

Canadian coast guard use GMES services to enhance the effectiveness of Search and Rescue at sea

WITH A LONG COASTLINE AND, AT TIMES, SEVERE OCEAN AND ICE CONDITIONS, THE CANADIAN COAST GUARD MUST LOCATE SURVIVORS AT SEA AND RECEIVE INFORMATION (IN NEAR REAL TIME) ABOUT THE CURRENT AND FUTURE ENVIRONMENTAL FACTORS AFFECTING THE SEARCH AND RESCUE OPERATIONS. FISHERIES AND OCEANS CANADA (DFO) SCIENCE BRANCH WORKS WITH THE CANADIAN COAST GUARD TO ENHANCE SEARCH AND RESCUE EFFECTIVENESS BY DEVELOPING AND IMPLEMENTING APPLICATIONS BASED ON GMES SERVICES.



Fraser J.M. DAVIDSON

The Canadian Coast Guard Search and Rescue (SAR) Coordinator uses a search planning software tool that determines the most likely position of a search target. Environmental information from GMES services is fed into this CANSARP software. Information used by CCG includes target detection of icebergs and ships, winds derived from satellite data, an oceanic forecast of the currents, and a weather forecast, as well as ice distribution information. Awareness of the marine environment and available vessel positions is crucial in planning a safe search and rescue recovery. The SAR coordinator requires easily accessible information delivered to his/her work station that can be processed through the software to plan the Search and Rescue operations. Following the search planning process, assets (planes, boats...) are assigned to search for and recover the persons in distress. All available environmental information and satellite target detection information is used. GMES-developed information has provided enhanced knowledge to SAR operations conducted by the Canadian Coast Guard.

Fraser J.M. DAVIDSON (Photo credits: DFO)
Research Scientist in Operational Oceanography,
Fisheries and Oceans Canada (DFO)



**Fisheries and Oceans
Canada**

**Canadian
Coast Guard**

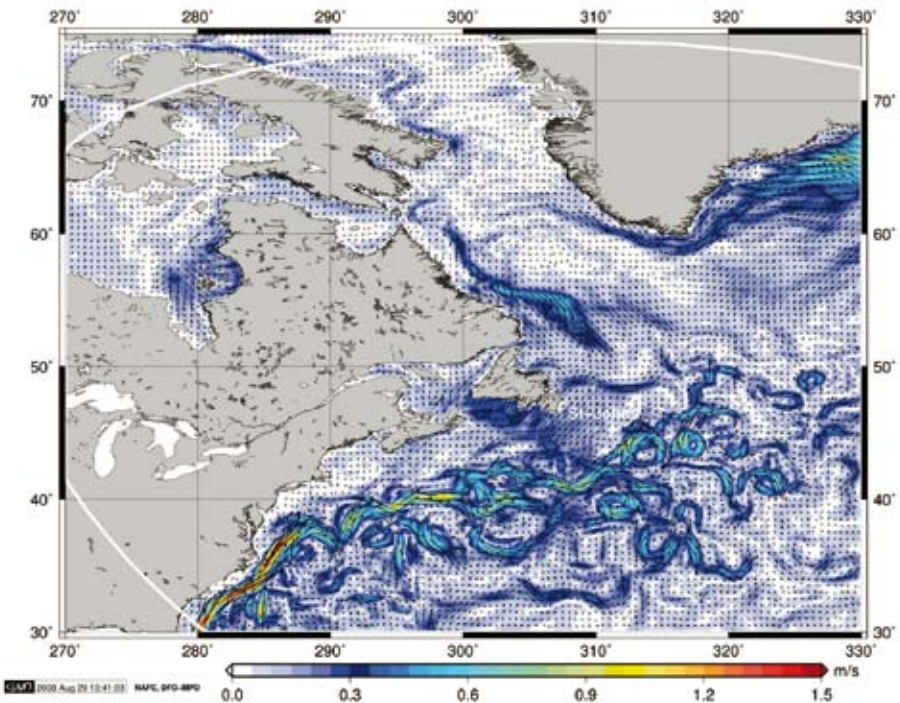
Recovery of survivors in a life raft by the Canadian Coast Guard (Credits: Canadian Coast Guard)

GMES SERVICES FOR THE CANADIAN COAST GUARD

GMES services to the Canadian Coast Guard have been provided through the MERSEA Project co-funded by the European Commission (and will be continued within the framework of the forthcoming MyOcean project) in collaboration with Fisheries and Oceans Canada. Weekly ocean forecasts at the highest available resolution are provided from Mercator Océan. Additionally, a daily regional forecast system is run with available GMES global ocean forecasts as inputs. The Polar View GMES Project (under the auspices of the ESA GMES Service Element programme) has provided automated iceberg and ship target detection algorithms on available radar satellite images for the region of interest to the Canadian Coast Guard.



Ocean currents on 2008-08-29 1200Z near 0m



Based on GMES data, information such as this forecast of surface currents for 12 hours ahead is produced on a daily basis by DFO. It provides key environmental parameters for successful SAR operations by the Canadian Coast Guard (Credits: Canadian Department of Fisheries and Ocean for the processing, Mercator Océan for the input data)