

## OIB - C-130 Hercules #439 03/25/15 Science Report

**Date:** Wednesday, March 25, 2015

**Mission:** OIB

**Mission Location:** Thule, Greenland

**Mission Summary:**

Mission: Sea Ice - North Pole Transect

This mission is a near-repeat of 2013 and 2014 OIB flights. The intention is to sample ice in the vicinity of the Pole and also the gradient of that ice between the Pole and Ellesmere Island. This area had been undersampled by OIB prior to 2012. In addition to Level-1 Requirements SI1 and SI2, this mission addresses sea ice level 1 projected requirement SIP2a by extending sea ice baseline observations to the North Pole region, and sea ice level 1 baseline requirement SI4 by conducting a sampling mission that is time-coincident with a CryoSat-2 track.

Pre-flight infrared weather satellite imagery showed generally fair weather around the Pole, but with bands of thin fog or low cloud prevalent over parts of the flightline. However, the weather models predicted that the air mass would dry out during the day, and we found this to be the case. We encountered only very isolated pockets of fog, and lost no significant amounts of data on any instrument.

The previous day's fouling of the nadir window appears to have been solved by the maintenance crew overnight with tightening of hydraulic fittings and cleanup of pooled material. There was no recurrence of the issue today. Parts for a more permanent fix have also been ordered.

The aircraft's native KT-19 skin temperature sensor appears to have failed before the flight. We are pursuing a repair, but the loss of this sensor will not impede science operations looking ahead. All other instruments performed well, with no issues.

We flew a calibration pass over the Thule ramp at 2000' AGL.

Data volumes:

ATM: 18 Gb

CAMBOT: 65 Gb

DMS: 110 Gb

Ku-Band Radar: 79 Gb

MCoRDS: 845 Gb

Narrow Swath ATM: 37 Gb

NSERC Onboard Data: TBD

Snow Radar: 79 Gb

low-altitude data collection time: 5.0 hrs

high-altitude data collection time: 2.8 hrs

total data collection time: 7.8 hrs

**Images:**

### North Pole Sunrise



[Read more](#)

**Submitted by:** John Sonntag on 03/25/15

**Related Flight Report:**

### C-130 Hercules #439 03/25/15

**Flight Number:** Sea Ice North Pole Transect – Thule

**Payload Configuration:** OIB

**Nav Data Collected:** No

**Total Flight Time:** 8.2 hours

Submitted by: Cate Easmunt on 03/25/15

**Flight Segments:**

<b>From:</b>	BGTL	<b>To:</b>	BGTL
<b>Start:</b>	03/25/15 10:50 Z	<b>Finish:</b>	03/25/15 19:00 Z
<b>Flight Time:</b>	8.2 hours		
<b>Log Number:</b>	<a href="#">151002</a>	<b>PI:</b>	Michael Studinger
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		

**Flight Hour Summary:**

	<b>151002</b>
<b>Flight Hours Approved in SOFRS</b>	334.4
<b>Total Used</b>	297.6
<b>Total Remaining</b>	36.8

