The aim of this study is to estimate the circulation in the Atlantic Sector of the ACC. The work is based on the global finite-element ocean model (FEOM). Sequential assimilation technique is applied to improve the representation of thermodynamical processes. Data used in this study are a complex analysis of multi-mission altimetry data provided by DGFI, Munich. Referenced geoid used is obtained from GFZ Potsdam.

A common problem of assimilation of altimetry data is that covariances between sea surface height and thermodynamical fields at the ocean depth often lead to unrealistic estimations. In this work we use a method of correction proposed by Fukumori where the estimated fields are reduced to a superposition of barotropic and first baroclinic modes. The results of such an approach are discussed.

References: