



**DARKVESSEL
DETECTION**

AUGUST – 2023

**CANADA'S DVD PROGRAM AND CASE STUDIES
ECUADOR**



CANADA'S DVD PROGRAM AND CASES STUDIES

ECUADOR



AGENDA



BACKGROUND



COMPETENT ACTIONS AS MARITIME AUTHORITY



CASES STUDIES

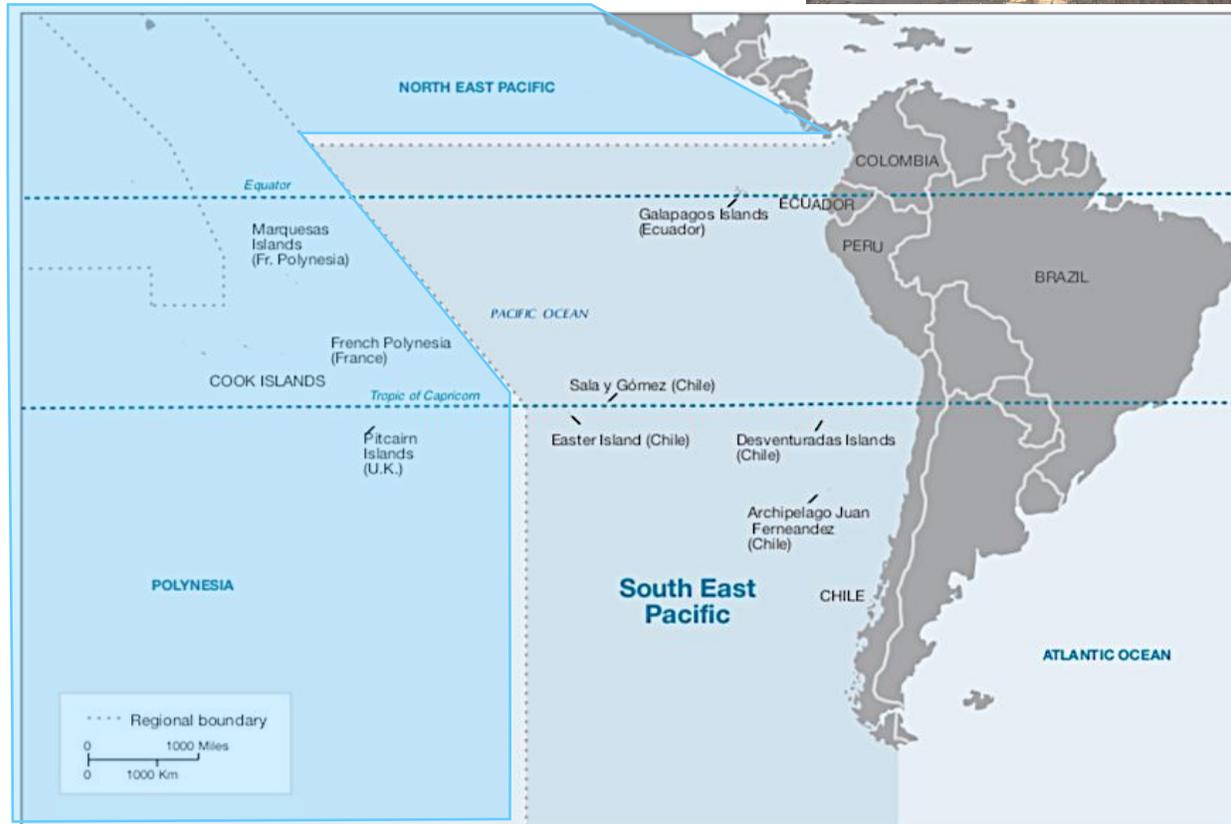


BACKGROUND



THREATS IN THE SOUTHEAST PACIFIC

CENTER FOR
OCEAN
SOLUTIONS



COMPETENT ACTIONS AS MARITIME AUTHORITY



MAIN INTERNATIONAL ORGANIZATIONS



UNITED NATIONS



IMO



COMPETENT ACTIONS AS MARITIME AUTHORITY



CONTROL OF HIGHLY AND NON-HIGHLY MIGRATORY STRADDLING SPECIES.



LEADERSHIP IN TUNA PROTECTION CONTROL MEASURES (CLOSED).

INTERAMERICAN TROPICAL TUNE COMMISSION

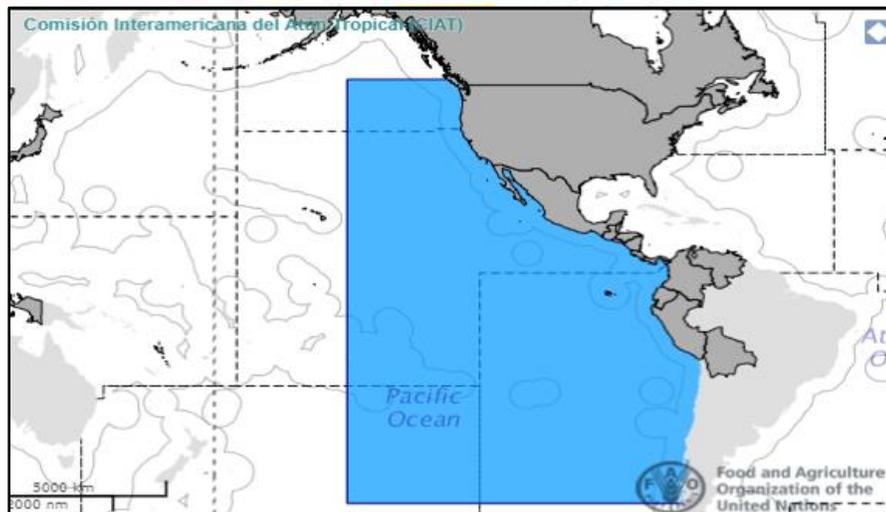
SUSTAINABLE USE OF STOCKS AND PROTECTION OF BIODIVERSITY, CONSERVATION AND MANAGEMENT MEASURES (FEES).

APPLY PRECAUTIONARY PRINCIPLE AND ECOSYSTEM APPROACH.

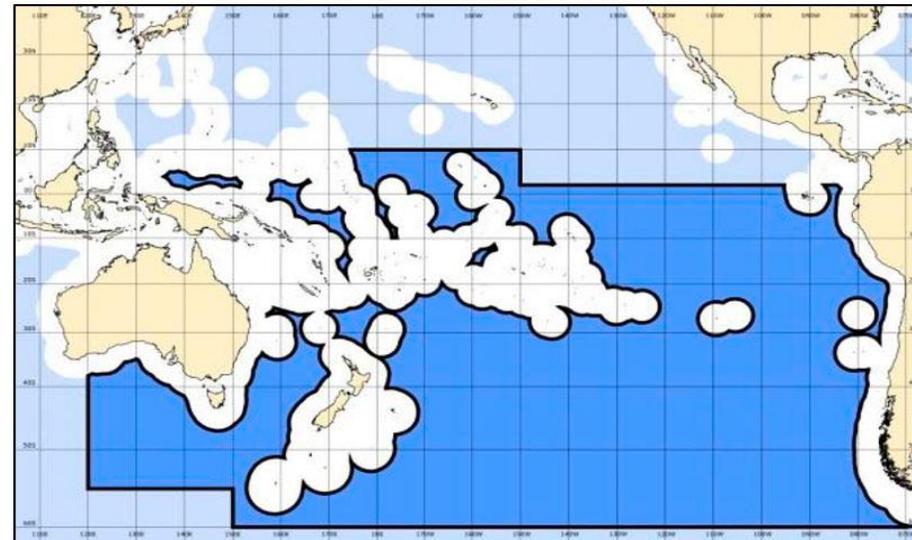


SPRFMO
South Pacific Regional Fisheries Management Organisation

RFMOs for highly migratory fish stocks (tuna and associated species)



RFMOs for non-tuna species



IATTC & SPRFMO

COMPETENT ACTIONS AS MARITIME AUTHORITY



TO CONSERVE THE MARINE
FLORA AND FAUNA OF
ANTARCTICA.



