

OIB - DC-8 11/07/16 Science Report

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

Date: Monday, November 7, 2016

Mission: OIB

Mission Location: Antarctica

Mission Summary:

IceBridge successfully completed the high priority Dotson-Crosson mission. This is a new mission, designed to collect surface dh/dt measurements over the Dotson and Crosson Ice Shelves and over the lower Smith, Kohler and Pope Glaciers. Most lines were previously flown by OIB, and the two primarily cross-flow lines in the western part of the survey were first flown by ATM and CreSIS during the NASA-Chilean 2002 project. We added a new line crossing the northwestern corner of the Crosson Ice Shelf to investigate a possible overdeepened region in the sea floor there, and we also added a central flowline of the Smith Glacier.

ATM suffered a chiller failure before the start of the data line causing the wide-scan system to be inoperable for the flight. The ATM narrow scan instrument operated successfully during flight such that the laser altimetry time series in the region can be maintained.

All other instruments performed well during the flight with no loss of data due to clouds or other instrument issues. Some high altitude ATM and DMS data was also collected over sea ice and land ice during the transits.

Data volumes

ATM: T5: 20 Gb T6: Inoperable

FLIR: 11.5 Gb

Cambot: 23 Gb

DMS: 39 Gb

Snow/Ku radars: 331 Gb each

MCoRDS: 917 Gb

AIRGrav: 5 Gb

data on: 1700 (high altitude) start

data off: 2030 (low altitude)

Submitted by: Nathan T. Kurtz on 11/07/16

File:

 [dotson_crosson_map.pdf](#)

Related Flight Report:

DC-8 11/07/16 - 11/08/16

Flight Number: 1155

Payload Configuration: OIB-ATM NAV/ATM GPS/ATM-T5/T6/ATM FLIR/ATM CMBOT MCoRDS/SNOW/Ku RADAR DMS/POS-AV GRAVIMETER & ARMAS (piggyback)

Nav Data Collected: Yes

Total Flight Time: 11.2 hours

Submitted by: Timothy Moes on 11/09/16

Flight Segments:

From:	SCCI - Punta Arenas, Chile	To:	SCCI
Start:	11/07/16 12:58 Z	Finish:	11/08/16 00:07 Z
Flight Time:	11.2 hours		
Log Number:	178010	PI:	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		

Comments:

Good flight. The aircraft came back in good condition. A ramp overpass calibration was flown 1500 ft AGL at the start of the mission. This was a new mission designed to collect surface dh/dt measurements over the Dotson and Crosson Ice Shelves and over the lower Smith, Kohler and Pope Glaciers. Many of the lines had been flown in previous years, but new ones added this year. All the science instruments performed well with the exception of ATM laser T6. The chiller failed prior to descent to the target area so no data for this flight. The T5 laser did perform well throughout the mission. Post-flight, the chiller unit was replaced and the lasers in T6 & T5 were swapped to increase maximize probability for a good laser in the higher priority T6 measurement for the next flight. Weather was ideal for all science datalines.

Flight Hour Summary:

	178010
Flight Hours Approved in SOFRS	300
Total Used	306.9
Total Remaining	-6.9

178010 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/04/16	1135	Science	4	4	296	
10/05/16	1136	Science	2.7	6.7	293.3	
10/12/16	1138	Transit	10.9	17.6	282.4	
10/12/16	1139	Transit	3	20.6	279.4	
10/14/16 - 10/15/16	1140	Science	10.9	31.5	268.5	
10/15/16 - 10/16/16	1141	Science	11.8	43.3	256.7	
10/17/16 - 10/18/16	1142	Science	11.8	55.1	244.9	
10/20/16 - 10/21/16	1143	Science	11.4	66.5	233.5	
10/22/16	1144	Science	11	77.5	222.5	
10/24/16 - 10/25/16	1145	Science	11.5	89	211	
10/25/16 - 10/26/16	1146	Science	11.3	100.3	199.7	
10/26/16 - 10/27/16	1147	Science	12.1	112.4	187.6	
10/27/16 - 10/28/16	1148	Science	11.5	123.9	176.1	
10/28/16 - 10/29/16	1149	Science	11	134.9	165.1	
10/31/16 - 11/01/16	1150	Science	11	145.9	154.1	
11/02/16 - 11/03/16	1151	Science	11.2	157.1	142.9	
11/03/16 - 11/04/16	1152	Science	11.5	168.6	131.4	
11/04/16 - 11/05/16	1153	Science	11.1	179.7	120.3	
11/05/16 - 11/06/16	1154	Science	11.7	191.4	108.6	
11/07/16 - 11/08/16	1155	Science	11.2	202.6	97.4	
11/09/16 - 11/10/16	1156	Science	11.7	214.3	85.7	
11/10/16	1157	Science	10.9	225.2	74.8	

11/11/16 - 11/12/16	1158	Science	11.3	236.5	63.5
11/12/16 - 11/13/16	1159	Science	11.1	247.6	52.4
11/14/16	1160	Science	10.9	258.5	41.5
11/15/16 - 11/16/16	1161	Science	11.6	270.1	29.9
11/17/16 - 11/18/16	1162	Science	11.1	281.2	18.8
11/18/16 - 11/19/16	1163	Science	11.1	292.3	7.7
11/21/16	1165	Transit	11.6	303.9	-3.9
11/21/16	1164	Transit	3	306.9	-6.9

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.

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

NASA Official: Bruce A. Tagg

Source URL: https://airbornescience.nasa.gov/science_reports/OIB_-_DC-8_11_07_16_Science_Report#comment-0