

DC-8 10/22/12

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

Flight Number: 130111

Payload Configuration: OIB Antarctic 2012

Nav Data Collected: Yes

Total Flight Time: 11.2 hours

Submitted by: Frank Cutler on 10/23/12

Flight Segments:

From:	SCCI	To:	SCCI
Start:	10/22/12 12:00 Z	Finish:	10/22/12 23:14 Z
Flight Time:	11.2 hours		
Log Number:	138003	PI:	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	<p>Depart SCCI at 1200Z. Perform calibration ramp pass to the SE and overfly targets at 1207Z at 1000 ft AGL. Climb to cruise altitudes of FL310 & FL330. Descend to 1500ft AGL to cross first science waypoint at 1508Z. Continue to fly ground track pattern from roughly north to south on the east side of the Ellsworth mountain range. Pass over final waypoint at 1904Z. Perform radar pitch maneuvers at 2000 ft AGL at 1908Z. High altitude ATM data collected during transit segments. Climb to FL380 to FL400 block for transit to Punta Arenas. Cross ground track path at 1952Z during return transit segment. Xchat with school children in class rooms across USA during mission. Land SCCI at 2314Z.</p>		

Flight Hour Summary:

	138003
Flight Hours Approved in SOFRS	200
Total Used	215.7
Total Remaining	-15.7

138003 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/02/12	130101	Check	5	5	195	
10/03/12	130102	Check	3.2	8.2	191.8	
10/08/12 - 10/09/12	130103	Transit	10.7	18.9	181.1	
10/10/12	130104	Transit	3.2	22.1	177.9	
10/12/12	130105	Science	11.2	33.3	166.7	
10/13/12 - 10/14/12	130106	Science	10.9	44.2	155.8	
10/15/12	130107	Science	11.6	55.8	144.2	
10/16/12 - 10/17/12	130108	Science	11.8	67.6	132.4	
10/18/12	130109	Science	11.6	79.2	120.8	
10/19/12 - 10/20/12	130110	Science	10.2	89.4	110.6	
10/22/12	130111	Science	11.2	100.6	99.4	
10/23/12 - 10/24/12	130112	Science	11.3	111.9	88.1	
10/25/12	130113	Science	11.4	123.3	76.7	
10/27/12	130114	Science	11.4	134.7	65.3	
10/28/12 - 10/29/12	130115	Science	11.3	146	54	

11/01/12 - 11/02/12	130116	Science	12	158	42
11/02/12 - 11/03/12	130117	Science	10.6	168.6	31.4
11/04/12	130118	Science	11	179.6	20.4
11/06/12 - 11/07/12	130119	Science	9.4	189	11
11/07/12 - 11/08/12	130120	Science	11.5	200.5	-0.5
11/09/12	130121	Transit	3.3	203.8	-3.8
11/10/12 - 11/11/12	130122	Transit	11.6	215.4	-15.4
11/11/12	130123	Transit	0.3	215.7	-15.7

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 10/22/12 Science Report

Mission: OIB

Mission Summary:

F07 Ronne Grounding Line West

Accomplishments

- Low-altitude survey (1,500 ft AGL) along and across the Recovery Glacier and several subglacial lakes in the area.
- Completed all planned survey lines.
- ATM, MCoRDS, snow and Ku-band radars, gravimeter, and DMS were operated on the survey lines.
- Collected additional ATM and DMS high-altitude data on transit home including cross-overs with low-altitude data.
- Conducted pitch maneuvers for time stamp verification of snow and Ku-band radars.
- Conducted ramp pass (1,000 ft AGL) at Punta Arenas airport after takeoff for DMS, ATM, snow and Ku-band radar instrument calibration.
- Hosted several question and answer sessions on x-chat during the flight with students and teachers from the US.
- Satellite Tracks: none
- Repeat Mission: none

Science Data Report Summary

Instrument	Operated	Data Volume	Instrument Issues/Comments
ATM	yes	45 GB	None
DMS	yes	80 GB	None. Collected 11,349 frames.
Snow Radar	yes	437 GB	None
Ku-band Radar	yes	437 GB	None
MCoRDS	yes	710 GB	None
KT-19	yes	20 MB	None
Gravimeter	yes	1.2 GB	None
DC-8 On-board Data	yes	40 MB	None

Mission Report (Michael Studinger, Mission Scientist)

Our primary mission plan for today was the Endurance mission over sea ice in the Weddell Sea because of the favorable CryoSat-2 timing and orbit geometry. Unfortunately, the GFS model forecast we got at the airport

predicted significant cloud cover over large parts of the survey area. We spend a considerable amount of time with the forecaster to understand the weather situation and had to conclude that the Weddell Sea was a no go today. We decided to fly the high priority mission Ronne Grounding Line west instead, which had a very promising weather forecast. The conditions in the area were perfect and we completed all planned survey lines. We also collected high altitude data on the transit from the survey area to Punta Arenas, including cross-over data with the low-altitude data.

We enjoyed spectacular views of the Ellsworth Mountains, the Sentinel Range, and Mount Vinson, the tallest peak in Antarctica (4,897 m) as well as the Rutford Ice Stream (see photos below).

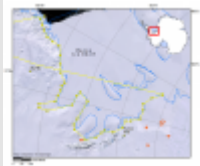
We also completed a ramp pass at Punta Arenas airport at 1,000 ft AGL after takeoff to ensure data collection during daylight for DMS and ATM instrument calibration and also for snow and Ku-band radar calibration.

We hosted again several question and answer sessions on x-chat during the flight with students and teachers from across the United States.

ATM data collection	Time (UTC)	Hours
Begin high altitude data collection		
Begin low altitude data collection	14:45	
End low altitude data collection	19:10	4.3
End high altitude data collection	20:10	1.0
Total		5.3

Images:

Map of today's science mission



[Read more](#)

View of the Ellsworth Mountains and Sentinel Range



[Read more](#)

View of the Ellsworth Mountains with the Vinson Massif and Mount



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View of the Ellsworth Mountains with the Vinson Massif and Mount Vinson



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Ice fall in the Ellsworth Mountains, Antarctica



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Ellsworth Mountains, Antarctica



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Submitted by: Michael Studinger on 10/22/12

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