Print

Dr. Amy Bower: Red Sea Outflow Experiment

co-PIs: Amy Bower and David Fratantoni (WHOI)
Bill Johns and Hartmut Peters (RSMAS)

Project Summary

The Red Sea Outflow Experiment (REDSOX) was a joint effort between the University of Miami's Rosenstiel School of Marine and Atmospheric Science (RSMAS) and WHOI. The purpose of the program was to conduct measurements of the outflow of high salinity water from the Red Sea and its mixing with ambient waters in the Gulf of Aden. The main objectives of REDSOX were: 1) to describe the pathways and downstream evolution of the descending outflow plumes of Red Sea Water in the western Gulf of Aden, 2) to quantify the process that controls the final depth of the equilibrated Red Sea Outflow Water, and 3) to identify the transport processes and mechanisms that advect Red Sea Outflow Water and its properties through the Gulf of Aden and into the Indian Ocean. The program was funded by NSF.

For a copy of the float data collected as part of this project, please contact Dr. Amy Bower at abower@whoi.edu.

Manuscripts

Mesoscale eddies in the Gulf of Aden and their impact on the spreading of Red Sea Outflow Water
Bower, A. S., and H. Furey, 2011. *Progress in Oceanography*, 96, doi:10.1016/j.pocean.2011.09.003.

Somali Current rings in the eastern Gulf of Aden.
Fratantoni, D. M., Bower, A. S., W. E. Johns, and H. Peters, 2006. *Journal of Geophysical Research*, 111, C09039, doi:10.1029/2005JC003338.

Equilibration and circulation of Red Sea Outflow Water in the western Gulf of Aden.
Bower, A. S., W. E. Johns, D. M. Fratantoni, and H. Peters, 2005. *Journal of Physical Oceanography*, 35, 1963-1985 .

Mixing and entrainment in the Red Sea Outflow Plume: I. Plume Structure.
Peters, H., W. E. Johns, A. S. Bower, and D. Fratantoni, 2005. *Journal of Physical Oceanography*, 35, 569-583.

Gulf of Aden eddies and their impact on Red Sea Water.
Bower, A. S., D. M. Fratantoni, W. E. Johns, and H. Peters, 2002. *Geophysical Research Letters*, 29(21), doi:10.1029/2002GL015342.

Poster

Red Sea Outflow Experiment (REDSOX): Descent and initial spreading of Red Sea Water in the northwestern Indian Ocean
Bower, A. S., W. E. Johns, H. Peters, and D. M. Fratantoni, 2003. *Presented at EGS, March 2003.* (17.5 MB)

Technical and Cruise Reports

Red Sea Outflow Experiment (REDSOX): DLD2 RAFOS Float Data Report, February 2001 - March 2003
Furey, H., A. Bower, and D. Fratantoni, 2005. WHOI Tech. Report WHOI-2005-01, 137 pp.

Cruise Report: Red Sea Outflow Experiment - REDSOX 2
R/V *Maurice Ewing* Cruise EW-110, August 21 to September 12, 2001.

CTD/O2 Measurements collected aboard the R/V Knorr, February-March 2001: REDSOX-1.
Johns, W. E., H. Peters, R. Zantopp, A. Bower, and D. Fratantoni, 2001. Univ. of Miami Tech. Report 2001-01, 499 pp.

Cruise Report: Red Sea Outflow Experiment - REDSOX 1

Last updated: October 9, 2014

Copyright ©2007 Woods Hole Oceanographic Institution, All Rights Reserved.
Mail: Woods Hole Oceanographic Institution, 266 Woods Hole Road, Woods Hole, MA 02543, USA.
E-Contact: info@whoi.edu; press relations: media@whoi.edu, tel. (508) 457-2000
Problems or questions about the site, please contact webdev@whoi.edu