



Programme for the PIRATA-PREFACE-CLIVAR Tropical Atlantic Variability Conference

Hotel Protea Breakwater Lodge, Portswood Road, V&A Waterfront, Cape Town, South Africa

25–27 August 2015

Registration: Tuesday 25th August, 8:00-9:00

Start of scientific conference: Tuesday 25th August, 9:00

End of scientific conference: Thursday 27th August, 14:00

NOTE: The conference will be preceded by the CLIVAR Atlantic Region Panel meeting on Monday 24th, and followed by PIRATA internal meetings Thursday 27th afternoon. PREFACE General Assembly 2015 will take place from Thursday 27th 14:00 to Friday 28th 13:30. A PREFACE WP6 workshop will follow, Friday 28th 14:00-17:00.

Tuesday, 25.08.2015

8:00-9:00 Registration

Welcome

9:00-9:10 General welcome and opening of the assembly (J. Albergel, IRD representative)

9:10-9:20 Introduction to PREFACE, and any conference logistics (N. Keenlyside, UiB, & M. Rouault, UCT)

9:20-9:30 Introduction to PIRATA (B. Boulès, IRD)

9:30-9:45 A five-year (2015-2019) scientific programme of the Benguela Current Commission (H. Hamukuaya, BCC, PREFACE associate partner)

9:45-10:00 Socioeconomic Benefits of LME Valuation in context of Climate Change (R. Sumaila, UBC)

Session 1: Key oceanic processes in the eastern Tropical Atlantic, observations and modelling

(Chairs: Marcus Dengler, GEOMAR, and Alban Lazar, UPMC)

10:00-10:15 **Impact of resolving along-shore wind structure on the SST bias and coastal circulation along Angola-Benguela Coast.** Jaison Kurian, Christina M. Patricola, Ping Chang, R. Saravanan (ping@tamu.edu)

10:15-10:30 **Annual and semi-annual variations of equatorial Atlantic circulation associated with basin mode resonance.** Peter Brandt, Martin Claus, Richard J. Greatbatch, Robert Kopte, John M. Toole, William E. Johns (pbrandt@geomar.de)

10:30-11:00 Coffee break

Session 1 ctd.: Key oceanic processes in the equatorial Atlantic and the Gulf of Guinea

(Chairs: Alban Lazar, UPMC and Marcus Dengler, GEOMAR)

- 11:00-11:15** **Mixing in the tropical Atlantic: the contribution of tides, intra-seasonal winds and equatorial dynamics.** Julien Jouanno and Xavier Capet (jouanno@legos.obs-mip.fr)
- 11:15-11:30** **Forcing of the Atlantic Equatorial Deep Jets derived from observations.** Martin Claus, Richard J. Greatbatch, Peter Brandt, John M. Toole. (mclaus@geomar.de)
- 11:30-11:45** **Why is there a front north of the Atlantic Cold Tongue?** Hervé Giordani, Guy Caniaux and A. Voltaire (herve.giordani@meteo.fr)
- 11:45-12:00** **Oceanic processes associated to the interannual variability of the Atlantic Cold Tongue.** Yann Planton, Aurore Voltaire, Hervé Giordani, Guy Caniaux (aurore.voltaire@meteo.fr)
- 12:00-12:15** **New insight on the upper layer circulation in the Gulf of Guinea.** Herbert Gaëlle, Bourlès Bernard, Grelet Jacques, Cambon Gildas, Penven Pierrick (gaelle.herbert@ird.fr)
- 12:15-12:30** **Interannual variability of the boreal Summer upwelling along the northern coast of Gulf of Guinea.** Elisée Toualy, Frédéric Marin, Angora Aman, Bernard Bourlès (elisee.toualy@gmail.com)
- 12:30-14:30** **Lunch and poster session A** (*see below for list of posters*)

Session 1 ctd.: Key processes in the Benguela and Mauritanian/Senegalese Upwelling

