

# Preliminary Science Flight Report

## Operation IceBridge Arctic 2011



**Flight:** F30  
**Mission:** NEIS 04

### Flight Report Summary

<b>Aircraft</b>	<b>P-3B (N426NA)</b>
<b>Flight Number</b>	030
<b>Flight Request</b>	11P006
<b>Date</b>	Monday, May 2, 2011 (Z)
<b>Purpose of Flight</b>	Mission NEIS 04
<b>Take off time</b>	11:01 Zulu from Thule Air Base (BGTL)
<b>Landing time</b>	18:35 Zulu at Thule Air Base (BGTL)
<b>Flight Hours</b>	7.8 hours.
<b>Aircraft Status</b>	Airworthy.
<b>Sensor Status</b>	All installed sensors operational.
<b>Significant Issues</b>	None
<b>Accomplishments</b>	<ul style="list-style-type: none"> <li>• Low-altitude survey (1,500 ft AGL) of a grid in the catchment area of the Northeast Greenland Ice Stream.</li> <li>• ATM, MCoRDS, accumulation, snow and Ku-band radars, gravimeter, magnetometer, POS/AV, and DMS were operated on the survey lines.</li> <li>• Two ramp passes at Thule at 1,500 ft AGL and 2,000 ft AGL for ATM calibration.</li> <li>• Two pitch maneuvers over North Star Bay for snow and Ku-band radar at the beginning and end of flight.</li> </ul>
<b>Geographic Keywords</b>	Northeast Greenland Icestream.
<b>ICESat/CryoSat Track</b>	0016, 0269.
<b>Repeat Mission</b>	Partial re-flight of 2010.

## Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
<b>ATM</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	66 GB	None
<b>MCoRDS</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.9 TB	None.
<b>Snow Radar</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	398 GB	None
<b>Ku-band Radar</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	398 GB	None
<b>Accumulation Radar</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	309 GB	None
<b>DMS</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	126 GB	None
<b>POS/AV</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 GB	None
<b>Gravimeter</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	640 MB	None
<b>Magnetometer</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	480 MB	None

### Mission Report (Michael Studinger, Mission Scientist)

Today's flight is a reflight of a 2010 IceBridge mission which was aborted due to aircraft problems. It fills a gap in the other three NEIS grid missions flown in 2010, yielding a complete 10-km grid of the lower Northeast Greenland Ice Stream. Planned missions NEIS 05 and NEIS 06 extend the coverage of this 10 km grid upstream.

The weather in the area was very good as expected.

