Geophysical Research Abstracts
Vol. 15, EGU2013-4076-1, 2013
EGU General Assembly 2013

The North Atlantic Ocean main pycnocline from Argo data

Guillaume Maze (1), Virginie Thierry (1), and Herlé Mercier (2)
(1) Ifremer, LPO, France (gmaze@ifremer.fr), (2) CNRS, LPO, France

At mid-latitudes, the oceanic vertical structure of density is characterized by a permanent highly stratified layer: the pycnocline. The pycnocline is the transition layer between surface water masses ventilated every winter when penetrated locally by the mixed layer and deeper water masses which have been ventilated at high latitudes and circulate equatorward.
The pycnocline thus reflects a large scale balance between the penetration of local air-sea interactions and the re-emergence of remote ones.
The overall question we want to address is whether and to which extent the variability of the pycnocline properties (depth, thickness and thermohaline characteristics) are influenced by those of air-sea interactions.
To this end, we first developed a new method to characterize the permanent pycnocline properties from Argo data. We then applied this method to study the pycnocline in the subtropical North Atlantic Ocean.
We will present the first results of this analysis: the climatological (over the Argo observational period) and seasonal variability of the pycnocline properties.