

OIB - P-3 Orion - WFF 05/13/19 Science Report

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

Date: Monday, May 13, 2019

Mission: OIB

Mission Location: Kangerlussuaq, Greenland

Mission Summary:

Mission: East-Central Bed Gap IS-2

This mission was designed with two goals in mind. First, it and the Thule-based West-Central Bed Gap 01 flight are designed to address the largest gaps in knowledge of the bedrock geometry still existing in Greenland. This flight does so along carefully-selected segments of two master grid lines and three relatively low-latency ICESat-2 tracks. In addition, this flight addresses the onset region of the Northeast Greenland Ice Stream (NEGIS) with a repeat of a 1997 line on its eastern margin, a new line along its centerline, and a repeat of a 1994 crossing line. These latter lines were designed in conjunction with others from several Thule-based missions. Thus, when combined with the North-Central Gap 01 IS-2 (flown 2019-04-16), Northeast Glaciers 02 (flown 2019-04-18) and Zacharaie-79N (flown 2019-04-05) missions, this almost certainly constitutes the most comprehensive set of measurements of the entire length of the NEGIS Operation IceBridge has ever collected.

A powerful low pressure system south of Greenland's Cape Farewell, along with associated frontal systems, socked in most of the southern third of Greenland today, and appears likely to further limit our options for the remainder of this final week of the spring campaign. Although we could have flown a higher-priority mission on the central west coast today, the weather forecast models led us to believe that those areas may remain accessible tomorrow and possibly thereafter, while east and central Greenland would likely be clouded. We are currently not optimistic about further chances for conducting science flights in southeast Greenland this season. For today's flight we enjoyed almost entirely clear skies, with just a few stretches of thin fog near the ice divide. We lost a few minutes of laser data, at most, due to the fog.

Headwall SWIR did not operate today, but otherwise all instruments worked well. ATM estimates 99% altimetry data recovery. We performed a ramp pass at 1200' prior to landing.

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

0505 +12 days

0444 +16 days

0490 +13 days

No lower-latency ICESat-2 substitutions were performed today, because the tracks above were specifically selected to fill gaps in bedrock knowledge.

Data volumes:

ATM: 131 Gb

CAMBOT: 169 Gb

FLIR: 16 Gb

KT19: 11 Mb

MCoRDS: 2.229 Tb

Narrow Swath ATM: 175 Gb green

Narrow Swath ATM: 135 Gb IR

VNIR 62 Gb

Snow Radar: 1.495 Tb

total data collection time: 7.7 hrs

Images:

Map of today's flight.



[Read more](#)

Glacier near Kangerlussuaq



[Read more](#)

EGRIP



[Read more](#)

Submitted by: John Sonntag on 05/13/19

Related Flight Report:

P-3 Orion - WFF 05/13/19

Flight Number: 2019 OIB Science Flight #21

Payload Configuration: Operation IceBridge

Nav Data Collected: No

Total Flight Time: 7 hours

Submitted by: Mike Cropper on 05/13/19

Flight Segments:

| | | | |
|---------------------------|--------------------------------------------------------|----------------|------------------|
| From: | BGSF | To: | BGSF |
| Start: | 05/13/19 11:40 Z | Finish: | 05/13/19 18:40 Z |
| Flight Time: | 7 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.

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