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Indian Ocean water within the Benguela Current

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The transfer of Indian Ocean water, drawn from various sources, into the upper kilometer South Atlantic displaces cooler, fresher Atlantic water that would otherwise fold into the Benguela Current, in compliance to the gyre-scale wind stress curl. In this way, what is called the Agulhas leakage makes for a warmer, saltier [though in total more buoyant] Atlantic relative to a "no Agulhas leakage" condition. This induces an Atlantic stratification more susceptible to meridional overturning circulation [MOC] associated with NADW formation. As the Agulhas leakage likely varies across a wide range of timescales, the Atlantic may at times be starved for the ingredients required for the continuation of the vigorous MOC. It is generally believed that the Agulhas leakage is primarily a consequence of a meso-scale eddy process. There have been varied studies investigating the eddies of the "Cape Basin Cauldron" from specific data sets, but what does can the nearly 100 year time series of essentially random distribution of archived hydrographic stations within the Cape Basin tell us more about the longer term eddy population and water mass properties? Eddies are identified by the depth anomalies relative to the long-term mean depth of a mid-thermocline isopycnal (a positive anomaly marks an anticyclonic eddy; negative marks a cyclonic eddy). Numerous eddies are identified in the whole region, with a 2:1 anticyclones/cyclones ratio. The eddy core water is not solely drawn from Indian Ocean: tropical and subpolar South Atlantic water also are present; the water between the eddies share equally diverse origins. Various questions arise: How do the eddy numbers and core water vary with time? Is there significant Agulhas leakage accomplished exterior to the eddies, that is within filaments or streamers of Indian Ocean water?