

### Subproject: Oceanic and Atmospheric Forcing of Sea Ice Dynamic and Thermodynamic Processes

Actual field dates: April 10-May 6, 2015

Field site: Labrador Sea

Number of man-days in the field: 138

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#### Summary:

The ship based meteorological tower, radiation sensors, microwave profiler and all-sky camera all ran during the length of the cruise. Some problems occurred with the ship based meteorological tower and thus the data was supplemented by the AVOS system.

Each surface meteorological station was set up and tested onboard the CCGS Amundsen prior to deployment. Both stations tested well for 2-3 days prior to arriving in the Labrador Sea. No towers or ice beacons were deployed on the ice due to unfavourable ice conditions.

Due to the physical conditions of the sea ice, only one physical ice sampling station was completed. The sampling was conducted on thick first year ice, the floe was relatively small, approximately 10 meters by 15 meters in size. The on ice team consisted of two team members (see Figure 9), and took approximately 35 minutes on the ice. One ice core was extracted for temperature, salinity and microstructure.

The Unmanned Aerial Vehicles (UAVs) were tested to determine if aerial photography and in the future photogrammetry could be performed off of the coast guard vessel, while the vessel was at sea. There were two tests performed, the first was to see if the pilot was capable to maintain the position with the ship as it drifted in the water and the second test was to take aerial photography of the ship. The second UAV station was on May 2 2015 at 14:10 local ship time, at 49°24.14' N and 66° 50.68' W with light wind speeds of 5 kts.

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#### Photos:

Fig.1: A map of the study area, the CCGS Amundsen's cruise path is shown in red. Credit: Lauren Candlish

Fig.2: Team members Kerri Warner from UofM and Rob Pritchett from Memorial extract an ice core using the ice cage for deployment. Credit: : Lauren Candlish

Fig.3: An On Ice Tower deployed in ice thicker than 6 meters. Credit: Lauren Candlish



Figure 1

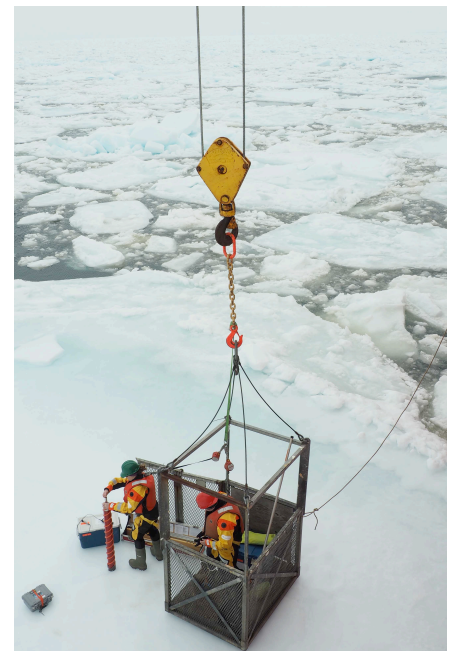


Figure 2

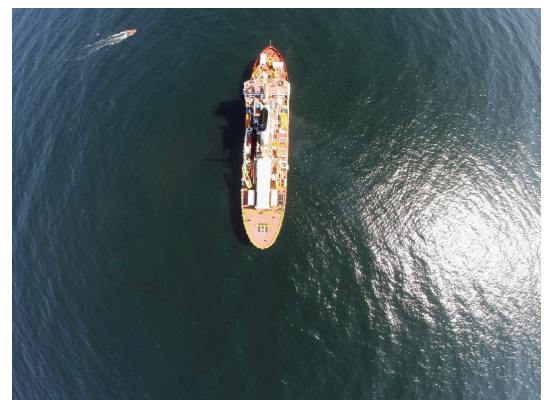


Figure 3

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**Acknowledgements:**

Statoil, ArcticNet, CERC and NSERC