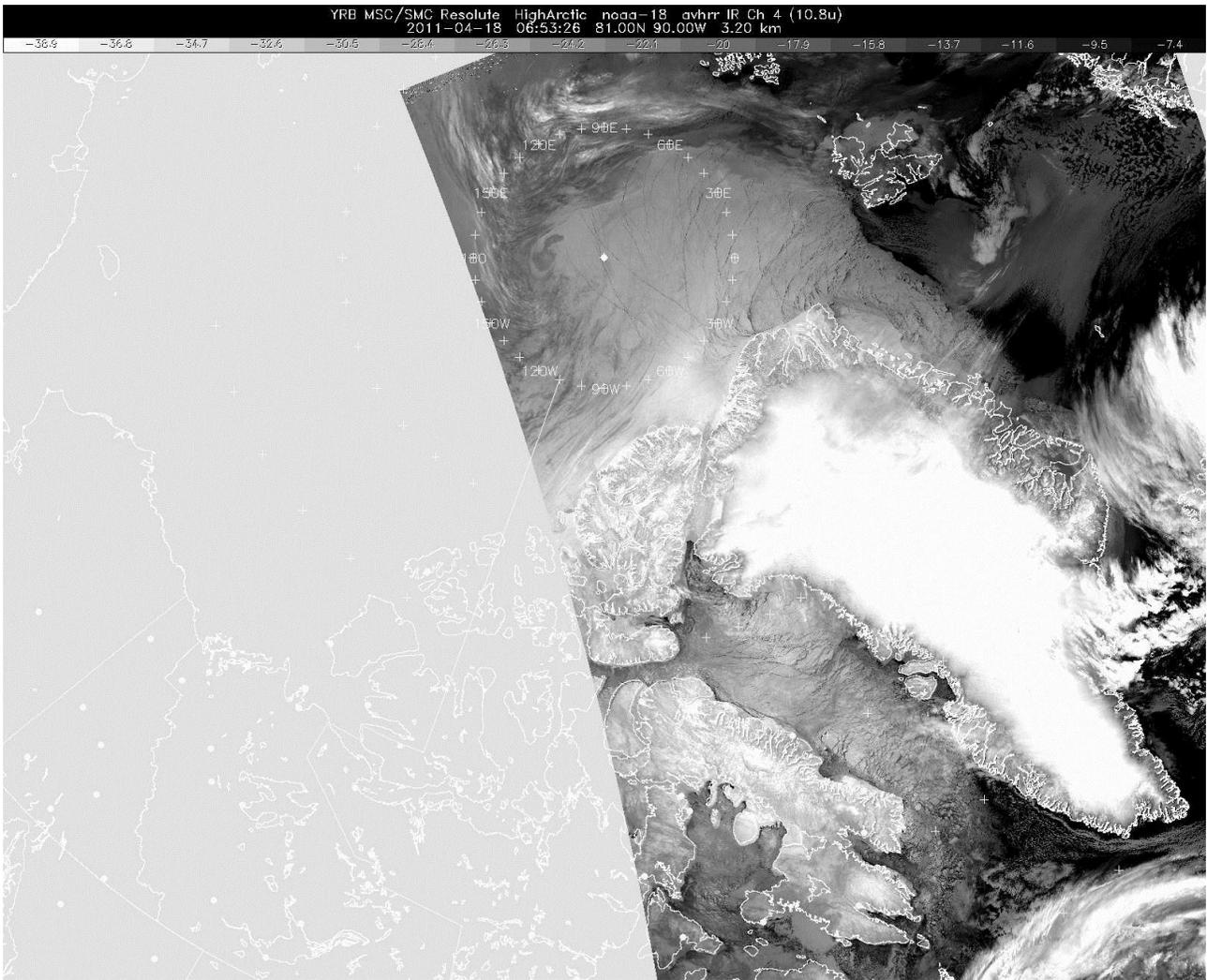


Figure 2: IR satellite image downloaded shortly before takeoff.