



We dedicate this issue to the memory of John Swallow who generously nurtured the scientific ideas and aspirations of everyone who touched the Indian Ocean.

This issue (along with further issues of the same title) represents the research conducted by the U.S. portion of the JGOFS Arabian Sea Expedition during 1994-1996. Its general aims were to understand the relationships between biogeochemical cycling in the Arabian Sea and climate change. More specifically this U.S. portion of the expedition, the first for many years, was an integrated, interdisciplinary investigation of the response of the northwestern Indian Ocean to monsoonal forcing, with particular emphasis on the biogeochemical cycling of carbon.

At the time the expedition was organized first order issues such as whether or not the Arabian Sea was a sink or a source for atmospheric carbon dioxide were still unclear. What has been shown is that the principal unique feature of the Arabian Sea is the regular oscillation in monsoonal atmospheric conditions, which drive near surface currents, affect mixed-layer development, and influence nutrient supply in a region experiencing relatively constant levels of illumination. The extremes in atmospheric forcing over the Arabian Sea lead to great seasonal variability in the flux of carbon to the seabed and in many aspects of the food web and biogeochemistry of the region.

This study therefore complements the research already undertaken on the Arabian Sea in the 1990's by the Netherlands (Deep-Sea Research Part II, Vol. 44, No. 6-7, 1997), Germany, India, Pakistan and the UK.

Charles N. Flagg and Hyun-Sook Kim -- Upper ocean currents in the northern Arabian Sea from shipboard ADCP measurements collected during the 1994-1996 U.S. JGOFS and ONR programs -- 1917-1959

R.A. Weller, M.F. Baumgartner, S.A. Josey, A.S. Fischer and J.C. Kindle -- Atmospheric forcing in the Arabian Sea during 1994-1995: observations and comparisons with climatology and models -- 1961-1999

T. Dickey et al. -- Seasonal variability of bio-optical and physical properties in the Arabian Sea: October 1994-October 1995 -- 2001-2025

Vijayakumar Manghnani, John M. Morrison, Thomas S. Hopkins and Emanuele Böhm -- Advection of upwelled waters in the form of plumes off Oman during the Southwest Monsoon -- 2027-2052

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