

## CHALLENGES OF COLLECTING DATA FOR ARTICLE 76 IN ICE COVERED WATERS OF THE ARCTIC.

Author 1: J. Richard MACDOUGALL, CANADIAN  
Canadian Hydrographic Service, Fisheries and Oceans Canada  
[MacDougallR@Mar.dfo-mpo.gc.ca](mailto:MacDougallR@Mar.dfo-mpo.gc.ca)

Author 2: Jacob VERHOEF, CANADIAN  
Geological Survey of Canada, Natural Resources Canada  
[jverhoef@nrcan.gc.ca](mailto:jverhoef@nrcan.gc.ca)

Author 3: Wendell SANFORD, CANADIAN  
Oceans and Environmental Law, Department of Foreign Affairs and International  
Trade  
[wendell.sanford@international.gc.ca](mailto:wendell.sanford@international.gc.ca)

Author 4: Christian Marcussen, DANISH  
Geological Survey of Denmark and Greenland (GEUS)  
[cma@geus.dk](mailto:cma@geus.dk)

### **Abstract**

Meeting the requirements of Article 76 in ice covered waters of the Arctic poses unique challenges. In addition to the issue of determining baseline points around ice shelves, these challenges include obtaining continuous bathymetric and seismic profiles. The existing data in the Arctic Ocean, particularly on the North American side is very sparse and much is the result of data collected for site-specific projects rather than systematic mapping efforts. The costs and uncertainty of successful data collection is very much impacted by the remoteness of the Arctic areas and short operational survey seasons. If a vessel breaks down or survey equipment fails or is lost, it is probable that the 6- 8 week annual survey season will be over before a replacement can be outfitted and positioned to the survey area. Data collection is also complicated by weather and ice conditions which have been more variable and less predictable in recent years. Another risk is the capability and availability of survey platforms and equipment that can operate in different ice conditions. This paper examines these challenges from the perspective of the Arctic and the Canadian and Danish efforts to collect data to support submission to the Commission on the Limits of the Continental Shelf.