

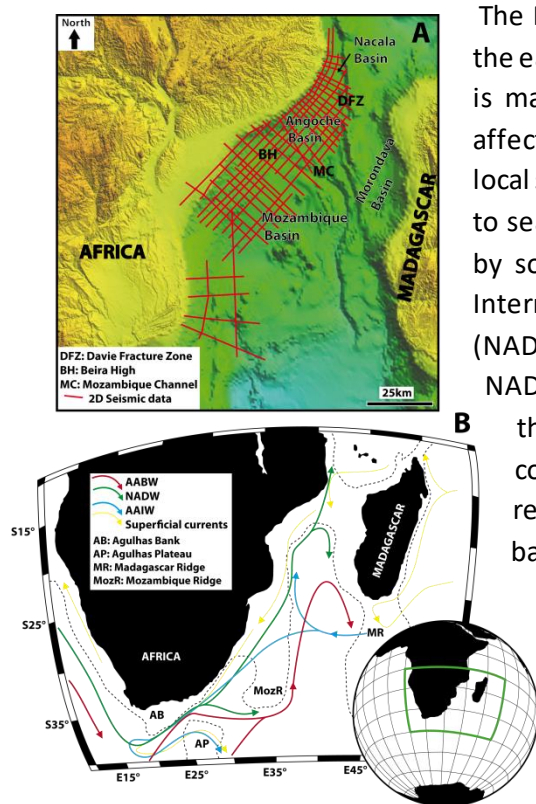
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Contouritic drifts in the Mozambique Channel since the Cretaceous: Paleooceanographic Implications.

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The Mozambique basin was one of the first basins formed along the east African margin. Water masses circulation along this basin is mainly driven by thermohaline circulation (THC) but deeply affected by both regional continental margin configuration and local sea-floor topography. These water masses are (from surface to sea bottom): a) the Mozambique Current, which is composed by southward moving anticyclonic eddies [1]; b) the Antarctic Intermediate Waters (AAIW); c) the North Atlantic Deep Waters (NADW) and d) the Antarctic Bottom Current (AABW). AAIW and NADW flow northward along the Mozambique Channel and form the Mozambique Undercurrent (MUC). A portion of it continues north through the Mozambique Channel while the remaining body returns south along the eastern border of the basin [2].

From Oligocene to Present time, seismic evidences indicate the onset of more vigorous deep bottom currents influencing on the sedimentation [3, 4 and 5]. But bottom currents related deposits (drifts) can be observed since the Cretaceous north-east of the Beira High [6].

Figure 1: (A) Mozambique Channel showing the location of seismic lines used in this study. (B) Simplified sketch of the present day water masses circulation in the study area.

The objectives of this study are to review depositional and erosional features generated by bottom currents by means of 2D PSTM seismic data in the northern segment of the Mozambique continental margin to determine their specific characteristic and evolutionary stages. Sedimentary processes are inferred and their paleoceanographic implications discussed.

References:

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