



# Nuevas tecnologías para el sector de la pesca y la acuicultura



## Uso de nuevas tecnologías para la sostenibilidad en el sector de la pesca y la acuicultura

18 de noviembre de 2020  
10HRS – 14HRS (GTM+1)

Online Workshop







# "SUSTAINABLE FISHERIES IN THE 21ST CENTURY?"

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CCMAR – Universidade do Algarve

# Are fisheries sustainable?

1. Some facts about unsustainable practices  
(Overfishing)
2. Potential solutions  
(New technologies)

Are fisheries sustainable?

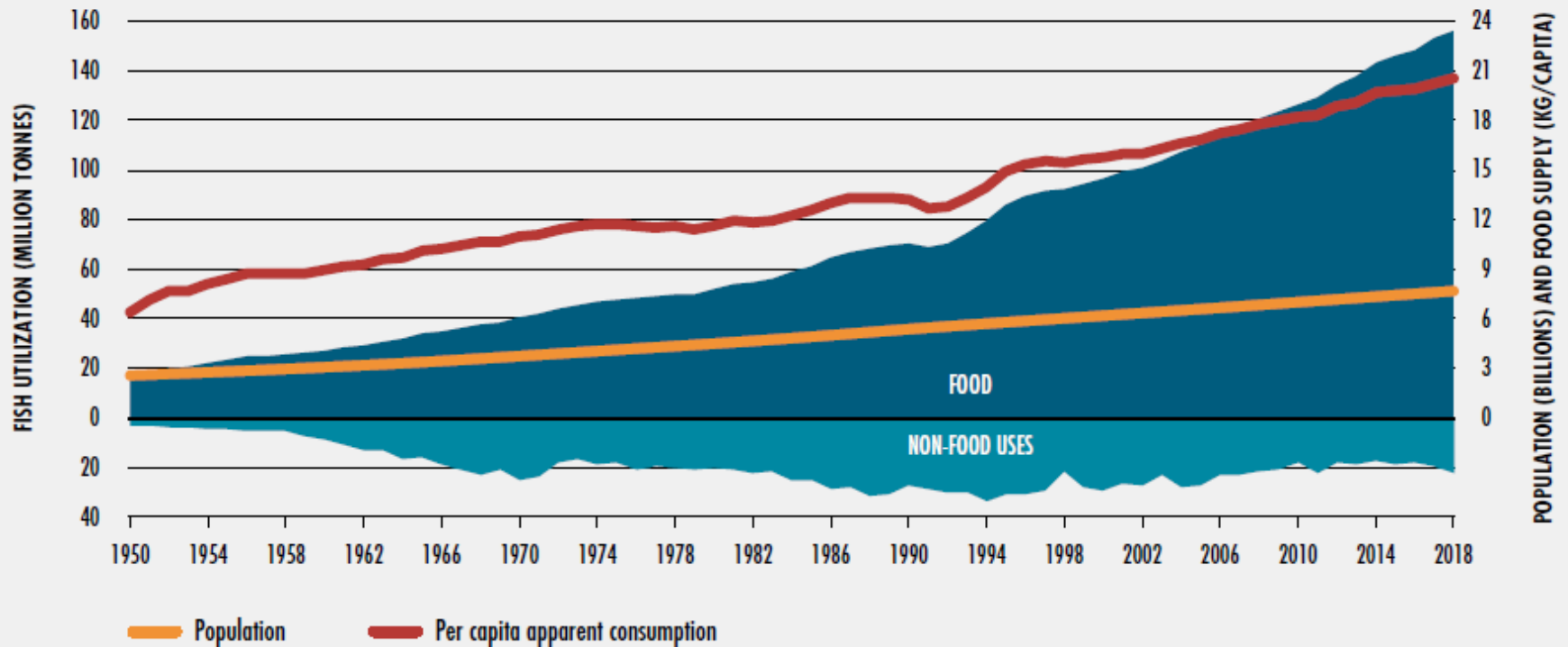
The answer is

...