(Chairs: Anja van der Plas, MFMR, and Martin Schmidt, IOW)

- 14:30-14:45** **The relation of SST-bias and water mass distribution seen in a regional numerical ocean model of the Benguela system.** Martin Schmidt, Tim Junker, Volker Mohrholz, Lydia Siegfried, Anja Van der Plas (martin.schmidt@io-warnemuende.de)
- 14:45-15:00** **Sensitivity of sea surface temperature to wind stress in the Benguela upwelling system.** M. Krebs, A. Biastoch, J. Durgadoo, M. Latif , C. Böning (mkrebs@geomar.de)
- 15:00-15:15** **Thermal Impact of oceanic coastal Kelvin waves along West African coasts.** Malick Wade, Alban Lazar (malick172@yahoo.fr)
- 15:15-15:30** **Inter-annual coastal-trapped wave in the South Atlantic ocean: Remote versus local forcing.** Marie-Lou Bachelery, Serena Illig and Isabelle Dadou (serena.illig@ird.fr)
- 15:30-15:45** **Contribution of upwelling filament to cross shelf transport of matter in the Northern Benguela Upwelling system.** Mohrholz, Volker, Flohr, Anita, Muller, Annethea A., Rixen, Tim, Schmidt, Martin, Wasmund, Norbert (volker.mohrholz@io-warnemuende.de)
- 15:45-16:00** **Boundary circulation and water mass variability off Angola.** Pedro Tchipalanga, Marissa Macuéria, Bomba Bazik-Sangolay, Marcus Dengler, Marek Ostrowski, Peter Brandt (pcmtchiba@gmail.com)
- 16:00-16:30** **Coffee break**

Session 1 ctd.: Key processes in the Benguela and Mauritanian/Senegalese Upwelling

(Chairs: Moacyr Araujo, UFPE, Alban Lazar and Martin Schmidt)

- 16:30-16:45** **Warm and cold events in the southeast Atlantic Ocean.** Rodrigue Anicet Imbol Kougue, Mathieu Rouault, Julien Jouanno (rodrigueanicet@gmail.com)
- 16:45-17:00** **First results of a ocean-atmosphere mooring in the Senegalese upwelling.** Alban Lazar, Saliou Faye, Moussa Diakhaté, Eric Machu, D. Dausse, A.T. Gaye, Dominique Dagonne (alban.lazar@upmc.fr)
- 17:00-17:15** **Inertial terms effects on the ocean dynamics in the tropical Atlantic.** Sandrine Djakoure, Pierrick Penven, Bernard Bourles, Jennifer Jackson-Veitch, Vamara Kone (dask_kouso@yahoo.fr)
- 17:15-17:30** **Mixed-layer heat budget of the northeastern tropical Atlantic from the new PREFACE climatology.** Willi Rath, Marcus Dengler, Peter Brandt, Sunke Schmidtke, Michael Schlundt, Robert Kopte, Marek Ostrowski, Anja van der Plas, Tim Junker, Volker Mohrholz, Abdoulaye Sarré, Pedro Tchipalanga, Bomba Sangolay (wrath@geomar.de)
- 17:30-18:00** **Wrap-up/summary of Session 1 oral and poster presentations**
(*Marcus Dengler, GEOMAR*)
- 18:15** **Ice breaker and poster session A ctd.**

Wednesday, 26.08.2015

Session 2: Climate variability, modelling and prediction : Processes and variability

(*Chairs: Aurore Voltaire, MF-CNRS and Ping Chang, TAMU*)

