

***Sunday, Nov. 12***

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**Icebreaker**

Ocean Science Centre Mindelo, Hangar

**17:00 – 20:30 Registration & Icebreaker**

***Monday, Nov. 13***

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**Atlantic Observatories – Results & Perspectives**

Ocean Science Centre Mindelo, Hangar

**08:00 Registration**

**09:00 – 13:00 Morning Session (OSCM Hangar)**

09:00 **Arne Körtzinger**, GEOMAR, Germany: *Welcome Address*

09:10 **Björn Fiedler**, GEOMAR, Germany: *Biogeochemical time-series observations at CVOO*

09:32 **Corrine Almeida**, Uni CV, Cabo Verde: *Coastal dynamic at Salamansa Bay, São Vicente, Cabo Verde*

09:54 **Florian Schütte**, GEOMAR, Germany: *Observations of physical ocean properties in the eastern tropical North Atlantic*

10:16 **Annibal Medina**, PRAO-CV, Cabo Verde: *Cabo Verde Archipelago as a natural center for a better understanding of regional climate changes*

**10:38 Coffee break**

11:10 **Peter Lemke**, AWI, Germany: *The warming of the Eastern Atlantic*

11:32 **Debany Fonseca**, Vrije Universiteit, Belgium: *Dinitrogen fixation in the Atlantic Ocean*

11:54 **Christophe Eizaguirre**, QMUL, United Kingdom: *Conservation of sea turtles: a country-wide approach*

12:16 **Rainer Kiko**, GEOMAR, Germany: *Zooplankton-mediated fluxes in the Eastern Tropical North Atlantic*

12:38 **Henk-Jan Hoving**, GEOMAR, Germany: *Biological exploration of the deep water column around the Cape Verde islands*

**13:00 Lunch break**

**14:00 – 16:30 Afternoon Session (OSCM Hangar)**

14:00 **Christa Marandino & Anja Engel**, GEOMAR, Germany: *Surface ocean Lower atmosphere International Campaign (SLIC): A new SOLAS Time Series Concept for Cabo Verde*

14:22 **Lucy Carpenter** Univ. of York, UK: *Reactive gases at the Cape Verde Observatory*

14:44 **Martin Heimann**, MPG-BGC Jena, Germany: *A decade of greenhouse gas measurements from the Cape Verde Atmospheric Observatory "Humberto Duarte Fonseca"*

**15:06 Coffee & Water**

15:40 **Wadinga Fomba**, TROPOS, Germany: *Chemical composition of aerosol particles at the CVAO*

16:02 **Andrew Watson**, Univ. of Exeter, UK: *Observational constraints on the global carbon cycle from SOCAT ocean pCO<sub>2</sub>*

16:24 **Andrew Peters**, BIOS, Bermuda: *Marine Atmospheric Research in Bermuda*

**17:00 – 19:30: Posters & Drinks**

Joint poster session for all topics. Poster will be up throughout the week.

**Tuesday, Nov. 14**

## Inauguration of Ocean Science Centre

Ocean Science Centre Mindelo, Hangar

### 09:00 – 12:30 Inauguration Ceremony

09:00 Arrival and Welcome of Delegations

09:53 Introduction to OSCM (short video)

10:00 Speeches of Courtesy

- Dr. Osvaldina Silva, President of INDP
- Prof. Dr. Peter Herzig, Director of GEOMAR
- Mr. Augusto Neves, Mayor of Sao Vicente
- Mr. Wilfried Kraus, Deputy Director General of the BMBF Directorate 72 “Sustainability, Climate ,Energy” (video message)
- Dr. José Goncalves – Minister of Economy and Employment of the Republic of Cabo Verde

11:00 Ceremonial Inauguration Acts

### 11:20 Reception, Music & Group Picture

### 14:00 – 17:00 Field trip with site visits (departing from OSCM with shuttle busses)

- R/V Islandia in Mindelo harbor (Porto Grande)
- “Cape Verde Atmosphere Observatory” in Calhau, São Vicente

