

OIB - P-3 Orion - WFF 04/22/19 Science Report

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

Date: Monday, April 22, 2019

Mission: OIB

Mission Location: ICESat-2 Arctic Ocean #4

Mission Summary:

Mission: ICESat-2 Arctic Ocean #4

Priority: High

This new flight for 2019 flies out-and-back along a single ICESat-2 ground track, selected and timed so that our aircraft and the spacecraft fly the track as closely as possible in time, and also with the track drift-corrected according to winds measured from the aircraft. The particulars of the technique we will use to fly the track will depend on knowledge of ICESat-2's pointing accuracy just prior to the time of this flight. Options include out-and-back along the same or parallel and offset lines, varying the altitude of one or both lines, or even a four-segment line. The general idea is to obtain a composite swath wide enough to capture any likely pointing offset of the spacecraft. See Appendix D for more details on the design of these flights.

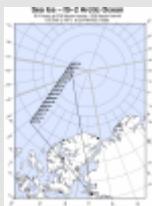
A delayed start today with high winds that temporarily induced Bravo conditions (buddy system). However, a promising forecast for this abbreviated long-line mission led us to takeoff once the brief winds lifted. We took off just in time, as a polar bear was sighted on-base shortly after we took off and base personnel had to shelter in place for an hour or so. After an uneventful transit we again arrived on-station for a shortened mission at 3,500 ft AGL, having missed ascending ICESat-2 RGT 0371, which crossed the start of our line at (13:28 UTC), whereas we got there at 14:06 UTC (38 minutes late). Winds were again mostly parallel to the line, but we drift-corrected regardless. We broke out of overcast conditions just before the start of the line, which was reassuring. We lost the surface about a quarter of the way through the mission for less than 15 minutes, but then regained it for the remainder of the mission. We broke off prior to the last two waypoints (J and K) to ensure the opportunity to collect a ramp pass. Headwall SWIR experienced multiple issues yet again and never really operated correctly today, while NVIR worked fine. ATM estimates 90% altimetry data collection. We conducted a ramp pass at 1,600 ft AGL.

Attached images/files:

1. Map of today's mission (John Sonntag / NASA)
2. KML of today's mission (John Sonntag / NASA)
3. P-3 in Hangar 8 (Jeremy Harbeck / NASA)
4. Flight Engineer Kurt Williams monitoring fueling following the brief blow (Jeremy Harbeck / NASA)
5. One of today's few leads (Jeremy Harbeck / NASA)
6. Eye-shaped leads around a small floe (Jeremy Harbeck / NASA)
7. Subsun over sea ice, formed by atmospherically suspended ice crystals (Jeremy Harbeck / NASA)

Images:

Map of today's mission



[Read more](#)

P-3 in Hangar 8



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Flight Engineer Kurt Williams monitoring fueling following the brief blow



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One of today's few leads



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Eye-shaped leads around a small floe



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Subsun over sea ice, formed by atmospherically suspended ice crystals



[Read more](#)

Submitted by: Joseph MacGregor on 04/24/19

Related Flight Report:

P-3 Orion - WFF 04/22/19

Flight Number: #2094: 2019 OIB Science Flight #14

Payload Configuration: Operation IceBridge

Nav Data Collected: No

Total Flight Time: 6.6 hours

Submitted by: Kelly Griffin on 04/24/19

Flight Segments:

From:

BGTL

To:

BGTL

Start:	04/22/19 12:00 Z	Finish:	04/22/19 18:37 Z
Flight Time:	6.6 hours		
Log Number:	19P017	PI:	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Miles Flown:	1867 miles		

Flight Hour Summary:

	19P017
Flight Hours Approved in SOFRS	250
Total Used	216.3
Total Remaining	33.7

19P017 Flight Reports						
Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
03/26/19	#2053: 2019 OIB ATF	Check	0.9	0.9	249.1	0
03/27/19	#2059: 2019 OIB PTF-Laser	Check	2.3	3.2	246.8	0
03/28/19	#2061: 2019 OIB PTF-Radar	Check	3.2	6.4	243.6	0
04/01/19	#2068: 2019 OIB WFF-BGTL Transit Flight	Transit	6.9	13.3	236.7	2458
04/03/19	#2070: 2019 OIB Science Flight #1	Science	7.6	20.9	229.1	1938
04/05/19	#2072: 2019 OIB Science Flight #2	Science	7.7	28.6	221.4	1910
04/06/19	#2073: 2019 OIB Science Flight #3	Science	7.2	35.8	214.2	2000
04/08/19	#2075: 2019 OIB Science Flight #4	Science	6.9	42.7	207.3	1780
04/09/19	#2076: 2019 OIB Science Flight #5	Science	7.8	50.5	199.5	2045
04/10/19	#2081: 2019 OIB Science Flight #6	Science	10.1	60.6	189.4	2702
04/11/19	#2082: BGSF-BGTL Transit	Transit	2.2	62.8	187.2	696
04/12/19	#2083: 2019 OIB Science Flight #7	Science	7.2	70	180	2109
04/15/19	#2086: 2019 OIB Science Flight #8	Science	4.8	74.8	175.2	1243
04/16/19	#2087: 2019 OIB Science Flight #9	Science	7.6	82.4	167.6	2036
04/17/19	#2088: 2019 OIB Science Flight #10	Science	7.7	90.1	159.9	1937
04/18/19	#2090: 2019 OIB Science Flight #11	Science	7.8	97.9	152.1	2008
04/19/19	#2091: 2019 OIB Science Flight #12	Science	7.6	105.5	144.5	2104
04/20/19	#2092: 2019 OIB Science Flight #13	Science	6.9	112.4	137.6	0
04/22/19	#2094: 2019 OIB Science Flight #14	Science	6.6	119	131	1867

04/23/19	#2099: 2019 OIB Science Flight #15	Science	7.7	126.7	123.3	1979
04/25/19	#2102: 2019 OIB BGTL-KBGR Transit Flight	Transit	6.2	132.9	117.1	0
04/26/19	KBGR to BGSF Transit	Transit	5.7	138.6	111.4	0
05/05/19	2019 OIB Science Flight #16	Science	7.8	146.4	103.6	0
05/06/19	2019 OIB Science Flight #17	Science	8.4	154.8	95.2	0
05/07/19	2019 OIB Science Flight #18	Science	8.5	163.3	86.7	0
05/08/19	2019 OIB Science Flight #19	Science	8	171.3	78.7	0
05/12/19	2019 OIB Science Flight #20	Science	9	180.3	69.7	0
05/13/19	2019 OIB Science Flight #21	Science	7	187.3	62.7	0
05/14/19	2019 OIB Science Flight #22	Science	7.9	195.2	54.8	0
05/15/19	2019 OIB Science Flight #23	Science	8.3	203.5	46.5	0
05/16/19	2019 OIB Science Flight #24	Science	6.3	209.8	40.2	0
05/17/19	2019 OIB Transit	Transit	6.2	216	34	0
05/17/19	2019 OIB Transit	Transit	0.3	216.3	33.7	0

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.

Flight Tracks:

Attachment	Size
 2_siis2arcticocean_labels.kml	11.38 KB

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