- 08:30-09:00** **Coffee**
- 09:00-09:15** **Conceptual model for meridional mode and its connection with equatorial mode in tropical Atlantic.** Mesmin Awo, Benoit Koubodana, Gaël Alory, Ezinvi Baloitcha (mesawo2000@gmail.com)
- 09:15-09:30** **Impact of enhanced low-level stratus on simulated SSTs, precipitation and the circulation in the tropical Atlantic sector.** Jürgen Bader, Astrid Eichhorn (juergen.bader@mpimet.mpg.de)
- 09:30-09:45** **Extratropical forcing of equatorial Atlantic variability.** Hyacinth C. Nnamchi, Jianping Li, Fred Kucharski, In-Sik Kang, Noel S. Keenlyside, Ping Chang, Riccardo Farneti (hyacinth.nnamchi@unn.edu.ng)
- 09:45-10:00** **On the role of internal atmospheric processes in equatorial Atlantic variability.** Ingo Richter (richter@jamstec.go.jp)
- 10:00-10:15** **The impact of ENSO on the South Atlantic Subtropical Dipole Mode.** Regina R. Rodrigues, Edmo J. D. Campos, Reindert Haarsma (regina.rodrigues@ufsc.br)
- 10:15-10:30** **Toward better understanding of the relationships between central Africa climate variability and its surrounding tropical Oceans.** Georges-Noel T. Longandjo, Mathieu Rouault (longandjo@gmail.com)
- 10:30-11:00** **Coffee break**

(Chairs: Ingo Richter, JAMSTEC, and Roberto Mechoso, UCLA)

11:00-11:15 **Deterministic and stochastic aspects of El Niño's impact on Atlantic tropical cyclones.**
Christina M. Patricola, Ping Chang, and R. Saravanan (sarava@tamu.edu)

Session 2 ctd.: Model validation and bias

11:15-11:30 **Impact of sea surface temperature bias on equatorial Atlantic interannual variability in partially coupled model experiments.** M. Latif, H. Ding, R. J. Greatbatch, and W. Park (mlatif@geomar.de)

11:30-11:45 **High resolution atmospheric topography key to reduce south Atlantic coastal SST bias.** Sebastian Milinski, Johann H. Jungclaus, Jürgen Bader, Helmuth Haak (sebastian.milinski@mpimet.mpg.de)

11:45-12:00 **The Atlantic Meridional Mode and the WES feedback in CMIP5 models.** Emilia Sanchez-Gomez, Katerina Goubanova, Laurent Terray and Christophe Cassou (sanchez@cerfacs.fr)

12:00-12:15 **Spatial-temporal characterization of climate model biases.** Davide Zanchettin, Carlo Gaetan, Angelo Rubino (davide.zanchettin@unive.it)

12:15-12:30 **Using the Transpose-AMIP framework to disentangle atmospheric biases in the equatorial Atlantic.** Claudia Frauen, Romain Roehrig, and Aurore Voltaire (claudia.frauen@meteo.fr)

12:30-14:30 **Lunch and poster session B** (*see below for list of posters*)

Session 2 ctd.: Predictability and prediction

(Chairs: Hyacinth Nnamchi, UNN and Francisco Doblas-Reyes ,IC3)

14:30-14:45 **Atlantic opportunities for ENSO prediction.** Marta Martín-Rey, Belén Rodríguez-Fonseca and Irene Polo (mmartindelrey@fis.ucm.es)

14:45-15:00 **Summary of IC3 (Barcelona, Spain) contribution to the PREFACE project.** Chloé Prodhomme, Eleftheria Exarchou, Danila Volpi, Virginie Guemas, Francisco Doblas-Reyes (chloe.prodhomme@ic3.cat)

15:00-15:15 **Decadal prediction of Sahel rainfall using dynamics-based indices.** Elsa Mohino, Noelia Otero, Marco Gaetani (emohino@fis.ucm.es)

15:15-15:30 **Oceanic Indices to Forecast the Seasonal Rainfall over the Northern Northeast of Brazil.** G. A. Hounsou-Gbo, J. Servain, M. Araújo, E.S. Martins, B. Boulès, G. Caniaux (jacques.servain@gmail.com)

15:30-15:45 **Future Sahelian rainfall projections and selection of a sub-ensemble of CMIP5 models for impact studies.** Paul-Arthur Monerie, Emilia Sanchez-Gomez, Julien Boé (pmonerie@cerfacs.fr)

