

## DC-8 - AFRC 11/05/18

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

Flight Number: 1307

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

Submitted by: Timothy Moes on 11/06/18

### Flight Segments:

<b>From:</b>	SAWH	<b>To:</b>	SAWH
<b>Start:</b>	11/05/18 13:01 Z	<b>Finish:</b>	11/05/18 23:23 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		
<b>Comments:</b>	A mostly successful science flight completing the Bellinghausen Sea 2 mission. Low-level clouds resulted in loss of about 1/3rd of the planned science lines for ATM (not untypical to have clouds on part of this mission). All science instruments worked well and the aircraft returned in good condition with no writeups.		

### 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 11/05/18 Science Report

**Mission:** OIB

**Mission Summary:**

Mission: Bellingshausen 2  
Priority: Baseline

Today IceBridge completed the baseline mission Bellingshausen 2, which targeted the transition from open water to marginal ice to full ice pack over the Bellingshausen Sea. The mission was modified to fly from the west to the east to allow time for potential cloudy conditions to dissipate by afternoon closer to the Antarctic Peninsula. The forecasted clear skies unfortunately only lasted until about midway through the mission, compromising data quality and collection in some instances later in the day.

The ICESat-2 lines were flown directly along a real-time drift corrected ground track at 700' - 1500', depending on cloud conditions. In a few instances during the entire flight, survey altitude was adjusted lower (between in order to move beneath the cloud deck. The first leg of the mission coincided with a Sentinel 3a overpass with 75 minutes of latency between surveys. Latency is only provided for the contemporaneous ICESat-2 survey.

**ICESat-2 ground track and survey latency:**

**0583**, t = 0 at 20:13:24

**1345**, t > 0

**0011**, t > 0

Media: Romain Potoki and Florent Muller of France2 joined us for a final flight today, conducting interviews and collecting footage for a feature-length documentary.

Outlook: At the risk of sounding like a broken record, the forecast remains hopeful for two of the Pine Island and Thwaites baseline missions tomorrow. We are additionally watching the Bellingshausen Sea closely as cloudy

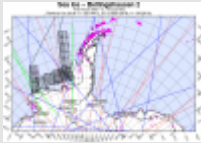
conditions have largely cleared up for the first time this campaign. A required down day will be used either tomorrow or Tuesday based on weather forecasts.

List of attached figures:

1. Map of today's science mission. (John Sonntag/NASA)
2. Sea ice floes and leads visible in the ATM T-6 wide scan. (Matt Linkswiler/NASA)
3. New sea ice forms amongst older, snow covered sea ice. (Brooke Medley/NASA)
4. Sea ice rafting occurs as adjacent floes are smashed together via drift. (Brooke Medley/NASA)
5. The DC-8's shadow cast over the Abott Ice Shelf. Substantial snow drifts at the cliff face suggest thicker than normal snow. (Brooke Medley/NASA)
6. An iceberg slowly erodes, trapped amongst pancake ice. (Brooke Medley/NASA)

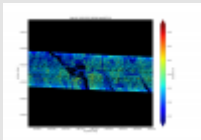
Images:

## Figure 1



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## Figure 2



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## Figure 3



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## Figure 4



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## Figure 5



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## Figure 6



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

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