

OIB - P-3 Orion - WFF 05/12/19 Science Report

Aircraft:

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

Date:

Sunday, May 12, 2019

Mission:

OIB

Mission Location:

Kangerlussuaq, Greenland

Mission Summary:

Mission: K ? EGIG ? Summit

Priority: Baseline

OIB completed the final baseline mission out of Kangerlussuaq: K ? EGIG ? Summit. The mission accomplishes several important tasks including extending coverage into the uppermost part of the Jakobshavn catchment with ICESat and ICESat-2 tracks and hitting the key validation Summit validation traverse site along ICESat track 412 and ICESat-2 track 879. Finally, we hit two major field surveys: the K-Transect within the Russell Glacier catchment and the EGIG line. For this campaign, the eastern portion of the EGIG line was shortened to accommodate for more ICESat-2 tracks near Summit and a single ICESat track was replaced with an ICESat-2 track in the upper Jakobshavn catchment. A total of six ICESat-2 tracks were flown, two of which were swapped (see notes below) to minimize the timing between OIB and IS-2 data collection (the attached map has been updated accordingly).

Due to a local event at the airport, we incurred a delayed takeoff with an expected arrival time after 6 PM. As a result, we were able to survey a portion of the Southwest Glaciers 01 mission over the Sukkertoppen Ice Cap just west of Kangerlussuaq in addition to the entire K-EGIG-Summit mission.

The flight was very smooth, although quite featureless, over the interior ICESat / ICESat-2 tracks. As expected, we encountered clear skies for nearly the entire route, including Summit, which had been fogged in for several days prior. Temperatures dropped a few degrees over the past few days, so many of the melt ponds developed a thin layer of ice on top. We noted evidence of surface meltwater pooling up to ~26 km inland of Russell Glacier and ~4100 feet in elevation.

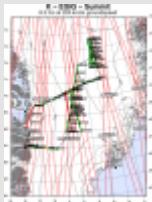
Headwall SWIR did not operate today, but otherwise all instruments worked well. ATM estimates 100% altimetry data recovery. We performed a ramp pass at 2500? prior to landing.

ICESat-2 Tracks (+/- indicates OIB surveyed after/before ICESat-2)

0681, - 8 hours (substitute)
0879, - 13 days
0437, + 16 days
0749, - 5 days
0246, + 28 days
0727, - 3 days (substitute)

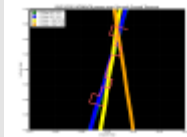
Images:

Map of today's mission



[Read more](#)

Map of Summit Traverse location and today's ATM T6 passes over the



[Read more](#)

Three glaciers converge in a fjord off the Sukkertoppen Ice Cap



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Steep, icy peaks along the southern edge of the Sukkertoppen Ice Cap



[Read more](#)

Submitted by:

Brooke Medley on 05/23/19

Related Flight Report:

P-3 Orion - WFF 05/12/19

Flight Number:

2019 OIB Science Flight #20

Payload Configuration:

Operation IceBridge

Nav Data Collected:

No

Total Flight Time:

9 hours

Submitted by:

Mike Cropper on 05/13/19

Flight Segments:

From:	BGSF	To:	BGSF
Start:	05/12/19 11:45 Z	Finish:	05/12/19 20:45 Z
Flight Time:	9 hours		
Log Number:	19P017	PI:	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		

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.

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

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