#### Individual instrument reports from experimenters on board the aircraft:

**ATM:** worked very well. Some clouds in the west, but got intermittent data.

**MCoRDS:** worked well.

**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.

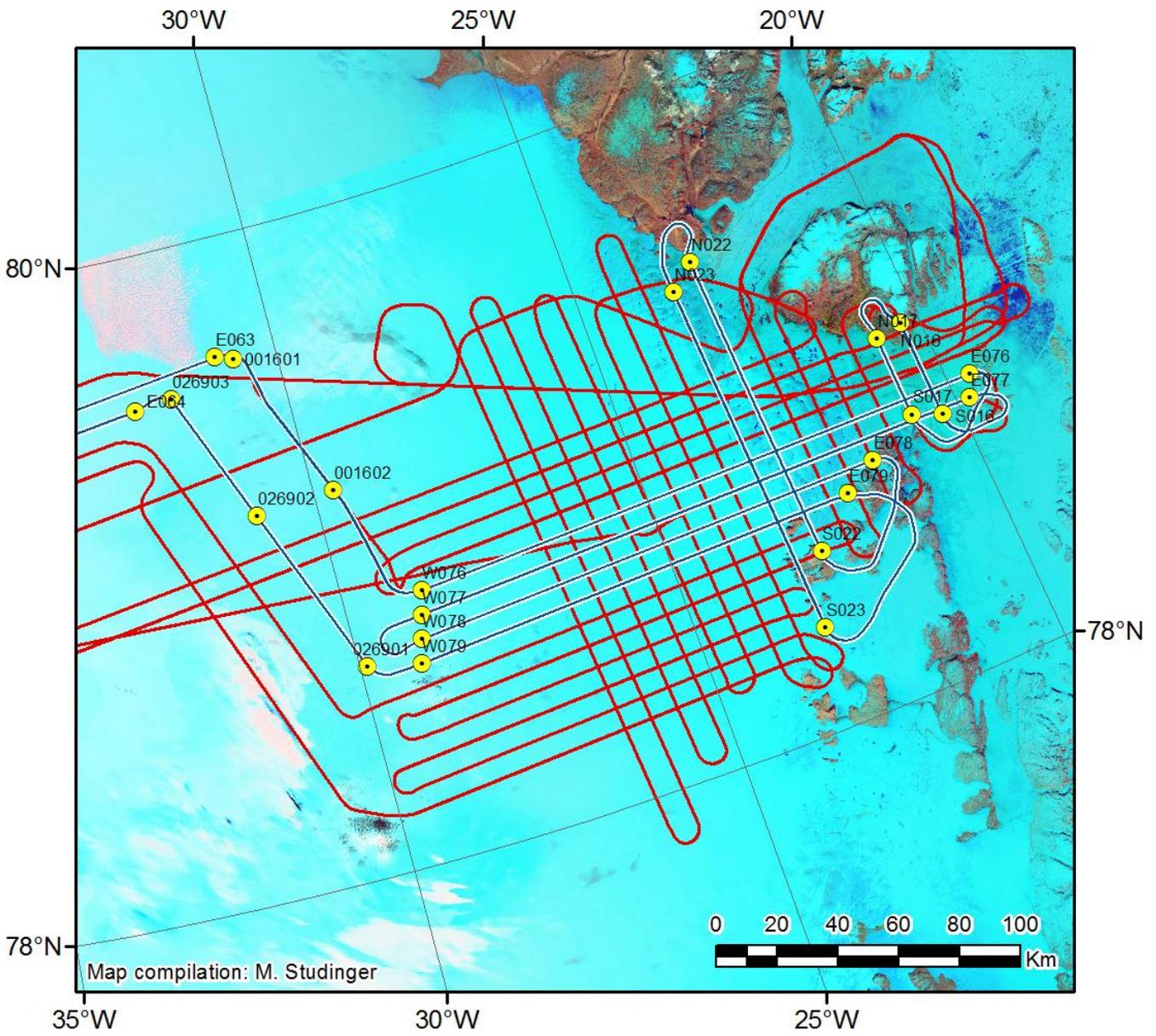


Figure 1: P-3 trajectory of today's flight in white/blue with waypoints and DC-8 and P-3 trajectories from last year (red).

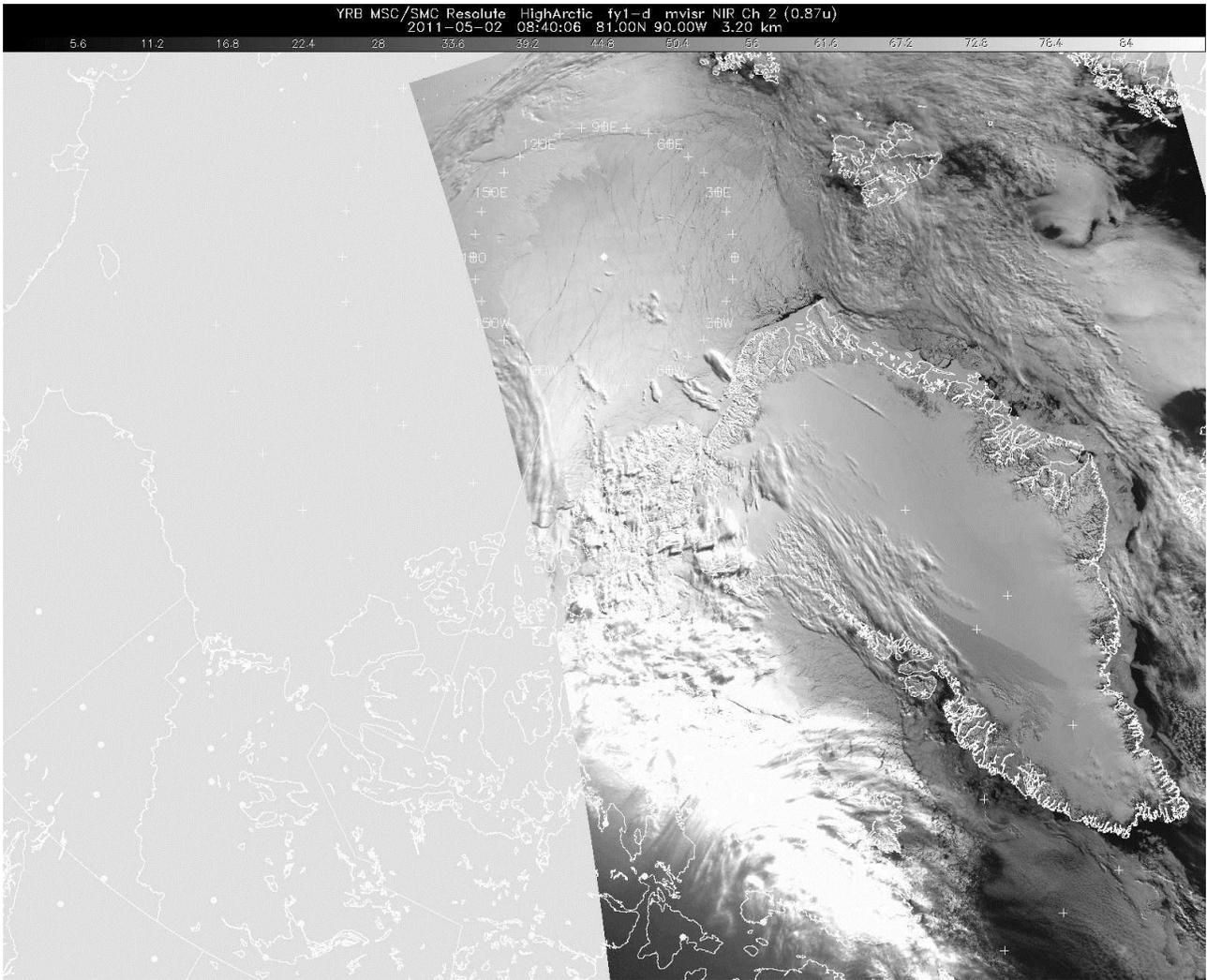


Figure 2: Visible satellite image downloaded shortly before takeoff showing.