

## **EFFECTS OF A CYCLONIC EDDY ON THE NORTHERN KWA-ZULU NATAL SHELF.**

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A cyclonic eddy situated 300 km offshore of the northern Kwa-Zulu Natal coast was sampled along with a positive Sea Surface Height (SSH) anomaly trapped between the cyclonic eddy and the coastline. The cyclonic eddy was found to originate from southern Madagascar using historical SSH data. On the 13<sup>th</sup> of September 2006 a CTD transect, along with continuous ADCP data, was collected through the positive SSH anomaly and the cyclone. Two satellite tracked drifters were released in the cyclone, one on the western edge and the other within the cyclone itself. The ADCP data shows a distinct cyclonic flow offshore of the hydrographic transect and strong southerly flow along the shelf. An underwater temperature recorder (UTR) deployed at 18 m at Sodwana Bay shows a distinct cooling, most likely caused by Ekman veering in the bottom boundary layer of the Agulhas Current resulting in shelf-edge upwelling. Furthermore, this upwelling onto the shelf may have caused the slight rise of sea surface height depicted on the satellite image. The cyclonic eddy was tracked using the satellite drifters and compared to the SSH anomaly imagery. The feature was seen to move south-eastwards forming an elongate SSH anomaly along the coast between Cape St. Lucia and Port Shepstone. A second UTR deployed at Aliwal Shoal showed large scale upwelling over several days with temperatures dropping more than 4° C. These mesoscale features, originating from the Mozambique Channel, influence the shelf regions with implications to ecosystem functioning.