

Interactive!
Click on any of
these bubbles to
jump to each
section

EQUISEA

The National
Academies of
SCIENCES
ENGINEERING
MEDICINE

Alexis Valauri-Orton¹, Brian K. Arbic², Jorge Rafael Bermudez Monsalve³, Gina Bonne⁴, Marcia Creary Ford⁵, Edem Mahu⁶, Courtnie Park⁷, Aileen Tan Shau Hwai⁸

1. The Ocean Foundation, USA; 2. The University of Michigan, USA; 3. Galapagos Marine Research and Exploration, Ecuador; 4. Indian Ocean Commission, Mauritius; 5 University of the West Indies, Jamaica; 6 University of Ghana, Ghana; 7 The Ocean Foundation, USA; 8 Universiti Sains Malaysia, Malaysia

Introduction

Goals

The Evolution of EquiSea

Initial breakout session on capacity development at Ocean 'Obs 19

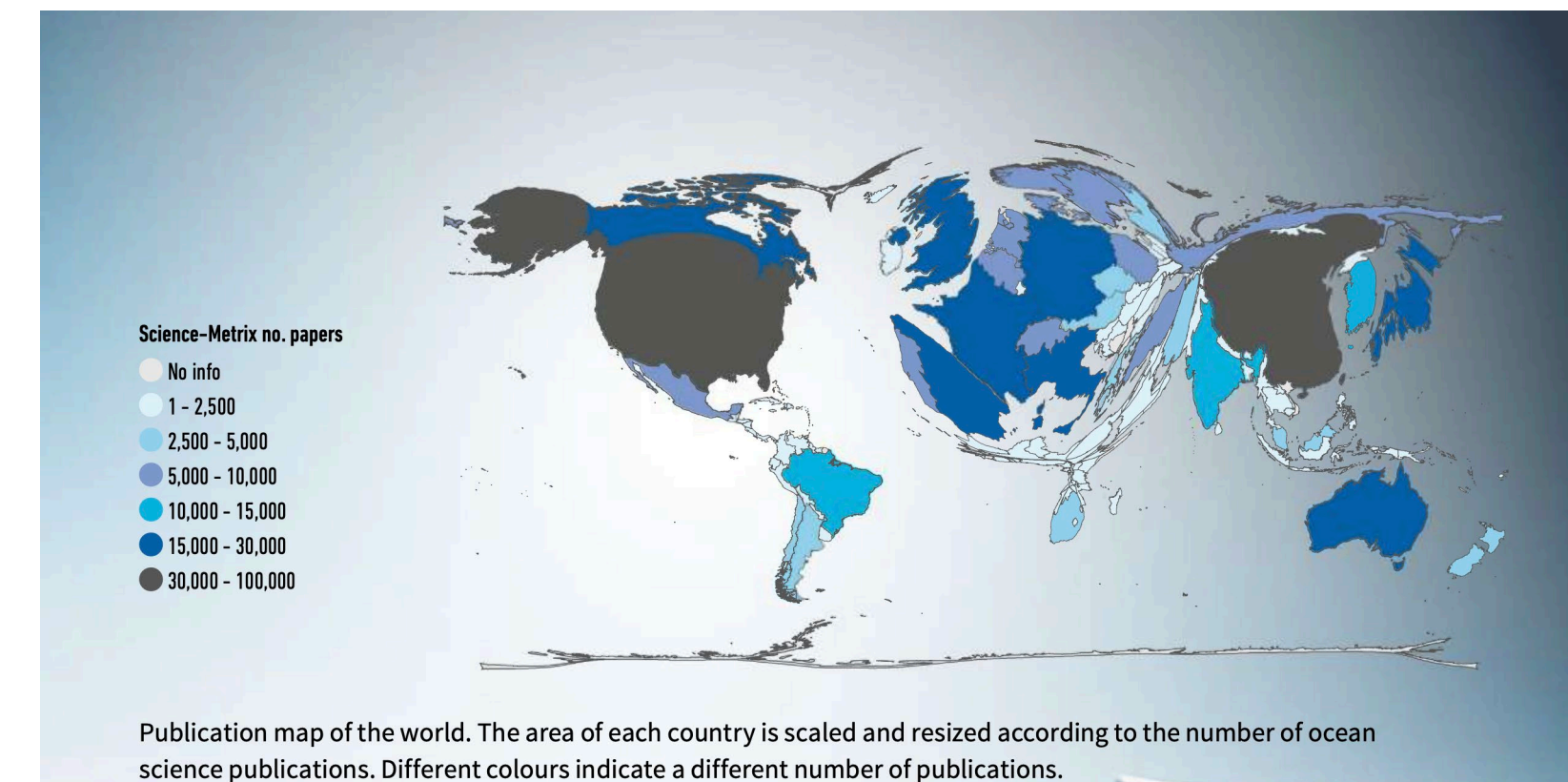
Development of concept note and presentation at Ocean Sciences 2020

