



Update on water mass composition in the Filchner Trough, Antarctica

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Some coupled ice-ocean models predict that the Filchner-Ronne Ice Shelf will face dramatic changes in the second half of our century. These are related to a redirection of the slope current into the Filchner Trough (FT), causing an increase of basal mass loss by more than an order of magnitude. If the model results are to be believed, it is important to monitor the variety of physical parameters of the present system in the 'pre-disturbed' case. The most recent 'Polarstern' expedition ANT XXIX/9 (19/12/2013 – 05/03/2014) is the first combined biological-oceanographic cruise into the southeastern Weddell Sea since 1998, designed to provide a marine census of the FT within the next 5 to 10 years.

We will present the first oceanographic results from the FT, showing that the eastern branch of the southward propagating Modified Warm Deep Water (MWDW) was observed only north of 76°S more than 120 nm away from the ice shelf edge. Three moorings were deployed at that latitude for a period of two years to measure the time dependence and the characteristics of this warm water tongue with temperatures between -1.6°C to -1.4°C. The recovery of the moorings is planned for austral summer 2015/16.