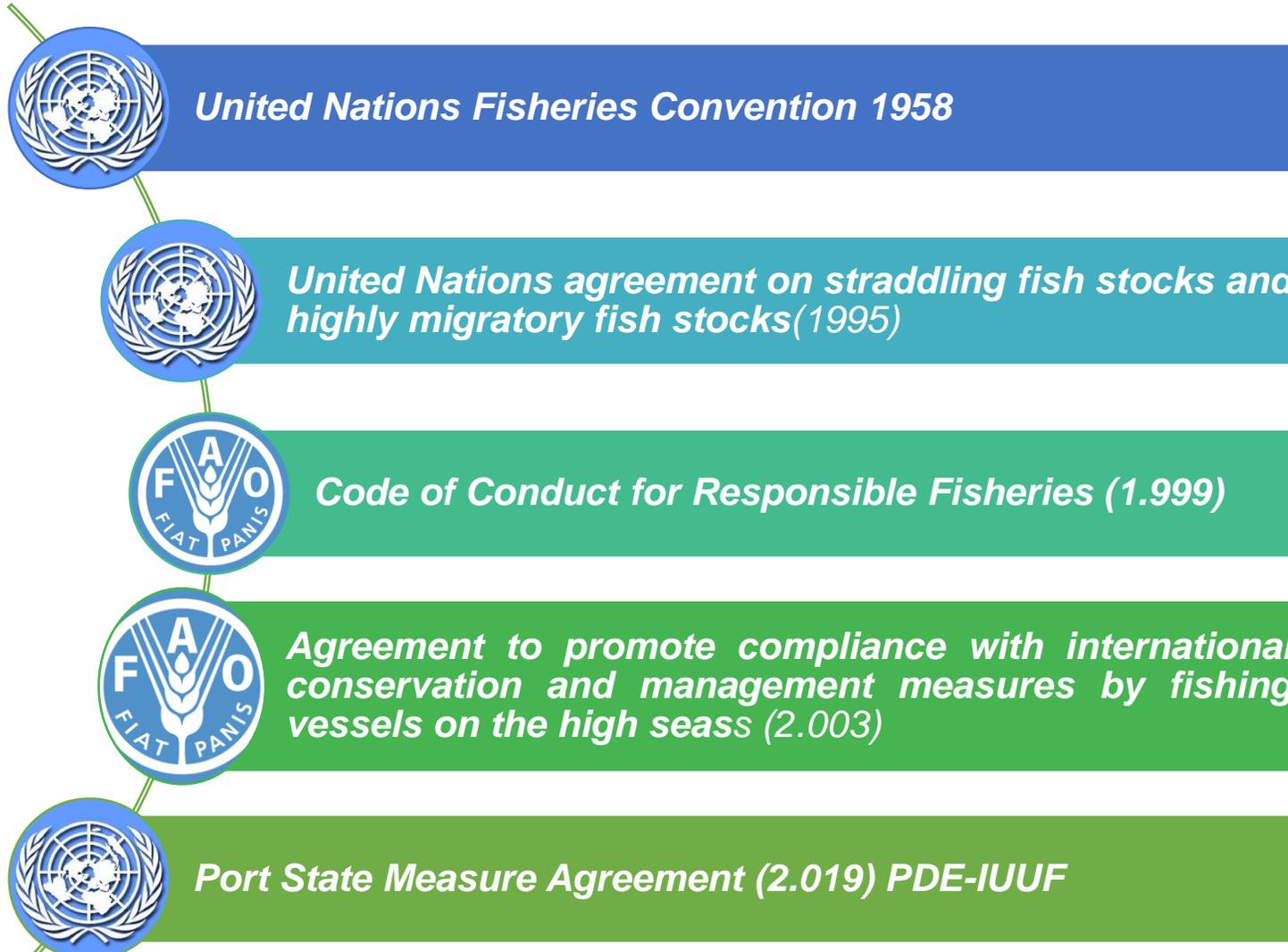
RFMO - CCAMLR



*Commission for the
Conservation of Antarctic
Marine Living Resources*



COMPETENT ACTIONS AS MARITIME AUTHORITY



INTERNATIONAL INSTRUMENTS

SPRFMO

IATTC

PROTECTED BY THE UNCLOS AGREEMENT OF NEW YORK ECUADOR ADHERED EL 24-SEPT-2012

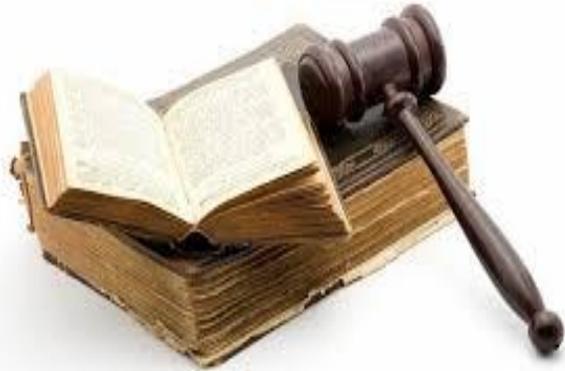
UNCLOS

ART. 63 Y 64 SPECIES, ORGANIZATIONS AND STATE PARTY

CCAMLR

REGIONAL FISHERIES MANAGEMENT ORGANIZATIONS

COMPETENT ACTIONS AS MARITIME AUTHORITY



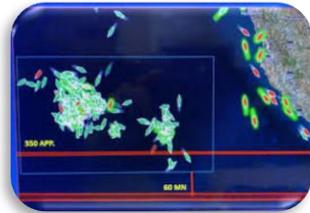
NATIONAL LEGAL FRAMEWORK



COMPETENT ACTIONS AS MARITIME AUTHORITY



AXES OF THE STRATEGY



NATIONAL AND REGIONAL LEGAL FRAMEWORK

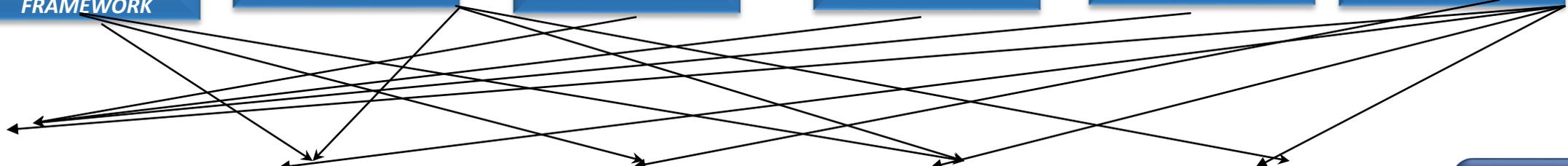
MONITORING

INFORMATION EXCHANGE

LAW ENFORCEMENT

INTEROPERABILITY

PUBLIC SPOKER PERSON



STATES



OWNERS



FISHERMEN



MERCHANTS



CONSUMERS

ACTORS



REGIONAL STRATEGY TO COUNTER IUU FISHING

COMPETENT ACTIONS AS MARITIME AUTHORITY



The problem

FU YUANG YU LENG 999 (2017)



