ENFORCEMENT IN AREAS BEYOND NATIONAL JURISDICTION: WHAT ROLE FOR BIG DATA?

PRINCE ALBERT II OF MONACO FOUNDATION

Catherine Redgwell
Chichele Professor of Public International Law
University of Oxford
Co-director: Oxford Martin Sustainable Oceans Programme

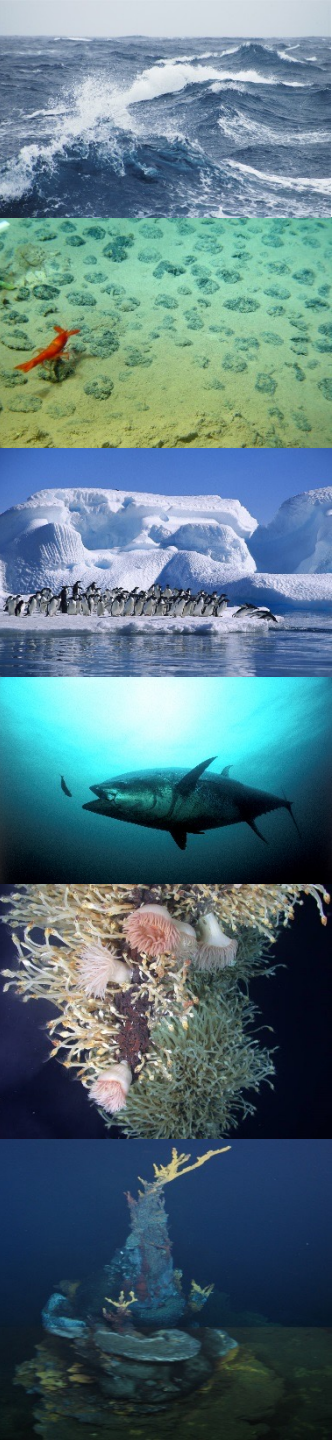
OXFORD MARTIN SCHOOL

UNIVERSITY OF OXFORD

Presentation based on funded research project:

The use of satellite data for monitoring and enforcement of spatial management measures in high seas fisheries

Catherine Redgwell
Efthymios Papastavridis
Gwilym Rowlands



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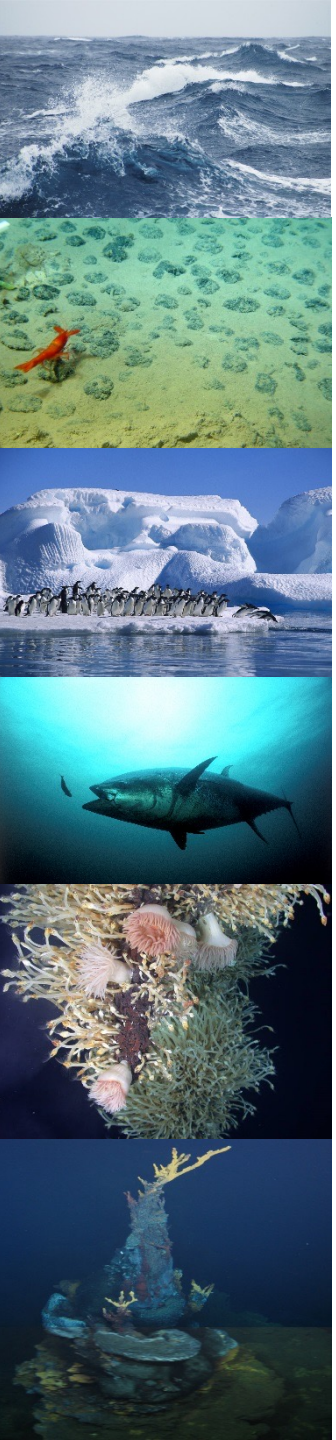
Challenges of high seas enforcement

- Challenges of high seas enforcement are potentially a major barrier to effective marine spatial planning/management in areas beyond national jurisdiction (ABNJ)

- There are currently only limited legal tools available for using ABMTs in ABNJ (RFMOs; some regional seas treaty bodies, (e.g. MPAs have been established in high seas areas under the OSPAR and Barcelona Conventions); under ISA, and the IMO

