PREFACE: Enhancing prediction of tropical Atlantic climate and its impacts

Description

The Tropical Atlantic climate recently experienced pronounced shifts of great socio-economic importance. The oceanic changes were largest in the eastern boundary upwelling systems. African countries bordering the Atlantic strongly depend upon the ocean for their societal development, fisheries, and tourism. These countries were strongly affected by these climatic changes and will face important adaptation challenges associated with global warming. Furthermore, these upwelling regions are also of great climatic importance, playing a key role in regulating global climate. Paradoxically, the Tropical Atlantic is a region of key uncertainty in earth-climate system: state-of-the-art climate models exhibit large systematic error, climate change projections are highly uncertain, and it is largely unknown how climate change will impact marine ecosystems.

PREFACE aims to address these interconnected issues, and has the following goals:

- To reduce uncertainties in our knowledge of the functioning of Tropical Atlantic climate.
- To improve climate prediction and the quantification of climate change impacts in the region.
- To improve understanding of the cumulative effects of the multiple stressors of climate variability, greenhouse induced climate change, and fisheries on marine ecosystems, and ecosystem services (e.g., fisheries, coastal vulnerability).
- To assess the socio-economic vulnerabilities and evaluate the resilience of Atlantic African fishing communities to climate-driven ecosystem shifts and global markets.

To meet these goals we bring together European and African expertise to combine regional and global scale modelling capabilities, field experiments and observation systems. Our target region includes areas more affected by climate change and by its consequences, European outermost regions, and African countries bordering the Atlantic.

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