### 18:00 – 20:00 Reception on R/V Maria S. Merian in Mindelo harbor (Porto Grande)

--- By Invitation Only ---



Tuesday, Nov. 14 (afternoon)

## ICAWA-4: International Conference

### "Ecosystem Approach to the management of fisheries and the marine environment in West African waters"

INDP, Auditorium



**13:00** Registration

**14:00 – 18:00** 1<sup>st</sup> ICAWA-4 Session

14:00 **Osvaldina Silva**, President of INDP: *Welcome Address*

14:05 **Njeri Kabeberi**, Executive Director Greenpeace Africa: *Welcome Address*

14:10 **His Excellency James F.P. GOMEZ**, Minister of Fisheries, Water Resources and National Assembly Matters, Banjul/ The Gambia: *Welcome Address & Official Opening*

14:20 **Patrice Brehmer**, IRD, Plouzané/France: AWA consortium: *Toward West African Observatory – project overview*

14:35 **Abdoulaye Sarré**, CRODT, Dakar/Senegal: *Keynote speech*

14:55 **Florian Schütte**, GEOMAR, Kiel/Germany & **Bamol Ali Sow**, Zinguinchor/Senegal: *Observation and modelling of ocean physics and biogeochemistry supporting the ecosystem approach to marine management*

15:15 **Heino Fock**, vTI, Hamburg/Germany & **Carlos Santos**/Cabo Verde: *Variability of pelagic productivity in West-African waters*

15:35 **Rui Freitas**, Uni-CV, Mindelo/Cabo Verde: *Remarks on confirmed records of ten fish species to Cabo Verde Archipelago based on photographic and genetic data*

15:50 **Vamara Koné**, IRD-CRO, Abidjan/Ivory Coast & **Thomas Gorgues**, Univ. Brest, Plouzané/France: *Physical-biogeochemical coupling: processes and control of small pelagic fish*

**16:05** Coffee break

16:35 **Jörn Schmidt**, CAU, Kiel/Germany: *Economics integrated into the ecosystem approach to marine management*

16:55 **Didier Jouffre**, IRD, Montpellier/France & **Ibrahima Diallo**, CNSHB, Conakry/Guinea: *IndiAWA: Indicators for an Ecosystem Approach to the Management of Fisheries and the Marine Environment in West African Waters*

17:15 **Aliou Ba**, IRD-CRODT, Dakar/Senegal: *Profitability and economic drivers of small pelagic fisheries in West Africa: a twenty year perspective*

17:30 **Werner Ekau**, ZMT, Bremen/Germany: *Capacity building in the AWA consortium*

**17:40** AWA Poster teaser

Wednesday, Nov. 15 (morning)

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**ICAWA-4 (continued):**

Ocean Science Centre Mindelo, Hangar



**08:00 Registration**

**09:00 – 12:30 2<sup>nd</sup> ICAWA-4 Session**

09:00 **Idriss Lamine Camara**, CNSHB, Guinea: *Speech of Courtesy*

09:05 **Timothée Brochier**, IRD, Bondy/France: *Contribution of mathematical modeling to the ecosystem approach to fisheries management and the marine environment (EAMME): the AWA experience*

09:20 **Thomas Gorgues**, IUEM, LabexMer, Plouzané/France: *Spatial and Temporal variability of primary production in the north-west African upwelling. A modelling approach*

09:35 **Assane Fall**, IMROP, Nouadhibou/Mauritania: *Industrie de farine et d'huile de poisson en Mauritanie entre 2004 et 2016 : «transit», «point de chute» ou «refuge» des candidats à l'immigration clandestine vers les Canaries"*

**09:50 PREFACE – AWA Poster teaser**

10:00 **Aliou Ba**, IRD-CRODT, Dakar/Senegal: *Impact of subsidies on the dynamics of pelagic small-scale fishery in Senegal*

**10:10 Coffee break**

10:25 **Marie Bonnin**, IRD, Plouzané/France: *Reaching milestones of public regulations in marine environment: Toward an integrative way of marine management*

10:45 **Adama Mbaye**, CRODT: *Climatic benchmarks among Senegalese fishermen: what has changed*