16 web-based regional stakeholder calls to collect feedback and ensure representative authorship

Submission of EquiSea as a Programme of the UN Decade of Ocean Science for Sustainable Development



Brian Arbic, Coastal Ocean Ecosystem Summer School in Ghana



Intergovernmental Oceanographic Commission, The Science We Need for the Ocean We Want, 2019



Alexis Valauri-Orton, International Ocean Acidification Initiative

Ocean science capacity is distributed unequally, but a rapidly changing ocean requires widely and equitably distributed human, technical, and physical ocean science infrastructure.

EquiSea: The Ocean Science Fund for All is a platform co-designed through consensus-based stakeholder discussion with more than 200 scientists from around the world. EquiSea aims to improve equity in ocean science by establishing a philanthropic fund to provide direct financial support to projects, coordinating capacity development activities, fostering collaboration and co-financing of ocean science between academia, government, NGOs, and private sector actors, and supporting the development of low-cost and easy-to-maintain ocean science technologies.

Activities

Contributing Authors



Interactive!
Click on any of
these bubbles to
jump to each
section

EQUISEA

The National
Academies of
SCIENCES
ENGINEERING
MEDICINE

Alexis Valauri-Orton¹, Brian K. Arbic², Jorge Rafael Bermudez Monsalve³, Gina Bonne⁴, Marcia Creary Ford⁵, Edem Mahu⁶, Courtnie Park⁷, Aileen Tan Shau Hwai⁸

1. The Ocean Foundation, USA; 2. The University of Michigan, USA; 3. Galapagos Marine Research and Exploration, Ecuador; 4. Indian Ocean Commission, Mauritius; 5 University of the West Indies, Jamaica; 6 University of Ghana, Ghana; 7 The Ocean Foundation, USA; 8 Universiti Sains Malaysia, Malaysia