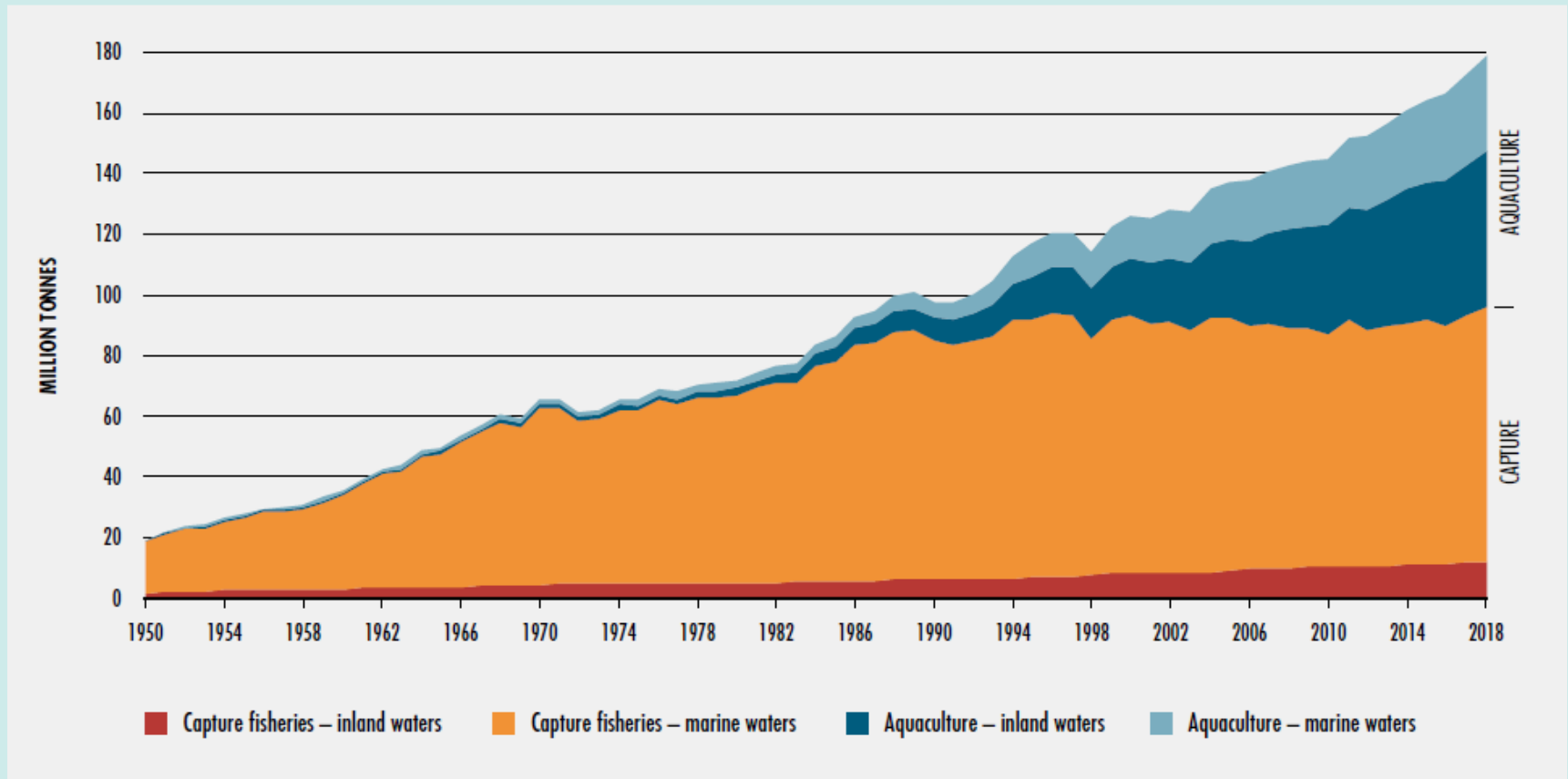
Here are some

**FACTS**

# THE WORLD FISH CONSUMPTION IS INCREASING 21KG/CAPITA/YEAR



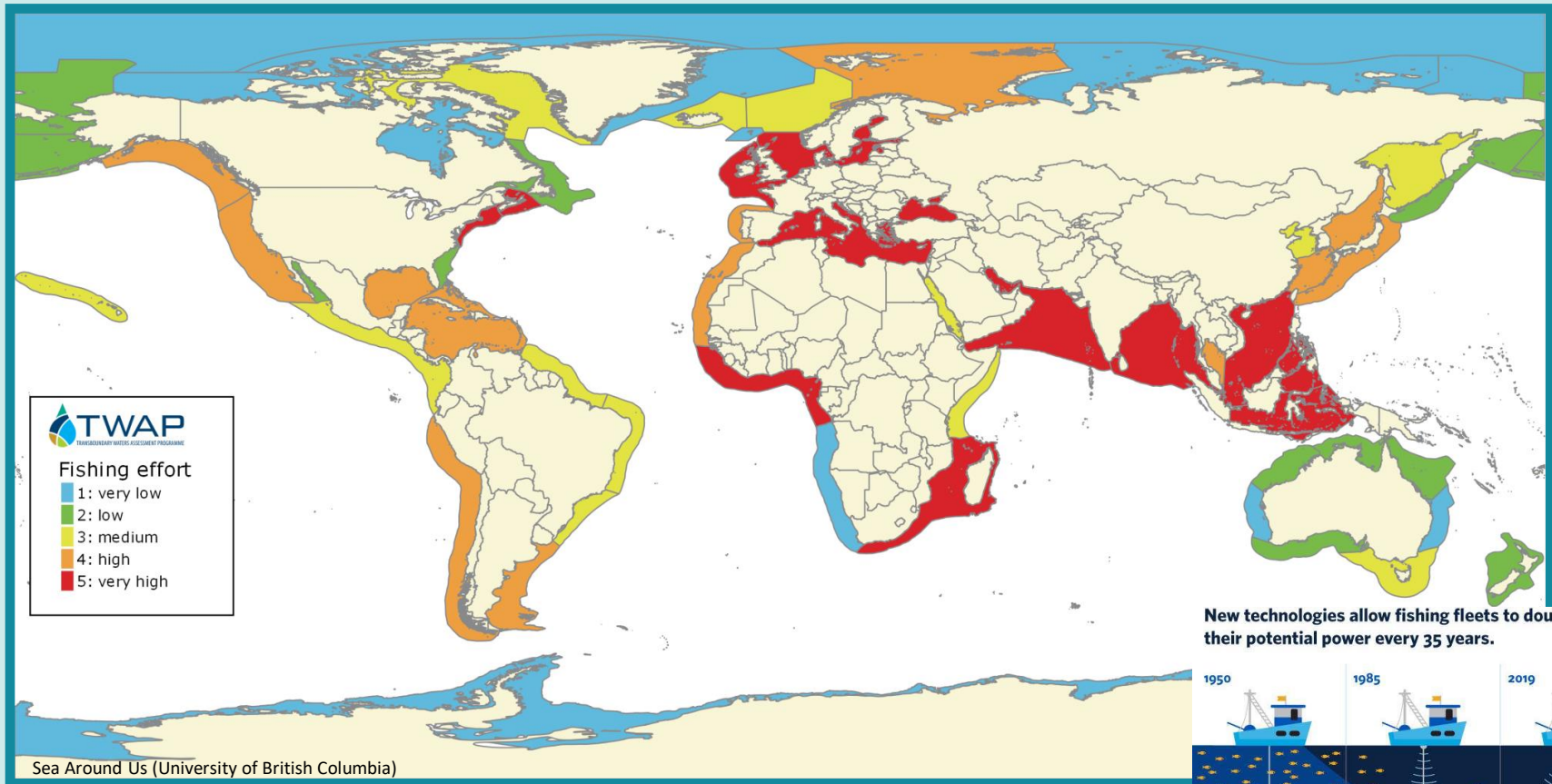
# THE WORLD FISHERIES PRODUCTION OF MARINE FISH STABILISED AT AROUND 80 MILLION TONNE



