Session 2

Large scale mechanisms associated with heat wave occurrences in Senegal

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

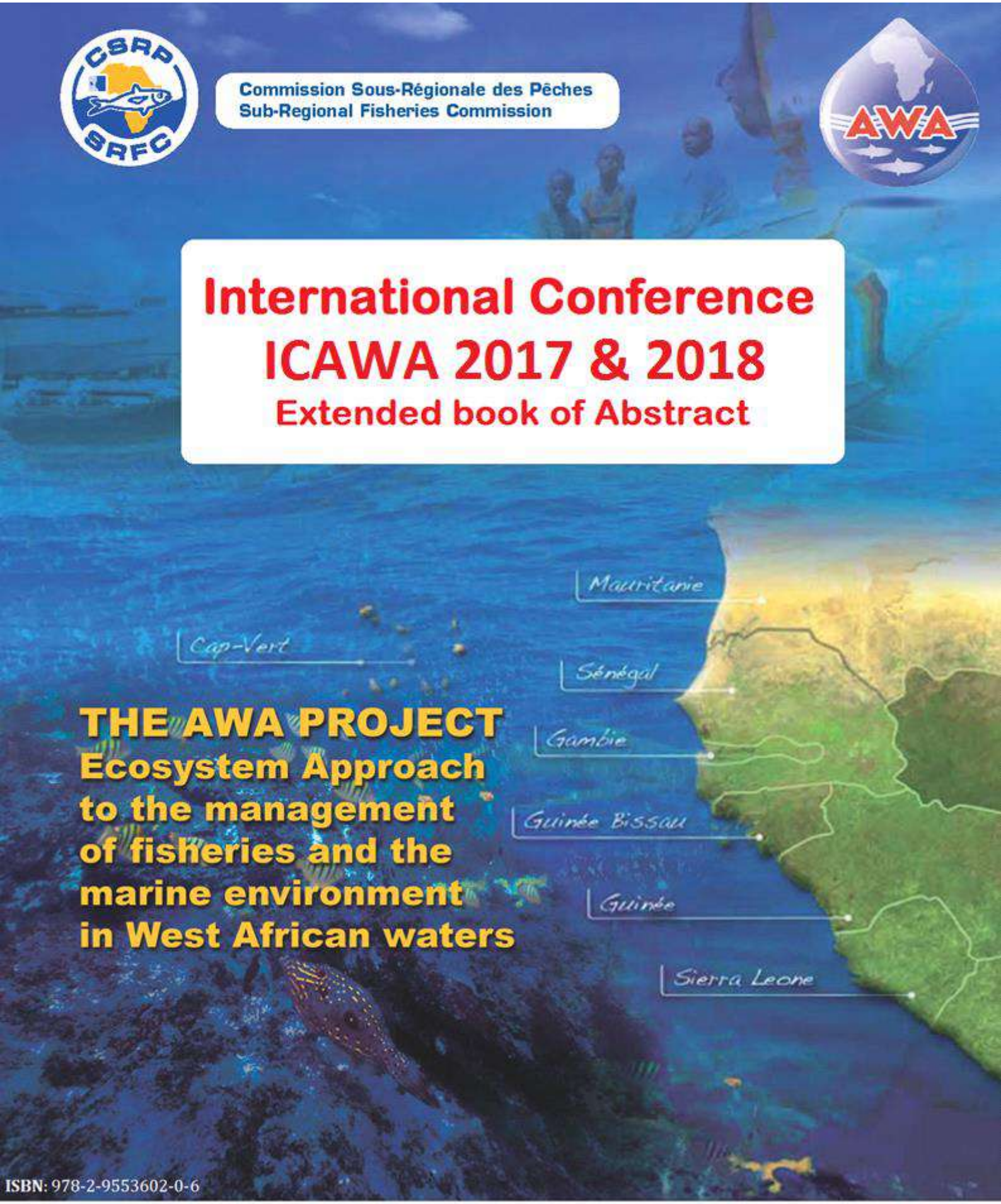
Abstract

The coastal location of the Senegal induces specific heat wave (HW) events. HWs are defined as daily temperature (daily maximum or minimum temperature, or mean apparent temperature) higher than the 95th moving percentile during at least three consecutive days over the boreal spring period (Mars-April-May, 1979-2014). A hierarchical classification enables to define three homogeneous regions in terms of HW occurrences over Senegal (Zone #1, #2 and #3, from West to East). In order to study how atmospheric circulation is linked to these HW occurrences, composites of anomaly fields of ERA-Interim reanalysis have been computed using as reference date the starting day of each HW detected in GSOD (Global Summary of the Day) observations database. Results show that two patterns control the occurrence of HWs: regional-scale positive pressure anomalies centred around 35°N-10°W, and more local negative anomalies around 20°N-15°W. This structure leads to enhanced north-easterly winds advecting higher temperatures and moister air over the three zones of Senegal, and lower temperatures and drier air over the central Sahel. The intensity of this relationship is the largest for Zone #1, intermediate for #2 and the weakest for #3. The increased moisture signal over Senegal is highest for the composites associated with minimum and apparent temperature. Indices linked to this structure can be used to evaluate the predictability of such HW events.

Commission Sous-Régionale des Pêches
Sub-Regional Fisheries Commission

International Conference ICAWA 2017 & 2018

Extended book of Abstract



THE AWA PROJECT
Ecosystem Approach to the management of fisheries and the marine environment in West African waters

ISBN: 978-2-9553602-0-6

Bundesministerium
für Bildung
und Forschung

Institut de Recherche pour le Développement
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Trilateral German-French-African research initiative

Edited by

Patrice BREHMER (IRD, France)

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

With the collaboration of

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

Logo and flyers: Laurent CORSINI (IRD)

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.

Sponsors ICAWA 2017 and IACAWA 2018

These two edition of ICAWA were joint with OSCM inauguration and the final meeting of the European preface project, respectively in 2017 and 2018.

International PREFACE International Conference on Ocean, Climate and Ecosystems 17th to 20th APRIL 2018

Book of abstract and recommendations

Session 2.3: « Climate variability and teleconnections». Wednesday 18th April 2018

Poster presentation