Science Flight Report
Operation IceBridge Arctic 2012

Flight: **F26**
Mission: **Southwest Coastal 01**

Flight Report Summary

Aircraft	**P-3B (N426NA)**
Flight Number	27
Flight Request	12P006
Date	Friday, April 20, 2012 (Z)
Purpose of Flight	Operation IceBridge Mission Southwest Coastal 01
Take off time	10:19 Zulu from Kangerlussuaq (BGSF)
Landing time	17:41 Zulu at Kangerlussuaq (BGSF)
Flight Hours	7.5 hours
Aircraft Status	Airworthy.
Sensor Status	All installed sensors operational.
Significant Issues	None.
Accomplishments	• 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 2,000 ft AGL at Kangerlussuaq.
Geographic Keywords	Southwest Greenland
Satellite Tracks	None
Repeat Mission	None

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
ATM	☑	☒	☒	73 GB	None
MCoRDS	☒	☒	☒	1.8 TB	None
Snow Radar	☑	☒	☒	680 GB	None
Ku-band Radar	☑	☒	☒	680 GB	None
Accumulation Radar	☑	☒	☒	180 GB	None
DMS	☑	☒	☒	108 GB	None
KT-19 Skin Temp.	☑	☑	☑	10 MB	None
Gravimeter	☑	☑	☑	1.5 GB	None
Magnetometer	☑	☑	☑	520 MB	None

Mission Report (Michael Studinger, Mission Scientist)

This is a new mission, one of a set of four which mirrors the coast-parallel coverage of the 2010-2011 Southeast Coastal missions in the southwest. All of the flightlines of all four missions replicate LVIS flight lines from 2011. This particular mission establishes a roughly 20 km grid along the west coast, decreasing to a spacing of approximately 10 km on the south coast.

The weather was perfect 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 7.5 hours of science data with 100% 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 and collected 18600 frames.

KT-19 skin temperature sensor: System worked well.

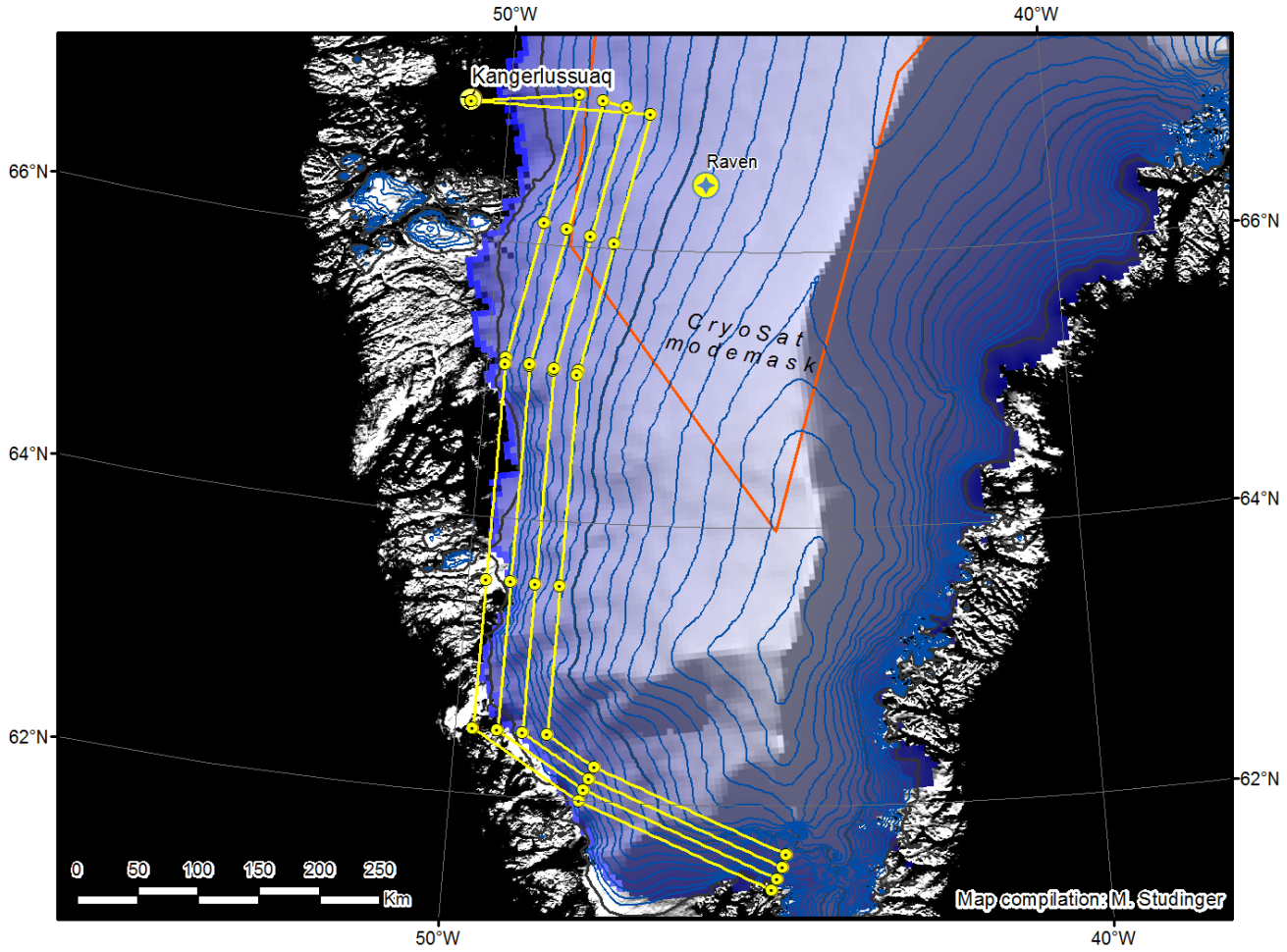

Figure 1: Today's mission plan (yellow).