



## **The distribution of the Intermediate and Deep Water Masses on 60N in the Atlantic Ocean in 2006-2011.**

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Subpolar water structure in Atlantic Ocean has been analyzed using the newest hydrochemical data as well as CTD data. Water mass properties are compared to measurement data obtained in 2006, 2009 and 2011.

New data analysis made it possible to reveal, that gradual Labrador Sea Water (LWS) dense lower core destruction in Irminger Basin and Icelandic Basin has been going on within the period of 2006-2011. In 2009 and 2011 dual-mode LWS structure was already not observed. New, developed Labrador Sea waters have spread in the upper layer. In addition to that arctic waters' influence increased slightly, and the tendency of intermediate southern-origin waters' intense penetration to the north continued.

The detected LWS and Icelandic-Scotlandic Overflow Water (ISOW) warming, salinization and depletion in dissolved oxygen in Irminger Basin and Icelandic Basin have been going on in 2006-2011, happening simultaneously.

Such a mode of water mass interaction in years 2000 is a reflection of the fact that one of the meridional circulation pattern dynamic phase is being completed. The mode is establishing, when water exchange between North Atlantic and Arctic Ocean is going to be defined by a weak current in the intermediate layer, intense entrance of deep waters from the north as well as strong subtropical Atlantic water transfer to the north.