

IOCaribe – Technical Science Meeting

Brasilia, April 2025



unesco

Intergovernmental
Oceanographic
Commission

THE FISHING VESSEL OCEAN OBSERVING NETWORK (FVON).

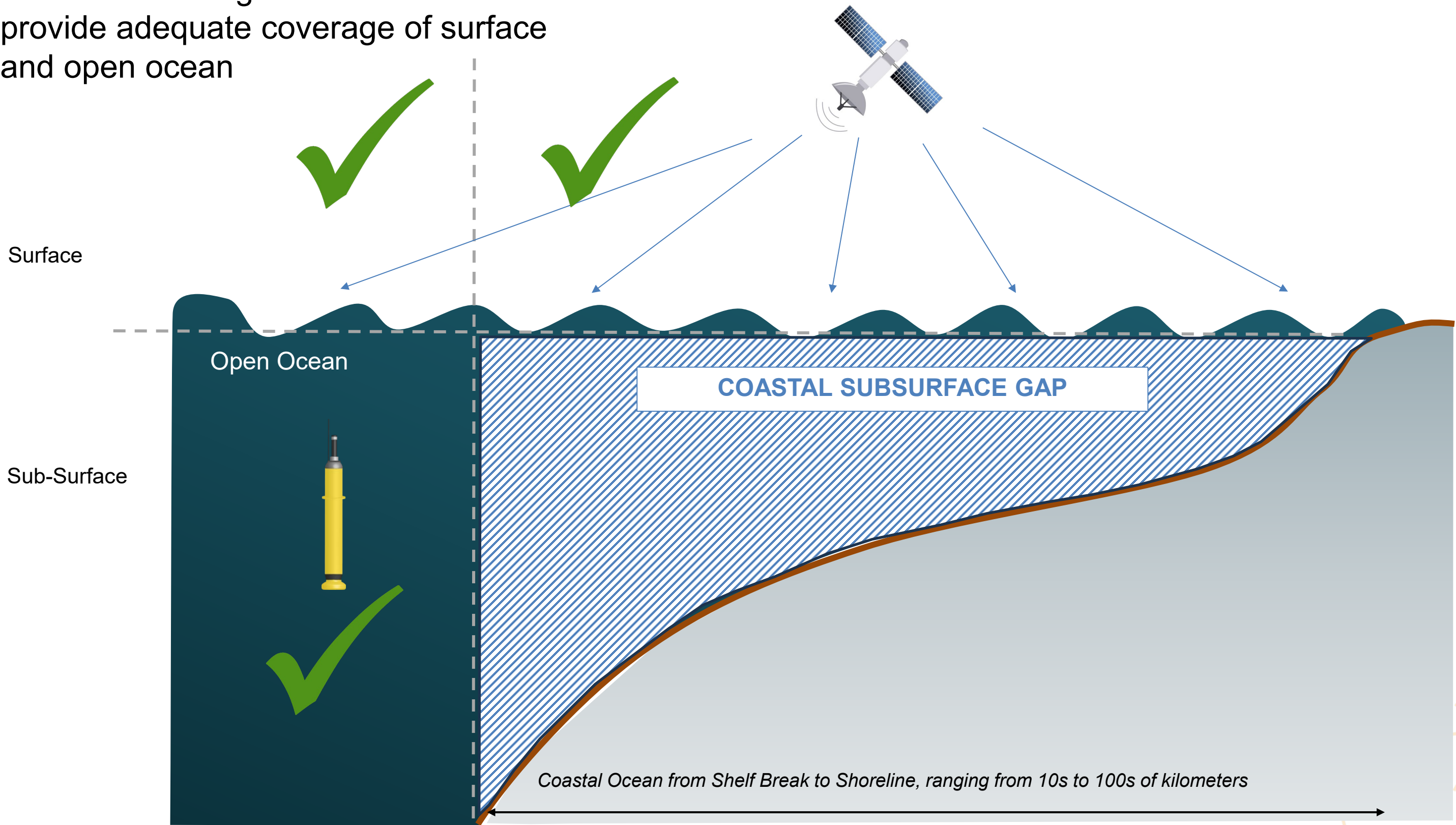
Steering Committee: Cooper Van Vranken, A. Miguel Piecho-Santos, Julie Jakoboski, Christopher Cusack, Patrick Gorringer, Michela Martinelli, Moninya Roughan, João de Souza, Peter McComb, George Maynard, Shinichiro Kida, Hassan Moustahfid

Secretariat: Aubrey Taylor, Emilie Brévière, Rita Esteves, Matt Irwin, Dustin Colson Leaning



