

## **THE EASTERN BOUNDARY CURRENT SYSTEM FROM EULERIAN MEASUREMENTS**

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To investigate the spatial and temporal scales in the Eastern Boundary Current (EBC) system in the Canary Island area, an array of four current meter moorings was maintained during three deployment periods for a total of 2 years, starting in January 1997, in the channel between Lanzarote and the African shelf. The sill depth is 1300 m thus blocking deep water exchange. Although the flow variability is large, both in time and in space, three major current regimes can be

identified. In the upper 300 m and in the western part, the eastern branch of the Canary Current is mainly directed southwards with a core of 3 cm/s average about 30 Km east of Lanzarote and with some anticyclonic eddy activity between the core and Lanzarote. The core of the poleward undercurrent (2 cm/s average) is concentrated on the eastern side on African shelf break at 900 m depth (1000 m water depth) thus encompassing the rudiments of Antarctic Intermediate Water (AAIW) that is transported northwards. At that position, the flow has few reversals only, and often reaches up to 500 m and further westward. Below, the upper parts of the Mediterranean Water core pass the sill southwards on the sill's western flank between the bottom and 950 m depth. Furthermore, transport estimates of water masses and details of the spatial and temporal variability are investigated.