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Monitoring, Control and Surveillance (MCS) of Human Activities in ABNJ

*Klaudija Cremers
Research Fellow International Marine Policy at
IDDRI*

Cape Town, 12 June 2019



ABIDJAN CONVENTION
CONVENTION D'ABIDJAN

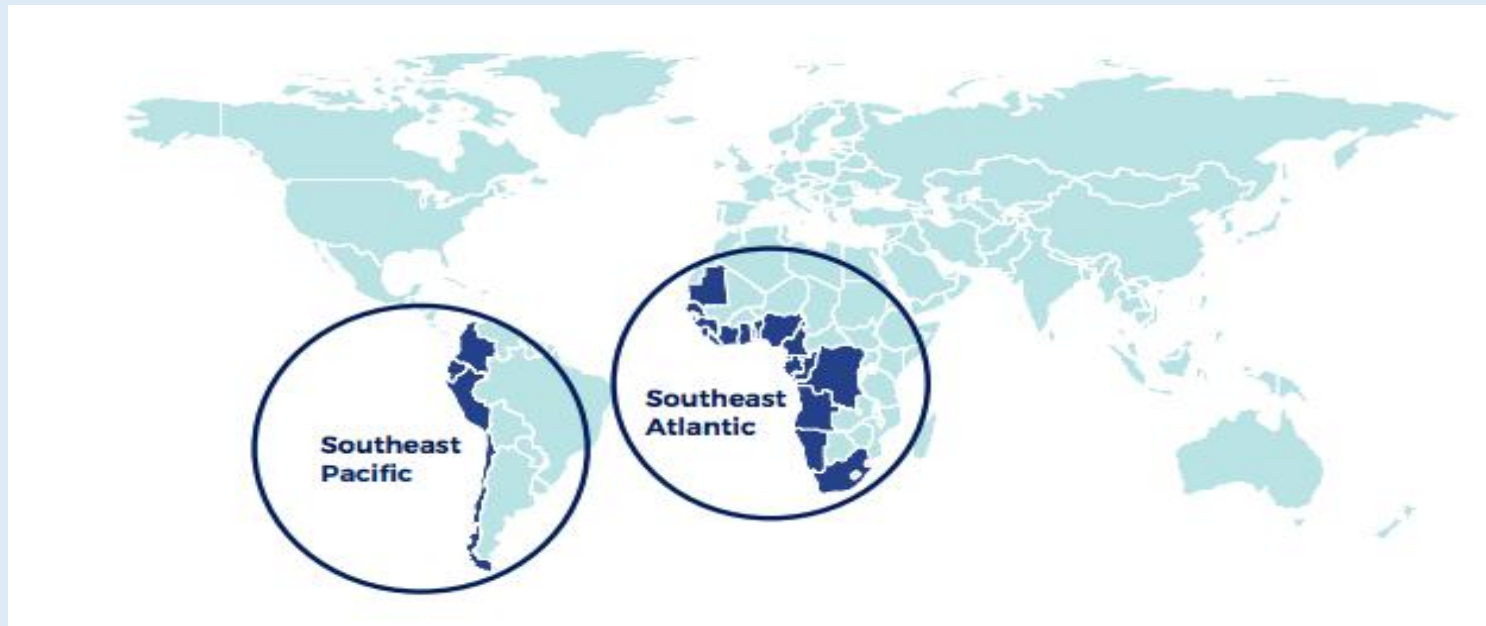


IDDRI



International Ocean Institute
African Region





- MCS expert workshop I (technological tools) – Paris, July 2018
- MCS expert workshop II (policy options) – Paris, April 2019
- Regional MCS workshop CPPS – November 2019
- Regional MCS workshop Abidjan – 2020



Contents

1. What is MCS and why is it important?
2. An overview of MCS tools
3. Best MCS practices
4. MCS challenges
5. How to strengthen MCS?
6. Conclusion
7. Questions

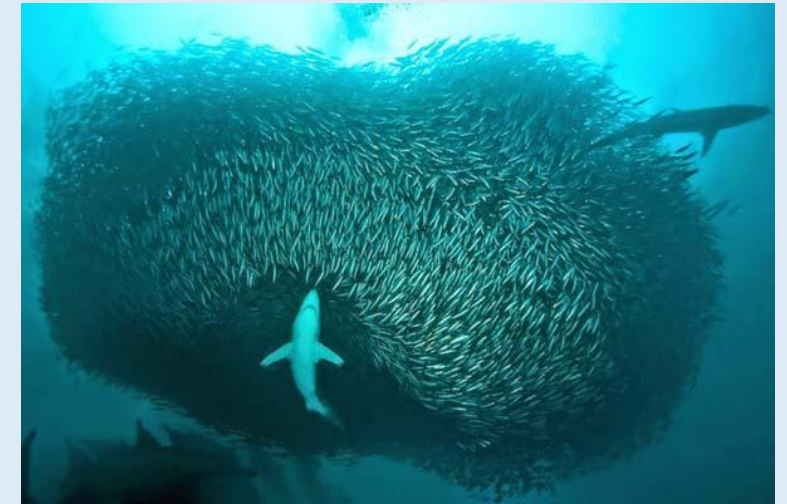


1. What is MCS and why is it important?

- a) **Monitoring** - the continuous requirement for the measurement of fishing effort characteristics and resource yields;
- b) **Control** - the regulatory conditions under which the exploitation of the resource may be conducted;
- c) **Surveillance** - the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities.


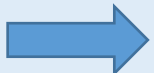
Source: FAO, 1981

1. What is MCS and why is it important?



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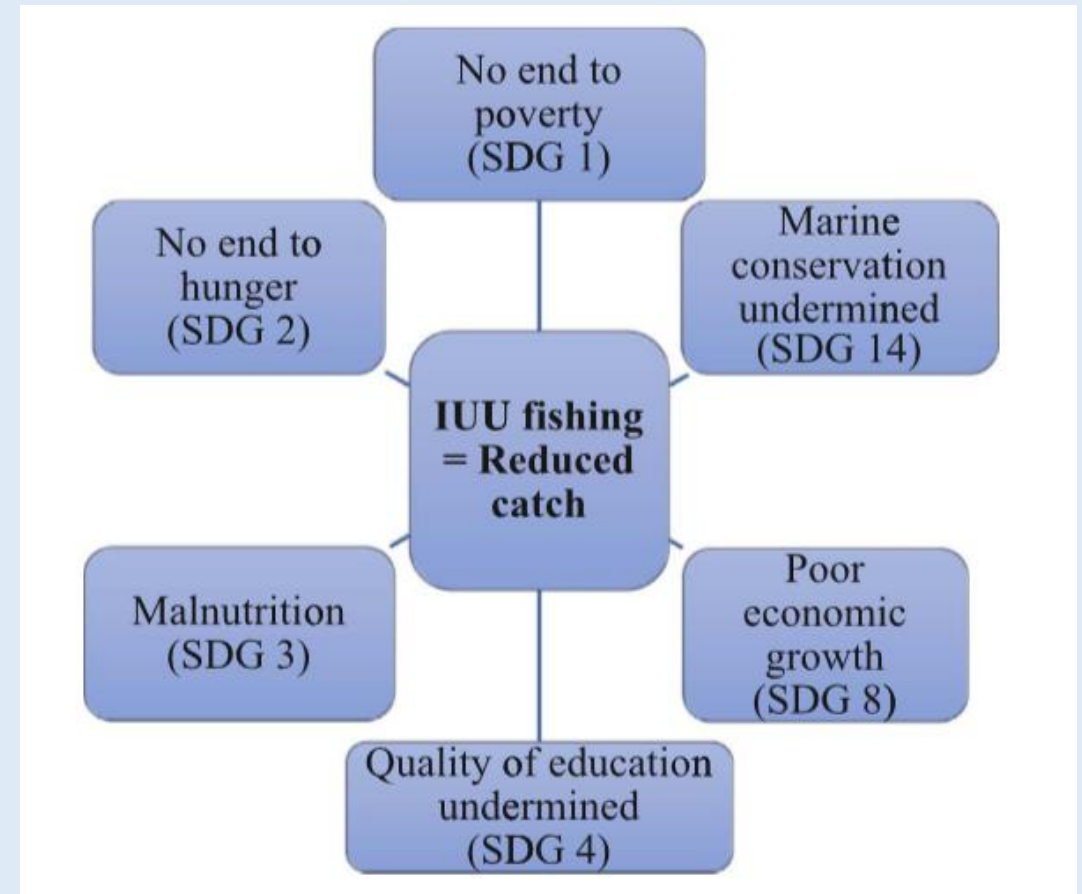
West Africa (Belhabib et al, 2019; Doumboya et al, 2017)

- Governance issues and high monitoring costs
- Illegal fishing is responsible for a loss of US\$2.3 billion a year, of which only US\$13.8 million a year is recovered through MCS
- Strengthening of the legal system  higher fines + increased resources for MCS  reducing incentives for IUU fishing + higher chance to catch offenders

1. What is MCS and why is it important?



West Africa (Okafor-Yarwood, 2019)



