

## TEMPERATURE RECONSTRUCTIONS FROM THE AGULHAS CORRIDOR DURING THE PLIO-PLEISTOCENE TRANSITION

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The Agulhas Current constitutes the largest and strongest western boundary current of the southern Indian Ocean. This current, in addition to transport tropical and subtropical warm water along the southeastern coast of Africa towards the Atlantic Ocean (Lutjeharms, 2006), also plays an important role in global and regional climates by promoting exchange of heat to atmospheric moisture (Reason and Mulenga, 1999). The Agulhas Current plays a key role in global meridional overturning circulation (MOC), transporting heat and salinity from the Indian into the Atlantic Ocean through Agulhas Leakage. However, few studies have investigated the long-term history of the Agulhas Current due to a prior lack of sediment cores that extend to the Pliocene.

Here we present a record of sea surface temperatures using the alkenone-based  $U_{37}^{k'}$  (Brassell et al., 1986) across the key interval of the Plio-Pleistocene transition (PPT) using sediments from the 2016 IODP Expedition 361 “Southern African Climates.” In these initial results, we compare reconstructions from sites U1474 in the northern Natal Valley (31°13.00’S; 31°32.71’E) and U1475 at the southwestern edge of the Agulhas Plateau (41°25.61’S; 25°15.64’E) to examine how temperature variability at these sites can help us understand the Agulhas Current. This study also aims to better understand temperature variability across the Agulhas Corridor and what role this might play in Agulhas Leakage and MOC on orbital timescales.

### References

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