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# Preliminary Science Flight Report

## Operation IceBridge Arctic 2011



**Flight:** F15

**Mission:** Magnetic compensation and radar calibration

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### Flight Report Summary

<b>Aircraft</b>	<b>P-3B (N426NA)</b>
<b>Flight Number</b>	015
<b>Flight Request</b>	11P006
<b>Date</b>	Saturday, April 9, 2011 (Z)
<b>Purpose of Flight</b>	Mission Magnetic compensation and radar calibration
<b>Take off time</b>	10:25 Zulu from Kangerlussuaq (BGSF)
<b>Landing time</b>	12:24 Zulu at Kangerlussuaq (BGSF)
<b>Flight Hours</b>	2.2 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>• pitch, roll, and yaw maneuvers at 20,000 ft along 4 grid lines for magnetic compensation.</li><li>• 60° and 90° roll maneuvers over water for MCoRDS calibration.</li></ul>
<b>Geographic Keywords</b>	None.
<b>ICESat/CryoSat Track</b>	None.
<b>Repeat Mission</b>	No.

## 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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>MCoRDS</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>Snow Radar</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>Ku-band Radar</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>Accumulation Radar</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>DMS</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>POS/AV</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>Gravimeter</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None
<b>Magnetometer</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	None

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

The weather over all science targets over south Greenland was poor today and we decided to do a magnetic compensation and radar calibration flight that cannot be combined with a survey flight because of the roll maneuvers. We started doing pitch, roll and yaw maneuvers in an area offshore with low magnetic gradients at FL200. After finishing the box, we headed further away from the coast to make sure we are far enough away from EMI sources. We did two 60° and two 90° rolls over water for MCoRDS calibration and also level flight.

Because of the deterioration in GPS positioning due to the extreme roll maneuvers no science data will be delivered to NSIDC from this flight.

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

**MCoRDS:** Collected all the necessary data for radar calibration.

**Magnetometer:** Collected all the necessary data for to determine magnetic compensation coefficients.

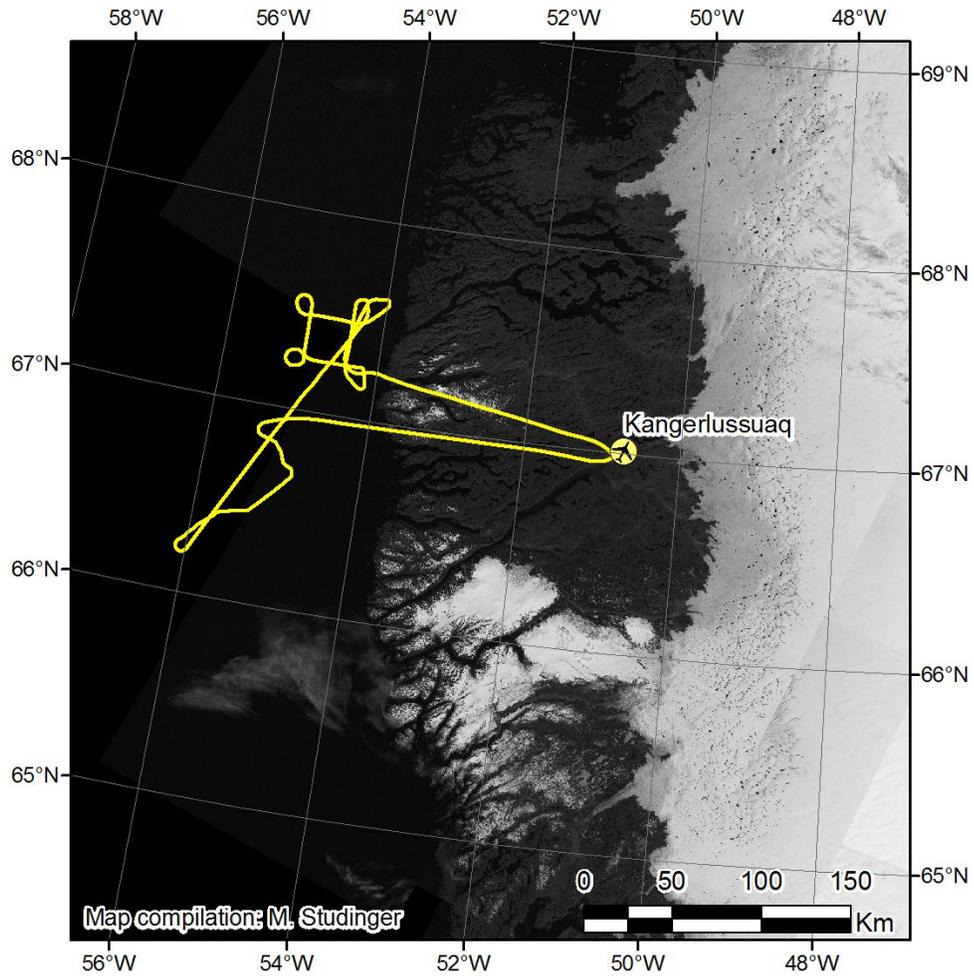


Figure 1: P-3 Trajectory for today's mission.

