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Comparative study of the monsoonal air sea interaction of Arabian Sea and Bay of Bengal

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During the Indian Ocean summer monsoon, MR-LR cruises were conducted in the Arabian Sea (May 2002) and the Bay of Bengal (July 2002). The spatial variation of air sea fluxes over the Arabian Sea and the Bay of Bengal were analysed. Southwesterly winds were predominant over the entire study region with an average of 7 m/s. Isothermal and isobaric sea surface patterns showed similar trends in the southern transects of the two adjacent seas, while it showed marked variations in the northern transects. The extension of monsoonal trough to the northern Bay of Bengal was noticed along the northernmost transects. Net sea surface flux was calculated. Moisture coefficient over the Arabian Sea was greater than that of Bay of Bengal, while the northern Bay of Bengal recorded an increase of moisture coefficient. This may be the due to the monsoonal depression sustained in that region. Latent heat flux over Arabian Sea was 125 W/m2 while that of the Bay of Bengal was 102 W/m2. Evaporation rate over the southernmost transect recorded maximum with an average of 0.9 cm/day.

Key words: Summer monsoon; air sea flux; Latent flux; Evaporation; MR-LR