



Session 1

## Monitoring Rossby waves along 6 degree south in the tropical Atlantic

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### Abstract

The PREFACE program allowed the deployment and annual maintenance of an ATLAS mooring at 6° S, 8° E during PREFACE cruises. A first mooring was bought by South Africa in 2006 and was deployed successfully for a year during a pilot project. PREFACE allowed to buy a second mooring needed to establish a permanent location as one replaced a mooring by a complete calibrated one. This is an extension of the PIRATA array of moorings in the tropical South-East Atlantic and an African contribution to the global observing system. PREFACE acquired an ATLAS mooring which is equipped with an extra currentmeter at 10 m depth and an extra short wave radiation sensor which allows calculation of the radiative flux and the net heat budget at a 10 minute temporal resolution. Turbulent sensible and latent heat fluxes can also be calculated at a 10 minute resolution. Sensible and Daily average is available in real time. A CO<sub>2</sub> sensor is also deployed on the mooring. The strategic location of the mooring in the stratocumulus deck which is a problem to coupled models, offshore of the Congo River plume and upstream of the Angola Current make this mooring a unique measuring platform which has continuously worked in real time since May 2013. Mooring data and satellite remote sensing estimates of salinity indicates numerous intrusions of low salinity water from the Congo River since 2013. While the air and sea surface temperature (SST) distribution is unimodal, the upper ocean subsurface temperature and dynamic height is bi-modal and seems to be a seasonal Rossby wave triggered by a seasonal kelvin waves along the equator. PIRATA mooring, altimetry and SST allow monitoring the passage of Rossby waves all the way to Brazil modifying the SST in a region that is known to impact the regional Brazilian climate.

### Reference

Rouault, M., Servain J., Reason C.J.R., Bourles B., Rouault M.J., Fauchereau N., 2009: Extension of PIRATA in the tropical South-East Atlantic: an initial one-year experiment. African Journal of Marine Science 2009, 31(1): 63–71.



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The both last ICAWA edition, 2017 and 2018, was done as a joint event with other closely related meeting. In 2017 with the inauguration of the OSCM in Cabo Verde underlining AWA cooperation with INDP and UNICV as well as Geomar and collaborators. In 2018 ICAWA was join to Preface final meeting following the memorandum of understanding signed a couples of years before between the two consortium and which have led at the end to a common policy session followed by the redaction of a policy brief taking advantage of the results of the both projects. Some abstract aside ICAWA joint session are missing see the orgniser to get more information.

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