11:05 **Francis Asuquo**, University of Calabar, Nigeria: *The influence and fluctuating trends of ocean variables in surface mixed layer of the South Atlantic Ocean*

11:15 **Ahmed Diamé**, Greenpeace, Southafrica: *The Future of West Africa fisheries under threat: Learning from the 2017 Greenpeace Expedition in the SRFC States Members.*

11:35 **Eric Machu**, IRD, IUEM-Plouzané/France: *Coastal phytoplankton structuring from multiple diversity approaches in Senegalese waters*

**11:50 Lunch break**



**12:30 – 14:00 POGO Lunch (see separate invitation)**

INDP, Foyer & Auditorium

Call for Oceanographic Research Institutions in Africa to join the International Ocean Observing Community

Wednesday, Nov. 15 (afternoon)

## ICAWA-4 (continued) & PREFACE side-event

Ocean Science Centre Mindelo, Hangar



### 14:00 – 16:30 3<sup>rd</sup> ICAWA-4 Session

14:00 Open Discussion (Moderator: CSRP): *AWA observatory and scientific council for SFRC member's states*

14:30 Open Discussion (Moderator: Patrice Brehmer): *On-going Project proposal following AWA and PREFACE experiences*

15:00 Open Discussion (Moderator: Adama Mbaye & Assane Fall): *Human migration in West Africa*

### 15:15 Coffee break

15:30 **Patrice Brehmer**, IRD & **Jörn Schmidt**, CAU: *Opening: Impacts of climate change on pelagic functional diversity in the tropical Atlantic with effects on western African fisheries economies*

15:35 **Noel Keenlyside & Mahaut de Vareilles**, University of Bergen and Bjerknes Centre for Climate Research, Bergen/Norway: *Towards improved climate prediction for West Africa.*

15:45 **Florian Schütte & (Peter Brandt)**, Geomar, Kiel/Germany: *Role of ocean processes in climate variability*

15:55 **Stephanie Czudaj & Heino Fock**, vTI, Hamburg/Germany: *WP12.1 Isotopic niche plasticity in mesopelagic fish assemblages of the Eastern tropical North Atlantic under different productivity environments*

16:10 **Heino Fock**, vTI, Hamburg, Germany: *Habitat and catch rates of Yellowfin tuna in Cape Verdian waters linked to ocean surface processes*

16:20 **Bocar Sabaly Baldé**, UCAD, IRD, ZMT, Dakar/Senegal: *WP12.2 Sardinella aurita growth parameters variability under climate change and fishing pressure*

16:25 **Ndague Diogoul**, ISRA/CRODT, IRD, Dakar/Senegal: *WP12.3*

### 16:30 – 18:30 PREFACE Policy Workshop

16:30 **Jörn Schmidt**, CAU, Kiel/Germany: *Socioeconomics and Regulation perceptions in the small scale fishing sector - Findings from the PREFACE surveys in Cabo Verde and Senegal*

17:55 **Nnaemeka Chukwuone**, University of Nigeria, Nsukka/Nigeria: *Socioeconomics and Regulation perceptions of the marine fisheries sector in Nigeria*

17:15 Open Discussion

17:25 **Kira Lanker**, CAU, Kiel/Germany: *The artisanal hand line fishery in Cabo Verde: A regional analysis of weather impacts on harvest and income*

17:45 Open Discussion

18:30 **Jörn Schmidt**, CAU, Kiel/Germany: *Policy Workshop Wrap-up*





**Thursday, Nov. 16**

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## **Macaronesia Matters (Workshop)**

