

**Arctic Regional Hydrographic Commission (ARHC)
Tromso, Norway, October 9-11, 2012**

Paper for consideration by ARHC

Information Paper on Canada Arctic Pilot Project – Victoria Strait – Multi-Platform Approach in Arctic Conditions.

Submitted by: Canadian Hydrographic Service

Executive Summary: In April 2011 a multi-departmental initiative was launched to focus and evaluate a multidisciplinary approach to mapping and charting in Canada's Arctic. To suit the objectives of the various departments involved, a small portion of the North West Passage in Victoria and Alexandra Straits was selected. Here, expertise in hydrography, archaeology, ocean technology, space technology and environmental science was coordinated to capture, analyse and publish data from various, ocean-going, airborne and space borne platforms. This presentation will report on the project objectives, accomplishments, deliverables and preliminary results thus far.

Related Documents: none

Related Projects: none

Introduction / Background

Despite the progress made so far in the field of navigation safety, collecting data for navigation and other uses in the Arctic remains a significant challenge. The Arctic's vastness, isolation and harsh environmental conditions continue to hamper efforts to create the best navigational charts possible. Unpredictable ice and weather conditions limit surveying and data collection opportunities to a short window during the summer. Logistics are complicated and expensive, requiring specific support such as icebreakers and helicopters. At the same time, Arctic commercial shipping, cruise ship and recreational vessel traffic are increasing, making the need to produce modern, accurate charts more vital than ever.

Spearheaded by the Canadian Hydrographic Service, the Arctic Charting and Mapping Pilot Project was introduced in 2011. The goal of the project for CHS remains to improve hydrographic data coverage for the Arctic and to assess new technologies and methodologies in an effort to seek efficiencies. Additional goals include supporting other scientific endeavours such as marine archaeology, ecosystem and habitat studies. To meet these goals, government and non-government organizations with overlapping interests are pooling resources, tools, expertise and innovation.

Analysis/Discussion

This paper presents CHS's experiences with using multi-platforms in arctic conditions. Although the work was conducted during the summer season, there was a persistence of ice, high levels of turbidity and constantly changing weather conditions to add to the challenging logistics of bringing equipment and people to the field of operation.

Survey equipment included, high resolution multi-beam, single beam, under water autonomous vehicle, side scan sonar, airborne LiDAR and satellite support for high resolution imagery.

Newly collected high-resolution bathymetric data will improve navigation safety through the production of enhanced nautical charts, thereby contributing to the long-term economic prosperity and environmental protection of Canada's north.

Conclusions

CHS has been able to gather data in a much more effective and efficient manner in extreme geographical locations through the synergy created from the use of multi-disciplinary and platform approach.

Recommendations

The ARHC notes this information

Justification and Impacts

Not required.

Action Required of ARHC

1. To note the report.