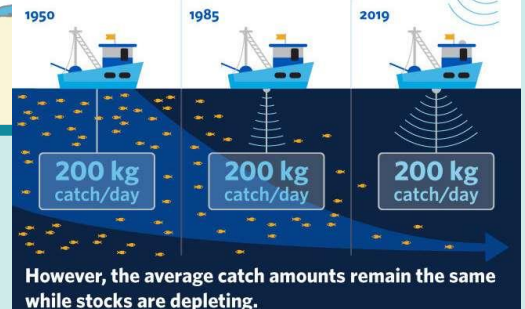


# FISHING EFFORT IS NOT DECREASING

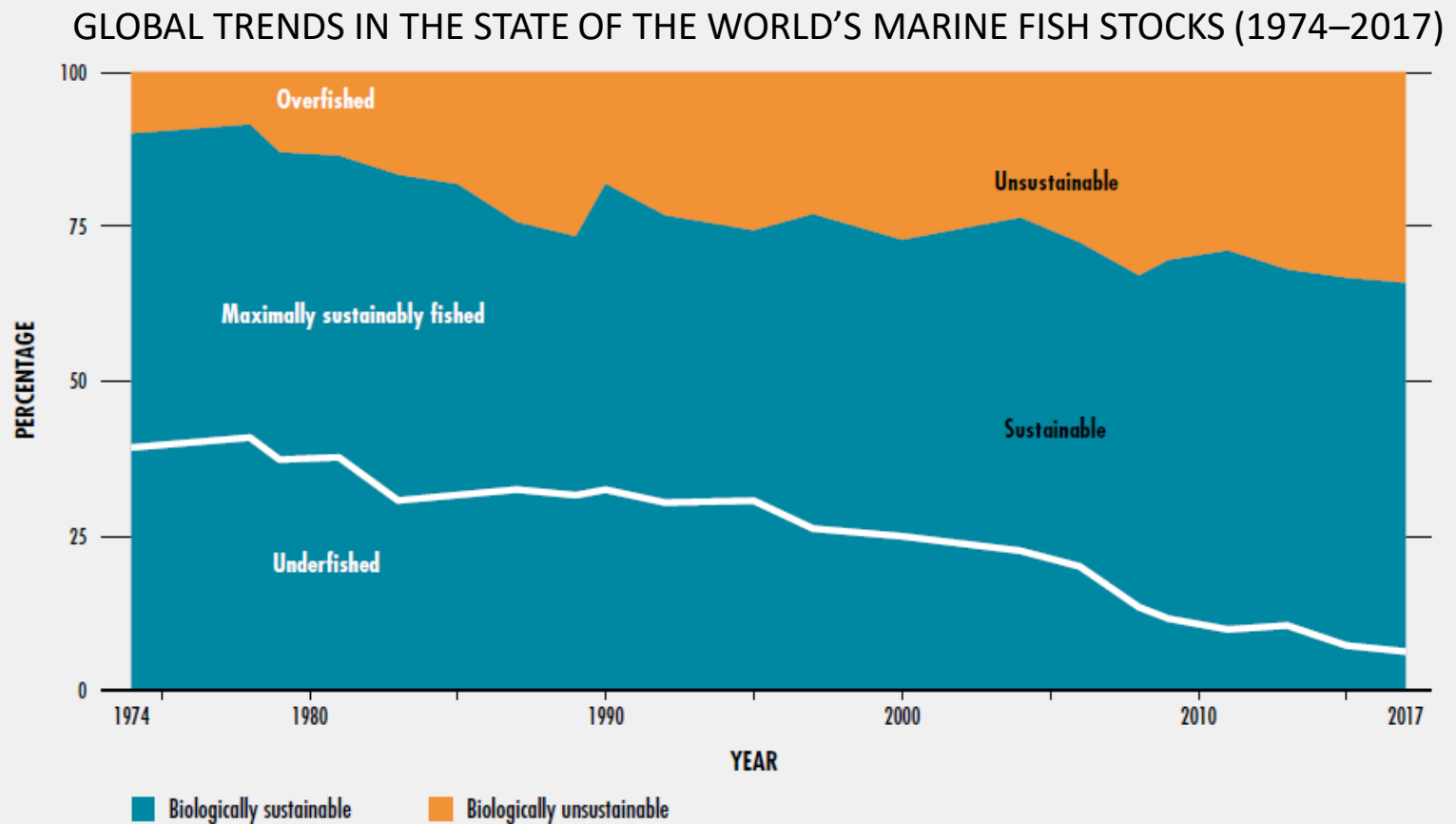
Rate of change of effective fishing effort (kW days per year) from the mean of the 1980s to the mean of the 2000s



New technologies allow fishing fleets to double their potential power every 35 years.

