

Space and Time Variability of Thermohaline Structure

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The ocean water mass process is a key process to understand not only air-sea interactions but also density stratification structures in the ocean interior. Although studies of the water masses have remained the central works in physical oceanography even now, it is also becoming very important for marine ecology and dynamics of fisheries resources, recently(eg. Holsman et al.,2020; Mohan et al.,2017). After 2000, we can now obtain in-situ hydrographic observational data at averagely one every 200-300 km squared area by the Algo float project. Now that three-dimensional water temperature and salinity data sets based on these observations have begun to be enriched, such as MOAA GPV(Hosoda et al., 2008) and ARMOR3D(Quality infomation documents by Verbrugge et al, 2019), we believe that it is very important to conduct studies on water masses again.

Our final goal is to elucidate formations, transformations and transports of water masses in each ocean basin using the observation-based 3D T/S datasets. We, therefore, compare dataset-armor-3d-rep-monthly and MOAAGPV to clarify differences between thermohaline structures in space and time, first of all.

Keywords: water mass, thermohaline structure, MOAA GPV, ARMOR3D