

## P-3 Orion 04/20/13

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

Flight Number: 2013 Operation IceBridge Arctic #1508

Payload Configuration: 2013 Operation IceBridge Arctic

Nav Data Collected: No

Total Flight Time: 6.8 hours

Submitted by: Kelly Griffin on 04/25/13

### Flight Segments:

<b>From:</b>	BGTL	<b>To:</b>	BGTL
<b>Start:</b>	04/20/13 10:53 Z	<b>Finish:</b>	04/20/13 17:43 Z
<b>Flight Time:</b>	6.8 hours		
<b>Log Number:</b>	<a href="#">13P001</a>	<b>PI:</b>	Michael Studinger
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		
<b>Comments:</b>	2013 Operation IceBridge Greenland Deployment- Thule science flight. No aircraft issues reported, successful data collection.		

### Flight Hour Summary:

	<b>13P001</b>
<b>Flight Hours Approved in SOFRS</b>	255
<b>Total Used</b>	211.6
<b>Total Remaining</b>	43.4

### 13P001 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
<a href="#">03/14/13</a>	2013 Operation IceBridge Arctic #1447	Check	0.8	0.8	254.2	
<a href="#">03/14/13</a>	2013 Operation IceBridge Arctic #1449	Check	2.1	2.9	252.1	
<a href="#">03/15/13</a>	2013 Operation IceBridge Arctic #1448	Check	4	6.9	248.1	
<a href="#">03/18/13</a>	2013 Operation IceBridge Arctic #1450	Transit	7.9	14.8	240.2	
<a href="#">03/20/13</a>	2013 Operation IceBridge Arctic #1468	Science	6.3	21.1	233.9	
<a href="#">03/21/13</a>	2013 Operation IceBridge Arctic #1456	Transit	8.5	29.6	225.4	
<a href="#">03/22/13 - 03/23/13</a>	2013 Operation IceBridge Arctic #1474	Science	8.2	37.8	217.2	
<a href="#">03/23/13</a>	2013 Operation IceBridge Arctic #1470	Science	7.8	45.6	209.4	
<a href="#">03/24/13 - 03/25/13</a>	2013 Operation IceBridge Arctic #1469	Science	8.4	54	201	
<a href="#">03/26/13</a>	2013 Operation IceBridge Arctic #1475	Transit	8.6	62.6	192.4	

<a href="#">03/27/13</a>	2013 Operation IceBridge Arctic #1476	Science	7.9	70.5	184.5
<a href="#">03/28/13</a>	2013 Operation IceBridge Arctic #1477	Science	3.3	73.8	181.2
<a href="#">04/02/13</a>	2013 Operation IceBridge Arctic #1486	Transit	6.4	80.2	174.8
<a href="#">04/04/13</a>	2013 Operation IceBridge Arctic #1484	Science	8.1	88.3	166.7
<a href="#">04/05/13</a>	2013 Operation IceBridge Arctic #1489	Science	7.8	96.1	158.9
<a href="#">04/06/13</a>	2013 Operation IceBridge Arctic #1487	Science	8	104.1	150.9
<a href="#">04/08/13</a>	2013 Operation IceBridge Arctic #1491	Science	7.5	111.6	143.4
<a href="#">04/09/13</a>	2013 Operation IceBridge Arctic #1493	Science	6.4	118	137
<a href="#">04/10/13</a>	2013 Operation IceBridge Arctic #1493	Science	6.6	124.6	130.4
<a href="#">04/11/13</a>	2013 Operation IceBridge Arctic #1495	Science	7.4	132	123
<a href="#">04/12/13</a>	2013 Operation IceBridge Arctic #1496	Science	6.2	138.2	116.8
<a href="#">04/15/13</a>	2013 Operation IceBridge Arctic #1502	Science	7.9	146.1	108.9
<a href="#">04/18/13</a>	2013 Operation IceBridge Arctic #1504	Transit	5.2	151.3	103.7
<a href="#">04/19/13</a>	2013 Operation IceBridge Arctic #1505	Science	7.4	158.7	96.3
<a href="#">04/20/13</a>	2013 Operation IceBridge Arctic #1508	Science	6.8	165.5	89.5
<a href="#">04/22/13</a>	2013 Operation IceBridge Arctic #1512	Science	7.8	173.3	81.7
<a href="#">04/23/13</a>	2013 Operation IceBridge Arctic #1513	Science	7.7	181	74
<a href="#">04/24/13</a>	2013 Operation IceBridge Arctic #1514	Science	8	189	66
<a href="#">04/25/13</a>	2013 Operation IceBridge Arctic #1515	Science	7.5	196.5	58.5
<a href="#">04/26/13</a>	2013 Operation IceBridge Arctic #1516	Science	7.1	203.6	51.4