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

Satellites and Argo float network
provide adequate coverage of surface
and open ocean



**Coastal subsurface is
the missing piece, with
huge impacts on:**

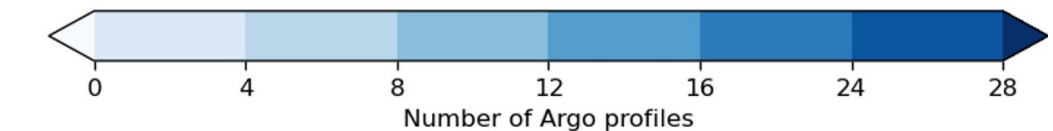
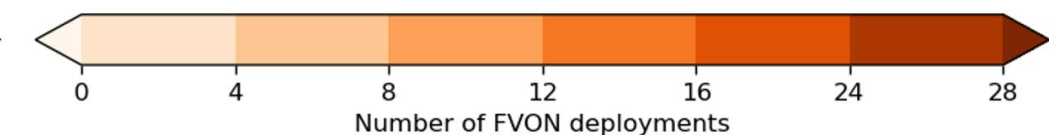
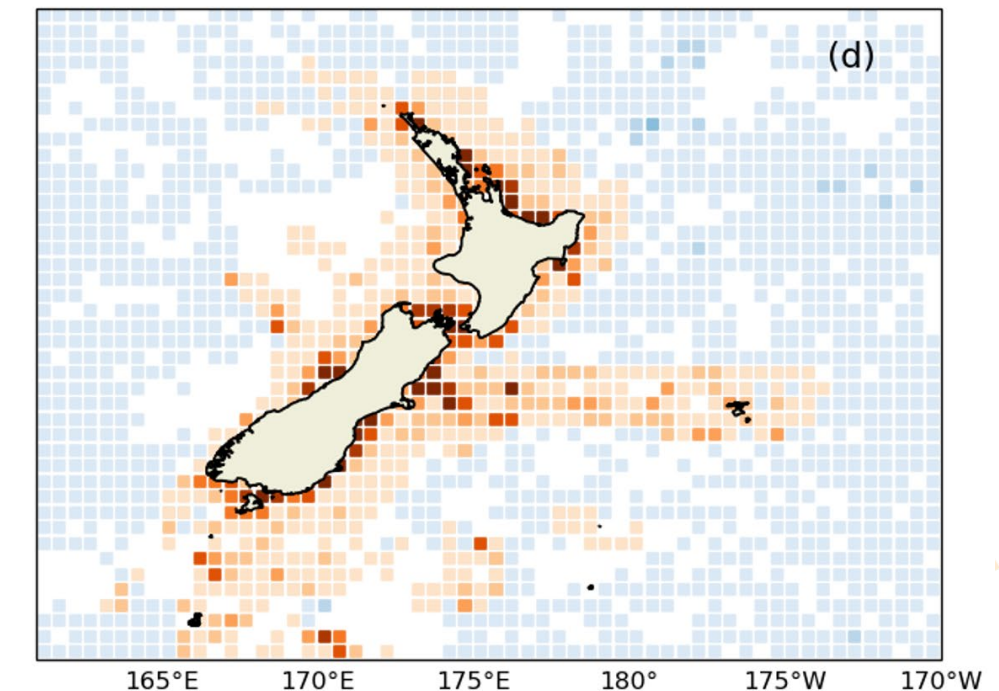
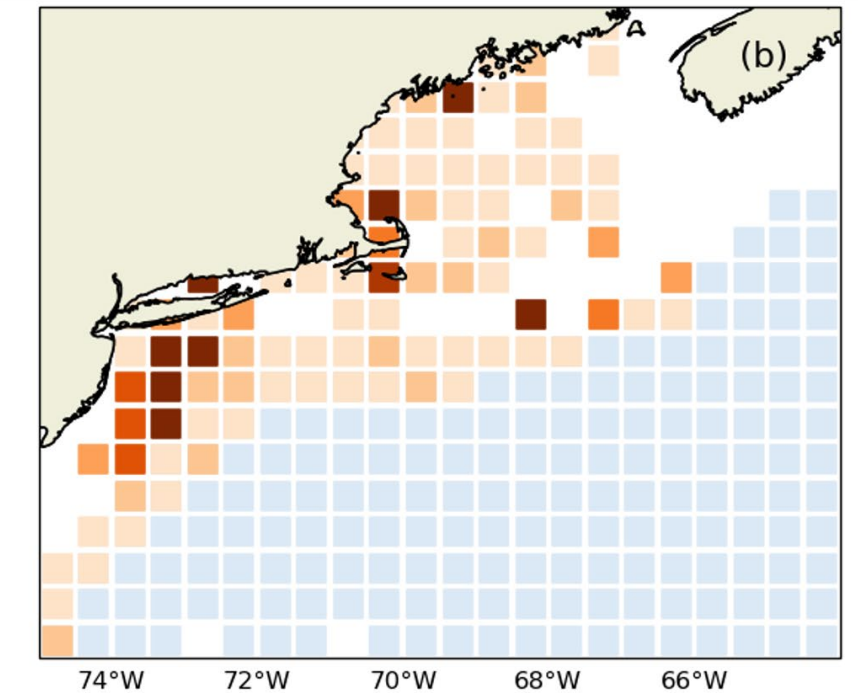
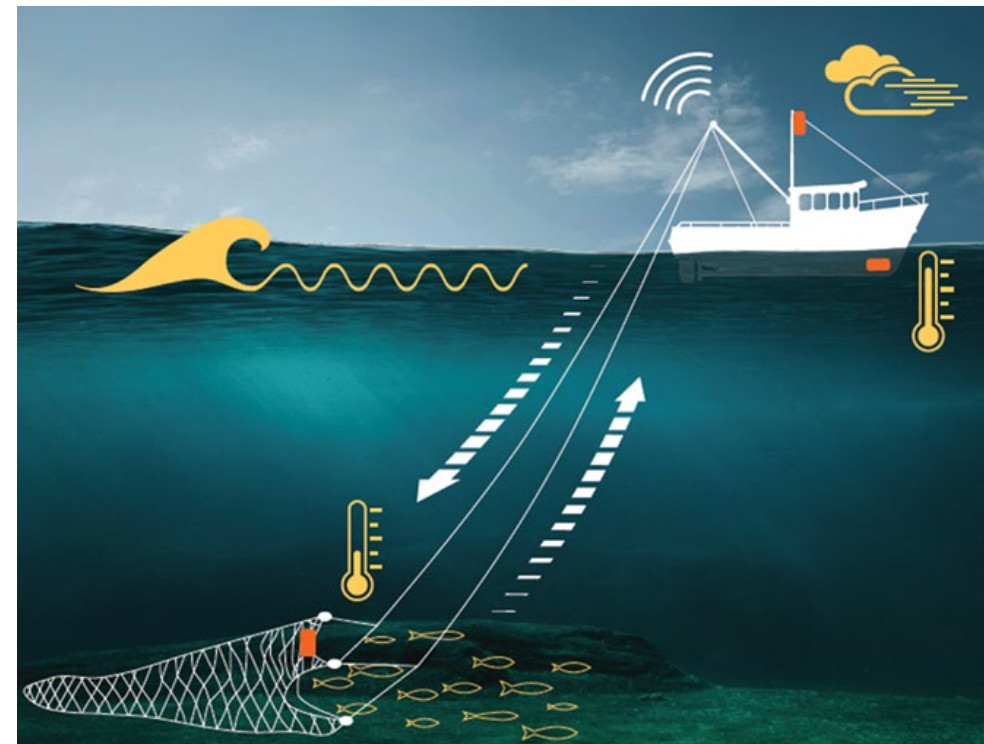
PUBLIC SAFETY

