

P-3 Orion 04/29/18

Aircraft: [P-3 Orion - WFF \(See full schedule\)](#)

Flight Number: 2018 OIB Arctic -Science #18

Payload Configuration: 2018 OIB Arctic

Nav Data Collected: No

Total Flight Time: 8.3 hours

Submitted by: Janet Letchworth on 04/29/18

Flight Segments:

From:	BGSF	To:	BGSF
Start:	04/29/18 10:50 Z	Finish:	04/29/18 19:07 Z
Flight Time:	8.3 hours		
Log Number:	18P008	PI:	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	This flight covered the ICESat-2 South line.		

Flight Hour Summary:

	18P008
Flight Hours Approved in SOFRS	201.2
Total Used	190.4
Total Remaining	10.8

18P008 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
03/13/18	2018 OIB Arctic - Airworthiness Test Flight	Other	0.8	0.8	200.4	
03/14/18	2018 OIB Arctic -Project Test Flight - Laser	Other	2.6	3.4	197.8	
03/15/18	2018 OIB Arctic -Project Test Flight - Radar	Other	5.7	9.1	192.1	
03/18/18	2018 OIB Arctic -delta ATF	Other	0.8	9.9	191.3	
03/20/18	2018 OIB Arctic -Transit to Thule	Transit	7.9	17.8	183.4	
03/22/18	2018 OIB Arctic - Science #1	Science	7.8	25.6	175.6	
04/03/18	2018 OIB Arctic - Science #2	Science	7.9	33.5	167.7	
04/04/18	2018 OIB Arctic - Science #3	Science	8.1	41.6	159.6	
04/05/18	2018 OIB Arctic - Science #4	Science	8	49.6	151.6	
04/06/18	2018 OIB Arctic - Science #5	Science	8.8	58.4	142.8	
04/07/18 - 04/08/18	2018 OIB Arctic - Science #6	Science	8.1	66.5	134.7	
04/08/18 - 04/09/18	2018 OIB Arctic - Science #7	Science	8.3	74.8	126.4	
04/14/18 - 04/15/18	2018 OIB Arctic - Science #8	Science	7.7	82.5	118.7	
04/16/18	2018 OIB Arctic - Science #9	Science	8.2	90.7	110.5	

04/18/18	2018 OIB Arctic - Science #10	Science	8	98.7	102.5
04/19/18	2018 OIB Arctic - Science #11	Science	7.7	106.4	94.8
04/20/18	2018 OIB Arctic -Transit to Kanger	Transit	4.2	110.6	90.6
04/21/18	2018 OIB Arctic - Science #12	Science	8.1	118.7	82.5
04/22/18	2018 OIB Arctic - Science #13	Science	6.5	125.2	76
04/23/18	2018 OIB Arctic - Science #14	Science	8.2	133.4	67.8
04/25/18	2018 OIB Arctic - Science #15	Science	7.7	141.1	60.1
04/26/18	2018 OIB Arctic - Science #16	Science	8.8	149.9	51.3
04/27/18	2018 OIB Arctic - Science #17	Science	8	157.9	43.3
04/29/18	2018 OIB Arctic - Science #18	Science	8.3	166.2	35
04/30/18	2018 OIB Arctic - Science #19	Science	9.3	175.5	25.7
05/01/18	2018 OIB Arctic - Science #20	Science	7.4	182.9	18.3
05/03/18	2018 OIB Arctic -Return Transit Leg #1	Transit	6.4	189.3	11.9
05/03/18	2018 OIB Arctic -Return Transit Leg #2	Transit	0.6	189.9	11.3
05/03/18	2018 OIB Arctic -Return Transit Leg #3	Transit	0.5	190.4	10.8

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.

Related Science Report:

OIB - P-3 Orion 04/29/18 Science Report

Mission: OIB

Mission Summary:

Mission: ICESat-2 South

Priority: High

This is a relatively new mission, designed along ICESat-2 ground tracks to fill the gap between the southeastern and southwestern suites of missions. We sample a total of six ICESat-2 orbits, mixing left, nadir, and right beam pair overflights. We also overfly a firn compaction study site at point Saddle.

Today IceBridge successfully completed the high priority ICESat-2 South mission, which surveys the southern interior of the Greenland ice sheet along future ICESat-2 tracks. There was no wind and high clouds (~10,000 ft) locally this morning at Kanger, however strong winds (~40 knots) in the southeastern glaciers and low clouds in the southwest and over Jakobshavn areas prevented us from completing any of those missions today. The radar team requested that, shortly after takeoff, we fly ~1500 ft above the flat snow surface in fjord for 5 min to collect calibration data for the snow radar, which we repeated upon return to Kangerlussuaq. Once completed, we flew the ICESat-2 tracks that constituted today's mission. The majority of this flight is over the ice divide of the ice sheet, however the southernmost line crossed over some outlet glaciers briefly. These included glacier calving fronts, with more evidence of nascent surface melting, mélange, sea ice, ice-free

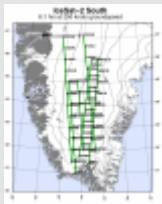
ocean, some thin rotten sea ice, and a boat. Coming into this area there were a few low puffy cumulus clouds that were for the most part transparent, and high cirrus clouds. The remainder of the flight was uneventful, with clear skies, and we took advantage of the opportunity to also fly the K-transect, which is normally part of the baseline K-EGIG-Summit mission. All instruments worked well, and to our surprise we had 100% laser altimetry coverage, given that we had expected to lose a bit of some tracks in the northern end of the mission. We did a ramp pass at 1500 ft.

Attached images:

1. Map of today's mission (John Sonntag / NASA)
2. Small puffy cumulus clouds in the foreground, with sea ice, open water and a fjord wall in the background. Cirrus clouds overhead. (Linette Boisvert / NASA)
3. Thin, rotten sea ice. (Linette Boisvert / NASA)
4. Melt ponds between crevasses. (Linette Boisvert / NASA)
5. Glacier calving front into the bright blue ocean, along with some icebergs and milky sea ice. (Linette Boisvert / NASA)
6. Floating icebergs alongside a boat. (Linette Boisvert / NASA)

Images:

Map of today's mission



[Read more](#)

Small puffy cumulus clouds in the foreground, with sea ice, open



[Read more](#)

Thin, rotten sea ice



[Read more](#)

Melt ponds between crevasses



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Glacier calving front into the bright blue ocean, along with some



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Floating icebergs alongside a boat



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Submitted by: Joseph MacGregor on 04/29/18

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