Introduction

Goals

The Evolution of EquiSea

Initial breakout session on capacity
development at Ocean 'Obs 19

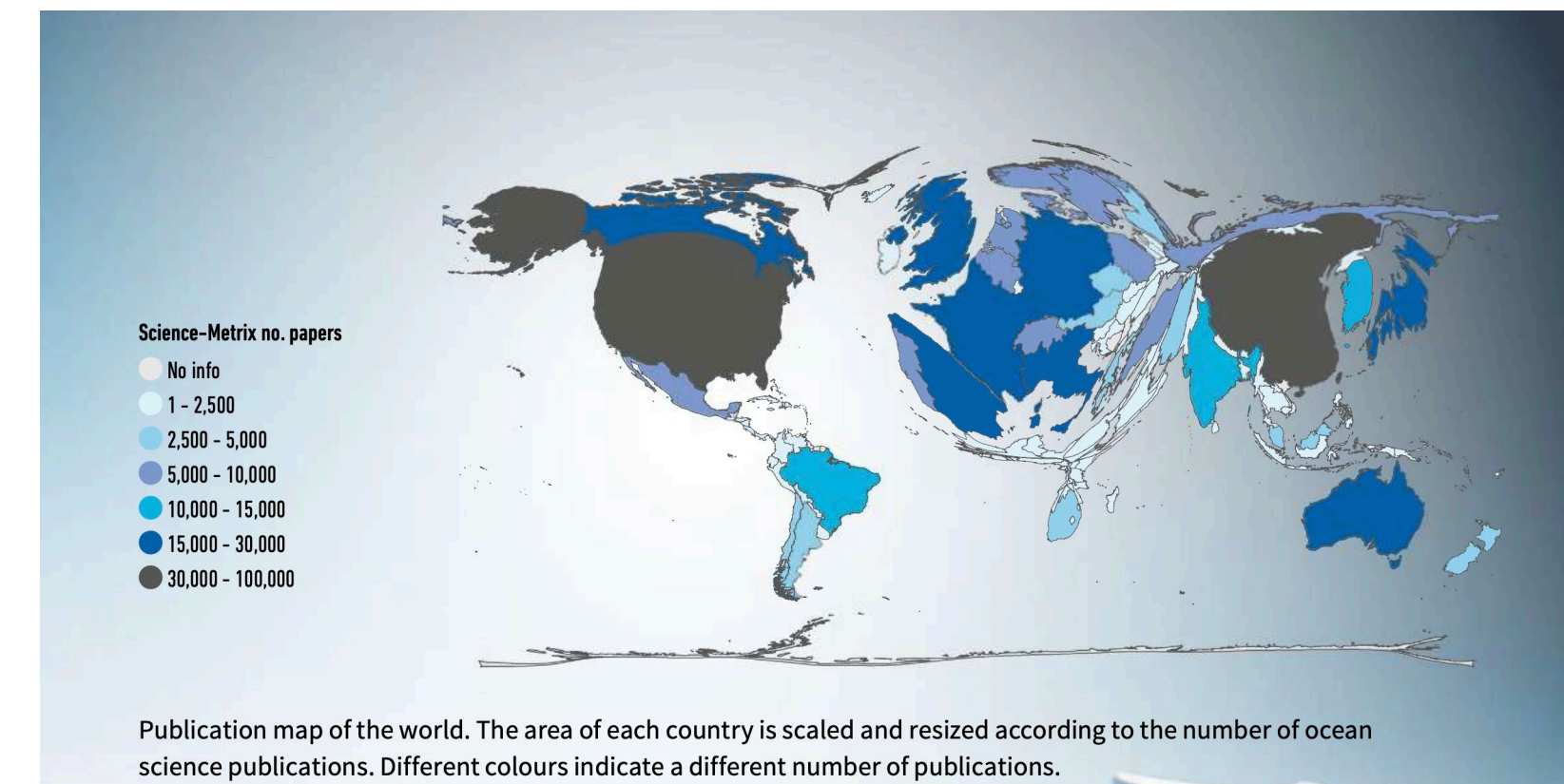
Development of concept note and
presentation at Ocean Sciences 2020

16 web-based regional stakeholder calls
to collect feedback and ensure
representative authorship

Submission of EquiSea as a Programme of
the UN Decade of Ocean Science for
Sustainable Development



Brian Arbic, Coastal Ocean Ecosystem Summer School
in Ghana



Intergovernmental Oceanographic Commission, The Science We Need for
the Ocean We Want, 2019



Alexis Valauri-Orton, International Ocean Acidification
Initiative

Ocean science capacity is distributed unequally, but a rapidly changing ocean requires widely and equitably distributed human, technical, and physical ocean science infrastructure.

EquiSea: The Ocean Science Fund for All is a platform co-designed through consensus-based stakeholder discussion with more than 200 scientists from around the world. EquiSea aims to improve equity in ocean science by establishing a philanthropic fund to provide direct financial support to projects, coordinating capacity development activities, fostering collaboration and co-financing of ocean science between academia, government, NGOs, and private sector actors, and supporting the development of low-cost and easy-to-maintain ocean science technologies.

Activities

Contributing
Authors



Interactive!
Click on any of
these bubbles to
jump to each
section



*The National
Academies of* | SCIENCES
ENGINEERING
MEDICINE

Alexis Valauri-Orton¹, Brian K. Arbic², Jorge Rafael Bermudez Monsalve³, Gina Bonne⁴, Marcia Creary Ford⁵, Edem Mahu⁶, Courtnie Park⁷, Aileen Tan Shau Hwai⁸

1. The Ocean Foundation, USA; 2. The University of Michigan, USA; 3. Galapagos Marine Research and Exploration, Ecuador; 4. Indian Ocean Commission, Mauritius; 5 University of the West Indies, Jamaica; 6 University of Ghana, Ghana; 7 The Ocean Foundation, USA; 8 Universiti Sains Malaysia, Malaysia

Introduction

Goals

Sustained ocean science requires a strong supporting environment, including:

- Consistent national government allocation of funding for ocean science
- Well-maintained research facilities and offshore assets
- A healthy job market for ocean science professionals.

