

ROSE: COINCIDENT SEISMIC AND HYDROGRAPHIC SURVEY OF THE GULF STREAM AND SLOPE WATERS SOUTHEAST OF NOVA SCOTIA

Mladen R. Nedimović^{1,2}, Blair J. W. Greenan³, Keith E. Louden⁴, Barry R. Ruddick⁴, Ramzi Mirshak⁴, Omid Aghaei¹, Michael Enachescu⁵ and John W. Shimeld⁶

¹*Dept. of Earth Sciences, Dalhousie Univ., Halifax, NS, B3H 4J1, Canada*

²*LDEO of Columbia Univ., Palisades, NY, 10964, USA*

³*Fisheries & Oceans Canada, BIO, Dartmouth, NS, B2Y 4A2, Canada*

⁴*Dept. of Oceanography, Dalhousie Univ., Halifax, NS, B3H 4J1, Canada*

⁵*Dept. of Earth Sciences, Memorial Univ., St. Johns, NF, A1B 3X5, Canada*

⁶*Geol. Survey of Canada - Atlantic, BIO, Dartmouth, NS, B2Y 4A2, Canada*

In the summer of 2007, the Government of Canada contracted a large-scale multi-channel seismic (MCS) survey southeast of Nova Scotia with the intent to extend Canadian jurisdiction of the seabed and its natural resources under the United Nations Convention on the Law of the Sea (UNCLOS). The survey lines crossed a major oceanographic boundary between the Gulf Stream and the slope waters. The primary goal of our research undertaken on *R/V Endeavor* during the 2007 cruise EN438 was to collect a hydrographic dataset coincident with a part of the UNCLOS MCS survey. We collected ~350 km of hydrographic data at high spatial density (~500-1500 m) using shipboard XBTs and CTDs. In addition to analyzing the MCS data to gain quantitative understanding about the recorded water column reflections, we plan to use XBT/CTD data to produce reflectivity sections and carry out waveform modelling to study spatial resolution limits of seismic oceanography. We also recorded repeat and reverse profile XBT/CTD data to investigate short period temporal effects on seismic imaging in this dynamic environment.