

Session 4

# Spatial Environmental trends in the three Atlantic African Large Marine Ecosystems in a context of global warming

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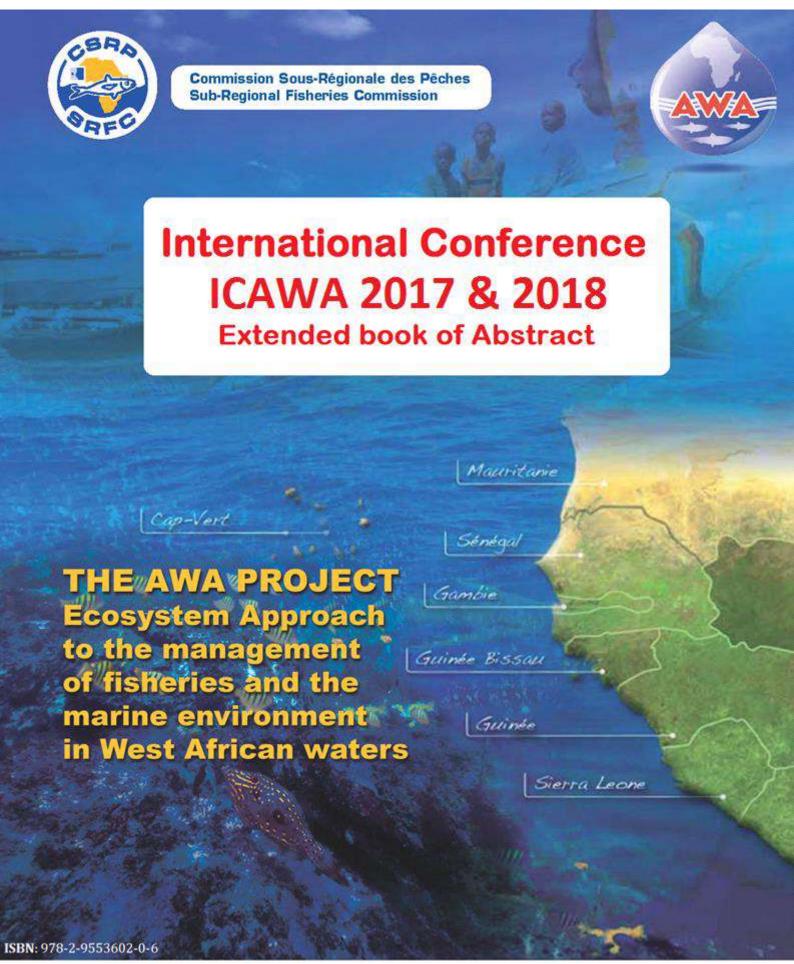
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Recu le 01/04/2018; publié le 15/06/2019

### **Abstract**

In Atlantic Africa there is a crucial need to better assess the effect of climate change on marine ecosystems, particularly over the continental shelf and inside the national exclusive economic zones. Nevertheless there is a lack of observation carried out in the African ecosystems and the times series are often short or disrupted. Space-based observations allow precise synoptic observation of marine ecosystem and is often use to monitor, e.g., Eastern boundary upwelling ecosystems, from 36 years of constant monitoring from some major parameters as Sea Surface Temperature and more than twenty years for Ocean-Colour related parameters as surface primary productivity. The spatially heterogeneous trends observed show that these systems are highly variable, at temporal scales decades) that potentially impact some of their marine resources at rates that compete with the decline of human activities, beyond overfishing. In this work we will present the effect of global warming at regional level for the three large marine ecosystems of Atlantic Africa on the sea surface temperature, wind stress and chlorophyll concentration as a proxy of primary production. The Canary and the Benguela systems are particularly impacted by the global warming, especially in their tropical parts, while Pacific systems show a more stable trend, due to their constantly high activity that partly counteracts some effects of the global warming.

**Keywords**: remote sensing, tropical Atlantic, climate change, staelitte, MODIS, LME, CCLME, BCLME, GCLME.







## **Edited by**

Patrice Brehmer (IRD, France)

**Technical support**: Ndague DIOGOUL (IRD, Sénégal), Cordula Zenk (Geomar, Germany) and Mahaut de Vareilles (UiB, Norway)

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Noel Keenlyside (Norway), Jorge M. NASCIMENTO (CABO VERDE), Vito Melo RAMOS (CABO VERDE), Bamol Ali SOW (SENEGAL), Heino FOCK (GERMANY), Joern SCHMIDT (GERMANY), Werner EKAU (GERMANY), Adama MBAYE (SENEGAL), Assane FALL (MAURITANIA), Ivanice MONTEIRO (CABO VERDE), Aka Marcel KOUASSI (IVORY COAST), Osvaldina SILVA (CABO VERDE), Timothée BROCHIER (FRANCE), Moussa SALL (SENEGAL), Mohamed MAYIF (MAURITANIA), Vamara KONÉ (IVORY COAST), Thomas GORGUES (FRANCE), Carlos FERREIRA SANTOS (CABO VERDE), Idrissa Lamine BAMY (GUINEA), Iça Barry (GUINEA BISSAU), Momodou Sidibe (THE GAMBIA), Hamet Diaw DIADHIOU (SENEGAL)

ISBN: 978-2-9553602-0-6

Cover design: AWA (BMBF - IRD) project

0.787955 360706

Logo and flyers: Laurent CORSINI (IRD)

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# International PREFACE International Conference on Ocean, Climate and Ecosystems 17<sup>th</sup> to 20<sup>th</sup> APRIL 2018

**Book of abstract and recommendations** 



International PREFACE International Conference on Ocean, Climate and Ecosystems joint with ICAWA 5<sup>th</sup>, editon 2018

Session 4: «Climate prediction Marine ecosystems, fisheries management and climate change». Thursday 19<sup>th</sup> April 2018

Poster presentation