

Characteristics of dense bottom currents in the Baltic Proper.

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Abstract

Dense bottom currents are responsible for transport of salty inflow waters from the Danish Straits, driving ventilation and renewal of the Baltic deep waters. This study characterises dense currents in three deep basins of the Baltic Proper: Bornholm Basin (BB), Gdansk Basin (GB) and Slupsk Furrow (SF). These locations are of particular interest due to chemical munitions deposited there. Furthermore, these sites are also important because they are situated along the pathway of dense inflowing waters. Vertical profiles of currents' velocity were measured during regular cruises of *RV Oceania* and *RV Baltica* in 2001-2012 (~45 cruises) by 150kHz and 300kHz vessel mounted ADCP with 4m and 1m bin resolutions. Additionally, the high resolution CTD and oxygen profiles (only in 2009-2012) were collected. Furthermore, two moorings measured currents' velocity, oxygen and turbidity at about 1m above the bottom in SF and GB during summer 2012. The long-term means of the currents' speed and direction are presented along the main cruise track of *RV Oceania*. In addition, examples of inflow events are provided. The subsequent results describe variability of dense currents in the three basins in 2009-2012.