

## CHOIRS: Characterization of Hazardous Ocean Ice using RADARSAT and the Ice Profiler™

There is an increasing need for fine scale detection and characterization of hazardous ice conditions in the Arctic. ASL Environmental Sciences Inc. has recently received funding from the Canadian Space Agency to address this need under the Earth Observation Applications Development Program.

The project will develop improved techniques, tools and data products that will enhance the detection and characterization of hazardous ice conditions at fine scales, based on advanced beam modes of RADARSAT-2, and the unique capabilities of moored, upward looking sonar technology.

ASL's Ice Profiler™ along with Acoustic Doppler Current Profilers will provide validation data and opportunities for improvement in the analysis and interpretation of the SAR imagery. In effect, this project will combine the view of the ice canopy from below (Ice Profiler™) with the view from above (RADARSAT-2 high resolution quad-polarized data), and generate enhanced ice information products. Using simulated data for Radarsat Constellation Mission compact polarimetry beam mode, the operational utility of such products will also be assessed.

The Canadian Ice Service of Environment Canada and the Ice Engineering Group of the National Research Council are the participating Government End-users, where they will also represent other users of their products and services. This project will run between June 2013 and March 2015.

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