



Low frequency variability of the eddy field in the southern Drake Passage

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Drake Passage is the narrowest chokepoint of the southern ocean. The Drake Passage region is getting documented with unprecedented data either in situ or from satellite origin: ARGO floats provide information about temperature and salinity variations in the upper 2000 m of the water column as well as velocities at different levels, AMSR-E satellite data provide daily cloud free images of the sea surface temperature, T/P, Jason and ENVISAT satellites pursuing their mission with a refined resolution over the region.

A first analysis over the region (48°-73°W, 50°-64°S) of the Sea Level Anomaly (SLA), Sea Surface Temperature (SST) and ARGO floats reveals two outstanding features in 2003-2005.

Firstly, several ARGO floats since 2002 have been trapped in a large cyclonic circulation of about 1° diameter to the west of the Shackleton ridge (57°W-60°S). Mean velocities as high as 15-20 cm/s at -2000m have been observed. Sea Level anomalies show that this cyclonic circulation is not permanent: it was present in 2003-2005, not the years before.

Secondly, the SST field shows a smaller (size????) warm eddy (5°C on the mean) located at (54°W-58°S) to the northwest of the cyclonic circulation. It stays at the same location for about 2-years (2003-2005). Sections of SST across the eddy over the time are extracted and show the SLA and SST are well correlated.

The low frequency variability of the eddy field is described using SLA and discussed.