

Monsoonal Variability in the Hydrography of the Gulf of Aden and Southern Red Sea

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Investigation of hydrographic conditions in the Gulf of Aden and Southern Red Sea in late summer and winter monsoons showed a pronounced seasonal variability in the hydrographic structure and circulation pattern in this region. Upwelling and frontal zones, which are known to be characterized by a high biological productivity, are developed during the summer season to the west of Aden and across the mouth of the Gulf of Aden. The deep high saline outflow from the Red Sea into the Gulf of Aden is weaker in summer than in winter, while the deep low saline inflow from the Arabian Sea into the Gulf of Aden is stronger in summer. The subsurface water in the Gulf of Aden is poor in Oxygen (<0.5 ml/l). This subsurface water of anoxic oxygen concentration occurs in summer at shallow depths (<20 m), particularly in the upwelling regions. This deoxygenation problem can be considered as an ecological catastrophe upon the ecosystem and its communities including living resources.