

The Commonwealth Emergent ocean technology for the Commonwealth Blue Charter

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Nick Hardman-Mountford Head of Oceans and Natural Resources Commonwealth Secretariat n.hardman-mountford@commonwealth.int @nmco2

> #BlueCharter @commonwealthsec



The Commonwealth

## The Commonwealth and the Ocean



53 Countries



1/3 of world's marine waters within national jurisdiction

Commonwealth member countries have 42% of world's coral reefs

Australia and Belize host the world's two largest barrier reefs of world's largest marine protected areas are in Commonwealth waters

Marae Moana The Cook Islands World's largest designated marine managed area







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.



This information is drawn from Flanders Marine Institute (2018) Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 10. Available online at http://www.marineregions.org/ https://doi.org/10.14284/312.

The map is a summary, provided for illustrative purposes only, and the Commonwealth Secretariat takes no responsibility for the accuracy of the information represented. This paper does not imply the expression of any opinion, decision or judgement by the Commonwealth Secretariat concerning the legal status of such countries or territories, or of their authorities and institutions or of the delimitation of their boundaries, or disputes over sovereignty.

## **Blue Charter Champions and Action Groups**





# Action Groups, policy drivers and emerging tech



## • Restoration and 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



## TO EXPLORE THE DEEP OCEAN TO ACCELERATE SUSTAINABLE OCEAN GOVERNANCE

NEKTON MISSION II: INDIAN OCEAN 2018-2022

WATCH THE MISSION TRAILER

#### INNOVATION: BIG DATA



## **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 openaccess 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 mutli-variate OCTOPUS case studies and to create a regional Indian Ocean node of OCTOPUS.



## SUBMARINE STEM

Teacher Booklet Become a submarine explorer Science and Engineering for 7-11 year old

gitel explorer NELCTON

Quick start

Life aboard pt

Diving in a submarine pt 2

### **OCEAN LITERACY** INSPIRING A GENERATION

NEKTON'S EDUCATIONAL PROGRAMME – SUBMARINE STEM -INCLUDES FREE EDUCATIONAL RESOURCES, VR IN THE CLASSROOM, AND LIVE SIMULCASTS BROADCAST FROM THE MISSION TO SCHOOLS GLOBALLY Diving in a submarine pt

Flying up a seamount

Teacher Booklet

Become a submarine explorer Science and Engineering for 11-14 year olds

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# SUBMARINE STEM

Become a submarine explorer Science activities for families and children



## 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



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# **Questions?**

# **Discussion!**

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