Robust ocean science capacity can thus be defined as having the infrastructure, human, and financial resources required to predict and respond to dynamic environmental change.

Inequitable distribution of ocean science capacity has broad ramifications. International accords and strategies are informed by scientific assessments, leaving regions without capacity to collect scientific data to be underrepresented in international policy and management decisions. Those regions with limited ocean science capacity are also less able to take advantage of the growing sustainable blue economy.

Existing funding and infrastructure is not sufficient to meet global ocean science capacity needs. The authors propose EquiSea as a platform for increasing overall investment in ocean science capacity development, enhancing international coordination, and ensuring capacity development activities are successful and beneficial to those in lesser resourced regions.

EquiSea has five primary objectives. It will:

1. Establish a philanthropic fund to enable equitable distribution of ocean science capacity, including through funding of training programs and infrastructure grants.
2. Coordinate with key international processes and partners to ensure effective delivery of capacity development.
3. Foster collaboration between scientists and policymakers to enhance national support for sustained ocean science programs.
4. Engage private sector actors to provide jobs training and employment opportunities in ocean science.
5. Engage with ocean science technology developers to ensure a pipeline of accessible technology suitable for use in under-resourced regions.

Activities

Contributing
Authors

Barriers to equitably distributed and sustained ocean science capacity identified by the authors include:

- High cost and complexity of many ocean science technologies.
- Limited in-country access to basic infrastructure such as internet, stable electricity, and basic laboratory and field supplies.
- Limited international coordination and investment in ocean science capacity, leading to ad hoc training opportunities and inadequate financial resources for infrastructure and training.
- Limited employment and professional opportunities in oceanography in all but the traditionally well-funded nations.
- Limited public, private, and government interest in ocean science programs in lesser-resourced regions.
- Lack of funding to sustain any long-term monitoring efforts in lesser-resourced regions.



Interactive!
Click on any of
these bubbles to
jump to each
section

EQUISEA

The National
Academies of
SCIENCES
ENGINEERING
MEDICINE

Alexis Valauri-Orton¹, Brian K. Arbic², Jorge Rafael Bermudez Monsalve³, Gina Bonne⁴, Marcia Creary Ford⁵, Edem Mahu⁶, Courtnie Park⁷, Aileen Tan Shau Hwai⁸

1. The Ocean Foundation, USA; 2. The University of Michigan, USA; 3. Galapagos Marine Research and Exploration, Ecuador; 4. Indian Ocean Commission, Mauritius; 5 University of the West Indies, Jamaica; 6 University of Ghana, Ghana; 7 The Ocean Foundation, USA; 8 Universiti Sains Malaysia, Malaysia

Introduction

Goals



Photos by Alexis Valauri-Orton



Activities

Contributing
Authors

- A fund will be created to increase the availability of philanthropic support for ocean science capacity development and to provide a consistent place for practitioners to seek funding.
- This fund will be governed by a representative stakeholder group and will emphasize funding projects that address systemic inequities in ocean science.

**Establish a
Philanthropic Fund
to Enable
Activities**



- EquiSea will support existing organizations and infrastructure and fill gaps identified by stakeholders by:
 - Enhancing digital networking and learning opportunities
 - Creating a common calendar of training opportunities
 - Improving data sharing mechanisms and opportunities for under-resourced regions
 - Creating a technical assistance system

**Coordinate
Effective Delivery
of Capacity
Development**



- Sustained ocean science requires governments to be active funders and users of ocean science.
- EquiSea will foster collaboration between government and science by:
 - Incorporating requirements for government and science coordination in RFPs
 - Facilitating specific meetings for co-development and co-funding of research

**Foster
Collaboration to
Enhance National
Support**



- Private sector investment is required to capitalize on the potential of emerging sustainable blue economies. EquiSea will enhance private sector engagement by:
 - Facilitating national discussions to identify ocean science economic and job creation opportunities
 - Funding jobs and business training for ocean scientists
 - Co-financing job placement and training programs

**Engage Private
Sector Actors**



- Most ocean science technology is developed by and for highly resourced countries.
- There is a need for more accessible, easy-to-maintain technologies that address ocean science needs.
- To help ensure a pipeline of these technologies, EquiSea will work directly with technology developers to incentivize and distribute such technologies.