2. An overview of MCS tools

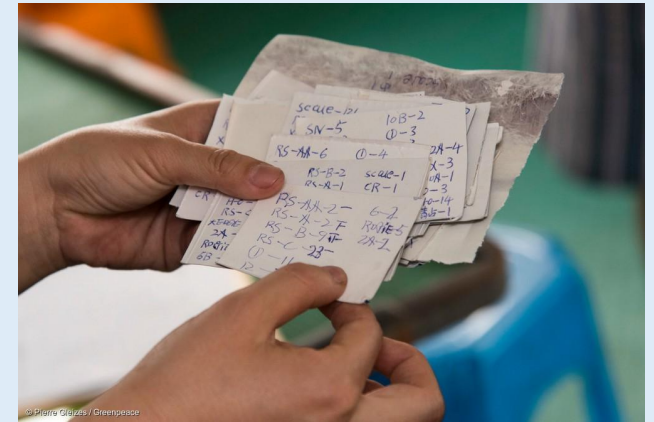
What factors need to be taken into account when choosing MCS tools?

- Purpose
- Costs
- Access
- Reliability
- Coverage
- Cross-checking data
- Ease of manipulation
- Privacy considerations
- Capacity to analyse data
- Different actors/stakeholders

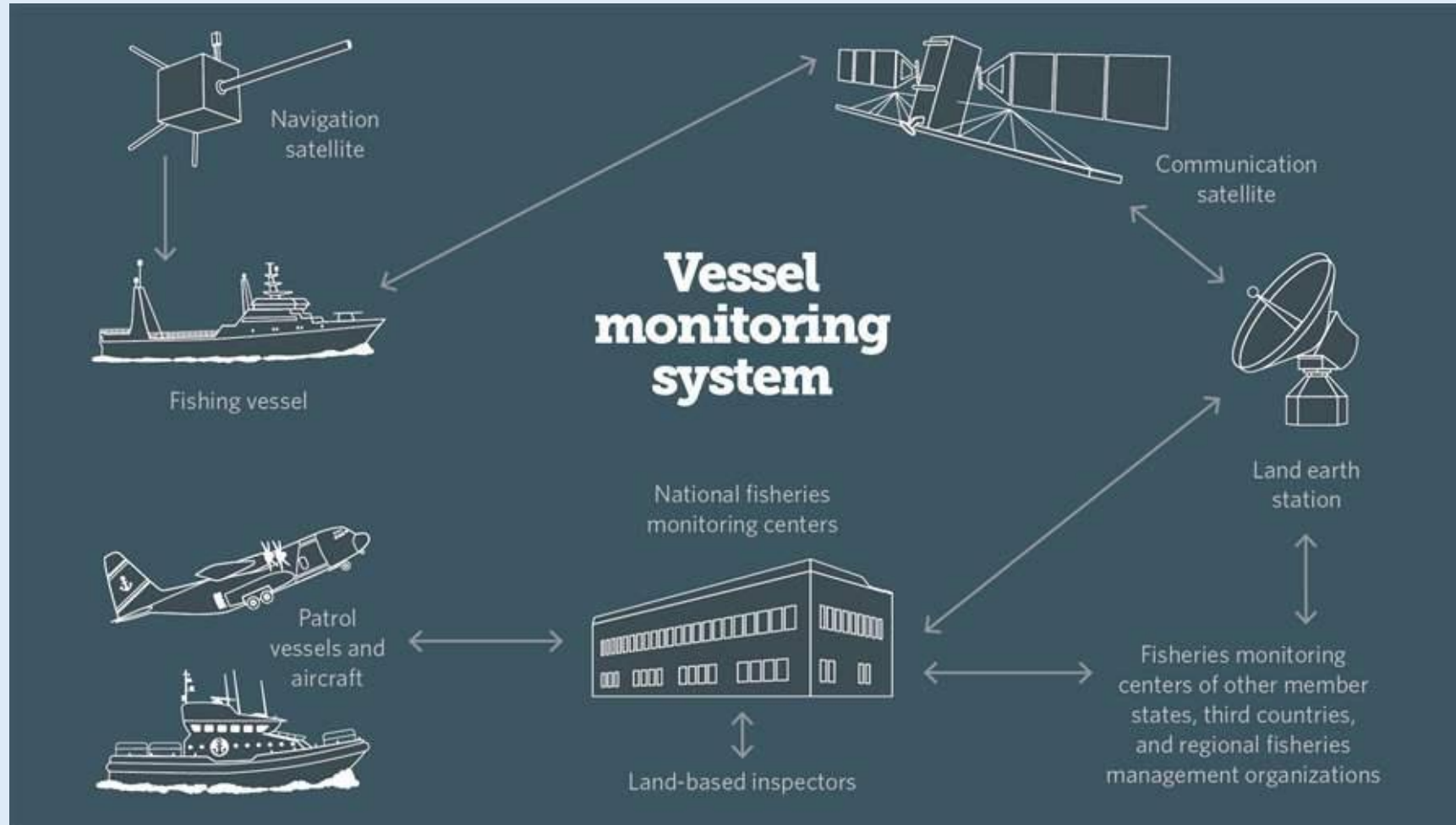


Traditional MCS tools:

- Inspectors at sea
- Logbooks
- Naval and aerial surveillance at sea

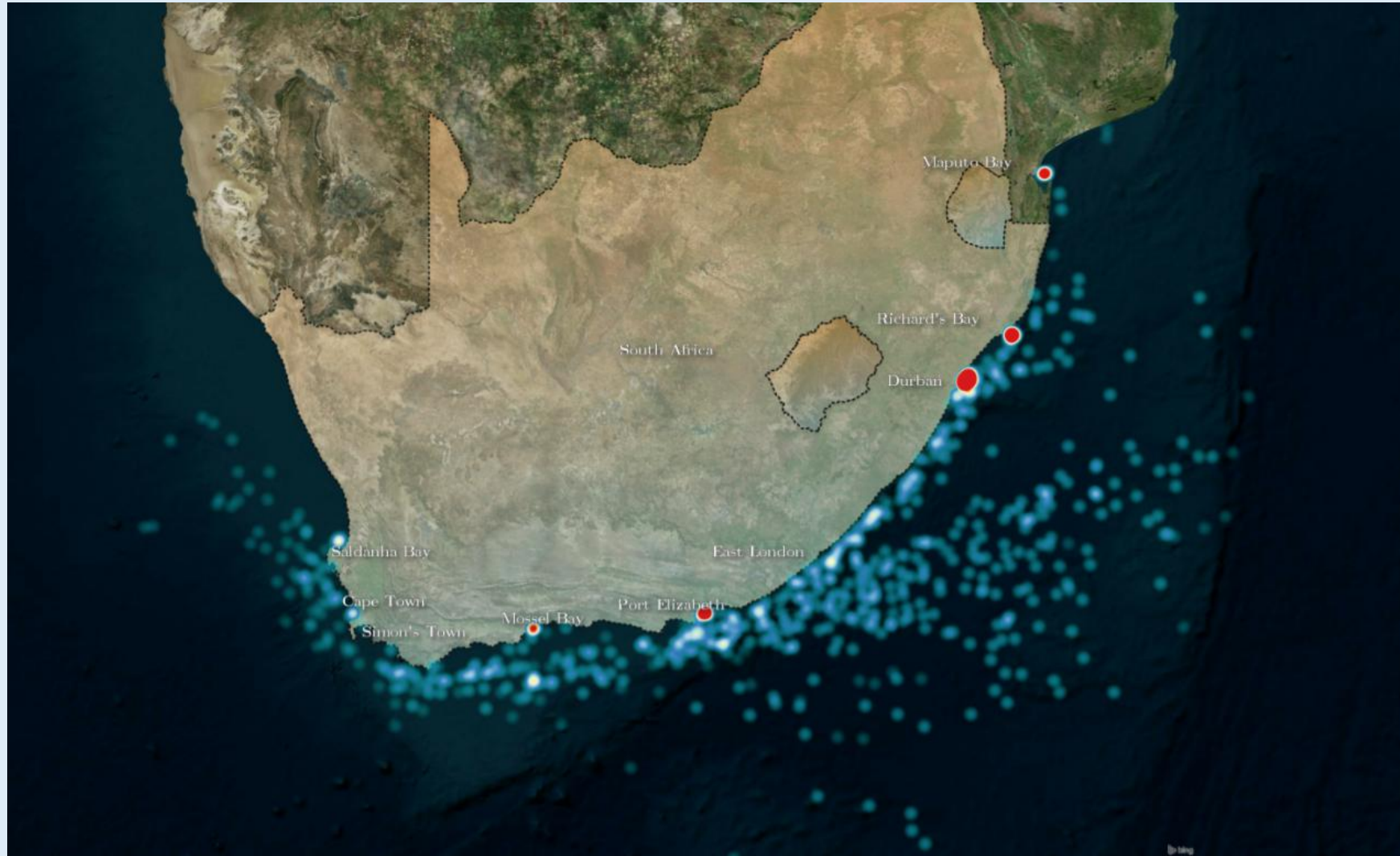


Automatic Identification Systems (AIS) Vessel Monitoring System (VMS)



Source: Pew Charitable Trusts, 2016

Synthetic Aperture Radar (SAR)



Source: Schwegmann et al, 2016

Visible Infrared Imaging Radiometer Suite (VIIRS)



VIIRS
Next Generation Environmental Monitoring from Space

Onboard the NPP Satellite, VIIRS provides superior imagery and data for next generation civil and military weather, climate and disaster monitoring.

