Preliminary Science Flight Report
Operation IceBridge Arctic 2011

Flight: **F28**
Mission: **Baffin Bay Sea Ice**

Flight Report Summary

Aircraft	**P-3B (N426NA)**
Flight Number	028
Flight Request	11P006
Date	Thursday, April 28, 2011 (Z)
Purpose of Flight	Mission Baffin Bay Sea Ice
Take off time	10:35 Zulu from Kangerlussuaq (BGSF)
Landing time	13:15 Zulu at Thule Air Base (BGTL)
Flight Hours	2.8 hours.
Aircraft Status	Airworthy.
Sensor Status	All installed sensors operational.
Significant Issues	None
Accomplishments	• Low-altitude survey (1,500 ft AGL) along the transit route from Kangerlussuaq to Thule Air Base. We surveyed mostly sea ice targets over Disko Bay and Baffin Bay. • ATM, accumulation, snow and Ku-band radars, gravimeter, magnetometer, POS/AV, and DMS were operated on the survey lines. • MCoRDS was not operated due to sea ice mission. • Ramp pass at Thule at 1,000 ft AGL for ATM calibration. • Pitch maneuvers over North Star Bay for snow and Ku-band radar.
Geographic Keywords	Baffin Bay, Disko Bay.
ICESat/CryoSat Track	None.
Repeat Mission	None.

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
ATM	☑	☒	☒	26 GB	None
MCoRDS	☒	☒	☒	N/A	None.
Snow Radar	☑	☒	☒	125 GB	None
Ku-band Radar	☑	☒	☒	125 GB	None
Accumulation Radar	☒	☒	☒	94 GB	None
DMS	☑	☒	☒	54 GB	None
POS/AV	☑	☑	☑	2 GB	None
Gravimeter	☑	☑	☑	MB	None
Magnetometer	☑	☑	☑	MB	None

Mission Report (Michael Studinger, Mission Scientist)

The original plan for the transit from Kangerlussuaq to Thule was to fly along ICESat track 412 to Summit and then along the ice divide between NGRIP and NEEM. We had to stay at low elevation because of a sick crew member and surveyed sea ice targets in Disko and Baffin Bays instead.

The weather in the area was very good as expected.

Individual instrument reports from experimenters on board the aircraft:

ATM: worked very well.

MCoRDS: was not operated on today's flight because of sea ice mission.

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

Accumulation radar: worked well.

Gravimeter: Worked well. No issues.

Magnetometer: worked well.

DMS: worked very well.

