UNCLOS Continental Shelf Project – Arctic Ocean – Update #0

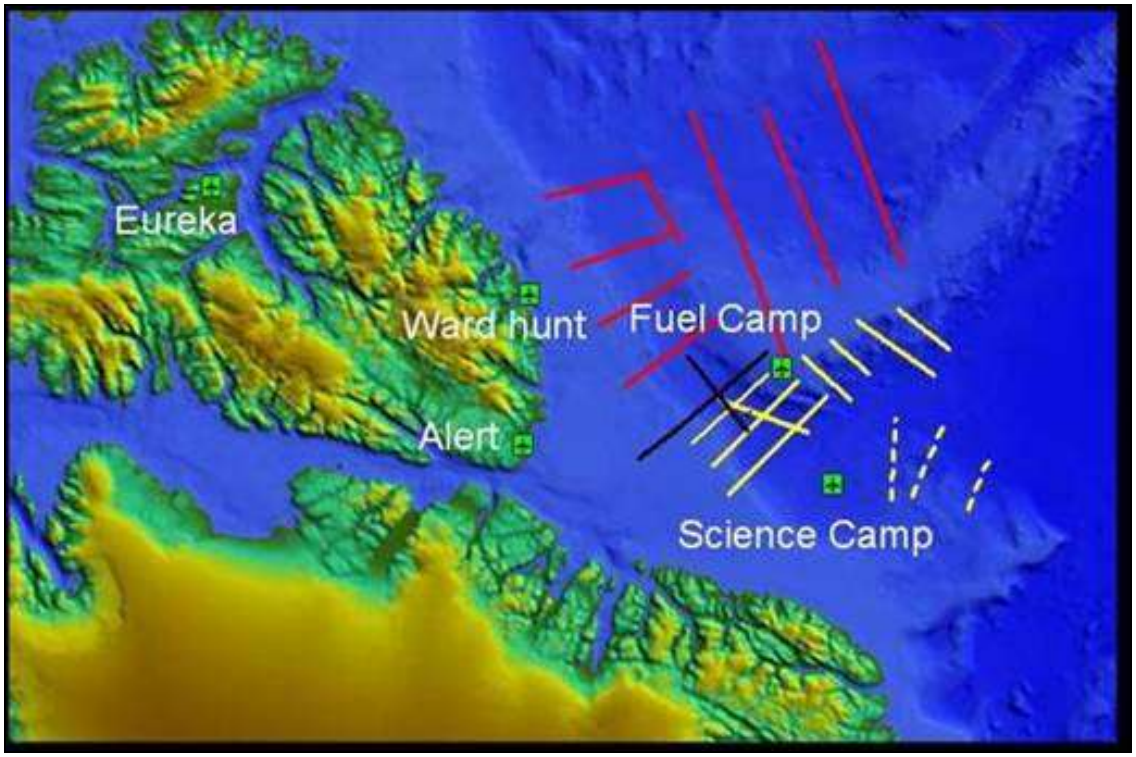
(March 2009)

UNCLOS (United Nations Convention on the Law Of the Sea) winter 2009 Arctic projects.

The survey work to map the outer edges of Canada's extended continental shelf beyond the 200 nautical mile Exclusive Economic Zone is continuing in March 2009 from a planned ice-camp near Ward Hunt Island on the north coast of Ellesmere Island.

This winter 2009 survey focuses on the collection of bathymetric data needed to determine the foot of slope of the continental shelf and the 2500 metre depth contour. The foot of slope is the starting point for both "entitlement" formulae used to determine the outer limits of the legal or juridical continental shelf. This "legal" continental shelf includes the shelf, the slope and the seafloor rise and can extends into waters as deep as 5000 metres. The 2500 metre depth contour is used by one of the two constraint formulae and is required to maximize Canada's extended continental shelf in the eastern Arctic Ocean. Bathymetric data is also required to show the shape of the seabed between North America and two submarine ridges that cross the Arctic Ocean to Asia, Alpha and Lomonosov Ridges.

Because Denmark requires the same type of bathymetric data to show that these ridges are a prolongation of the North American continent and of Greenland, Canada and Denmark are conducting a joint survey operation from the ice camp near Ward Hunt Island, supported by smaller camps for refuelling and safe refuge.



The camp set-up will be staged from Eureka where the camp gear was stored following the 2008 winter survey. It is also the most northerly destination of the annual sealift and during summer

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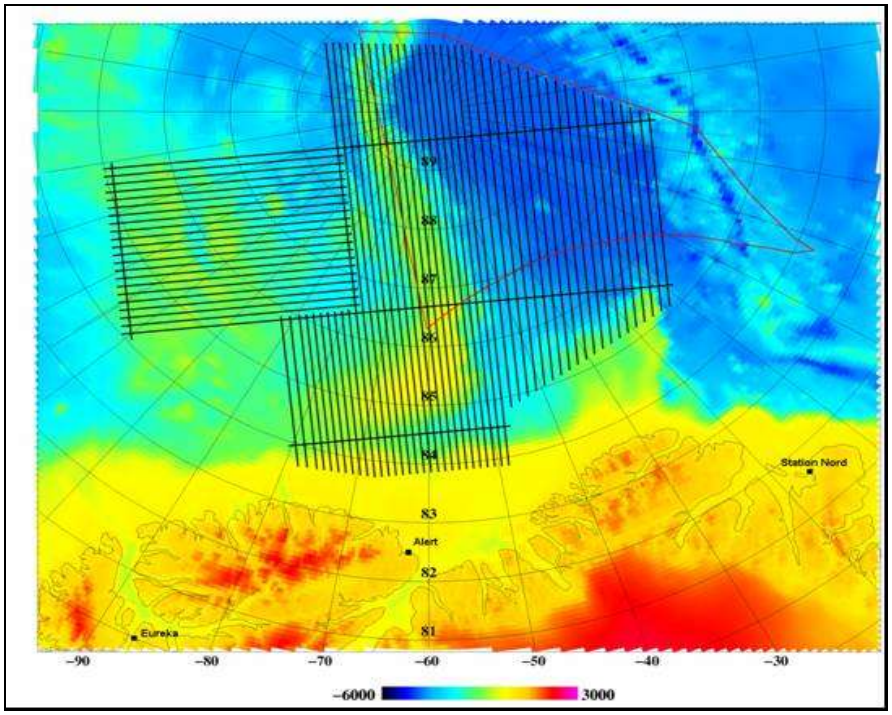
2008 the CCGS Terry Fox brought in nearly 2000 barrels of jet fuel and diesel fuel and four shipping containers of gear for this project.

