

Antarctic Bottom Water and global ocean meridional overturning circulation

*Katsuro Katsumata¹

1. JAMSTEC

Antarctic Bottom Water (AABW) originates from dense shelf water mixing with surrounding (modified) Upper Circumpolar Deep Water as it flows down the shelf slope. In the past, the variability of AABW had been hardly observed, but since the 1980's, ship-based observations have clarified decadal variabilities of AABW, including its volume reduction and freshening. I review the role of AABW in the global overturning meridional circulation which stirs the world oceans in millenium time scales. I discuss the difficulty involved in the question what "drives" (the term used in the session name) the meridional overturning circulation. I also report recent findings on the variability and formation processes of AABW observed in recent ship-based observation in the 2018/19 and 2019/20 seasons along the Antarctica shelves.

Keywords: Antarctic Bottom Water, Ship-based observation, Meridional overturning circulation