

## DC-8 - AFRC 10/18/18 - 10/19/18

**Aircraft:**

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

**Flight Number:**

1297

**Payload Configuration:**

ATM GPS/NAV\_ATM Headwall\_ATM-T6/T7\_ATM FLIR\_ATM CAMBOT, MCoRDS/UWB Radar, Gravimeter

**Nav Data Collected:**

Yes

**Total Flight Time:**

11.1 hours

**Submitted by:**

Chris Jennison on 10/21/18

**Flight Segments:**

<b>From:</b>	SCCI	<b>To:</b>	SCCI
<b>Start:</b>	10/18/18 13:13 Z	<b>Finish:</b>	10/19/18 00:13 Z
<b>Flight Time:</b>	11.1 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>	<p>This flight is titled "Recovery IS-2", which is a new OIB flight and consists of six ICESat-2 tracks and one track along the Recovery glacier over some subglacial lakes. There was some frost on the wings during the preflight, but it had sufficiently melted off by engine start/takeoff time, resulting in no significant delay. Once getting airborne, the flight went very smooth. We did a ramp overpass at 1500ft AGL immediately following takeoff. The aircraft and science instruments all performed well. ATM: 100% data collection, instruments are all working well, no issues MCoRDS: 100% data collection, instrument is working well, no issues Snow Radar: 100% data collection, instrument is working well, no issues Gravimeter: 100% data collection, instrument is working well, no issues</p>		

**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 10/18/18 Science Report

**Mission:**

OIB

**Mission Summary:**

Mission: Recovery IS-2  
Priority: Medium

Poor weather conditions west of the Antarctic Peninsula, near the pole hole and in areas where remaining IceBridge baseline and high priority missions are located prohibited us from flying one of those today. Instead we headed back across the Weddell Sea to fly the medium land ice Recovery IS-2 mission in an area where multiple missions have been completed and where the weather has been favorable since our campaign began.

The Recovery IS-2 mission is a new one for OIB and was produced specifically with ICESat-2 in mind. This mission surveys the Recovery Glacier channel along 6 IS-2 ground tracks, with targeting of the strong beam in the beam pairs. The science goals of this mission were successfully accomplished, and all data instruments had no issues, collected 100% along the flight lines.

The 6 ICESat-2 ground tracks that were flown and their latency between the IS-2 crossovers are listed below:

Line 0002, dt = 71 days

Line 0322, dt = 1 day

Line 0581, dt = 18 days

Line 0520, dt = 14 days

Line 1343, dt = 68 days

Line 0337, dt = 2 days

**Fun Fact:** The Recovery Glacier got its name due to the recovery of vehicles that repeatedly got stuck in crevasses during the Trans-Antarctic Expedition that occurred in 1957.

**Outreach:** During the mission today, 3 classroom chats were conducted with all US schools. We were able to reach 67 students today, bringing our total so far during this campaign to 340.

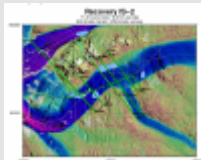
**Outlook:** We are hoping that weather patterns will shift in the coming days, allowing for IceBridge to attempt missions west the peninsula.

Attached Images:

1. Map of today's science mission (John Sonntag/NASA)
2. Screenshot of the ATM wildlife and precise navigation display, known to the DC-8 aircrew as "the bubble display", during today's mission. Here we are steering around known wildlife colonies (magenta circles with a "stay out" radius of 2 km) in the Shackleton Mountains. (John Sonntag/NASA)
3. Grease sea ice tendrils forming at the edge of the Filchner ice shelf. Newly forming sea ice floes in the foreground. (Jeremy Harbeck/NASA)
4. Triangle iceberg surrounded by many different types of sea ice off the Larsen ice shelf in the Weddell Sea. In the open water, grease ice is forming. Also featured is newly formed thin ice flows, and thicker ridged ice flows. (Linette Boisvert/NASA)
5. The wing of the DC8 over the Recovery Glacier, with the Shackleton mountains in the background. (Jeremy Harbeck/NASA)
6. An extremely large iceberg off of the Larsen ice shelf encased with thicker, ridged sea ice. (Linette Boisvert/NASA)

Images:

## Figure 1



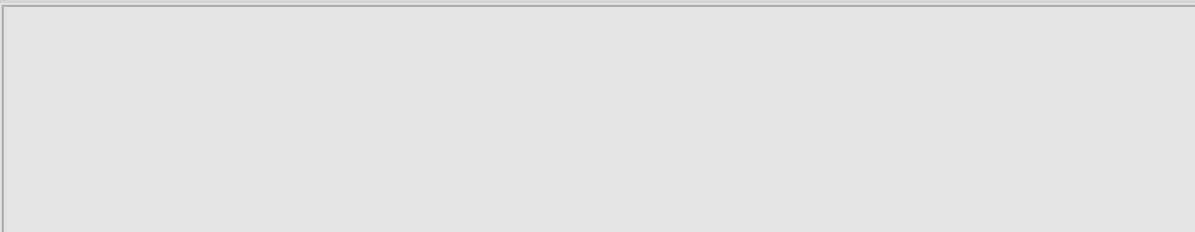
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## Figure 2



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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:**

Linette Boisvert on 10/23/18

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

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