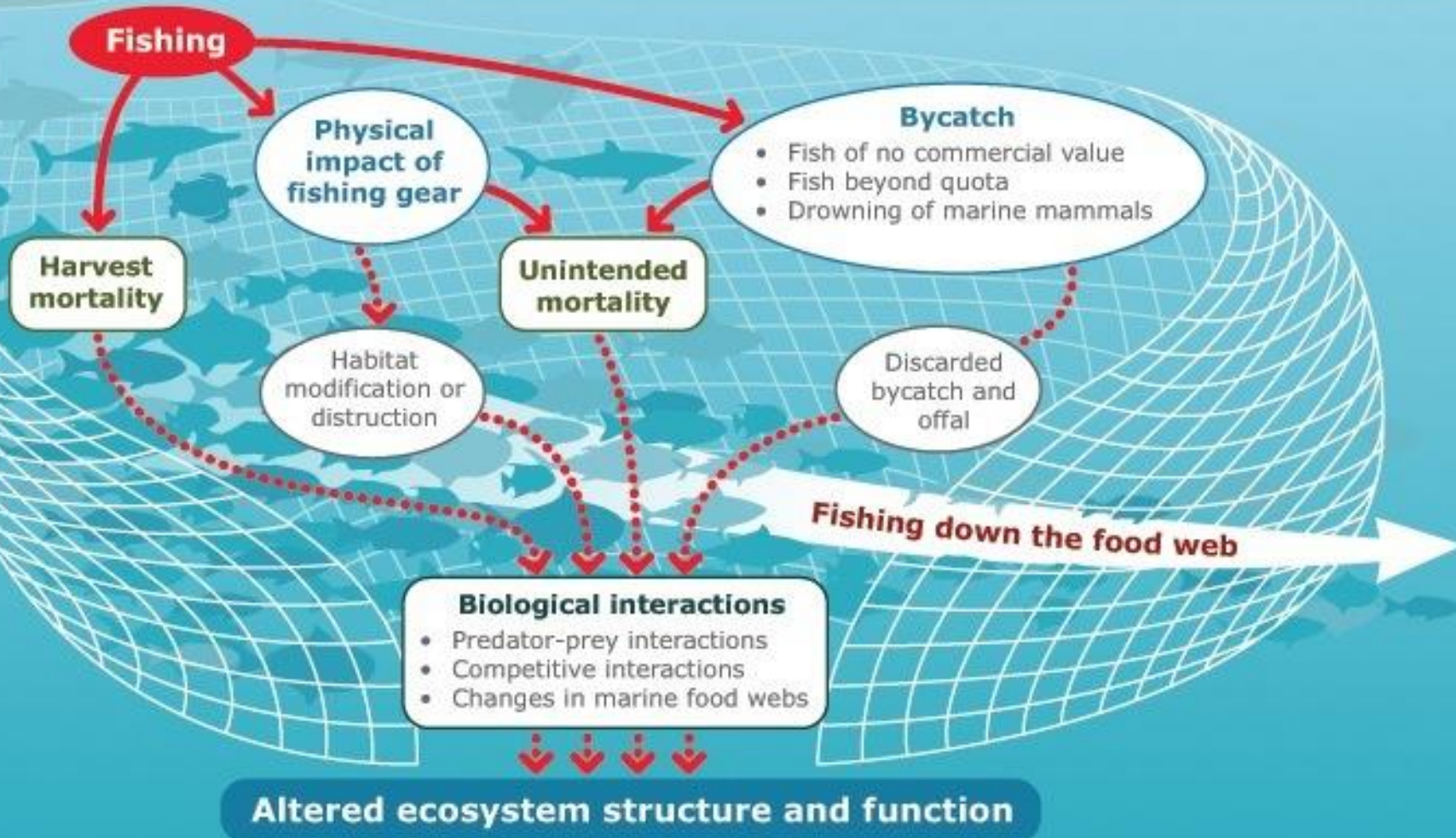


APPROXIMATELY 35% OF THE FISH STOCKS ARE OVEREXPLOITED AND THE MAJORITY OF THE OTHER STOCKS ARE BEING HEAVILY EXPLOITED





# ECOSYSTEM OVERFISHING

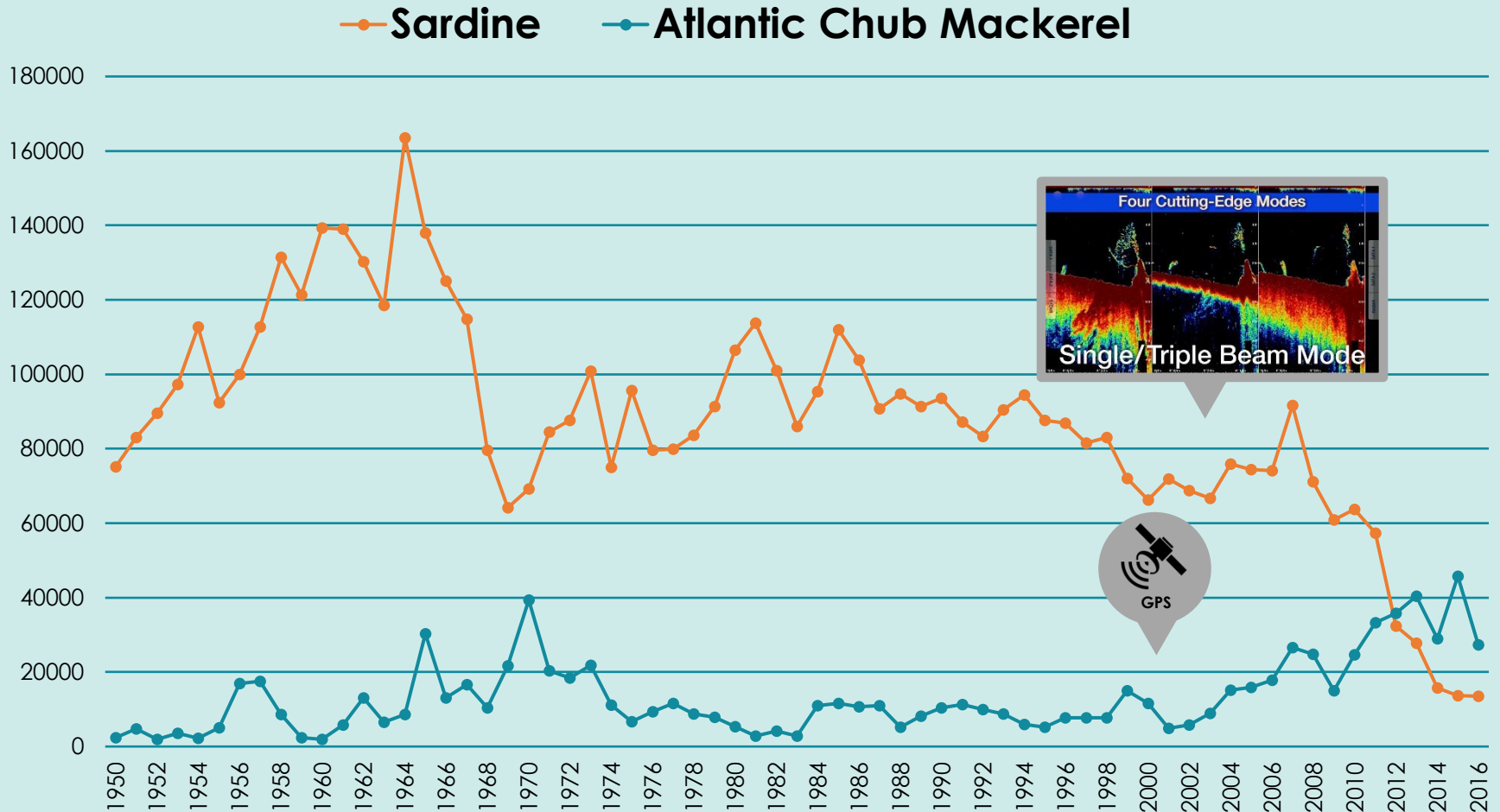




# PORTUGAL

Issues associated with European Hake, Norway lobster and Monkfish

## DECLINE OF SARDINE CATCHES (heavy fishing + climate change)



# DECLINE OF SARDINE CATCHES



Portuguese sardine  
purse seine fishery  
was certified from  
2008 til 2012

## NEWS PORTUGAL FACES SARDINE BAN

BY BRENDAN DE BEER, IN NEWS 26-10-2017 14:01:00 - 1 COMMENT  
