

Vertical Movements of the Water Masses in the Western Part Sea of Okhotsk

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Recent observations well researching dichothermal (with $T < 0$ deg.C) layer in the Sea of Okhotsk provided an update his inner structure. In 90-th recent CTD vertical soundings with 1 m resolution and less discovered the cases of "double" dichothermal (or inner temperature inversion) layer effect obtained at the continental slope and Sea of Okhotsk deepest part. The genesis of that phenomena linked with pre-winter cooling and following winter convection as well brine rejection under ice flows. Following an important detail characterized and forced to explain new data about dichothermal structure is an obvious disorder between calculated winter convection depth and real descending horizons for subzero temperatures reaching few hundreds meters at the south-western part Sea of Okhotsk. Because the lack of an applying theory taking into account vertical movements for the Sea of Okhotsk, the experiment with year-around mooring was chosen to clear up data about vertical currents. From August 2006 to October 2007 the N-5 mooring was deploying at the northern tip of the Sakhalin Island (western part Sea of Okhotsk) at middle shelf depth around 100 meters close to originating region of the East-Sakhalin Current. The year-run vertical currents had clear seasonal signal with averaging by whole depth layer current as down-welling. Meanwhile vertical structure had complex nature with heterogeneous vertical movements at that relatively shallow area. Differences are discussed in vertical current structure in the fall, winter, spring, summer seasons with alternate of vertical movements through the year.