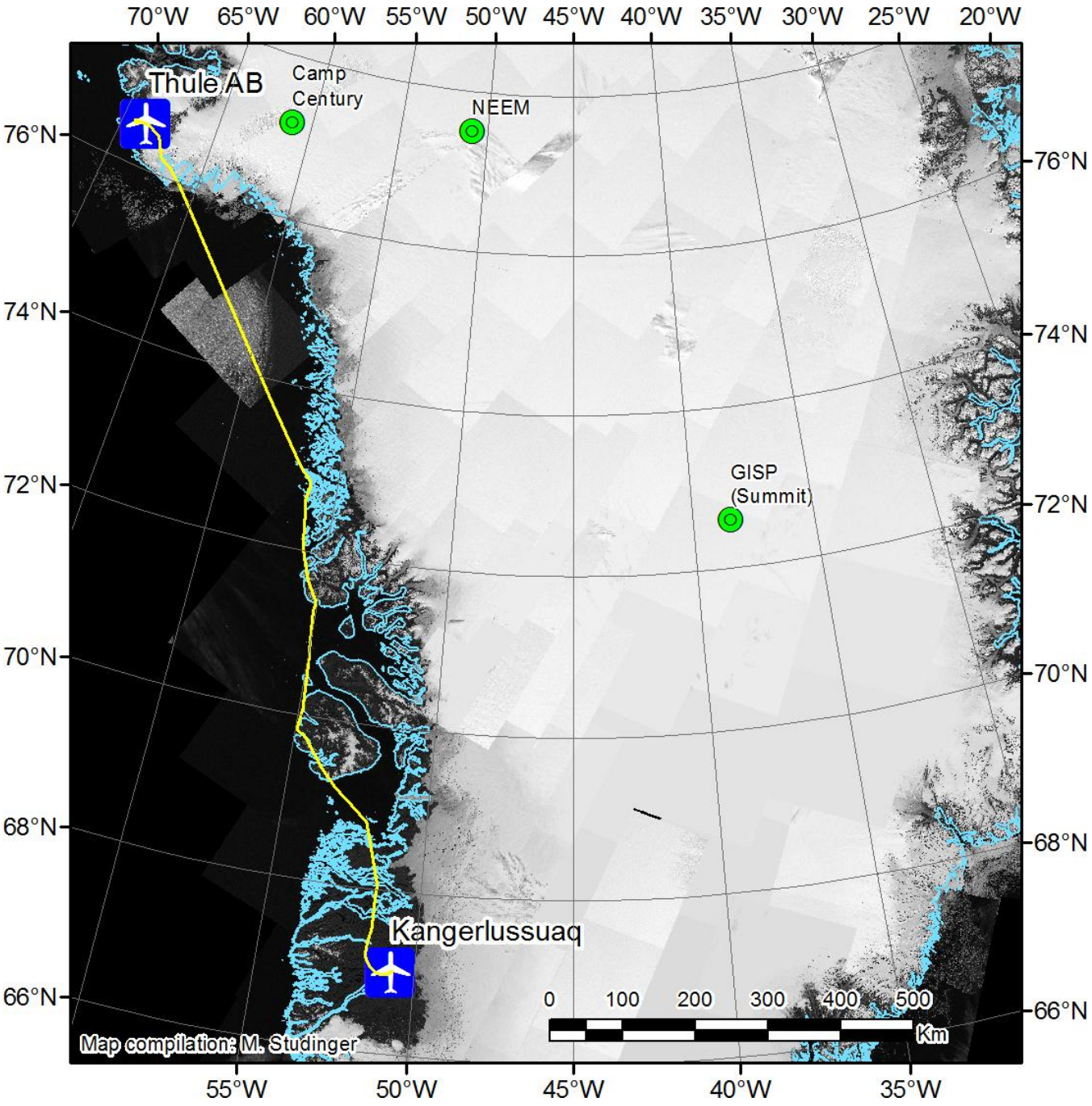

Figure 1: P-3 trajectory of today's flight.

