

Other: NOAA P-3 05/13/16

Aircraft: Other: NOAA P-3 - 16M030

Flight Number: Land Ice Helheim-Kangerdlugssuaq

Payload Configuration: OIB Spring 2016

Nav Data Collected: No

Total Flight Time: 7.8 hours

Submitted by: John Woods on 05/13/16

Flight Segments:

From:	BGSF	To:	BGSF
Start:	05/13/16 13:45 Z	Finish:	05/13/16 21:34 Z
Flight Time:	7.8 hours		
Log Number:	16M030	PI:	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		

Flight Hour Summary:

	16M030
Flight Hours Approved in SOFRS	200
Total Used	148.7
Total Remaining	51.3

16M030 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
03/22/16	ICF1	Check	2	2	198	
03/23/16	ICF2	Check	3.4	5.4	194.6	
04/12/16	ICF3	Check	1.3	6.7	193.3	
04/15/16	Repo 1	Ferry	0.5	7.2	192.8	
04/16/16	Repo 2	Ferry	2.9	10.1	189.9	
04/18/16	Repo 3	Ferry	7.1	17.2	182.8	
04/19/16	Sea Ice Eureka	Science	7.3	24.5	175.5	
04/20/16	Sea Ice Laxon Line	Science	8.7	33.2	166.8	
04/21/16 - 04/22/16	Sea Ice SIZRS Zigzag	Science	8.3	41.5	158.5	
04/30/16	Sea Ice South Basin Transect	Science	8.8	50.3	149.7	
05/03/16	Sea Ice North Pole Transect	Science	7.6	57.9	142.1	
05/04/16	Sea Ice South Canada Basin	Science	7.9	65.8	134.2	
05/09/16	Land Ice Zachariae-79N	Science	7.6	73.4	126.6	
05/10/16	Land Ice Northwest Coastal A	Science	6	79.4	120.6	
05/11/16	Land Ice Umanaq B	Science	7.1	86.5	113.5	
05/12/16	Land Ice Southeast Coastal	Science	7.3	93.8	106.2	
05/13/16	Land Ice Helheim-Kangerdlugssuaq	Science	7.8	101.6	98.4	
05/14/16	Land Ice SW Coastal A	Science	7.8	109.4	90.6	
05/16/16	Land Ice Thomas-Jakobshavn 01	Science	7.9	117.3	82.7	
05/17/16	Land Ice Helheim-Kangerdlugssuaq Gap B	Science	8.1	125.4	74.6	
05/18/16	Land Ice IceSat-2 Central	Science	7.7	133.1	66.9	

05/19/16	Land Ice East Glaciers 01	Science	7.1	140.2	59.8
05/21/16	Ferry BGSF_KMCF	Ferry	8.5	148.7	51.3

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.

Related Science Report:

OIB - Other: NOAA P-3 05/13/16 Science Report

Mission: OIB

Mission Summary:

Mission: Helheim-Kangerdlugssuaq (priority: baseline)

This is a repeat mission, and is very similar to missions flown in 2010, 2011, 2012 and 2013. It captures centerline surveys of the two main branches of Helheim, of Kangerdlugssuaq, Fenris and of several branches of Midgard glaciers. We also re-fly the centerline of the Hutchinson Glacier, and establish a new centerline of a glacier which empties into the fjord of Kangerdlugssuaq Glacier just beyond its terminus.

The high pressure system over the Denmark Strait and southeastern Greenland strengthened further overnight, leaving all of southeastern Greenland from Scoresby Sund to Cape Farewell clear and with light winds today - a perfect day to fly. We experienced broken stratus clouds across the western portion of the transit lines from Kangerlussuaq, plus a small isolated fog bank that unfortunately obscured the lowest 2000' feet of elevation of Kangerdlugssuaq Glacier, but otherwise the science targets were clear. The cloudiness over the greater Jakobshavn Glacier basin persisted again today, preventing us from considering a flight in that area.

We observed a large rift at the front of Helheim Glacier today. It appeared that several hundred linear meters of the entire front of the glacier had recently separated, leaving a wide rift. See the attached figures for more detail. Unlike some other recently-observed calving events at Helheim, this one did not result in an overturning of the new iceberg, at least not yet.

All instruments performed normally today, and the ATM experienced no noticeable fouling of its window from hydraulic fluid. Oddly, however, the DMS operators did note that the aft portion of their frames were "hazy" during at least the latter part of the flight, which would be consistent with hydraulic oil partially obscuring their window.

Overall, we estimate successful data collection across 95% of the mission.

We conducted a ramp pass over Kangerlussuaq at 2000' AGL.

Data volumes:

ATM: 32 Gb

FLIR: 3.8 Gb

DMS: 111 Gb

Ku-Band Radar: 183 Gb

MCoRDS: 1.7 Tb

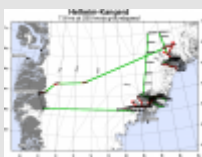
Snow Radar: 183 Gb

BESST: xx Gb

total data collection time: 7.1 hrs

Images:

Map of today's flight



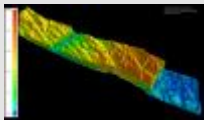
[Read more](#)

Helheim rift nadir image



[Read more](#)

ATM quick-look image of Helheim



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Fenris Glacier



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Kangerdlugssuaq Fjord



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Submitted by: John Sonntag on 05/13/16

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