

## Changes in oxygen and CFC concentrations in AABW along 115°E from 1990s to 2010s

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Antarctic Bottom Water (AABW) is formed by a mixing of old deep water with newly ventilated shelf water. This process has important implications for the transport of heat, freshwater, oxygen and carbon into deep ocean. Recent studies suggest reduction of AABW formation due to surface warming and freshening. In order to investigate changes in ventilation rate and properties of AABW, we have compared CFCs, oxygen and other water properties between observations made in 2016/2017 and 1995/1996 in the Australian sector of the Southern Ocean. Results showed increases in apparent oxygen utilization (AOU) and CFC age, indicating reduced ventilation of AABW in 20 years. We compare results with model simulation to discuss possible mechanisms of the reduction as well as quantitative implication of the reduction.

Keywords: AABW, CFC, Oxygen