**151002 Flight Reports**

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
<a href="#">03/12/15</a>	ATF	Check	1.5	1.5	332.9	
<a href="#">03/13/15</a>	PTF - GPS	Check	2	3.5	330.9	
<a href="#">03/13/15</a>	PTF - Radar #1	Check	0.8	4.3	330.1	
<a href="#">03/13/15 - 03/14/15</a>	PTF - Radar #2	Check	4.5	8.8	325.6	
<a href="#">03/16/15</a>	PTF - Radar #3	Check	2.4	11.2	323.2	
<a href="#">03/17/15</a>	Transit	Transit	7.8	19	315.4	
<a href="#">03/19/15</a>	Nansen Gap	Science	7.4	26.4	308	
<a href="#">03/24/15</a>	Sea Ice - Zigzag East	Science	8.2	34.6	299.8	
<a href="#">03/25/15</a>	Sea Ice North Pole Transect – Thule	Science	8.2	42.8	291.6	
<a href="#">03/26/15</a>	Sea Ice - Laxon Line	Science	9.2	52	282.4	
<a href="#">03/27/15 - 03/28/15</a>	Sea Ice - East Beaufort Sea	Science	8.2	60.2	274.2	
<a href="#">03/29/15 - 03/30/15</a>	Sea Ice - North Beaufort Loop	Science	8.9	69.1	265.3	
<a href="#">03/30/15 - 03/31/15</a>	Sea Ice - SIZRS Zigzag	Science	8.1	77.2	257.2	
<a href="#">04/01/15</a>	Sea Ice - South Basin Transect	Science	8.8	86	248.4	
<a href="#">04/03/15</a>	Sea Ice - South Canada Basin	Science	7.4	93.4	241	
<a href="#">04/06/15</a>	OIB Transit from BGTL-BGSF	Transit	3.3	96.7	237.7	
<a href="#">04/08/15</a>	Helheim-Kangerdlussuag	Science	8	104.7	229.7	
<a href="#">04/09/15</a>	K-EGIG Summit	Science	8.3	113	221.4	
<a href="#">04/10/15</a>	Southeast Glaciers 01	Science	8	121	213.4	
<a href="#">04/11/15</a>	East Glaciers 01	Science	8	129	205.4	
<a href="#">04/13/15</a>	Southeast Coastal	Science	7.7	136.7	197.7	
<a href="#">04/14/15</a>	Helheim-Kangerdlussuaq Gap B	Science	7.9	144.6	189.8	
<a href="#">04/17/15</a>	Umanaq B	Science	7.5	152.1	182.3	
<a href="#">04/18/15</a>	Southwest Coast A	Science	8.1	160.2	174.2	
<a href="#">04/20/15</a>	Penny 01	Science	6.3	166.5	167.9	

<a href="#">04/21/15</a>	Thomas-Jakobshaven 01	Science	8.7	175.2	159.2
<a href="#">04/22/15</a>	Southeast Flank 01	Science	7.6	182.8	151.6
<a href="#">04/23/15</a>	Jakobshavn-Eqip-Store	Science	9.2	192	142.4
<a href="#">04/24/15</a>	Geikie 02	Science	8.3	200.3	134.1
<a href="#">04/25/15</a>	Jakobshaven 02/ Mop Up	Science	6.9	207.2	127.2
<a href="#">04/27/15</a>	Southwest Coastal B	Science	8	215.2	119.2
<a href="#">04/28/15</a>	Southeast Glaciers 02	Science	7	222.2	112.2
<a href="#">04/29/15</a>	TRANSIT BGSF-BGTL	Transit	2.5	224.7	109.7
<a href="#">04/30/15</a>	ATM Laser Repair Checkout	Science	2.3	227	107.4
<a href="#">05/01/15</a>	NW Coastal A	Science	7.2	234.2	100.2
<a href="#">05/05/15</a>	IceSat-2 North / CryoSat-2 SARIn	Science	8.2	242.4	92
<a href="#">05/06/15</a>	North Glaciers 01	Science	8.2	250.6	83.8
<a href="#">05/07/15</a>	Devon-Barnes 01	Science	7.8	258.4	76
<a href="#">05/08/15</a>	Zigzag West	Science	7.2	265.6	68.8
<a href="#">05/11/15</a>	Northwest Glaciers 01	Science	7.8	273.4	61
<a href="#">05/12/15</a>	North-Central Gap 02	Science	8.1	281.5	52.9
<a href="#">05/15/15</a>	North-Central Gap 01	Science	7.3	288.8	45.6
<a href="#">05/21/15</a>	Transit - Thule to Bangor, ME	Transit	6.5	295.3	39.1
<a href="#">05/22/15</a>	Transit - Bangor, ME to WFF	Transit	2.3	297.6	36.8

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

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NASA Official: Bruce A. Tagg

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