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# Sediment-bottom current evolution in the Ross Sea (Antarctica)

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Hydrographical, light transmission and suspended matter data, obtained in the Western sector of the Ross Sea during the austral summer 1994-95, have been used to investigate the presence and the evolution of density-turbidity currents along the northern Ross Sea shelf break. In particular CTD data are used to estimate geostrophic velocities, while light transmission and total particulate matter data (from Niskin bottles mounted on a Carousel water sampler) are used to infer the interaction between the dense water and the bottom sediments. This area is characterized by a northward flow of very cold and salty water masses (High Salinity Shelf Water, $\theta \sim$ -1.95 ºC, S $\sim$ 34.90), much colder that the surrounding water (Circumpolar Deep Water , $\theta \sim 1.20$ ºC, S $\sim$ 34.70). This cold water at the shelf break mixes and down-flows, sinking till it seems to disappear. The resulting down-flow across the shelf break presents partial evidence of the starting of a density-turbidity current, here seen as the final result of a strong interaction between a dense water current and the bottom sediments, stressing the active role played by the bottom particulate on the dense water dynamics.