

## DC-8 - AFRC 11/07/18

**Aircraft:** [DC-8 - AFRC](#) (See full schedule)

**Flight Number:** 1308

**Payload Configuration:** OIB 2018 Configuration - ATM-Cambot, ATM-GPS/ATM-NAV, ATM-FLIR, ATM-T6, ATM-T7, Gravimeter, MCoR Snow RADAR, and piggybacks ARMAS & Tinman

**Nav Data Collected:** Yes

**Total Flight Time:** 10.4 hours

**Comments:** The NASA DC8 OIB team completed the high priority baseline Pine Island Glacier (PIG) 5 mission today. A highlight was the opportunity to observe iceberg B-46 which very recently calved from PIG. The weather was good, areas of sun and high overcast, and no turbulence. All OIB remote sensing instruments operated nominally, and reported good data collection. The aircraft returned to Ushuaia with no writeups.

**Submitted by:** Timothy Moes on 11/07/18

### Flight Segments:

<b>From:</b>	SAWH	<b>To:</b>	SAWH
<b>Start:</b>	11/07/18 12:59 Z	<b>Finish:</b>	11/07/18 23:20 Z
<b>Flight Time:</b>	10.4 hours		
<b>Log Number:</b>	<a href="#">198006</a>	<b>PI:</b>	Joseph MacGregor
<b>Funding Source:</b>	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
<b>Purpose of Flight:</b>	Science		

### Flight Hour Summary:

	<b>198006</b>
<b>Flight Hours Approved in SOFRS</b>	345.8
<b>Total Used</b>	292.8
<b>Total Remaining</b>	53

### 198006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
<a href="#">10/02/18</a>	1287	Check	2.6	2.6	343.2	0
<a href="#">10/08/18</a>	1289	Transit	10.1	12.7	333.1	0
<a href="#">10/08/18</a>	1290	Transit	2.8	15.5	330.3	0
<a href="#">10/10/18 - 10/11/18</a>	1291	Science	11.5	27	318.8	0
<a href="#">10/11/18 - 10/12/18</a>	1292	Science	11.6	38.6	307.2	0
<a href="#">10/12/18 - 10/13/18</a>	1293	Science	11.3	49.9	295.9	0
<a href="#">10/13/18 - 10/14/18</a>	1294	Science	10.7	60.6	285.2	0
<a href="#">10/15/18 - 10/16/18</a>	1295	Science	11.1	71.7	274.1	0
<a href="#">10/16/18 - 10/17/18</a>	1296	Science	10.1	81.8	264	0
<a href="#">10/18/18 - 10/19/18</a>	1297	Science	11.1	92.9	252.9	0
<a href="#">10/19/18 - 10/20/18</a>	1298	Science	10.8	103.7	242.1	0
<a href="#">10/20/18 - 10/21/18</a>	1299	Science	10.7	114.4	231.4	0
<a href="#">10/22/18 - 10/23/18</a>	1300	Science	11.1	125.5	220.3	0
<a href="#">10/27/18 - 10/28/18</a>	1301	Science	11.3	136.8	209	0

<a href="#">10/30/18 - 10/31/18</a>	1302	Science	11.7	148.5	197.3	0
<a href="#">10/31/18 - 11/01/18</a>	1303	Science	11.3	159.8	186	0
<a href="#">11/01/18</a>	1304	Transit	0.6	160.4	185.4	0
<a href="#">11/03/18 - 11/04/18</a>	1305	Science	11	171.4	174.4	0
<a href="#">11/04/18</a>	1306	Science	10.8	182.2	163.6	0
<a href="#">11/05/18</a>	1307	Science	10.4	192.6	153.2	0
<a href="#">11/07/18</a>	1308	Science	10.4	203	142.8	0
<a href="#">11/09/18 - 11/10/18</a>	1309	Science	11.1	214.1	131.7	0
<a href="#">11/10/18 - 11/11/18</a>	1310	Science	10.6	224.7	121.1	0
<a href="#">11/11/18</a>	1311	Science	10.8	235.5	110.3	0
<a href="#">11/12/18</a>	1312	Science	10.7	246.2	99.6	0
<a href="#">11/14/18 - 11/15/18</a>	1313	Science	11.2	257.4	88.4	0
<a href="#">11/15/18</a>	1314	Science	10.3	267.7	78.1	0
<a href="#">11/16/18 - 11/17/18</a>	1315	Science	10.1	277.8	68	0
<a href="#">11/19/18</a>	1316	Transit	3.4	281.2	64.6	0
<a href="#">11/21/18</a>	1317	Transit	11.6	292.8	53	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.*

#### Related Science Report:

### OIB - DC-8 - AFRC 11/07/18 Science Report

**Mission:** OIB

**Mission Summary:**

Mission: Pine Island Glacier 5  
Priority: Baseline

With clouds entering the Amundsen Sea Embayment from both the east and west over the coming days, IceBridge made the challenging decision to attempt the baseline priority Pine Island Glacier 5 mission. The window was closing, and with all the forecasts in agreement that the clear skies over Pine Island would only last until the end of the survey time, the PIG 5 mission was a difficult choice, especially in absence of any recent imagery over the glacier. Almost entirely as expected, IceBridge encountered blue skies over nearly the entire mission, with spare high clouds creeping in towards the end of the survey.

The recently calved iceberg, B-46, stole the show. With several tracks focused along PIG's main ice trunk, all on board were treated to several glimpses of the massive iceberg. B-46 could not be viewed in its entirety at 1500' due to its shear size, but the series of giant rifts and cliff faces were unlike anything most on board had seen. The ATM team measured cliff heights between 50 and 65 meters while MCoRDS measured iceberg thicknesses of approximately 500 meters! It is extremely impressive watching the instrument teams provide measurements in real time.

The PIG 5 is a legacy baseline IceBridge mission, so it was not modified to fly any ICESat-2 tracks in order to preserve the long time series over several flight tracks. All instruments reported excellent data quality and 100% data collection.

Media: A writer, Brian Howard, and photographer, Thomas Prior, from National Geographic flew with IceBridge today.

Outlook: As the clouds slowly creep into West Antarctica from east and west, flight selection over the next few

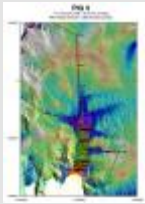
days ill likely be a challenge for IceBridge. As always, the team will do its best to attempt flights of highest priority, weather permitting.

List of attached figures:

1. Map of today's science mission. (John Sonntag/NASA)
2. A view from the ATM T-6 wide scan of the giant rift separating B-46 from the Pine Island Ice Shelf. Cliff height is more than 70 meters above the ocean surface. (Matt Linkswiler/NASA)
3. Icebergs from the Stange Ice Shelf (lower left corner) mingle with snow covered sea ice floes. (Brooke Medley/NASA)
4. Close up of the B-46 cliff face; evidence of cliff failure (toppled blocks on the right). (Brooke Medley/NASA)
5. Enormous curved crevasses near the Pine Island Glacier shear margin. (Brooke Medley/NASA)
6. The DC-8's shadow is dwarfed in scale by the B-46 iceberg. (Brooke Medley/NASA)
7. A view of the main rift looking to the south. (Brooke Medley/NASA)
8. A view of the main rift looking to the north. (Brooke Medley/NASA)

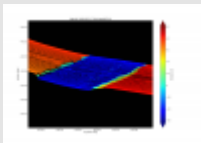
Images:

## Figure 1



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## Figure 4



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## Figure 5



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## Figure 6



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## Figure 7



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## Figure 8



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**Submitted by:** Brooke Medley on 11/11/18

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