
Preliminary Science Flight Report

Operation IceBridge Arctic 2011



Flight: D18

Mission: Box 3 Flight 4

Flight Report Summary

Aircraft	LaRC B200 (NASA529)
Flight Number	D18
Flight Request	11-036 LaRC
Date	Saturday, May 7, 2011 (Z)
Purpose of Flight	Monitor surface elevation in the Southwestern part of Greenland, Complete grid sampling in Box 3.
Take off time	1142 Zulu from Kangerlussuaq (BGSF)
Landing time	1720 Zulu at Kangerlussuaq (BGSF)
Flight Hours	5.6
Aircraft Status	Airworthy
Sensor Status	All installed sensors operational.
Significant Issues	None.
Accomplishments	<ul style="list-style-type: none">• High-altitude survey (28,000 ft AGL) of the southwestern Greenland.• Completed grid lines in Box 3.• LVIS and camera were operated on the survey lines.• Ramp passes at BGSF at 17,000 ft.• Pitch and Roll maneuver over frozen fjord at BGSF
Geographic Keywords	Ice Sheet southwestern flank, East of Nuuk, Isunguata Sermia
ICESat/CryoSat Track	None
Repeat Mission	No

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
LVIS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	~60 GB	None
LVIS Camera	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	~10 GB	None
POS/AV	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2 GB	None

Mission Report (Bryan Blair, Instrument Operator and Scott Luthcke and Michelle Hofton, Mission Scientists, Report submitted by Lora Koenig)

Today's mission consisted was the forth to Box 3 which is located east of Nuuk, with Kavdlunatsait and Frederikshab Isblink on the coast at the boxes northern and southern end, respectively. As shown in the satellite image (Figure 1) the region was clear. Today's flight was planned to complete the grid surveys in Box 3 (Figure 2) as well as sample one glacier line in Box 4 and to resurvey Isunguata Sermia on way back to Kangerlussuaq.

The B200 took off at 1142 Zulu from Kangerlussuaq for the morning flight to Box 3. The plane transited to Box 3 through Box 4 on a costal glacier grid line heading south. The plane flew a crossing line of some of the coastal grid lines in Box 3 before heading north on grid line 314, south on 312 and north on 306, the last remaining grid line in Box 3. The plane transited through Box 4 for additional crossovers before flying down the Isunguata Sermia glacier line on the approach into Kangerlussuaq to ensure that the terminus region of the glarier was well surveyed. The plane landed at Kangerlussuaq at 1720 completing the science flight for the IceBridge B200 Arctic 2011 Campaign.

Figure 3 below shows the coverage to date of the LVIS/ B200 grids line from this campaign. Box 2, 3, 4 and 5 were all completed during the IceBridge B200 Arctic 2011 Campaign.

Detail flight notes from the Instrument Operator are still being processed and will be added at a later date.

Individual instrument reports from experimenters on board the aircraft:

LVIS: Worked well, ~99% coverage due to cloud cover, there was continued radio interference on transmit from some radio transmission. The interference should not cause any significant problem to the altimetry data.

LVIS Camera: Worked well, no issues.

POS/AV: Worked well, no issues.