**Engage Ocean
Science Technology
Developers**



Interactive!
Click on any of
these bubbles to
jump to each
section



Alexis Valauri-Orton¹, Brian K. Arbic², Jorge Rafael Bermudez Monsalve³, Gina Bonne⁴, Marcia Creary Ford⁵, Edem Mahu⁶, Courtnie Park⁷, Aileen Tan Shau Hwai⁸

1. The Ocean Foundation, USA; 2. The University of Michigan, USA; 3. Galapagos Marine Research and Exploration, Ecuador; 4. Indian Ocean Commission, Mauritius; 5 University of the West Indies, Jamaica; 6 University of Ghana, Ghana; 7 The Ocean Foundation, USA; 8 Universiti Sains Malaysia, Malaysia

IntroductionGoals

EquiSea was co-designed by international collaborators through online and in person drafting and feedback sessions

ActivitiesContributing Authors

1. Adote Blim Blivi, Faculté de Science de l'Université de Lomé -Togo
2. Ajay Sing, University of Fiji
3. Alejandra Granados-Galván, Instituto de Investigaciones Marinas y Costeras (INVEMAR), Colombia
4. Alicia Cheripka, NOAA, USA
5. Ana Lara-Lopez, University of Tasmania
6. Angela Lamptey, University of Ghana
7. Anne-Cathrin Woelfl, GEOMAR Helmholtz Center for Ocean Research Kiel
8. Antonio Hogueane, Eduardo Mondlane University, Mozambique
9. Arthur Tuda, Western Indian Ocean Marine Science Association (WIOMSA)
10. Benjamin Botwe, University of Ghana
11. Bennet Foli, University of Ghana
12. Beth Holland, University of the South Pacific
13. Brice Mobio, Université Felix Houphouet-Boigny, Centre Universitaire de Recherche et d'Application en Télédétection (CURAT)
14. Carla Berghoff, Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP), Argentina
15. Caroline Jaraula, Institute of Environmental Science & Meteorology, Philippines
16. Cecilia Chapa Balcorta, Universidad del Mar
17. Cesar Bernal, Instituto de Investigaciones Marinas y Costeras José Benito Vives de Andreis
18. Cesar Toro, IOC/UNESCO
19. Chelle Gentemann, Earth & Space Research, USA
20. Chris Sabine, University of Hawaii
21. Claudia Delgado, IOC/UNESCO IODE
22. Doug Wallace, Dalhousie University
23. Drew Lucas, Scripps Institution of Oceanography
24. Eli Rabani, Nanotechnology International Corporation
25. Enrique Montes, University of South Florida, MBON
26. Eric Bayler, NOAA
27. Erin Satterthwaite, Scripps Institution of Oceanography
28. Eva Brodte, Alfred Wegener Institute, Germany, NF-POGO Centre of Excellence
29. Fiona Langenberger, Pacific Islands Ocean Observing System (PacIOOS)
30. Folasade Adebeyejo, University of Ibadan
31. Frank Muller-Karger, University of South Florida, MBON
32. Gabrielle Canonico, NOAA US IOOS, GOOS Bio-Eco