ECONOMY

ECOSYSTEMS

THE COASTAL ARGO COMPLEMENT

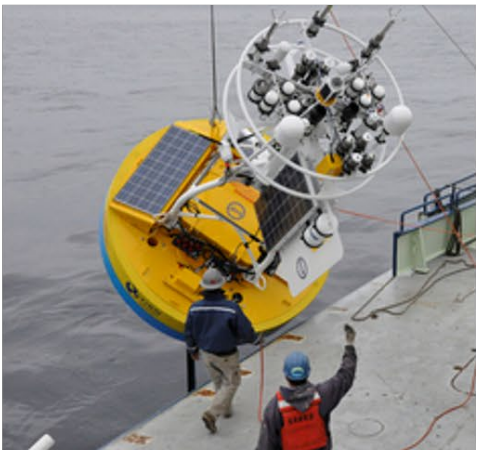
- Existing fishing fills coastal ocean data gaps
- IoT sensors on fishing gears (nets, traps, etc.)
- Along for the ride down and up, data transmitted automatically
- Proven on 600+ vessels, aiming for 10s of thousands
- Coastal data particularly valuable for the blue economy



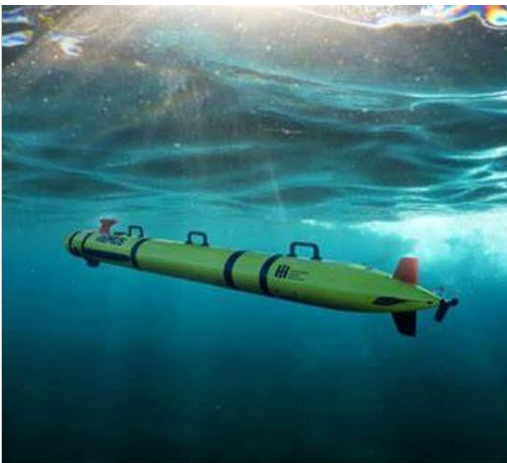
SCALABILITY IN OCEAN OBSERVING



Oceanographic Research
Vessel with CTD cast



Moored Buoy
with wire-crawling CTD



Autonomous
UUV / Glider



Open ocean
Argo Profiler



FVON:
Going along for the ride

Daily/Profile
Operational
Cost

\$30,000+

\$2,700

\$400-\$3,000

\$200

\$27

Available
Host
Platforms

Dozens

Dozens

Hundreds

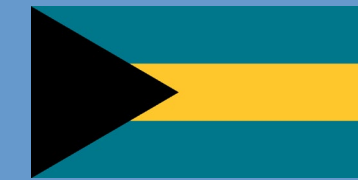
Thousands

Millions!

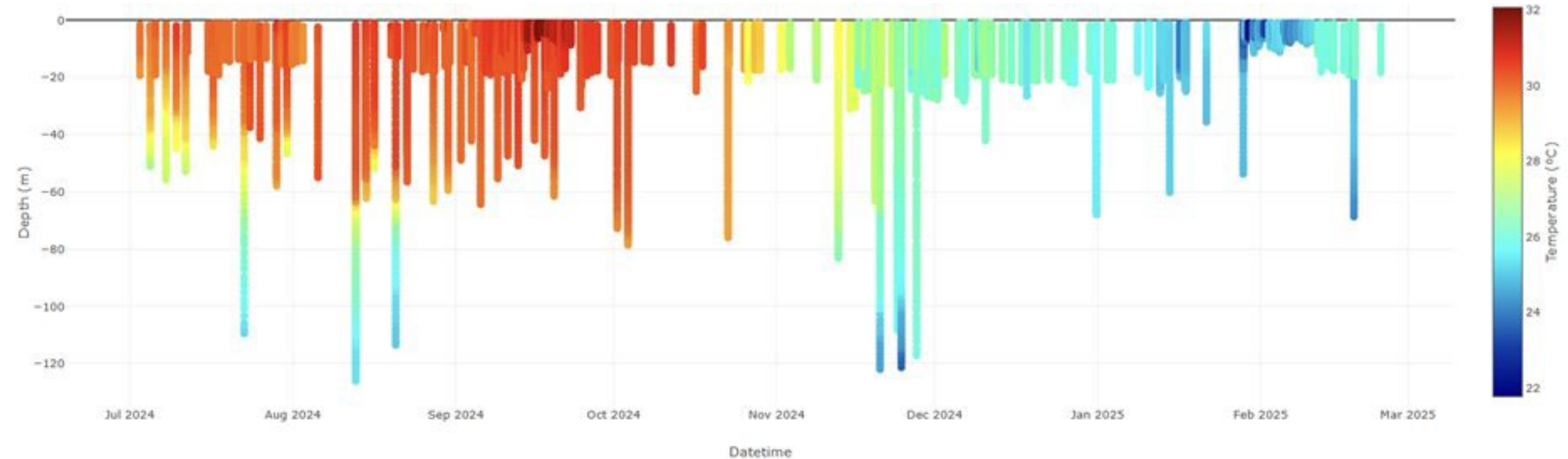
Applicable to
coastal seas?



All platforms are necessary! While FVON is cost -efficient, there are inherent limitations



- Goal: improve Tropical Cyclone rapid intensification forecasting
- 10 small-scale vessels across Bahamas starting July 2024
- Transitioning to Bahamian leadership for sustained operations and expansion
- Model for IOCaribe nations



A WIN-WIN: Benefits for Fisheries

FISHING INDUSTRY

- Small host vessels often receive a stipend
- Captains use data to fish smarter and more efficiently, temperature windows to avoid bycatch
- Ocean modeled products fed with FVON data

FISHERIES SCIENCE AND MANAGEMENT

- Data precisely where the fish are: key foundation for Ecosystem Based Fisheries Management
- Data from eMOLT FVON program used in lobster and tilefish stock assessments
- eMOLT data lead to increase in quota by reducing uncertainty in stock assessments



A predicted ocean



A healthy and resilient ocean



A productive ocean



A safe ocean



FEEDBACK FROM KYUSHU SFİN CAPTAINS

“Through the CTD castings, I found the temperature range for good catches.”