Critical Vulnerabilities: Long SLOC: Tankers and Reefers

COMPETENT ACTIONS AS MARITIME AUTHORITY

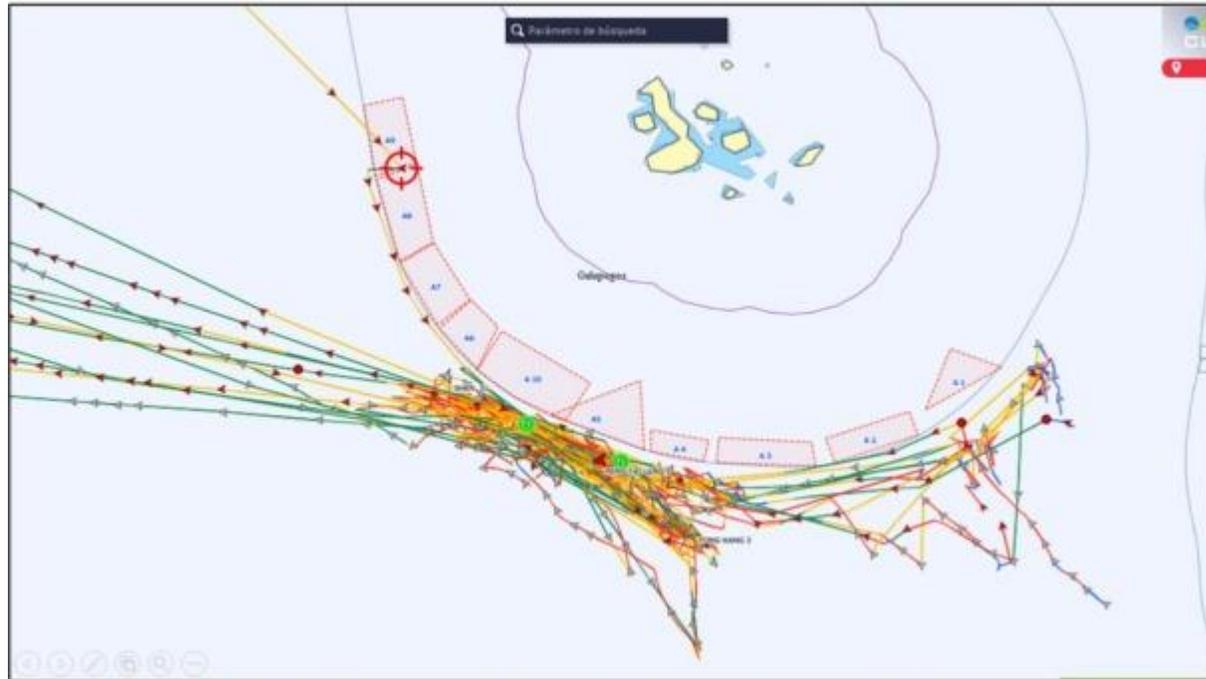


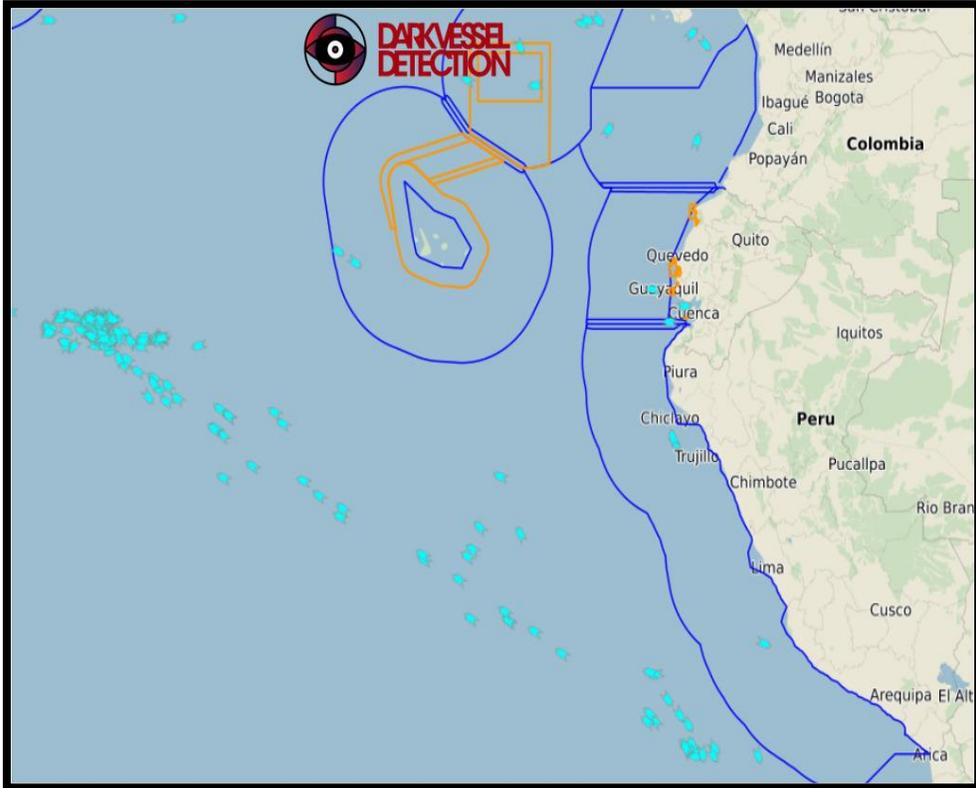
FIG. 1) Trayectoria AIS de la actividad de buques reefer cerca del límite de la ZEEI durante el mes de julio-agosto 2020.



FIG. 2) Trayectoria AIS de la actividad de buques reefer desde mayo acompañan a la flota desde Argentina.