- **And even if established, problems of compliance and enforcement**: enforcement traditionally by the flag State with heavy reliance on flag State licensing and monitoring of its vessels and exercise of control over its nationals especially for the high seas; some use of port State controls and some international agreements allow for mutual/reciprocal enforcement; **ultimately dependent on enforcement action under national law of the flag State or port/coastal State relying on evidence of law-breaking**

- Effective MSP/ecosystem management requires more than a focus on end of pipeline enforcement issues (monitoring and surveillance; prevention)



Monitoring and Enforcement Capacity: Lessons learned from national MPAs

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- Lessons learned from national MPAs of pertinence for high seas ABMT, including MPA designation, and their effective enforcement
- e.g. 2016 Pitcairn EEZ designated an IUCN Category I no-take MPA with a subsequent review illustrating the potential role for Big Data in addressing its draw backs:

(i) designation was not based on any specific science-based design;

(ii) beyond MPA designation, there is limited management;

(iii) there is **no local capacity for monitoring**; nor

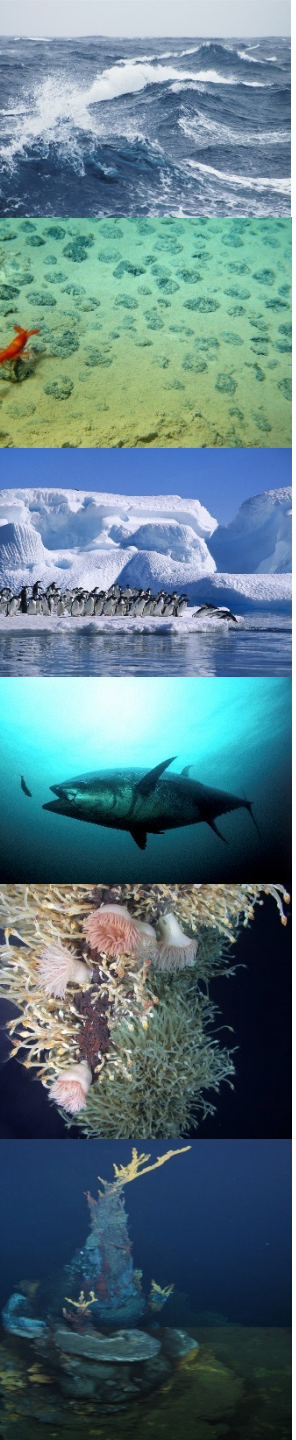
(iv) is there a **patrol vessel or enforcement capacity**.

- key plank in the efficacy of MPA designation is the ability to use **innovative technology** to monitor and enforce large-scale MPA designations in remote areas

Lessons learned from national MPAs applicable to High Seas ABMTs:

"By using satellite data and satellite imagery together with a wide variety of data sources, including oceanographic data, our goal is to be able to work with the Overseas Territories to track and monitor vessel behaviour in and around these new, large scale, remote MPAs, and ensure that the risk to these reserves is significantly reduced."

J Turnbull (MMO), 'Innovations and Technology to protect our Overseas Territories.'
https://marinedevelopments.blog.gov.uk/2017/10/19/innovations-and-technology-to-protect-our-overseas-territories/.



Facilitating role of Big Data on the international level

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- Little discussion in the current BBNJ negotiations of the role of innovative technologies for marine monitoring, surveillance and enforcement of ABMT in ABNJ

- technology transfer, capacity building and finance of tools for monitoring and enforcement, including satellite data **AND** link to domestic implementation including provision for use of satellite data, encouraging judicial 'trust' of Big Data

- E.g. this 'future proofed' provision for the purposes of prosecution under the Pitcairn Islands MPA Ordinance 2016, and any further Marine Protection Regulations:

  "observation of fishing vessels 'by any means' includes, but not limited to, 'remote satellite technology', VMS, AIS, 'unmanned aerial, surface or underwater vehicle observations', 'video, radar, acoustical and visual observations' and 'any other means that can reasonably be used to determine vessel activity historically or in real time'. "