2X longer operational lifetime
Calibrated low light level imagery
375 meter visible-infrared imagery at nadir

VIIRS instrument

Cloud properties
Fire detection and monitoring
Vegetation index

Ocean color
Sea surface temperature
Ocean currents
Aerosol characteristics

Sun-synchronous polar orbit

NPP satellite

Images taken by VIIRS on Nov. 21, 2011
Images Courtesy of C. Cao, D. Pogorzala, and X. Shao Sponsored by NASA/NOAA

Source: National Snow & Ice Data Center

E-monitoring

SENSORS



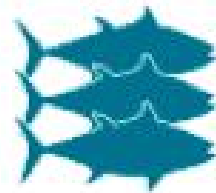
Location



Gear being
used or not



Number
of hooks



Catch

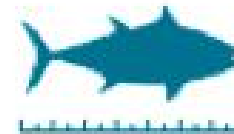
CAMERAS



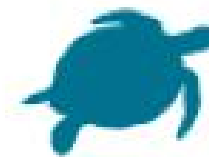
Species ID

DEAD, ALIVE,
UNKNOWN

Life status



Length



Bycatch

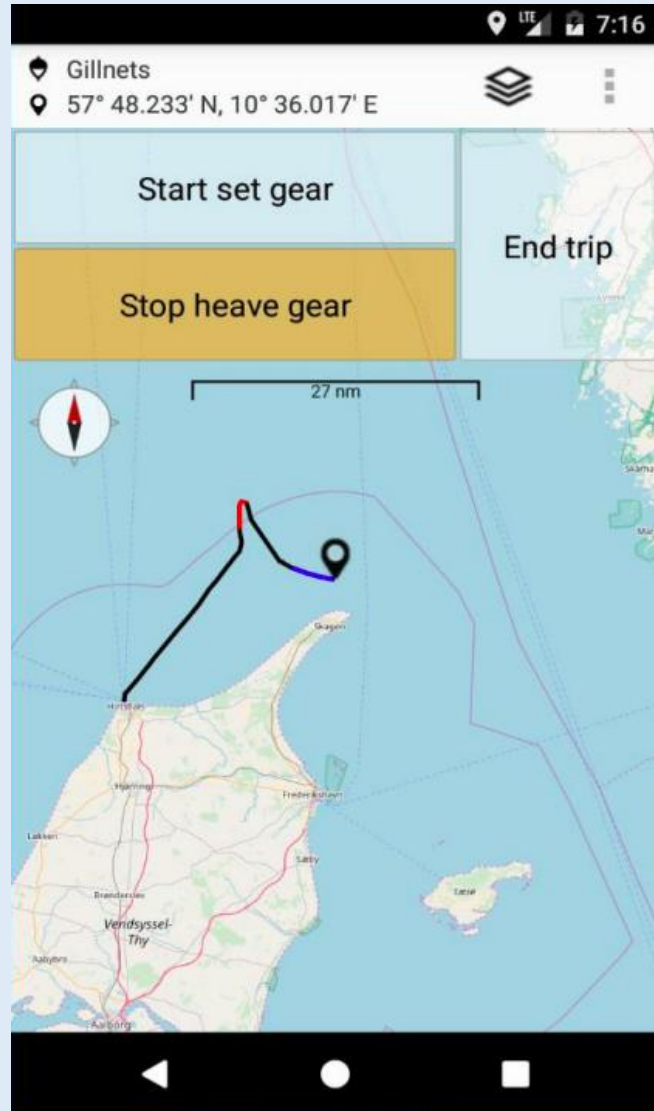


Discard

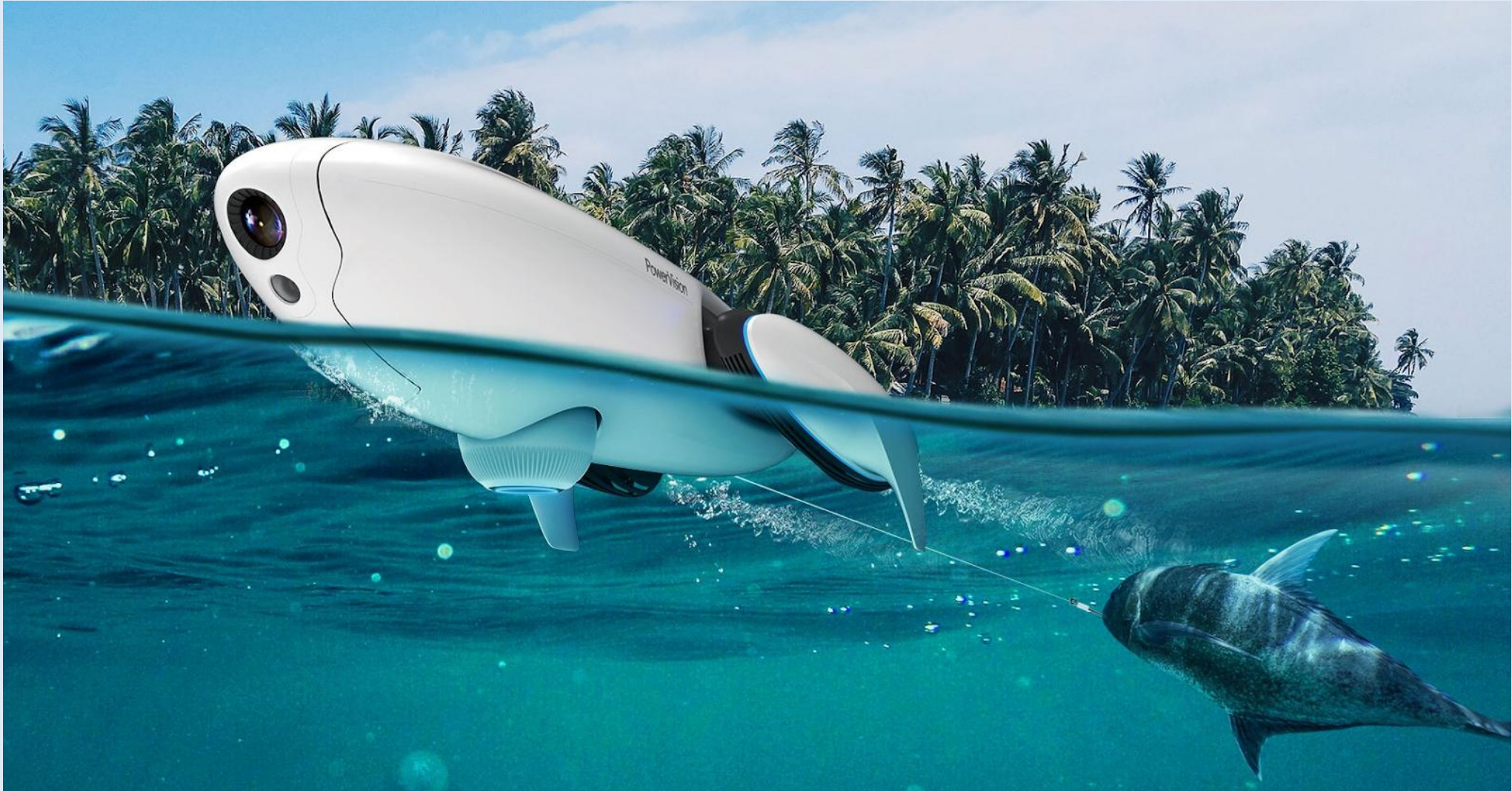


Health and
safety

E-reporting



Drones



3. Best MCS practices

- 1) RFMOs
- 2) International MCS platforms and networks (e.g. IMCS network, Southern African Development Community MCS Center)
- 3) Transnational partnerships (e.g. Global Fishing Watch, FISH-I Africa Task Force)

RFMOs