15:45-16:15 **Coffee break**

16:15-17:00 **Wrap-up/summary of Session 2 oral and poster presentations**
(*Ingo Richter, JAMSTEC*)

17:00-18:30 **PIRATA open session** (*Bernard Boulès, IRD and Moacyr Araujo, UFPE*)

19:30 **Conference Dinner at Hildebrand Ristorante**

Thursday, 27.08.2015

Session 3: Marine ecosystems, fisheries and climate change

(Chairs: Patrice Brehmer, IRD; Mathieu Rouault, UCT; and Adama Mbaye, CRODT-ISRA)

- 08:00-08:30** **Coffee**
- 08:30-08:45** **Explaining shifts in pelagic fauna: Redundancy analysis as tool for model evaluation.** Heino O. Fock, Stephanie Czudaj (heino.fock@ti.bund.de)
- 08:45-09:00** **Food-web structure of mesopelagic communities in high and low oxygen environments in the eastern tropical north Atlantic as identified by stable isotope analysis.** Czudaj S., Hoving H.J.T., Piatkowski U. & Fock H. (stephanie.czudaj@ti.bund.de)
- 09:00-09:15** **Sardine pilchardus dynamic in Cape Blanc - Cape Boujdor shelf within its upwelling ecosystem.** Najib Charouki, Naoki Tojo, Issa Bennazouz, Omar Ettahiri, Marek Ostrowski, Aziza Lakhnigue (charouki1@gmail.com)
- 09:15-09:30** **The evolution of the Angolan sardinella stock in relation to the climatic events in the eastern tropical Atlantic 1985-2014.** Barradas A., Miguel A. A., Djamila, P. M., Sangolay, B.B., Rouault M., Ostrowski, M. (bbsangs12@hotmail.com)
- 09:30-09:45** **Monitoring Senegalese small pelagic stocks: current state of the resource, variability and levels of exploitation.** Abdoulaye Sarré, Patrice Brehmer and Djiga Tiao (ablaysarrey@yahoo.fr)
- 09:45-10:00** **Toward new scenario on small pelagic fish spatial population dynamics related on both hydrodynamic and biogeochemical simulations.** Timothée Brochier, Pierre-Amaël Auger, Patrice Brehmer, Xavier Capet, Christophe Lett, Eric Machu, BayeCheikh Mbaye, Laure Pecquerie, Modou Thiaw, Cheikh-Baye Braham, Omar Ettahiri, Najib Charouki, Philippe Verley (timothee.brochier@gmail.com)
- 10:00-10:15** **Spatio-temporal variability and trends in primary productivity in the Canary upwelling system, 1998-2014.** Hervé DEMARCQ, Eric MACHU, Aissa BENAZZOUZ (herve.demarcq@ird.fr)
- 10:15-10:30** **Bigger or smaller: Effects of climate change on intraspecific size spectra.** Heino O. Fock, Stephanie Czudaj, Kim Wieben (heino.fock@ti.bund.de)
- 10:30-11:00** **Coffee break**

Session 3 ctd.

(Chairs: Jörn Schmidt, CAU and Aka Marcel Kouassi, CRO)

- 11:00-11:15** **An individual-based model study of Sardinella aurita early life history in the northern Gulf of Guinea.** Koné Vamara, Lett Christophe, Penven Pierrick, Bourlès Bernard, Djakouré Sandrine (kvamara@hotmail.com)