Ocean Science Centre Mindelo, Hangar

### **09:00 – 12:30 1<sup>st</sup> Session (presentations)**

- 9:00 **Vito Ramos**, INDP, Mindelo/Cabo Verde: *Oceanographic Tools for Fisheries Management in Cabo Verde. The case of MESA project*
- 9:20 **Marina Cunha**, Univ. Aveiro, Aveiro/Portugal: *LO3CAted - Looking out for deep-sea connectivity in Atlantic observatories*
- 9:40 **Eduardo Azevedo**, Univ. Azores, Angra do Heroísmo/Azores: *Eastern North Atlantic (ENA) Azores Islands ARM facility - an opportunity for international cooperation on ocean/atmospheric sciences*
- 10:00 **João Canning-Clode**, MARE, Funchal, Madeira/Portugal: *The foundations for a student exchange programme seeking to contribute to marine ecological patterns in Macaronesia*
- 10:20 **Rui Caldeira**, ARDITI/OOM, Funchal, Madeira/Portugal: *The Oceanic Observatory of Madeira*
- 10:40 Coffee break**
- 11:10 **Manuel Dureil**, Dalhousie Univ., Halifax, Canada: *Prospects for Cabo Verde as a shark research hub in West Africa*
- 11:30 **Carlos Barrera**, PLOCAN, Las Palmas, Gran Canaria/Spain: *Improving ocean-observation with autonomous platforms in the Macaronesian region*
- 11:50 **Silvana Neves**, PLOCAN, Las Palmas, Gran Canaria/Spain: *MARCET project*
- 12:10 **Andres Cianca**, PLOCAN, Las Palmas, Gran Canaria/Spain: *Overview about two decades of ESTOC and the repercussions in the Macaronesia*
- 12:30 **Isabel Sousa Pinto**, Univ. Porto, Porto/Portugal: *Marine Biodiversity Observation Network: establishing a Macaronesian team*

### **12:50 Lunch break**

### **14:00 – 17:00: 2<sup>nd</sup> session (discussion)**

The session will be moderated by Joaquin Brito, PLOCAN, Las Palmas, Gran Canaria, Spain

### **15:30 Coffee break**

## **WASCAL – West African Science Service Center on Climate Change and Adapted Land Use**

INDP, Auditorium



### **14:00 – 17:30: Planning Workshop for WASCAL Graduate School**

- 14:00 **Janet Olatundun Adelegan**, WASCAL Director of Capacity Building, Accra/Ghana: *Welcome and Introduction*
- 14:10 **João Canning-Clode**, MARE, Funchal, Madeira/Portugal: *GAME – Global Approach by Modular Experiments*
- 14:20 **Avan Antia**, CAU, Kiel/Germany: *“One Planet – One Ocean” – Massive Open Online Course*
- 14:30 **Karen Wiltshire**, AWI, Bremerhaven/Germany: *POGO-PML AMT Fellowships*
- 14:40 Open discussion and planning

### **19:00 – 22:00 Conference Dinner**

Restaurant Le Goût de Grills, Mindelo, Avenida Marginal, opposite Belém Tower. Further information will be provided during the Workshop.

Friday, Nov. 17

## Blue Growth and the 'Cabo Verde RealityLab'

Ocean Science Centre Mindelo, Hangar



### 09:00 – 10:00 Opening of Future Ocean Dialogue Exhibition

09:00 **Arne Körtzinger**, GEOMAR, Kiel/Germany: *Opening*

09:10 **Frederike Tirre**, Kiel University, Cluster of Excellence "Future Ocean", Kiel/Germany: *Understanding the ocean – Sustaining our future*

With this motto the travelling exhibition of the Cluster of Excellence "The Future Ocean", based on six scientific topics, presents the challenges with which modern ocean research is confronted and the opportunities that arise from these. The exhibits cover the topics fisheries, coastal research, ocean observation, waste in the oceans, ocean acidification and marine resources. Together they offer visitors the possibility to gain a comprehensive overview of the current issues in the marine sciences.