Table 2.1. MCS standards established by RFMOs

RFMO	Lists of authorised vessels	Catch reporting/CDS	VMS	Inspections at sea	Observer programmes for fishing	Transshipment monitoring	Inspections in ports	Designation of landing ports
CCSBT	✓	✓	✓		*	✓	✓	✓
GFCM	✓	#	✓	✓**		✓	✓	✓
IATTC	✓	✓ ²	✓		*	✓		
ICCAT	✓	✓ ³	✓	✓	✓	✓	✓	✓
IOTC	✓	✓ ⁴	✓		*	✓	✓	✓
NAFO	✓ ¹	#	✓	✓	✓	✓	✓	✓
NEAFC	✓ ¹	#	✓	✓		✓	✓	✓
NPFC	✓		✓	***	✓	✓		
SEAFO	✓	#	✓	✓	✓	✓	✓	✓
SIOFA	✓	#	✓	***	*	✓	✓	✓
SPRFMO	✓	#	✓	✓		✓	✓	✓
WCPFC	✓	#	✓	✓	✓	✓	✓	
CCAMLR	✓	✓	✓	✓	✓	✓	✓	

Note: * Observer programme limited to scientific purpose; ** spatially limited; *** measure implementation in progress (proposal or implementation plan available); # limited to standards on catch reporting. 1. List of authorised vessels not publicly available; 2. limited to bigeye statistical documentation programme with some elements of CDS (Res. C-03-01); 3. limited to Atlantic bluefin tuna, for bigeye tuna and swordfish, there are statistical document programmes in place (ICCAT, 2016[7]); 4. limited to statistical document programme for bigeye tuna with some elements of a CDS (communication with the IOTC Secretariat).