- 11:15-11:30** **Ocean climate change in the tropical Atlantic and adjacent upwelling.** Mathieu Rouault (mathieu.rouault@uct.ac.za)
- 11:30-11:45** **Northward migration of small pelagic fish off West Africa: The barrier of the Sahara Bank in the context of climate change.** Timothée Brochier, Eric Machu, Laure Pecquerie, Modou Thiaw, Baye Cheikh Mbaye, Cheikh-Baye Braham, Omar Ettahiri, Najib Charouki, Pierre-Amaël Auger, Patrice Brehmer (timothee.brochier@gmail.com)
- 11:45-12:00** **Fishing and climate change in Saloum: Between drought and advancing sea.** Adama Mbaye, Aliou Ba, Patrice Brehmer (ambayeskr@yahoo.fr)
- 12:00-12:30** **Wrap-up/summary of Session 3 oral and poster presentations**
(*Patrice Brehmer, IRD*)
- 12:30-14:00** **Lunch**

POSTER SESSION A:

Session 1 posters

1. **Evaluation of forced oceanic models in the Gulf of Guinea**, J. Yandjimain, G. Alory, F. Adjibode, yandjimain@yahoo.fr
2. **Surface mixed-layer heat budget in a regional Tropical Atlantic ocean model**, Gaëlle de Coëtlogon, Rémi Meynadier, Julien Jouanno, Moussa Diakhaté, Alban Lazar, Sélim Kebir, gdc@latmos.ipsl.fr
3. **Evaluating the role of the model resolution and coupling frequency in the SST biases development in the South-Eastern Tropical Atlantic based on high- and low resolution versions of CNRM-CM CGCM**, Katerina Goubanova, Emilia Sanchez-Gomez, Claudia Frauen, Aurore Voldoire, Eric Maisonnave, Sophie Valcke, Marie-Pierre Moine, katerina.goubanova@cerfacs.fr
4. **Toward a better understanding of the role of wind stress on SST anomalies in the Atlantic cold tongue**. Yann Planton, Aurore Voldoire, Hervé Giordani, Guy Caniaux, yann.planton@meteo.fr
5. **A model study of the seasonality of sea surface temperature and circulation in the Atlantic Northeastern Tropical Upwelling System**. Saliou Faye, Alban Lazar, Bamol Ali Sow, Amadou Thierno Gaye, saliou.faye@ucad.edu.sn
6. **Multi-configuration sensitivity experiments with the IPSL-CM5A-LR coupled model**, A.K Traoré, A. Gainusa-Bogdan, P. Braconnot, J.-L. Dufresne, F. Hourdin, traore@lmd.jussieu.fr
7. **Intraseasonal variability in the tropical Atlantic and southeastern upwelling region as seen in observations and reduced gravity simulations**, Robert Kopte, Peter Brandt, Richard J. Greatbatch, Martin Claus, rkopte@geomar.de
8. **Diurnal variability in the Atlantic cold tongue at 10°W**. Marcus Dengler, Peter Brandt, M. McPhaden, B. Bourles, R. Hummels, S. Thomsen, T. Fischer and G. Krahnmann, mdengler@geomar.de

Session 2 posters - Climate variability and its prediction

9. **Variations of the Tropical Atlantic and Pacific SSS minimum zones and their relations to the ITCZ and SPCZ rain bands (1979-2009)**. M. Tchilibou, T. Delcroix, G. Alory, S. Arnault, G. Reverdin, gael.alory@legos.obs-mip.fr
10. **On the relationship between surface wind convergence and SST in the Tropical Atlantic**. Moussa Diakhate, Alban Lazar, Gaëlle de Coëtlogon, Amadou T. Gaye, moussa1.diakhate@ucad.edu.sn
11. **Estimating Wind Power Input to near-inertial currents in the North Atlantic with a regional coupled model**. Tina Dippe, Xiaoming Zhai, Richard Greatbath, Willi Rath, tdippe@geomar.de
12. **The Spatial and temporal variability of the rainfall distribution over Ethiopia in relation to the El Niño Southern Oscillation (ENSO)**. Birhanu Liben, birhanu.kassahun4@yahoo.com
13. **Decadal Changes in the Atlantic Equatorial Mode and Tropical Impacts**. Teresa Losada, Belén Rodríguez-Fonseca, tldoval@fis.ucm.es