<a href="#">05/02/13</a>	2013 Operation IceBridge Arctic	Transit	7.5	211.1	43.9
<a href="#">05/02/13</a>	2013 Operation IceBridge Arctic	Transit	0.5	211.6	43.4

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 04/20/13 Science Report

**Mission:** OIB

**Mission Summary:**

### F21 Humboldt-Petermann 01 (shortened)

#### Accomplishments

- Low-altitude survey (1,500 ft AGL) over the Humboldt and Petermann Glaciers.
- ATM, snow and Ku-band radars, and DMS were operated on the survey lines.
- Ramp passes at Thule Air Base at 1,000 and 2,000 ft AGL for ATM and radar calibration.
- Satellite Tracks: ICESat 0220, 0205.
- Repeat Mission: partial.

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	46 GB	None.
DMS	yes	55.6 GB	None. Collected 7,972 frames on primary system.
Snow Radar	yes	529 GB	None. Operated in raw mode.
Ku-band Radar	yes	529 GB	None. Operated in raw mode.
Accumulation Radar	yes	129 GB	None. Lost several minutes of data due to sys crash.
MCoRDS	yes	1.3 TB	None. Collected data in tomography mode.
KT-19	yes	8.5 MB	None.

#### Mission Report (Michael Studinger, Mission Scientist)

This is a new mission, designed to accomplish a number of goals. First, we flew a radar tomography grid on the fast-flowing part of the Humboldt Glacier trunk, with 10 lines spaced at 2 km and 85 km long. We had to skip the part of a coastal flux line which connects with and is continued by the 2012 North Flux 01 mission because we had to land at 15:00 LT at Thule Air Base because of Saturday operations. Third, we flew a pair of historical ATM longitudinal lines down the trunk of the Petermann Glacier for dh/dt purposes. The central-most of these two was flown in 2010 and 2011, while the western line was last flown in 2002. The Petermann lines are extended 50 km farther inland than flown previously. We transit between Thule and between the survey areas on a combination of ICESat ground tracks and one master grid line immediately to the north of the Petermann grid established in 2010 and 2011. The MCoRDS radar was configured in tomographic mode (beamwidth +/- 35 deg, chirp length 10 us, one waveform with 10 us chirp) for the Humboldt grid, and in normal profiling mode for the rest of this flight. Flight elevation for the tomography portion was 800 m, or 2600 ft AGL. We skipped the westernmost ICESat line at the beginning of the flight to fly over sea ice at 10,000 ft AGL in order to do collect phase calibration data for MCoRDS for the tomography processing. We did +/- 25 degree rolls. We carefully choose a heading that did not have much impact on the GPS satellite coverage. We saw one spacecraft being shadowed by the left wing tip during rolls, but this space craft was so low above the horizon that it would likely be excluded from data processing anyway.

The weather in the survey area was perfect. We had to break off the last ICESat line near Thule over rocks due to clouds.

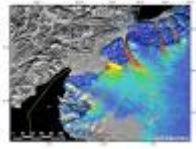
Near Petermann Gletscher we flew over one of the many plane wrecks that Greenland has, a reminder that safety is more important than anything else we do. The plane wreck near Petermann Glacier is a B-29 named Kee Bird, that crash landed there in 1947 (see photo below). The aircraft was repaired in 1995 and ready to be

flown out. During taxi, the aircraft caught fire and burned down. PBS covered the repair attempt in a NOVA special in 1996.

Data collection started 12:02 UTC and ended at 16:56 UTC. We collected 4.9 hours of science data.

**Images:**

### Today's flight plan in yellow.



[Read more](#)

### Keel Bird with shadow of the P-3 and polar bear tracks.



[Read more](#)

**Submitted by:** Michael Studinger on 04/20/13

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

NASA Official: Marilyn Vasques

---

**Source URL:** [https://espo.nasa.gov/hs3/flight\\_reports/P-3\\_Orion\\_04\\_20\\_13#comment-0](https://espo.nasa.gov/hs3/flight_reports/P-3_Orion_04_20_13#comment-0)