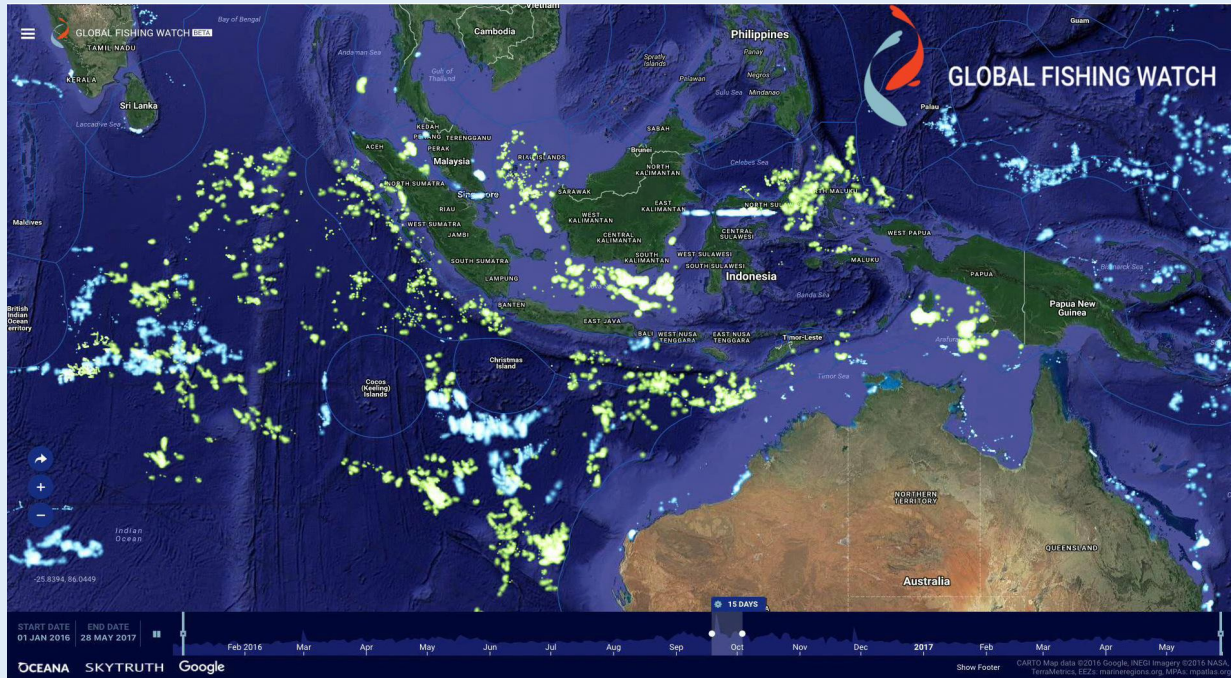
Source: Based on the review of relevant documents and communication with relevant RFMOs.

Source: Hutniczak, B., C. Delpuech and A. Leroy (2019-02-14), “Intensifying the Fight Against IUU Fishing at the Regional Level”, OECD Food, Agriculture and Fisheries Papers, No. 121, OECD Publishing, Paris. <http://dx.doi.org/10.1787/b7b9f17d-en>