Concerned MPs are to quiz the Minister of the Sea following calls to ban sardine fishing in large parts of the country.



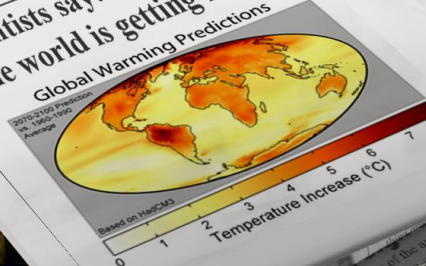
This comes after the International Council for Exploration of the Sea (ICES) advised that sardine fishing be completely suspended in Portugal and Spain in 2018 given what it termed the huge drop in stocks in the last ten years.



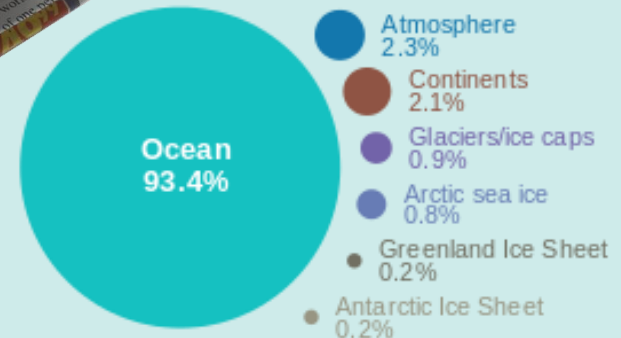
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herbs and spices!\*

Scientists say:  
The world is getting hotter!

Global Warming Predictions



Where is global warming going?





