



Interannual Variability in ITF Plume Spreading Across the Indian Ocean

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A plume of water derived from the Indonesian Seas, marking the Indonesian Throughflow (ITF), spreads within the thermocline across the Indian Ocean near 12S. Although the ITF temperature/salinity (T/S) characteristics attenuate through mixing with ambient Indian Ocean water, the ITF signal does reach the western Indian Ocean. Argo profiles offer the opportunity to trace the spatial and temporal variability of this ITF plume as a function of longitude. T/S characteristics on three isopycnal surfaces marking the upper, middle and lower thermocline are investigated across yearly means from 2005 through 2015. We find large interannual variability in the contribution of ITF waters to the T/S properties of the central and western tropical Indian Ocean. Using a reconstruction of Makassar Strait transport as a proxy for ITF transport we explore the link between the ITF variability and changes in the ITF plume along three latitude bands, 7.5S, 10.5S, and 13.5S. We determine that increases in ITF transport lead increases in greater ITF contribution to western Indian Ocean waters.