

OIB - DC-8 - AFRC 10/19/18 Science Report

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

Date: Friday, October 19, 2018

Mission: OIB

Mission Location: Seelye Loop

Mission Summary:

Mission: Seelye Loop

Priority: Baseline

Weather forecasts and satellite imagery showed us a clearing of low clouds in the majority of the Weddell Sea for today, and so IceBridge was able to attempt and successfully complete the baseline sea ice mission Seelye Loop. This is the first sea ice mission for our Fall Antarctic deployment. The Seelye Loop is a repeat mission that has been completed almost every year, and is designed to capture the sea ice freeboard gradient across the Weddell Sea. No ICESat-2 ground tracks were flown during this mission.

The weather forecasts held up and only briefly did we encounter some low clouds near the Brunt ice shelf, causing us to increase our altitude slightly. All instruments performed well with no issues and nearly 100% data collection.

The tapestry of sea ice types along the mission lines was spectacular. Where there were thicker floes, leads, newly formed sea ice, grease ice, frazil ice and hugely ridged ice all mixed together. At the beginning of the mission evaporation from leads in between the ice floe was present. Multiple seals were also spotted on the sea ice.

Outreach: OIB conducted 6 classroom chats today, connecting with 102 students from NY, CA, WI, Canada and South Africa.

Media: During today's mission OIB hosted the Steelhead 3-person documentary crew where Linette Boisvert, John Sonntag and Robbie Russell were interviewed onboard. Steelhead is making a feature length documentary on melting ice. Their previous film "A Plastic Ocean" made a splash in theaters.

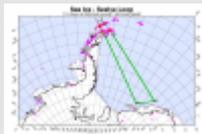
Outlook: OIB hopes to fly another important science mission tomorrow weather permitting.

Attached Images:

1. Map of today's sea ice mission (John Sonntag/NASA)
2. ATM T-6 wide scan elevation map of the sea ice floes, and a large lead. The ridges on the floes can easily spotted. (Matt Linkswiler/NASA)
3. A quick-look intensity graph showing the relative range vs time of the snow radar from a return over the snow on sea ice. (Hara Tavaslisad/KU)
4. A lead that is partially refrozen and also continuing to freeze over. New very thin grease ice is being produced. (Linette Boisvert/NASA)
5. An iceberg surrounded by water and sea ice floes in the Weddell Sea. The submerged portion of the iceberg is visible. (Linette Boisvert/NASA)
6. A mother seal and her baby, accompanied by another seal and some remnants from their dinner (red stains) on a sea ice floe in the Weddell Sea. (Jeremy Harbeck/NASA)

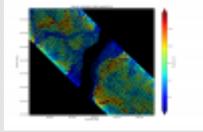
Images:

Figure 1



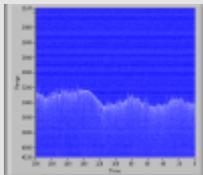
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Figure 2



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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 10/24/18

Page Last Updated: April 22, 2017

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