# ANOTHER IMPORTANT ISSUES

Apart from: Overfishing/Discards/Climate change/habitat loss

- Pollution (Anthropocene epoch, the 'Age of Plastic')



- Illegal, unreported and unregulated fishing



## ANOTHER IMPORTANT ISSUES

- Bycatch and discards of Protected, Endangered and Threatened Species (PETS)



"A stock usually needs 2–3 times its lifespan for management regulations to turn into effective results in stock abundance. For long-lived species such as blue shark (*Prionace glauca*) and shortfin mako shark (*Isurus oxyrinchus*), it may take dozens of years, especially under unfavourable environmental circumstances." (FAO, 2020)

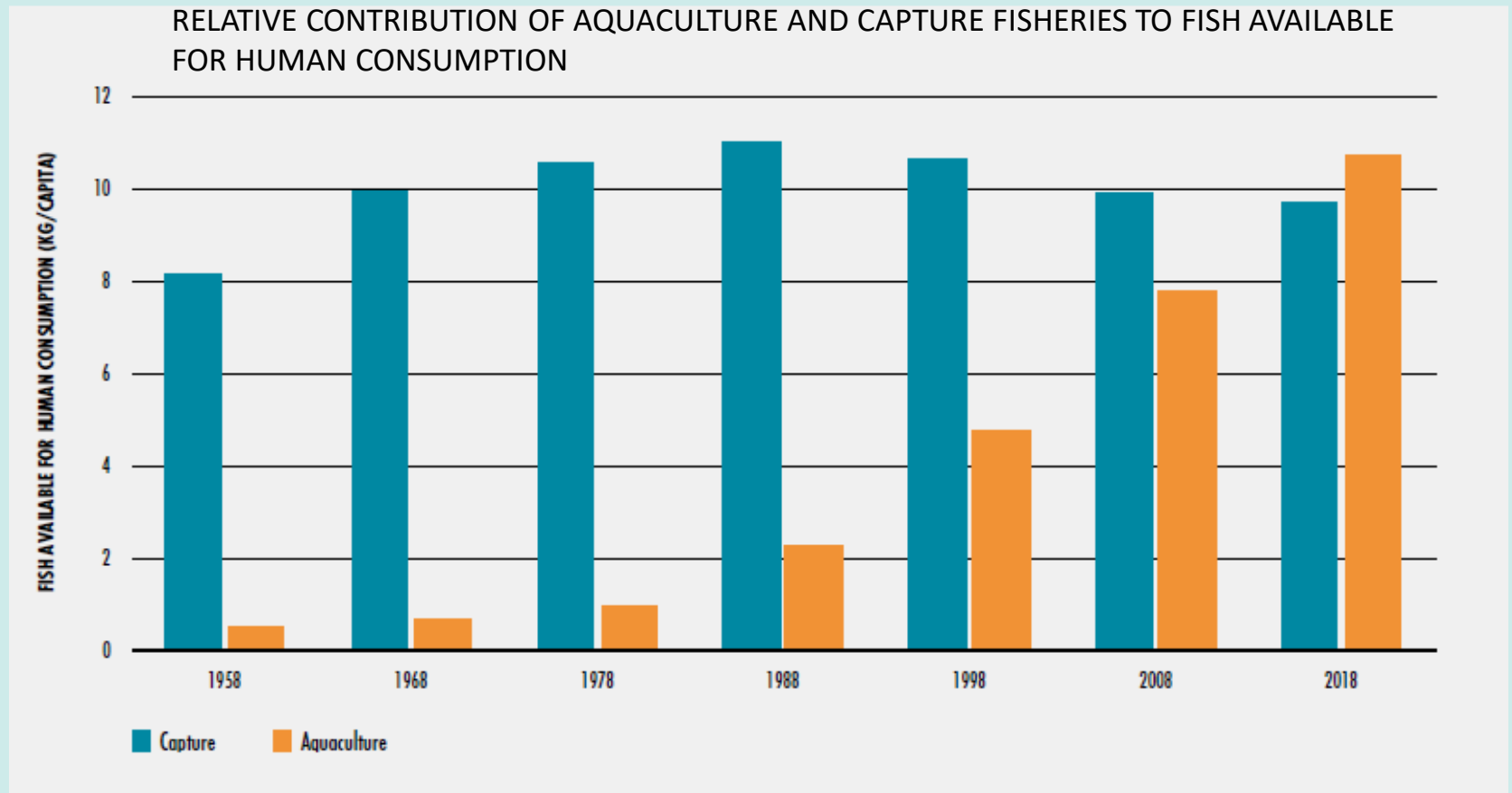
- Fishermen socioeconomic and working conditions:  
safety at work, social security and decent work





