



## **Time variable bottom water outflow in the Northwestern Weddell Sea**

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The Antarctic Bottom Water (AABW) has shown widespread warming in recent decades, with implications for sea level rise and global heat uptake. Anomalously warm AABW has recently been reported to have reached the Brazil basin in the South Atlantic, while the warming further south partly seems to have come to a halt. The Weddell Sea represents the primary source of Antarctic Bottom Water (AABW) formation in the Southern Ocean. More than 60% of the AABW are supplied by Weddell Sea Deep Water, of which Weddell Sea Bottom Water (WSBW) is the main source. WSBW descends down the continental slope along the western margin of the Weddell Sea as a northward flowing plume, thereby entraining warmer ambient waters. The plume has been observed using moored current meters and temperature sensors between 1989 and 1998 and between 2005 and 2012 near the tip of the Antarctic Peninsula, complemented by repeated cross-slope CTD sections along the mooring array. In this study we extend the WSBW volume transport and temperature time series of Fahrbach et al. (2001) originally covering the 1989-1998 interval by the more recent period. We will report on both seasonal to inter-annual variability and possible longer-term trends in both volume transport and temperature of WSBW. The results will be discussed in the context of changes in the source areas of WSBW, such as the breakup of parts of the Larsen Ice Shelf on the eastern Arctic Peninsula, possibly fueling the formation dense water on the shelf.