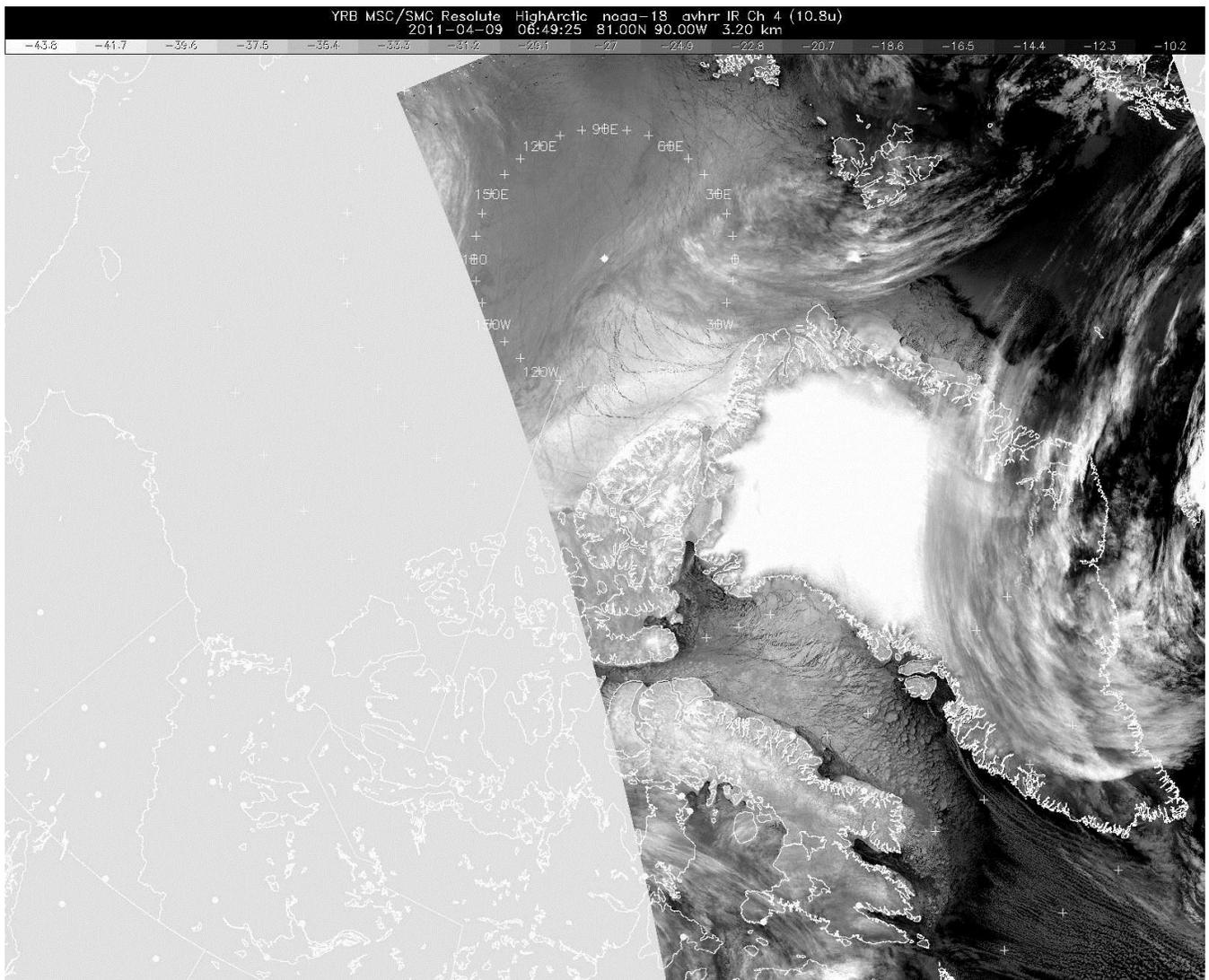


Figure 2: IR Satellite image downloaded shortly before takeoff showing significant cloud cover over south Greenland.