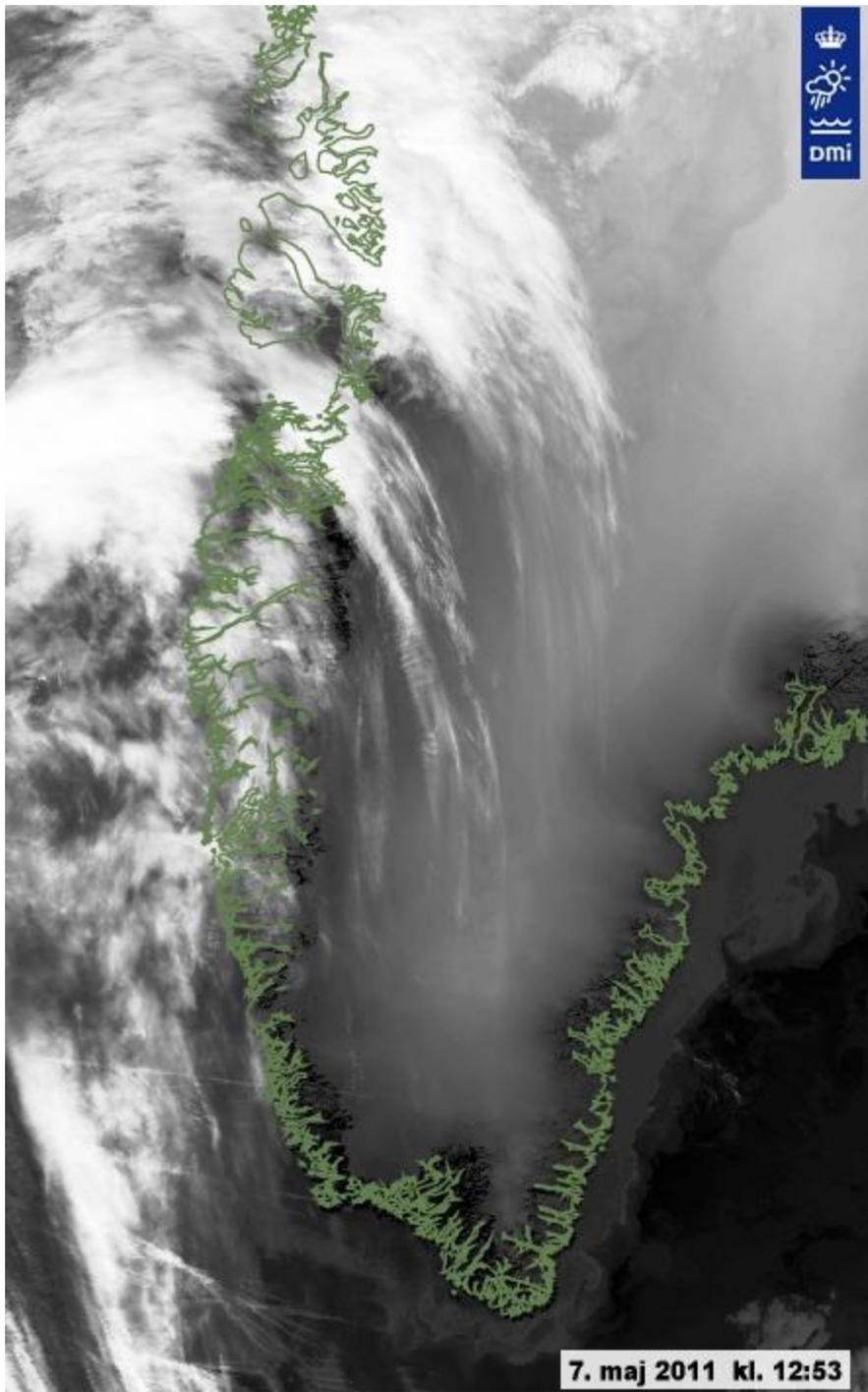


Figure 1: IR Satellite image taken during the flight.