Tankers and Reefers

COMPETENT ACTIONS AS MARITIME AUTHORITY



World Wildlife Fund

- Projects against IUUF



Global Fishing Watch NGO



US Department of Defense

- Cooperative Situational and Information Integration System (CSII)
- P3 for maritime patrol and reconnaissance



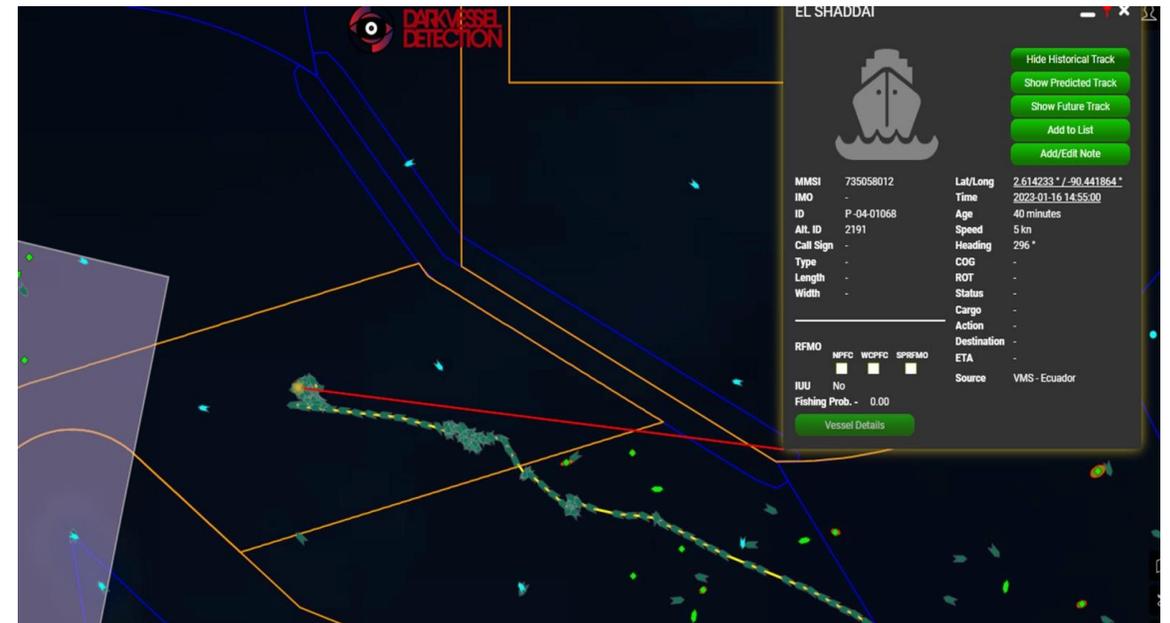
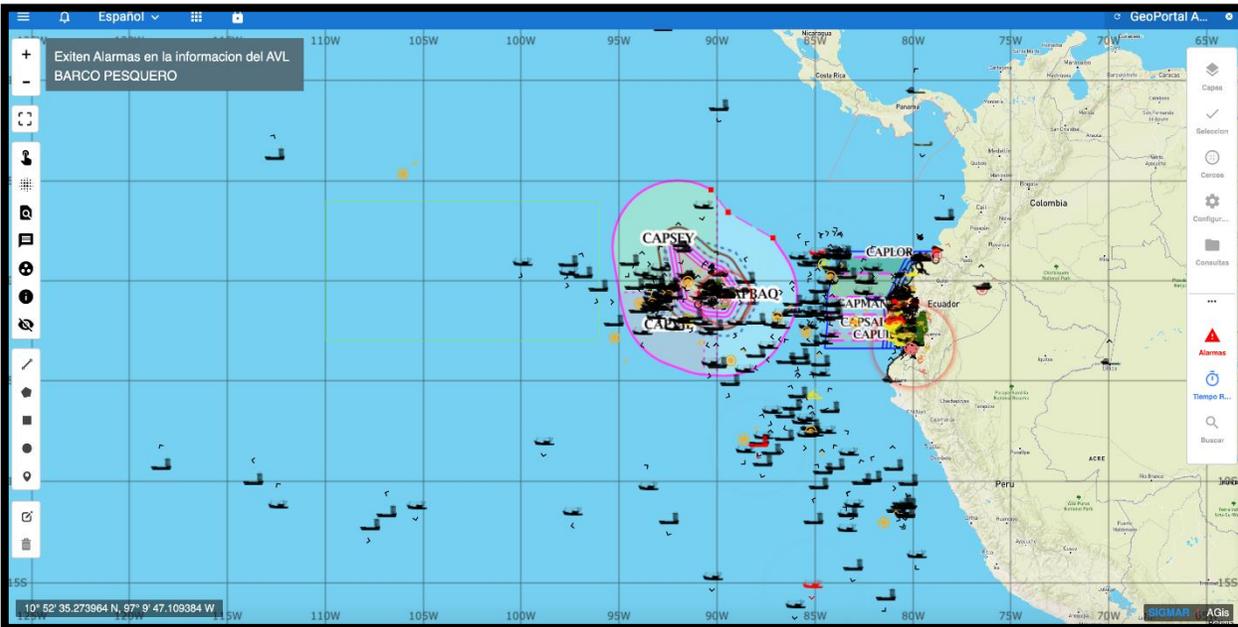
Fisheries and oceans Canada

