



CANADIAN HYDROGRAPHIC SERVICE

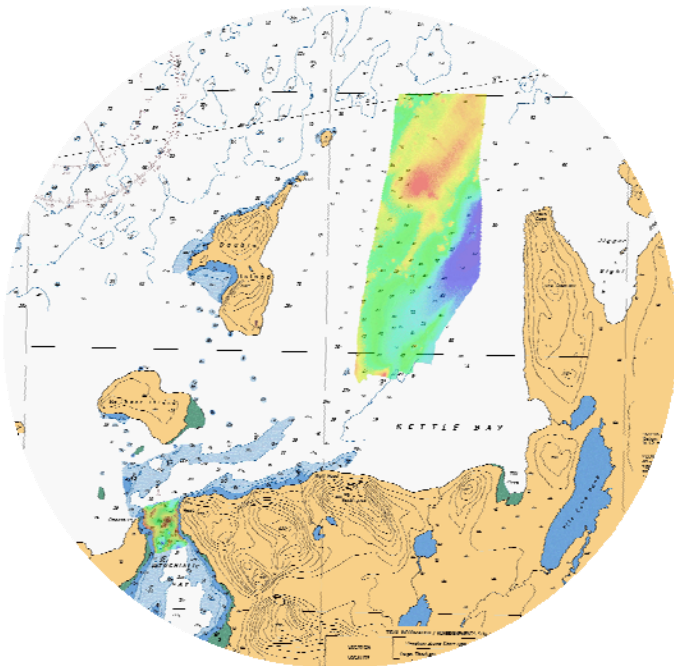
Ocean Management

The Canadian Hydrographic Service (CHS) surveys our oceans, conveying what we find in nautical charts that are the official source for information to ocean users on water depth, tides, currents, water levels and seafloor features.

Every year, CHS distributes approximately 300,000 charts, tide tables and other nautical publications to individuals and organizations in Canada and throughout the world.

The demand for our material is great because it is authoritative and informs users about what they need to know – from navigational hazards to guidelines for shipping and the location of fish habitats.

Our nautical charts are powerful tools for ocean management. They inform and influence decisions. Often, these decisions carry weighty implications.



CHS' Role in Ocean Management

Below are examples of how hydrographic information impacts on ocean management decisions.

Evolution of the Seafloor

CHS hydrographers gather data so that marine geoscientists may learn how the seafloor is evolving and to determine if it is stable or susceptible to landslides.



Hydrographers at work aboard the "Guillemot"

Knowledge of geohazards are pertinent to ocean-sector industries.

What if, for instance, an offshore oil and gas company is seeking permission to develop operations where weaknesses in the seafloor have been identified?

In a situation like this, the regional and federal government – and possibly regulators, environmental scientists and others – would have to reach a decision on whether or not to allow a company to proceed.

Their decision-making would be informed by essential information from CHS.

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Fish Habitat Mapping

Hydrographic data is used to help ocean-sector industry identify and safely act on new prospects. One example involves what was once a little-known fishing area off Nova Scotia, situated between established fishing grounds in the Bay of Fundy and offshore fisheries on German's and Georges Banks.

Intermittently throughout the years, the fishing industry asked for permission to fish in this area. However, with little information about the area and concerns that fishing there could harm the nearby fishing grounds, local fishers and government decision-makers found themselves at an impasse.

CHS hydrographers then became involved in a three-year joint project along with colleagues from Natural Resources Canada and Fisheries and Oceans Canada colleagues working in science and fisheries management. After identifying and assessing scallop beds in the area, with the aid of benthic ecologists, CHS then gathered data to map out how best to harvest those scallops without compromising the natural environs.

Guided by clear, detailed data and information, decision-makers agreed to the local fishers' request – and a multi-million-dollar scallop fishery was born.

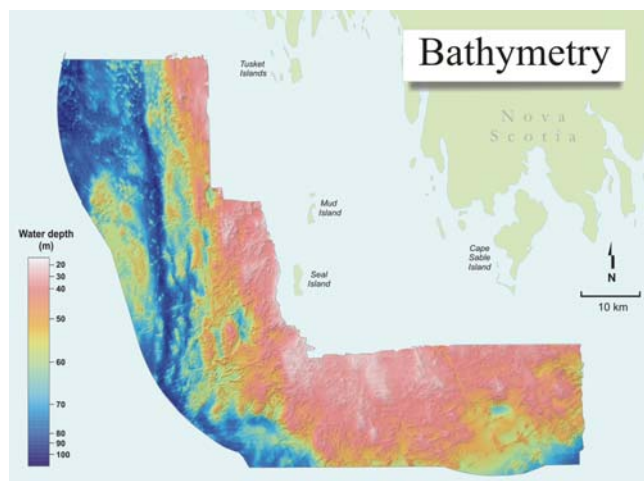


Image of the surface geology of the scallop fishing area 29, southwest Nova Scotia

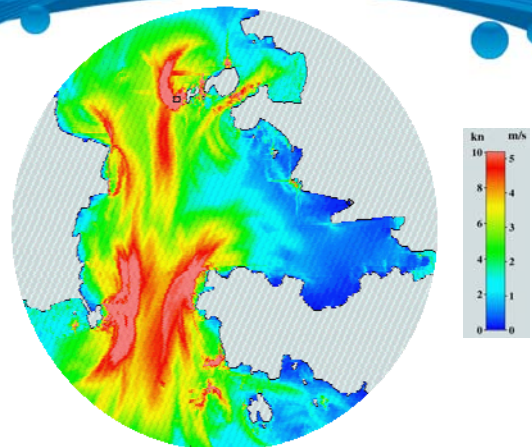


Illustration of the maximum tsunami currents in a section of Esquimalt Harbour, B.C., in the event of a magnitude 9 earthquake off the west coast of Canada.

Storm Surge and Tsunami Warnings

The impact of CHS' activities can also be far-reaching. With the capacity to monitor and relay real-time information on water levels of Canada's oceans, the CHS is positioned to promptly identify a potential storm surge and provide warnings.



Some of the damage caused by the tsunami that swept up Port Alberni Inlet, B.C., following the 1964 magnitude 9.2 Alaskan earthquake. The water rose 10 feet above normal high tide.

Canada is part of an international tsunami warning system, and has contributed two automatic water-level gauges to the system. These gauges are capable of detecting unusual water levels that might indicate the passage of a tsunami, and transmitting them in real time to agencies that are responsible for issuing tsunami warnings.

Water level monitoring is also useful to track trends in water levels over historic periods. CHS also has the capability to create models of water levels and currents to assist in tracking oil spills.

For more information about these and other ways the Canadian Hydrographic Service supports ocean management, please visit:
www.chs-shc.gc.ca