

Science Flight Report

Operation IceBridge Arctic 2010



Flight: 05
Mission: South-East Glaciers

Flight Report Summary

Aircraft	P-3B (N426NA)
Flight Number	893
Flight Request	10P002, 10P007
Date	Thursday, May 13, 2010 (Z)
Purpose of Flight	Operation IceBridge Mission South-East Glaciers
Take off time	12:30 Zulu from Kangerlussuaq/Søndre Strømfjord Airport (BGSF)
Landing time	18:47 Zulu at Kangerlussuaq/Søndre Strømfjord Airport (BGSF)
Flight Hours	6.5
Aircraft Status	Airworthy.
Sensor Status	All installed sensors operational.
Significant Issues	None.
Accomplishments	<ul style="list-style-type: none"> • Low-altitude survey (1,500 ft AGL) of 12 outlet glaciers along the southeast and southwest Greenland coasts, ICESat track 159, and master grid lines. • ATM, DMS, MCoRDS, accumulation and Ku-band and snow radar were operated on the survey lines. • Gravimeter was in operation throughout the entire flight. • Completed all survey lines as planned. • No ramp pass because of IFR approach.
Geographic Keywords	Southeast Greenland, Southwest Greenland, Ikerssuaq, Pikiutdleq, Køрге Bugt, Gyldenløves Fjord, A.B. Bernstorff Gletscher, Skinfaxe, Guldfox, Heimdal Gletscher, Kangiata Nunata Sermia, Akugdlerssup Sermia, Narssap Sermia, Tasetuau
ICESat Tracks	159
Repeat Mission	SE Glaciers (2009)

Science Data Report Summary

Instrument	Instrument Operational			Data Volume	Instrument Issues
	Survey Area	Entire Flight	High-alt. Transit		
ATM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	73 GB	None
MCoRDS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.6 TB	None
Snow Radar	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	310 GB	None
Ku-band Radar	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	310 GB	None
Accumulation Radar	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	232 GB	None
DMS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	82 GB	None
Gravimeter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	80 MB	None

Mission Report (Michael Studinger, Mission Scientist)

Today's mission is a reflight of a 2009 IceBridge mission in reverse. We skipped the part of the original plan over Sukkertoppen Isflade that we have flown previously. The primary objective of today's mission is to continue dh/dt monitoring of 12 glaciers, four in the southwest and eight in the southeast, using longitudinal flightlines along the approximate centerlines of each glacier.

The local weather in the morning was snow showers and poor visibility that did not allow a 8:15 am LT takeoff from Søndre Strømfjord Airport. We waited until the weather cleared up and took advantage of excellent conditions over large parts of southern Greenland which is very rare. We experienced occasionally strong turbulence in the glacial valleys on the east coast. One of the aircraft inverters failed during flight, resulting in a short power failure for the DMS system that was bridged without problems by the instruments' UPS.

Individual instrument reports from experimenters on board the aircraft:

ATM: Both systems worked well. T2 worked well throughout the entire flight while T3 was a bit weak.

MCoRDS: The MCoRDS system worked well and collected 1.6 TB of data.

Snow and Ku-band radar: Both systems worked well and collected each about 310 GB of data.

Accumulation Radar: The system worked well and collected 232 GB of data.

DMS: DMS worked well and the UPS of the system was able to bridge the short power failure of the aircraft inverter.

Gravimeter: System worked normally. No problems.

