

## **Hydrography In The Arabian Sea And Oman Sea From Satellite, Argo, Surface Drifter And Mooring Observations**

S. A. Stryker<sup>1</sup>, S. F. DiMarco<sup>1</sup>, M. Stoessel<sup>1</sup>, L. Belabbassi<sup>2</sup>

<sup>1</sup>Department of Oceanography, Texas A&M University, USA

<sup>2</sup>Lighthouse R&D Enterprises, Inc., USA

Complex circulation patterns and atmospheric variability contribute to water mass formation and spatial distribution of hydrographic properties in the northwest Indian Ocean. The seasonal monsoon is the largest atmospheric influence in the region.

Observations made from oceanic Lagrangian platforms, i.e., Argo floats (UCSD/JCOMMOPS) and surface drifters (Surface Drifter Program, AOML), and from sea surface temperature satellite (MODIS) data during January 2002-December 2009 are used to identify water mass distribution of the northwestern Indian Ocean (0°N-35°N and 40°E-80°E). Measurements range in depth from surface to 2000 m. Six regions were chosen to identify water mass properties based on the known current structure and variability. Using temperature and salinity to determine density, seasonal changes in vertical stratification and distribution are seen.

Hydrographic observations of the Oman Sea and Arabian Sea are compared to coastal and deep moored observations on a cabled ocean observing system during 2005-2009. The observing system, installed by Lighthouse R&D Enterprises, Inc., consists of a real-time cabled seabed observatory in the Oman Sea and four independent moorings off Cape Ras Al Hadd and Murray Ridge. The cabled observatory collects data between 65 and 1000 m. The independent moorings collect their deepest measurements at 3000 m. The Lighthouse Ocean Research Initiative project in the Oman and Arabian Sea was developed and constructed by Lighthouse R & D Enterprises, Inc. In country, the project is coordinated with the Oman Ministry of Agriculture and Fisheries Wealth through the Marine Science and Fisheries Centre.

S. A. Stryker, S. F. DiMarco, M. Stoessel, L. Belabbassi. 2010. Hydrography In The Arabian Sea And Oman Sea From Satellite, Argo, Surface Drifter And Mooring Observations. GS01: Physical Oceanography and General Circulation Session. ASLO 2010 Aquatic Sciences Meeting, San Juan, Puerto Rico, 13-18 February 2011.