33. Gael Alory, LEGOS, University of Toulouse, France
34. Giovanni Coppini, Istituto Nazionale di Geofisica e Vulcanologia (INGV), CMCC
35. Glenn Nolan, Marine Institute, Ireland
36. Grant Smith, University of Southern California
37. Greg Crawford, University of Ontario
38. Isabel Sousa Pinto, CIIMAR, MBON, University of Porto
39. Isabella Dadou, LEGOS, University of Toulouse, France
40. Jay Pearlman, Four Bridges
41. Jeffrey Runge, University of Maine
42. Joana Soares, MBON
43. John Wilkin, Rutgers University
44. Jose Henrique Muelbert, Federal University of Rio Grande, Brazil
45. Josh Young, University of Colordao
46. Juliet Hermes, South African Environmental Observation Network (SAEON)
47. Kamila Kabo-bah, University of Energy and Natural Resources, Sunyani | UENR
48. Karen Ibarra, Instituto de Investigaciones Marinas y Costeras (INVEMAR)
49. Karim Hilmi, National Institute of Fisheries Research (Morocco), IOC/UNESCO
50. Kathleen Silvano, University of the Philippines
51. Kevwe (Chris) Oghenechovwen, United Nations Major Group for Children and Youth, The Sixth Havis
52. Kwasi Appeaning Addo, University of Ghana
53. Lazare Akpetou, University Jean Lorougnon Guédé, Daloa, Côte d'Ivoire
54. Lineekela Kandjengo, University of Namibia
55. Lucy Scott, IOC/UNESCO IODE
56. Luisa Espniosa, Instituto de Investigaciones Marinas y Costeras (INVEMAR)
57. Marco Weydert, European Commission
58. Martin Visbeck, GEOMAR Helmholtz Center for Ocean Research Kiel, Kiel University
59. Matthew Palmer, National Oceanography Centre, UK
60. Merana Kitione, Oceans and Maritime Programme at the Pacific Community (SPC), Fiji
61. Meredith Kurz, NOAA, USA
62. Mika Odido, IOC/UNESCO
63. Mike Osei-Atweneboana, Ghana Water Research Institute
64. Mohammed Idrissi, Institut National de Recherche Halieutique (INRH)
65. Molly Powers-Tora, Ocean Intelligence - Pacific Community-SPC

66. Nadia Pinaridi, University of Bologna
67. Nic Bax, CSIRO, GOOS Bio-Eco
68. Nick Beaird, Rutgers University Center for Ocean Observing Leadership
69. Nicolas Segebarth, European Commission - DG Research & Innovation
70. Noel Keenlyside, University of Bergen
71. Nubi Olubunmi Ayoola, Nigerian Institute for Oceanography and Marine Research
72. Patricia Miloslavich, GOOS, Simon Bolivar University, Venezuela
73. Pauline Simpson, UNESCO / IOC IODE
74. Péricles Silva, Sea Institute (IMAR)/Ocean Science Center of Mindelo(OSCM)
75. Peter Pissierssens, IOC/UNESCO IODE
76. Phan Minh Thu, Institute of Oceanography, Vietnam Academy of Science and Technology
77. Phil Thompson, BMT Ship & Coastal Dynamics
78. Rahanna Juman, Institute of Marine Affairs, Trinidad and Tobago
79. Ross Timmerman, Scripps Institution of Oceanography
80. Ruben Negri, National Institute for Fisheries Research and Development
81. Samuel Wang, Marine Biological Laboratory, Woods Hole
82. Sandrine Djakouré, Felix Houphouet Boigny University, Côte d'Ivoire
83. Savannah Hartman, University of South Florida
84. Saviour Udo-Akuaibit, University of Port Harcourt, Nigeria
85. Silvia Chacon, University of Costa Rica
86. Socratis Loucaides, National Oceanography Centre, UK
87. Sophie Chu, NOAA, USA
88. Sophie Seeyave, Plymouth Marine Laboratory (PML)
89. Stephan Howden, University of Southern Mississippi
90. Steven Colbert, University of Hawaii
91. Steven Paton, Smithsonian Tropical Research Institute
92. Subrata Sarker, Shahjalal University, Bangladesh
93. Timotope Sogbanmu, University of Lagos
94. Tosca Ballerini, Freelance
95. Villy Kourafalou, University of Miami
96. Vivian Alicia Lutz, INIDEP, Argentina
97. Werner Ekau, Leibniz Centre for Tropical Marine Research (ZMT)
98. Zacharie Sohoun, Institut de Recherches Halieutiques et Océanologiques du Bénin (IRHOB, ex-CRHOB)