Potential solutions

# 1. DOES AQUACULTURE CONTRIBUTES TO THE SUSTAINABILITY OF FISHERIES?



**How will the 10 billion people expected to be living on Earth by 2050 obtain sufficient and nutritious food?**

# THE ROLE OF MARITIME SPATIAL PLANNING

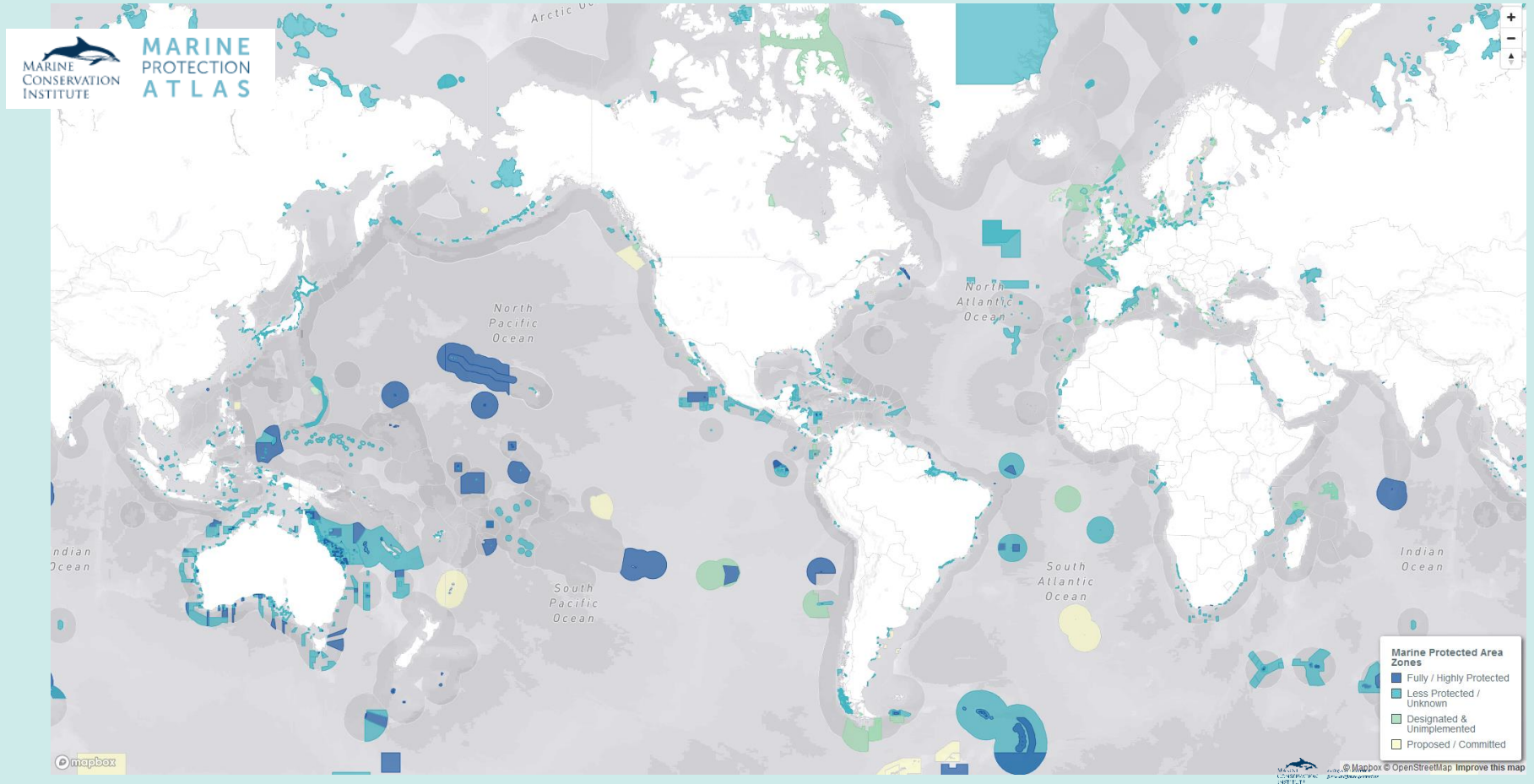
## THE RISE OF BLUE GROWTH



CONFLITS BETWEEN FISHERIES  
AND OFFSHORE AQUACULTURE  
AND OTHER BLUE GROWTH  
ACTIVITIES



## 2. PROMOTE MORE MPAs AND TURN THEM MORE EFFICIENT?

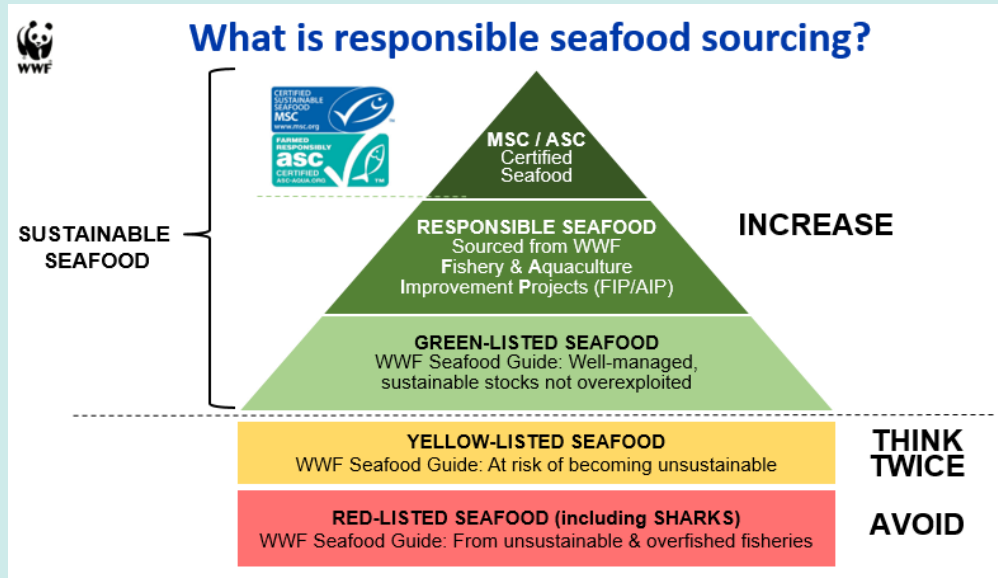


How much of our Ocean is considered Protected?