COMPETENT ACTIONS AS MARITIME AUTHORITY



SIGMAR-NAVY System / AIS-PNG
(National fleet)

Dark Vessel Detection System
(International fleet)

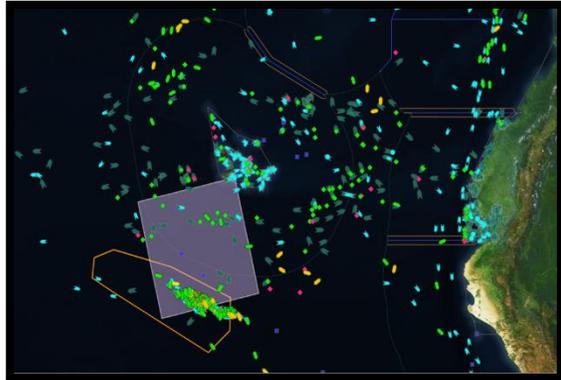


Surveillance and control capacity.

COMPETENT ACTIONS AS MARITIME AUTHORITY



EC NAVY ACTIONS



- Control with SMD of the national fleet.
- Technical information of the ship.
- Crew information.

- Tankers and reefers monitoring.
- Tracking patterns.

- International fleet: alerts by AIS turned off
- Concentrations of ships in the EEZ



RESULTS IUUF 2023



16 Ships detained
(8 foreign)



74 persons arrested
(26 foreign)



489 kg seized fish



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CASES STUDIES





DARKVESSEL DETECTION

Data Types

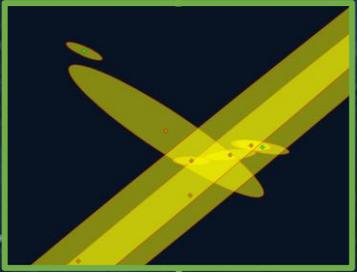
Synthetic Aperture Radar (SAR)

- Sources:
- RADARSAT Constellation Mission (RCM)
 - RADARSAT 2



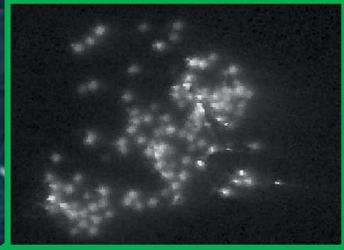
Radio Frequency (RF)

- Sources:
- UnseenLabs
 - Hawkeye360



VIIRs

- Sources:
- NASA/NOAA



Voluntary Signals

S-AIS

- Sources (AIS):
- Spire Maritime (formerly exactEarth)



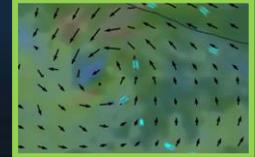
VMS

- Sources (VMS):
- Various

MMSI	548946000
IMO	9761231
Call Sign	DUIN
Type	Cargo Vessel
Length	180 meters
Width	30 meters

- Sources:
- IHS Fairplay

Vessel details



Environmental Data



Optical

- Sources:
- MAXAR
 - Blacksky

- Sources:
- Openweathermap.org (Wind Speed and Direction, Cloud Cover, Precipitation, Sea surface temp)



Government of Canada

Gouvernement du Canada



**DARKVESSEL
DETECTION**

DVD Case Studies Removed
For Further Information on DVD or the Use
Cases Presented Please Contact
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Brett Classen Brett.Classen@dfo-mpo.gc.ca

Canada 



ECUADORIAN ACTIONS AND INITIATIVES AGAINST IUUF



THANK YOU