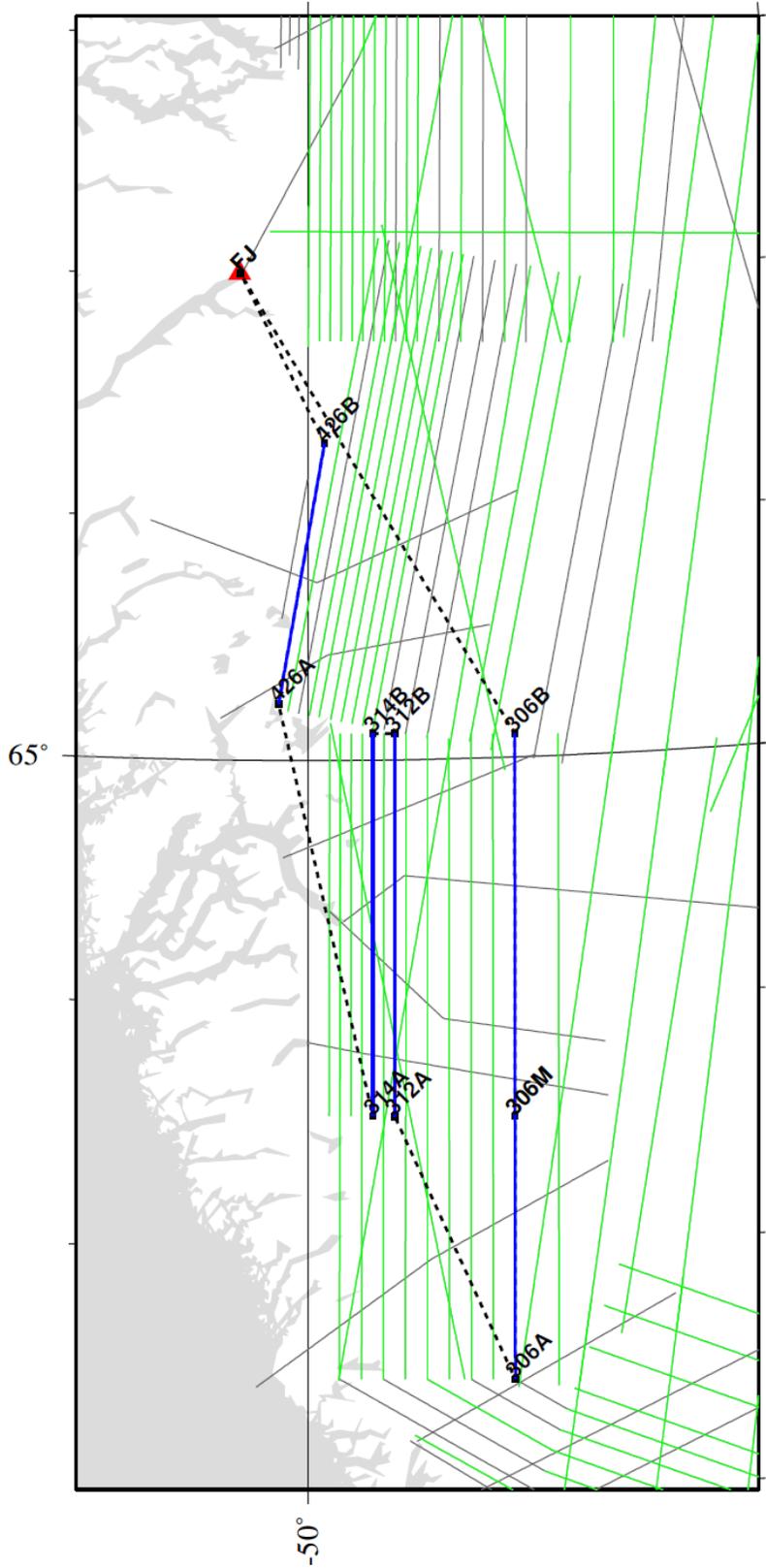


Figure 2: Proposed B200 flight plan for May 7, 2011 morning flight (Blue). Green lines are previously flown lines.

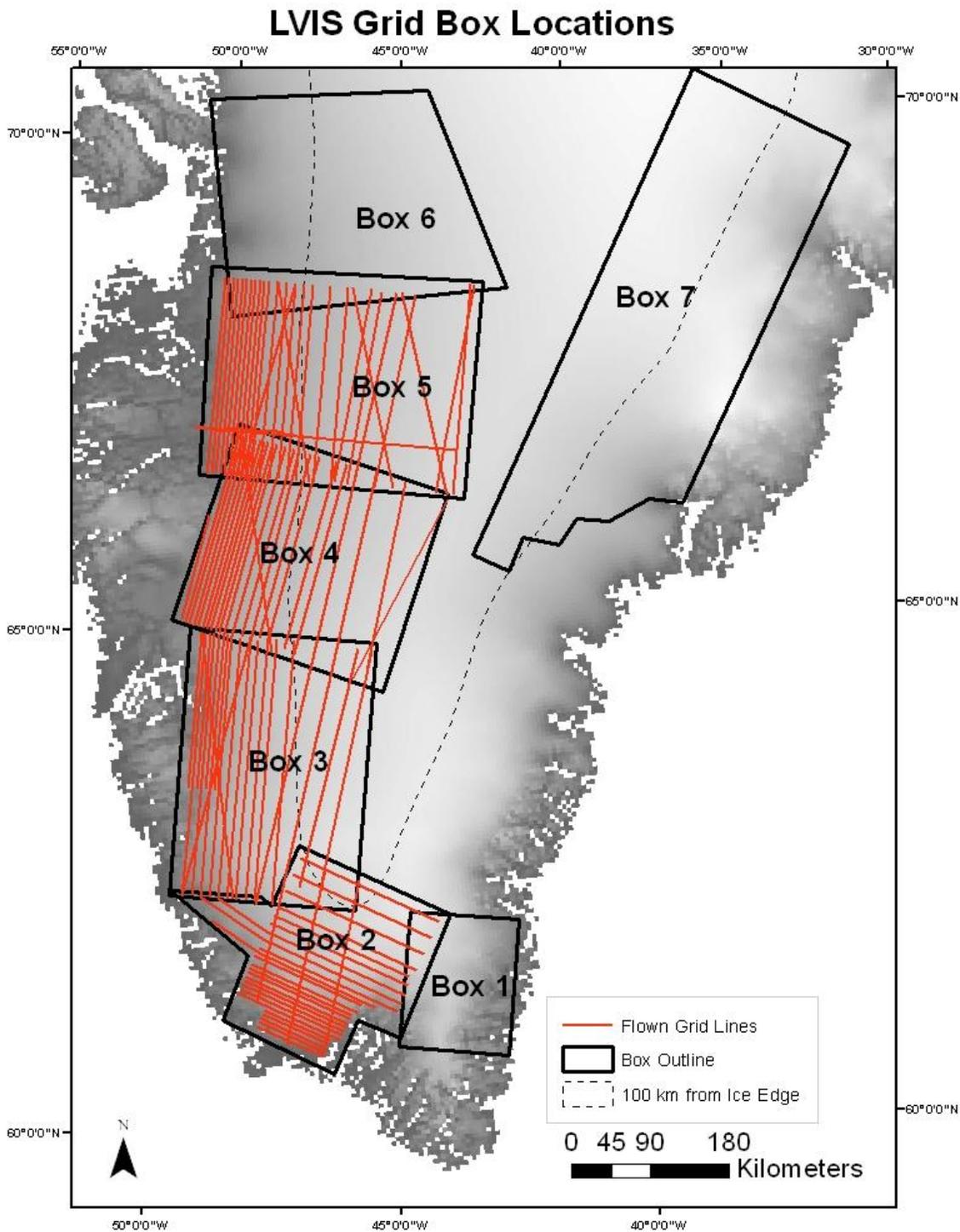


Figure 3: LVIS grid lines flown to date during the B200 Arctic 2011 Operation IceBridge Campaign showing completed grids in Box 2, 3, 4 and 5.