14. **Two different configuration of the Atlantic Niño phenomenon under negative AMO phases.** Marta Martín-Rey, Irene Polo, Belén Rodríguez-Fonseca, Alban Lazar, mmartindelrey@fis.ucm.es
15. **Impact of SST and surface heat fluxes in the low level dynamics of the Eastern Equatorial Atlantic.** Rémi Meynadier, Gaëlle de Coëtlogon, Alban Lazar, Lala Kounta, Moussa Diakhate and Laurence Eymard, remi.meynadier@latmos.ipsl.fr
16. **Impact of the Madden Julian Oscillation on summer rainfall over West Africa in AMIP simulations.** NIANG Coumba, Elsa Mohino, Amadou T. Gaye, emohino@fis.ucm.es
17. **S4CAST: SST-based Statistical Sesonal ForeCAST . Description and Applications within PREFACE.** Roberto Suarez Moreno, Belen Rodríguez-Fonseca, brfonsec@fis.ucm.es
18. **Tropical Atlantic influence on the Pacific under different ocean background states.** Belen Rodríguez-Fonseca, Elsa Mohino, Teresa Losada, Juergen Bader, brfonsec@fis.ucm.es
19. **Tropical Atlantic variability and the South Atlantic high pressure system.** Dmitry Sein, William Cabos, Qiang Wang, Thomas Jung, Daniela Jacob, dmitry.sein@awi.de
20. **Investigating the role of the Atlantic and Pacific in the early 20th century warming.** Lea Svendsen, Noel Keenlyside, Ingo Bethke, Yongqi Gao, lea.svendsen@nersc.no
21. **Recent climatic trends in the tropical Atlantic: Further analyses from the Servain's data base.** Jacques Servain, Antonio Geraldo Ferreira, Demetrius Gomes, Guy Caniaux and Leandro Valente Jacinto, jacques.servain@gmail.com
22. **Long-term Variability of NorthWest African coastal upwelling and its Predictability.** Malick Wade, Belen Rodriguez-Fonseca, Alban Lazar, malick172@yahoo.fr

POSTER SESSION B:

Session 2 posters – Model evaluation and bias studies

23. **Investigating the impact of observed wind stress forcing on the SST bias in the tropical Atlantic - sensitivity experiments with ECEarth3.1.** Anna-Lena Deppenmeier, Rein Haarsma, Wilco Hazeleger
anna-lena.deppenmeier@wur.nl
24. **Impact of dynamical regionalization in precipitation biases along West African coast.** Domínguez, Marta, Rodríguez de Fonseca, Belén and Mohino, Elsa marta.dominguez@uclm.es
25. **Impact of tropical Atlantic sea-surface temperature biases on the simulated atmospheric circulation and precipitation: an atmospheric model study.** Astrid Eichhorn, Jürgen Bader
(astrid.eichhorn@mpimet.mpg.de
26. **A first look at wind stress sensitivity experiments with CNRM-CM5 within the framework of PREFACE WP6 coordinated experiments.** Claudia Frauen and Aurore Voltaire, claudia.frauen@meteo.fr
27. **Enhanced Vertical Atmosphere Resolution improves Climate Model Simulation of Tropical Atlantic SST and Interannual Variability.** Jan Harlaß, Mojib Latif and Wonsun Park, jharlass@geomar.de
28. **Initial performance of the Norwegian Climate Prediction model in the Atlantic.** Noel Keenlyside, Mao-Lin Shen, Francois Counillon, Ingo Bethke, Shunya Koseki, Teferi Demissie, and Thomas Toniazzo, noel.keenlyside@uib.no
29. **Causes of the large warm-bias in the Angola-Benguela Frontal Zone in Norwegian Earth System Model.** Shunya Koseki, Noel Keenlyside, Teferi Demissie, Thomas Toniazzo, François Counillon, Ingo Bethke, Mao-Lin Shen, Mehmet Ilicak, Shunya.Koseki@gfi.uib.no
30. **Biases in the UCLA-MIT global model.** Antonio Castaño-Tierno, Elsa Mohino, Teresa Losada, Belén Rodríguez-Fonseca, tldoval@fis.ucm.es
31. **Understanding the variability of the SST errors in seasonal forecasts hindcasts.** Irene Polo, B. Rodriguez-Fonseca, E. Mohino, T. Toniazzo, N. Keenlyside, i.polo@reading.ac.uk
32. **Investigating Model Initial Drift in the Tropics in Seasonal Hindcasts.** Jon Shonk, Eric Guilyardi, Steve Woolnough, Thomas Toniazzo, Teferi Demissie, j.k.p.shonk@reading.ac.uk
33. **A Bayesian approach for climate model bias assessment using spatially heterogeneous data.** Maeregu Woldeyes Arisido, Davide Zanchettin, Angelo Rubino, Carlo Gaetan, davide.zanchettin@unive.it
34. **Investigating causes of systematic model biases in the tropical Atlantic based on the seasonal hindcast of the EC-Earth model.** Teferi Demissie, Thomas Toniazzo, Steve Woolnough, Jon Shonk, Francisco J. Doblas-Reyes, Chloe Prodhomme, Shunya Koseki, Noel Keenlyside, teferi.demissie@uni.no