International MCS platforms and networks

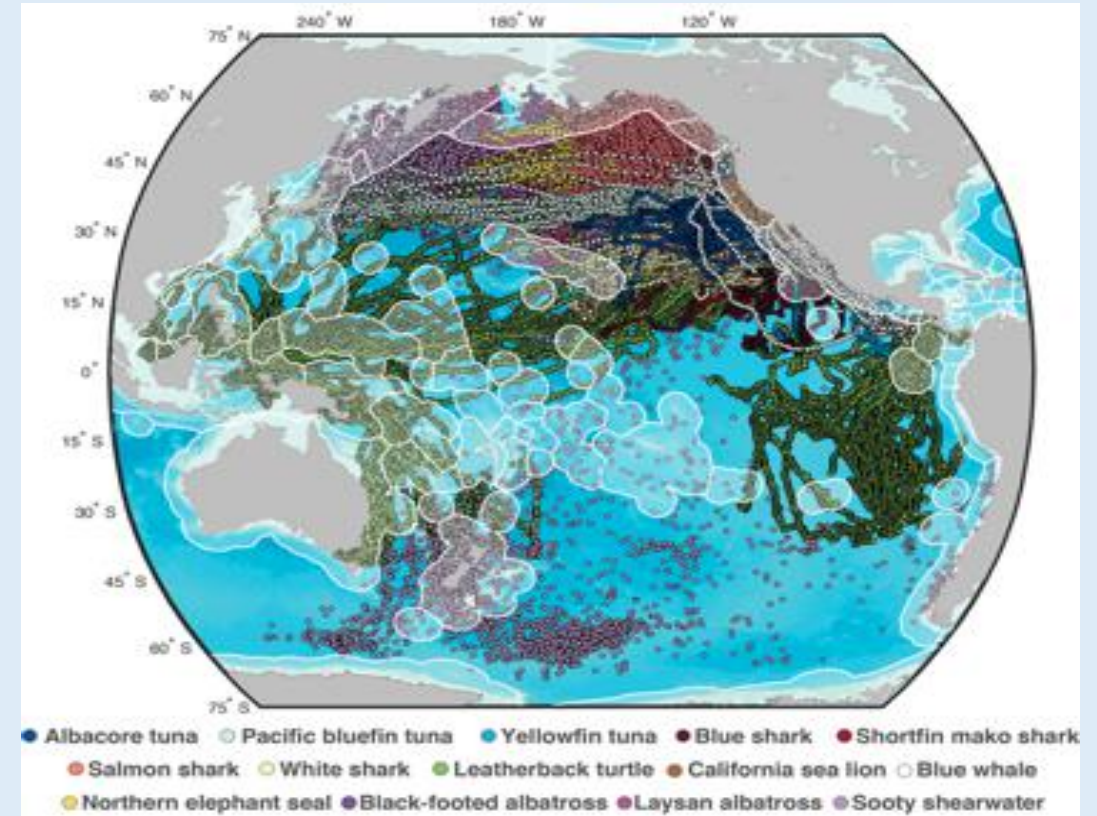
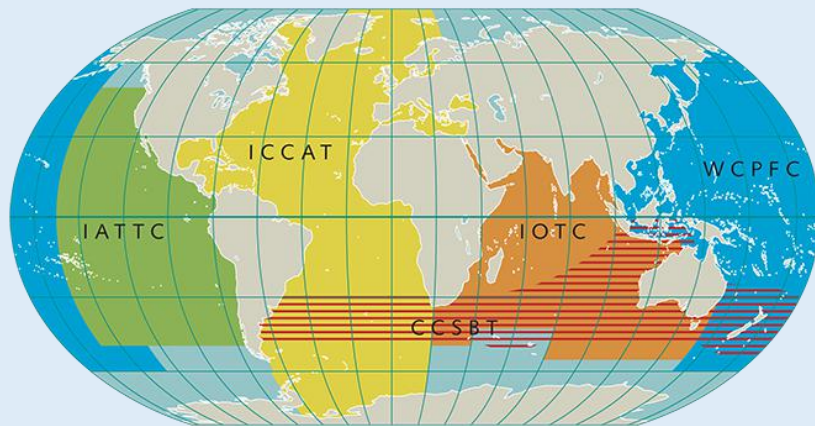


Transnational partnerships



4. MCS Challenges

- 1) A patchwork of MCS rules
- 2) Lack of capacity
- 3) Governance gaps



5. How to strengthen MCS?

- 1) Technological tools
- 2) Policy options
- 3) Market measures



5. How to strengthen MCS?

Treaty on ABNJ

- No global MCS system, but MCS as cross-cutting issue in negotiations
- Two-way relationship between MCS and the agreement
- Package deal components
- Incorporate guiding principles
 - Cooperation and coordination
 - Transparency
 - Reporting



6. Conclusion

- Many MCS tools available, but problem of implementation gaps and lack of capacity
- No one-size-fits-all approach to MCS
- Cooperation and coordination is key:
 - Chair of the FISH-i Africa Task Force: “the cheapest tool in fighting IUU fishing is the sharing of information and intelligence through cooperation among all MCS practitioners”
- Future high seas treaty: global vs regional MCS standards

7. Questions

- What are your experiences with MCS in your country/region?
- Could you share some examples of MCS challenges or best practices in your country/region?
- How do you think MCS could be strengthened in your country/region?
- Are you or someone in your area working on something related to MCS?

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klaudija.cremers@iddri.org
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