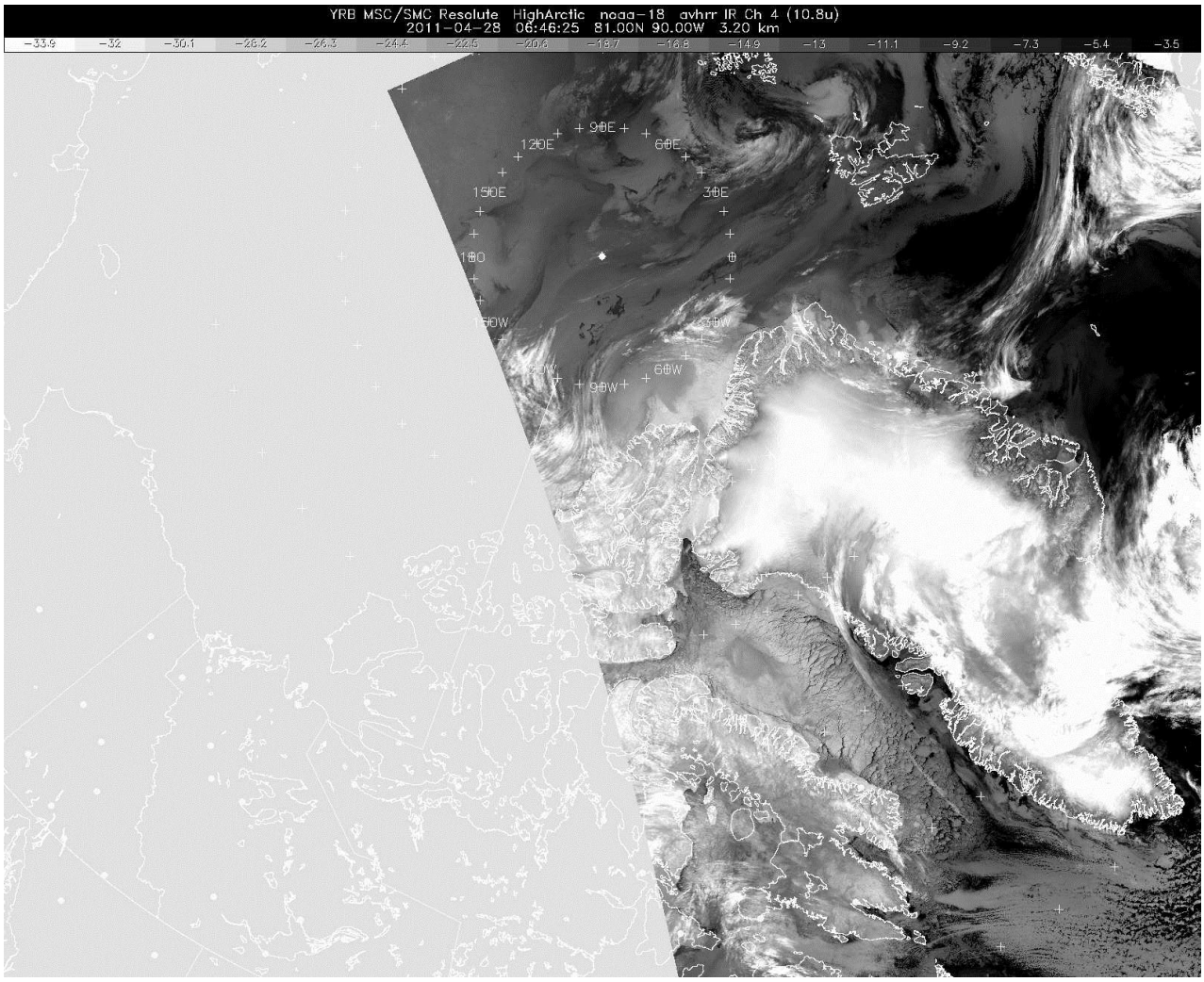

Figure 2: IR satellite image downloaded shortly before takeoff showing.

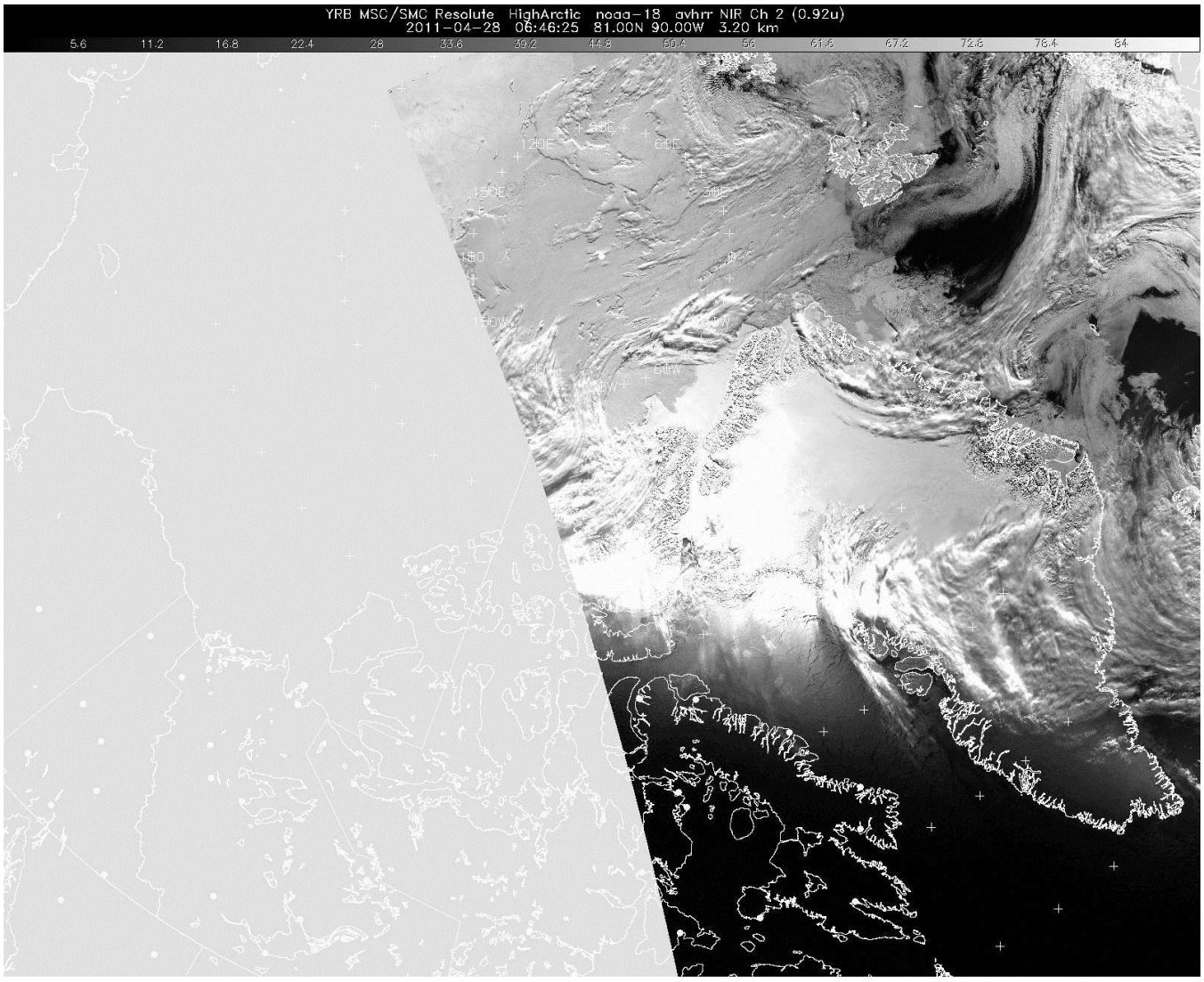

Figure 3: Visual satellite image downloaded shortly before takeoff.