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Tidal and residual currents in the Bransfield Strait, Antarctica

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Abstract. During the 1992-1993 oceanographic cruise of the Spanish R/V Hespí rides, recording equipment was deployed in the Bransfield Strait. Six Aanderaa RCM7 current meters and three Aanderaa WLR7 tide gauges were successfully recovered after an operation period of 2.5 months. Relevant features of the time series obtained are presented and discussed in this paper. The emphasis is placed on the tidal character of the currents and the relative importance of tidal flow in the general hydrodynamics of the strait. For these purposes a dense grid of hydrographic stations, completed during the BIOANTAR 93 cruise, is used. Preliminary geostrophic calculations relative to a 400 m depth, yield current velocities of around 0.20 m s^{-1} in the study area, whereas the magnitude of tidal currents is seen to be 0.30-0.40 m s^{-1}.

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