Emergent ocean technology for the Commonwealth Blue Charter

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#BlueCharter
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The Commonwealth and the Ocean

- 53 Countries
- 46 have a marine coastline
- 1/3 of world’s marine waters within national jurisdiction

- 32 Commonwealth member countries have 42% of world’s coral reefs
- Australia and Belize host the world’s two largest barrier reefs

- 8 of 20 world’s largest marine protected areas are in Commonwealth waters
- Marae Moana The Cook Islands World’s largest designated marine managed area

- World’s 1st agreement was signed between Mauritius and Seychelles to co-manage their shared outer continental shelf.
- Saya de Malha Bank (included in this agreement) hosts the world’s largest offshore seagrass meadow.
Action Groups, policy drivers and emerging tech

- **Human Pressures**
  - Climate Change
  - Ocean Acidification
  - Plastic Pollution

- **Evidence**
  - Ocean observations
  - Coral Reefs
  - Mangroves
  - MPAs

- **Restoration & Protection**
  - System modelling: hydrodynamic, ecosystem, socio-ecological
  - Scalable restoration and resilience building, e.g. reef building technologies

- **Human pressures**
  - Carbon sequestration methodologies / inventories
  - Cost-effective aquaculture water quality management, e.g. hatchery systems

- **Sustainable use**
  - Safe plastic alternatives, e.g. seaweed based
  - Energy systems for sustainable coastal cities
  - Fintech for ‘blue finance’ investments in natural capital, e.g. blue bonds, insurance ‘wrappers’

- **All underpinned by need for evidence**
  - Ocean observing technologies
  - e.g. sensors, systems, decision support tools
Ocean Observing technologies
Evidence for decision making: ocean observations

• ‘Actionable data’: think about who has to make a decision using this information?
• What do they need it for: operational decisions, policy formulation, regulatory enforcement, public interest?
• e.g. Global Fishing Watch for fisheries transparency; Nekton for science to policy with capacity building from decision makers
NEKTON MISSION II: INDIAN OCEAN 2018—2022

TO EXPLORE THE DEEP OCEAN TO ACCELERATE SUSTAINABLE OCEAN GOVERNANCE
**OCTOPUS**  
*(THE OCEAN TOOL FOR PUBLIC UNDERSTANDING AND SCIENCE)*

OCTOPUS dynamically harvests and harmonises open-access marine data from diverse sources to provide a holistic and dynamic view of the changing state of the ocean, its biodiversity and human impacts.

OCTOPUS enables scientists, policy makers and the general public to have open-access to a wide variety of current and high quality marine data to inform and catalyse marine research and ocean governance.

OCTOPUS has been developed as a collaboration between the Oxford Martin School and the University of Oxford. Nekton and Oxford University are partnering on further development and management of OCTOPUS with a new development team starting in May 2019.

We are seeking collaborators to co-develop open access multi-variate OCTOPUS case studies and to create a regional Indian Ocean node of OCTOPUS.
NEKTON’S EDUCATIONAL PROGRAMME – SUBMARINE STEM - INCLUDES FREE EDUCATIONAL RESOURCES, VR IN THE CLASSROOM, AND LIVE SIMULCASTS BROADCAST FROM THE MISSION TO SCHOOLS GLOBALLY
How can the ocean tech community support the Blue Charter?

• Think about your R&D from a ‘small states’ perspective
  • How can small states benefit from your work?
  • What are the policy implications?
  • Scalable solutions to ocean challenges – national mandates and global commitments (e.g. SDGs, Paris Agreement, CBD, Port State Measures, …)
  • Focus on ‘actionable data’ for policy and operational decision making

• Training and capacity building opportunities:
  • ACU ‘Blue Charter’ research fellowships
  • Other training schemes, e.g. POGO fellowships

• Keep engaged through partnerships with Commonwealth countries and on Blue Charter relevant topics
Questions?

Discussion!

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