

Ocean Observing System in the Gulf of Oman

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An ocean observing system was installed off Oman by Lighthouse R&D Enterprises for the Sultanate of Oman's Ministry of Fisheries Resources: Marine Science and Fisheries Center. It is designed to study a range of oceanic phenomena and provide data to manage fisheries resources and recreational activities, monitor water quality, and model pollutant spill trajectories from ship traffic. It consists of two phases using state-of-the art oceanographic sensors to measure current speed and direction, conductivity, pressure, temperature, oxygen, and turbidity at hourly intervals. Phase-I consists of four autonomous moorings off Cape Ras Al Hadd and Murray Ridge; data returns began in March 2005. Phase-II consists of a real-time cabled seabed observatory, LORI (Lighthouse Oceans Research Initiative), in the Gulf of Oman; data returns began in August 2005. LORI has a shore station providing power, communications, and interactive instrument control, 60-km fiber optic cable, and four moorings in depths of 65-1050m. Preliminary results show seasonal differences in physical-biochemical signals related to the Southwest Monsoon. These signals exhibit variability at scales of days to weeks, e.g., to 400-m depths, dissolved oxygen ranges from 0-200 μ M.

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