09:30 **Press tour**

10:00 **Coffee break**

### 10.30 – 12.30 Case Studies for Applied Sciences (Plenary session)

Keynotes:

10:30 **George Wiafe**, University of Ghana, Legon/Ghana: *Earth Observation (EO) services in support of combatting Illegal, Unregulated and Unreported (IUU) fishing in West Africa*

10:45 **Tatiana Cabral**, Fazenda de Camarão de Cabo Verde, Mindelo/Cabo Verde: *Aquaculture as a tool for Blue Growth Initiative – The Sustainable Shrimp-Tilapia Juveniles Farm, A Vision to a New Horizon, Island of S.Vicente, Cabo Verde*

11:00 **Christine Merk**, IfW, Kiel/Germany: *Impacts of regional changes in beach wrack composition on visitors' valuation of visits to the beach*

11:15 **Malte Winkler**, IfW, Kiel/Germany: *Wave Energy Conversion in the North Sea - An analysis of the economically most feasible locations and technologies with regard to energy output*

11:30 **Oscar Melicio**, RME, Mindelo/Cabo Verde: *Resolute Marine Energy – At the nexus of energy and water - Implementing the Wave2O in Cabo Verde for improved access to potable water and sustainable energies*

11:45 **Sören Harrs**, IfW, Kiel/Germany: *Stakeholder Engagement on Marine Litter – How to carry out a survey*

12:00 **Carlos Evora Rocha**, DNEM, Mindelo/Cabo Verde –Cabo Verde - Blue Growth and Blue Economy

12:30 **Lunch Break**

### 14:00 – 16:30 Cabo Verde RealityLab (Discussion Session)

Ocean Science Centre Mindelo, Hangar

The session will be moderated by Jörn Schmidt, Kiel University - Cluster of Excellence "Future Ocean"

14:00 Discussion Session

16:00 Wrap-Up

## ACRONYMS / AFFILIATIONS

- AWI – Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Germany
- BIOS – Bermuda Institute of Ocean Sciences – Bermuda, USA
- BMBF – German Federal Ministry of Education and Research, Bonn, Germany
- CAU – University of Kiel, Germany
- CIPA – Centro de Investigação Pesqueira Aplicada, Guinea-Bissau
- CNSHB – Centre National des Sciences Halieutiques de Boussoira, Guinea
- CRO – Centre de Recherches Océanologiques, Ivory Coast
- CRODT – Centre de Recherches Océanographiques de Dakar-Thiaroye, Senegal
- Dal – Dalhousie University, Canada
- DNEM – Direcção Nacional de Economia Marítima, Cabo Verde
- Fazenda de Camarao de Cabo Verde, Calhau, Cabo Verde
- FURG – Federal University of Rio Grande, Brazil
- Greenpeace Africa, South Africa
- GEOMAR – GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany
- IfW – Institute for the World Economy, Germany
- INDP – Instituto Nacional de Desenvolvimento das Pescas, Cabo Verde
- INMG – Instituto Nacional de Meteorologia e Geofísica, Cabo Verde
- IMROP – Institut Mauritanien de Recherches Océanographiques et des Pêches, Mauritania
- IRD – Institut de Recherche pour le Développement, France
- ISRA – Institut Sénégalais de Recherche Agricole, Senegal
- IUEM – Institut Universitaire Européen de la Mer, France
- MARUM – Centre for Marine Environmental Sciences, Germany
- MAVA – MAVA Fondation pour la Nature, Switzerland
- MPI-BGC – Max-Planck-Institute for Biogeochemistry Jena, Germany
- PLOCAN – Plataforma Oceanica de Canarias, Spain
- PRAO-CV – Projeto Regional das Pescas em África Ocidental, Cabo Verde
- QMUL – Queen Mary University of London, United Kingdom
- vTI-IFÖ – von Thünen Institute – Institute of Fisheries Ecology, Germany
- vTI-IFS – von Thünen Institute – Institute of Sea Fisheries, Germany
- TROPOS – Leibniz-Institute for Tropospheric Research in Leipzig, Germany
- RME – Rolute Marine Energy, Mindelo, Cabo Verde
- SP – CSRP – Commission Sous-Régionale des Pêches, Senegal
- Uni CV – Universidade de Cabo Verde, Cabo Verde
- University of Exeter, United Kingdom
- UFPE – Universidade Federal de Pernambuco, Brazil
- University of Ghana, Legon, Ghana
- ULPGC – Universidade de Las Palmas de Gran Canaria, Spain
- University of York, United Kingdom
- Vrije Universiteit Brussels, Belgium
- ZMT – Leibniz Centre for Tropical Marine Research, Germany