

Spreading of Antarctic Intermediate Water in the Philippine Sea

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The Antarctic Intermediate Water (AAIW) is carried by the New Guinea Coastal Undercurrent (NGCUC) to the Philippine Sea (PS), then carried by the Mindanao Undercurrent (MUC) northward. In this study, the AAIW presents two divided parts using a stricter definition. The offshore part of AAIW locates between 400-650db, and reaches 10°N northmost. The inshore part locates below 800db, and it extends about 15°N. The two parts are connected by an anticyclonic gyre at about 1.5-3°N, 127.2-128.6°E. The wavelet spectrum of the AAIW volume indicate that the significant periods of offshore part and inshore part are 2.3 years and 3.9 years, respectively. We speculate the relationship between ENSO and the two parts of AAIW, but need deeper research about the dynamics in the future.

Keywords: the Antarctic Intermediate Water, the Mindanao Undercurrent

