



## OSSEs with SWOT and Gliders in the Southwest South Atlantic with HYCOM+RODAS

OSSEs were performed to investigate the possible impact of SWOT data in the surface circulation of the Southwest South Atlantic (33oS-13oS, west of 34oW). HYCOM and the REMO Ocean Data Assimilation (RODAS) based on the EnOI scheme were employed in 2-yr experiments considering a ROMS free run as nature run (NR). HYCOM resolution was 1/24o and 32 layers and ROMS resolution was 1/24o and 32 sigma-levels. Four HYCOM runs were realized forced with NCEP/NOAA CFSR atmospheric fields: (i) a free run; (ii) a run with assimilation of SST, SSH and T/S profiles (RODAS); (iii) a run with assimilation including synthetic data from 1 SWOT satellite (1\_SWOT); and (iv) another including synthetic data from 2 SWOT satellites (2\_SWOTs). The results showed an important contribution from SWOT in SSH, mainly when 2 SWOTs were employed. The SSH correlation with the NR was equal to 0.30, 0.49, 0.56 and 0.73, for the free run, RODAS, 1\_SWOT and 2\_SWOTs. The impact in the subsurface temperature and salinity showed a degradation of the

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