“I don't have to look around the fishing grounds anymore and thus save 15% in fuel. It makes me so relaxed that I can take a nap on site.”

WHY DOES FVON DATA MATTER?



ACCESSIBLE: affordable for lower-income countries

INCLUSIVE: empowers fishers to be part of the solution

Compounding benefits for science, fisheries, and other blue economy industries



SUSTAINABLY
FEED THE GLOBAL
POPULATION



DEVELOP A SUSTAINABLE
AND EQUITABLE OCEAN
ECONOMY



INCREASE COMMUNITY
RESILIENCE TO OCEAN
HAZARDS

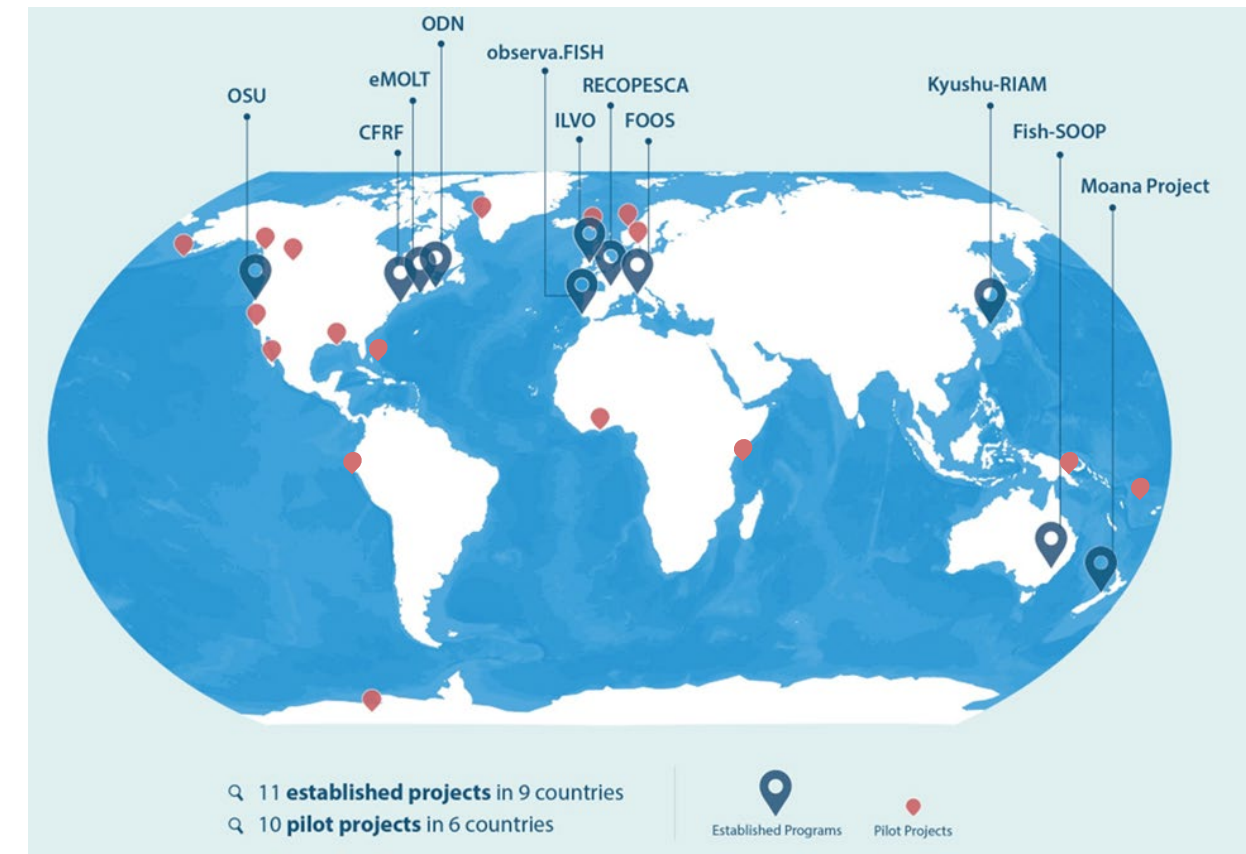


Ghana video link

Interdisciplinary Steering Committee

- Scientific, NGO, and private sector representation
- Core pillars: Quality Data, Mutual Benefits, Global Advocacy, Inclusivity, Global Coordination and Collaboration, and Financial Innovation

We would like to establish the appropriate framework(s) for collaboration with IOCaribe and associated member states.



THANK YOU.



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SECRETARIAT

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