

# Remote Sensing of the African Seas

## Chapter 12

### Observing the Agulhas Current with Sea Surface Temperature and Altimetry Data: Challenges and Perspectives

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#### Abstract

The Agulhas Current is a challenging region for satellite remote sensing observations. Strong evaporation rates above the current core and the Retroflexion reduce the number of cloud-free observations from Infra-Red sensors, while microwave radiometers and altimeters measurements suffer from the proximity of the current to the coast in the northern region. Infra-Red observations of the Agulhas Current significantly improved with the launch of the Meteosat Second Generation satellite, but Infra-Red Sea Surface Temperature datasets still suffer from inadequate cloud masking algorithms, particularly in regions of strong temperature gradient. Despite both Sea Surface Height and Sea Surface Temperature observations being severely compromised in the northern Agulhas current, a synergetic use of merged altimetry and high frequency Infra-Red Sea Surface Temperature imagery provides a means to track deep-sea eddies, document their influence on the Agulhas Current and helps us improve our understanding of the Agulhas Current variability.