Session 3 posters

35. **Multifrequency acoustics measurements during the PIRATA FR25 cruise in the Eastern tropical Atlantic Ocean.** Habasque, J., Bourlès, B., Machu, E., Brehmer, P., patrice.brehmer@ird.fr

36. **Sooner or later: Reproductive strategies in Electric lanternfish, *Electrona risso* (Cocco).** Kim Wieben, Stephanie Czudaj, Heino O. Fock, heino.fock@ti.bund.de
37. **Acoustic backscattering strength of plankton predicted from in-situ digital holographic microscopy in an East Border upwelling.** Long-Xiang Guo, Jean-Pierre Hermand, Yannick Perrot, Fabrice Roubaud, Abdoulaye Sarré, Patrice Brehmer, jhermand@ulb.ac.be
38. **First tridimensional pelagic fish school observation from scientific multibeam echo sounder in Africa.** Patrice Brehmer, Yannick Perrot, Abdoulaye Sarré, Salahedine El Ayoubi, Mohamed Taleb, Ebou Mass Mbye, Jean-Pierre Hermand, Xavier Capet, patrice.brehmer@ird.fr
39. **Oxygen variability over the continental shelf of southern Senegal.** E. Machu, X. Capet, T. Gorgués, P.-A. Auger, A. Lazar, P. Brehmer, eric.machu@ird.fr
40. **Dynamical functioning of the southern Senegal upwelling as a new explanation of small pelagic spawning pattern.** S. Ndoye, X. Capet, T. Brochier, E. Machu and P. Brehmer, ndoyesiny@yahoo.fr
41. **Resilience of key biological parameters of the Senegalese flat sardine in the context of overfishing and climate change.** Kamarel BA, Modou THIAW, Najih LAZAR, Alassane SARR, Timothée Brochier, Ismaïla NDIAYE, Alioune FAYE, Oumar SADIO, Jacques PANFILI, Omar Thiom THIAW, Patrice BREHMER, kamarel2@hotmail.com
42. **Senegalese *Sardinella aurita* from 1995 to 2011: Review of size spectra, sex ratio, gonadal somatic and condition indexes from small scale main national landing sites.** Mor Sylla, Timothée Brochier, Laure Pecquerie, Omar Ndiaye, Mélissa Richaume, Patrice Brehmer, msylleu@yahoo.fr
43. **A socio-economic analysis of the Senegalese *Sardinella* small scale fishery : A review over the last 20 years.** Aliou Bâ, Jörn Schmidt, Lorena Fricke, Moustapha Deme, Adama Mbaye, Christian Chaboud, Philippe Cury, Patrice Brehmer, aliouba81@gmail.com