



Observations of the Brazil current baroclinic transport variability near 22°S

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Despite of the recognized importance of the western boundary currents (WBC) to the oceanic and climate systems from regional to basin-wide scales, the Brazil Current (BC) remains one of the least studied and understood of all WBCs, especially in terms of its associated variability. Several aspects of BC low-latitude variability remain unexplained mostly due to the lack of reliable observations and consistent time series. As the BC mean flow is relatively weak, eddy features can impose a large variability to the current, leading to uncertainties in the baroclinic transports estimates from hydrographic snapshots. In this sense, we have set up a partnership joining Brazilian institutions and NOAA to fund and run a long-term high-density XBT line in the southwestern Atlantic in order to improve our understanding about the region and particularly the BC variability. The project has been labeled MOVAR (*Monitoring the upper ocean transport variability in the western South Atlantic*) and the line has been designated in the NOAA/AOML high-density program as AX98. The line was set up using a ship of opportunity scheme between Rio de Janeiro and the Brazilian navy oceanographic post at Tridade Island (POIT, 30°W 20°S). The Brazilian navy visits the POIT regularly (~ every 3 months) to take supplies and exchange personnel. Thus, since August 2004, the same transect has been repeated twelve times using the same sampling scheme providing valuable novel data in the study area. For example, the zonally integrated baroclinic transport (relative to 700 dbar) has proven to be much variable both temporally (4 Sv +/- 3 Sv) and spatially (zonal fluctuations of the BC axis of more than 150nm). Those fluctuations are further related to the presence/absence

fo the Vitoria Eddy, a transient feature already described for the region.