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Simulation of the circulation around Madagascar and in the Mozambique Channel using the ROMS model.

P. Florenchie (1), J. Lutjeharms (1) and P. Penven (1,2)

1. Department of Oceanography, University of Cape Town, South Africa (pierre@ocean.uct.ac.za, jre@mweb.co.za / Fax: +27 21-6503979)
2. Institut de Recherche pour le Développement (IRD), France (penvenp@ocean.uct.ac.za / Fax: +27 21-6503979)

A simulation for the seas around Madagascar and in the Mozambique Channel have been performed using the ROMS model. The domain extends from 30˚E to 54˚E and from 30˚S to 8˚S with a resolution of 1/6˚. The model is forced by climatological COADS winds and fluxes. Open boundary conditions come from the Levitus atlas. The poleward and the equatorward components of the East Madagascar Current along eastern Madagascar and their seasonal variability are described as well as the location and nature of the attendant undercurrent. The equatorward branch of the East Madagascar Current appears to generate eddies north of Madagascar which then drift into the Mozambique Channel. In the south, the poleward branch of this boundary current tends to retroflect and to turn eastward. The behaviour of eddies generated in the narrows of the Mozambique Channel is also described.