The planned bathymetric lines are at maximum 50 nautical miles apart. Soundings will be obtained at regular intervals (2 – 5 km) along each sounding profile and gravity measurements will also be taken at selected points along each profile. The survey platform will be five helicopters and readings will be obtained by landing a helicopter at each point and a hydrographer manually placing instruments on the ice and recording a depth and gravity measurement.

Logistics is a major component of Arctic field operations. All the infrastructure for a camp needs to be brought in and established – accommodation tents, electricity, kitchen, toilets, workshops, snow melter for water, fuel for heat, fuel for aircraft, communications, etc – and all gear and the garbage removed at the end of the project. Establishing and removing this infrastructure often occupies more time than conducting the survey work. It is also the most labour intensive part of the season, exposing personnel to manual labour in the cold and the frustration of dealing with equipment that won't move, plastic parts that shatter like glass and hoses and belts that break rather than bend at 40 below.

It is planned to have a number of blog-type newsletters from this project during March and April.

In parallel, Canada and Denmark are carrying out a joint Aerial gravity and magnetic survey flown from Eureka, Alert and Station NORD in northern Greenland.



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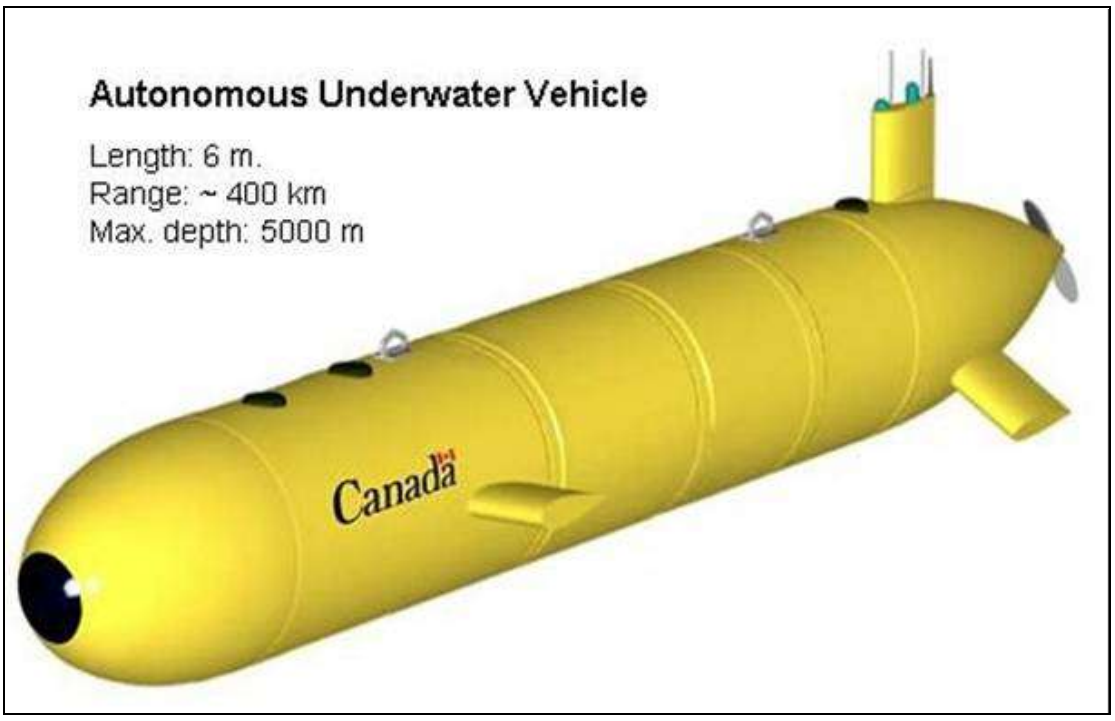
One purpose of this survey for UNCLOS is collect complimentary evidence to show that the seabed features detected on bathymetric profiles are continuous between profiles.

The third winter 2009 project involves testing under Arctic conditions several development components that will later be incorporated into two new Autonomous Underwater Vehicles (AUV) that are being built for the 2010 winter UNCLOS project. An Explorer AUV, owned by Memorial University, will be used for the tests which will be conducted in Dumbbell Bay near Alert by the manufacturer, International Submarine Engineering and by Defence Research and Development Canada personnel.



Ron Verrall, who provided periodic newsletters from the 2008 ARTA (Alpha Ridge Test of Appurtenance) project, will be a part of the AUV team and will contribute newsletters during the trial period.