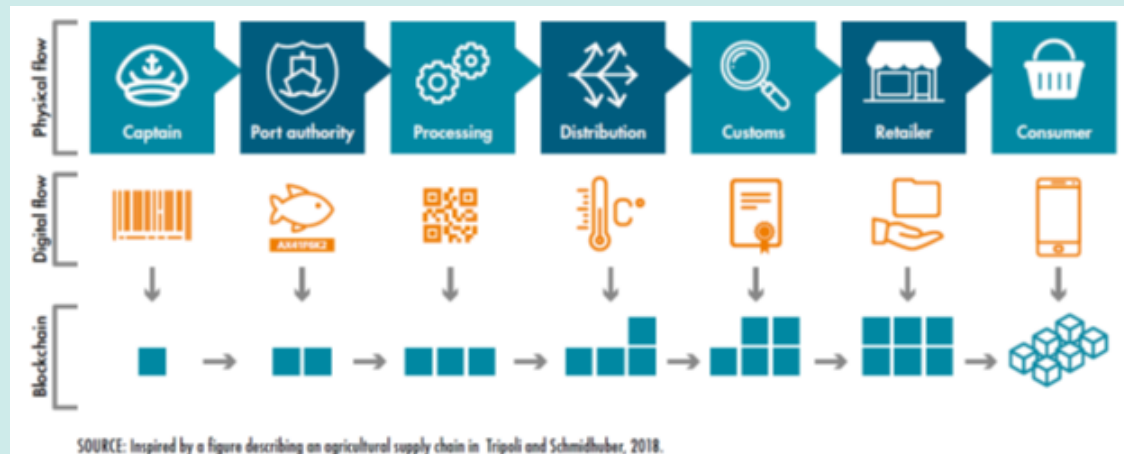
- **5.3%** of the world's oceans are protected in implemented and actively managed **marine protected areas**.
- **2.5%**, of the ocean is **highly protected** in no-take marine reserves.
- **GOAL 2020: 10% and by 2030: 30%**

<https://mpatlas.org/>

### 3. Sustainable Seafood certification and Increasing Consumer awareness?



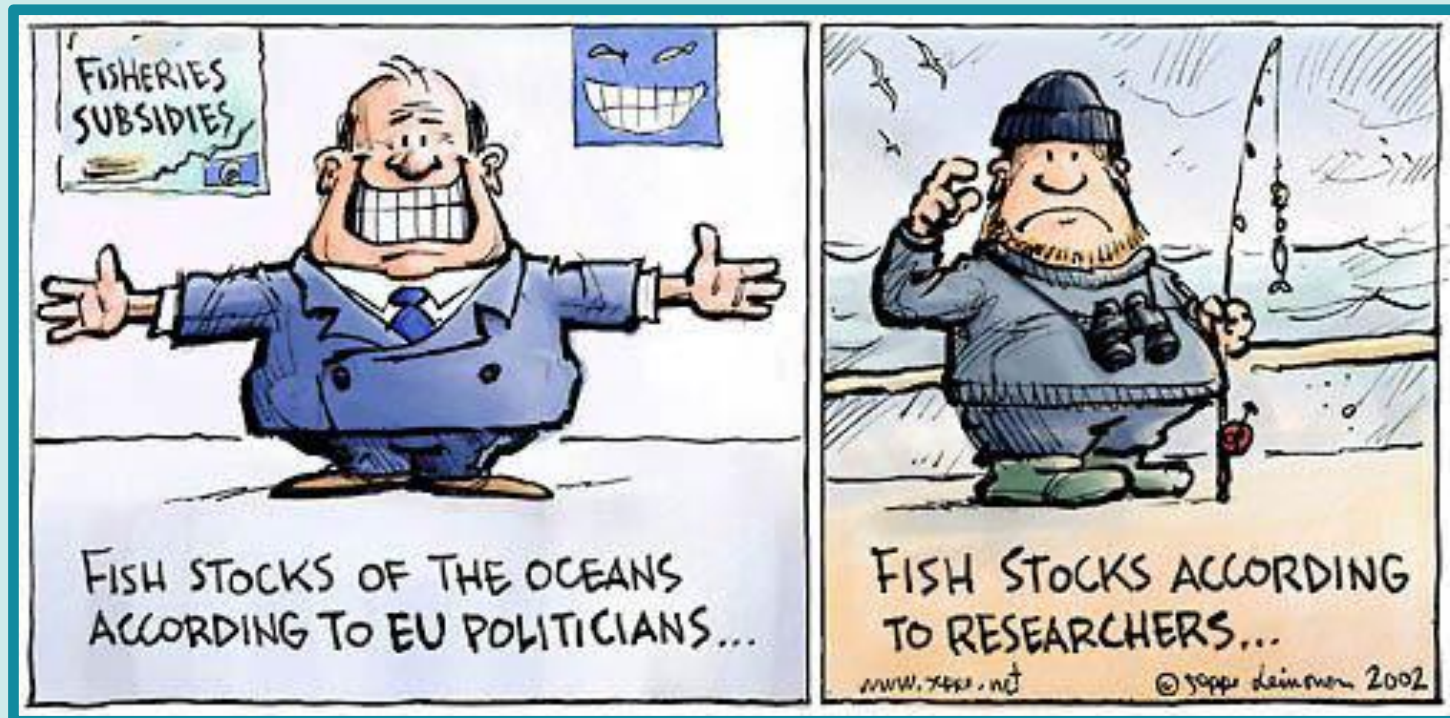
Blockchain has considerable potential to improve traceability, accuracy and accountability along fisheries value chains





## 4. PROMOTE A BETTER MANAGEMENT?


- **Integrative:** bring together all stakeholders (natural and social scientists, managers, fishermen, fishmongers, consumers, environmentalists,...)
- **Responsible and efficient:** results based and responsive management (Ecosystem based approach)

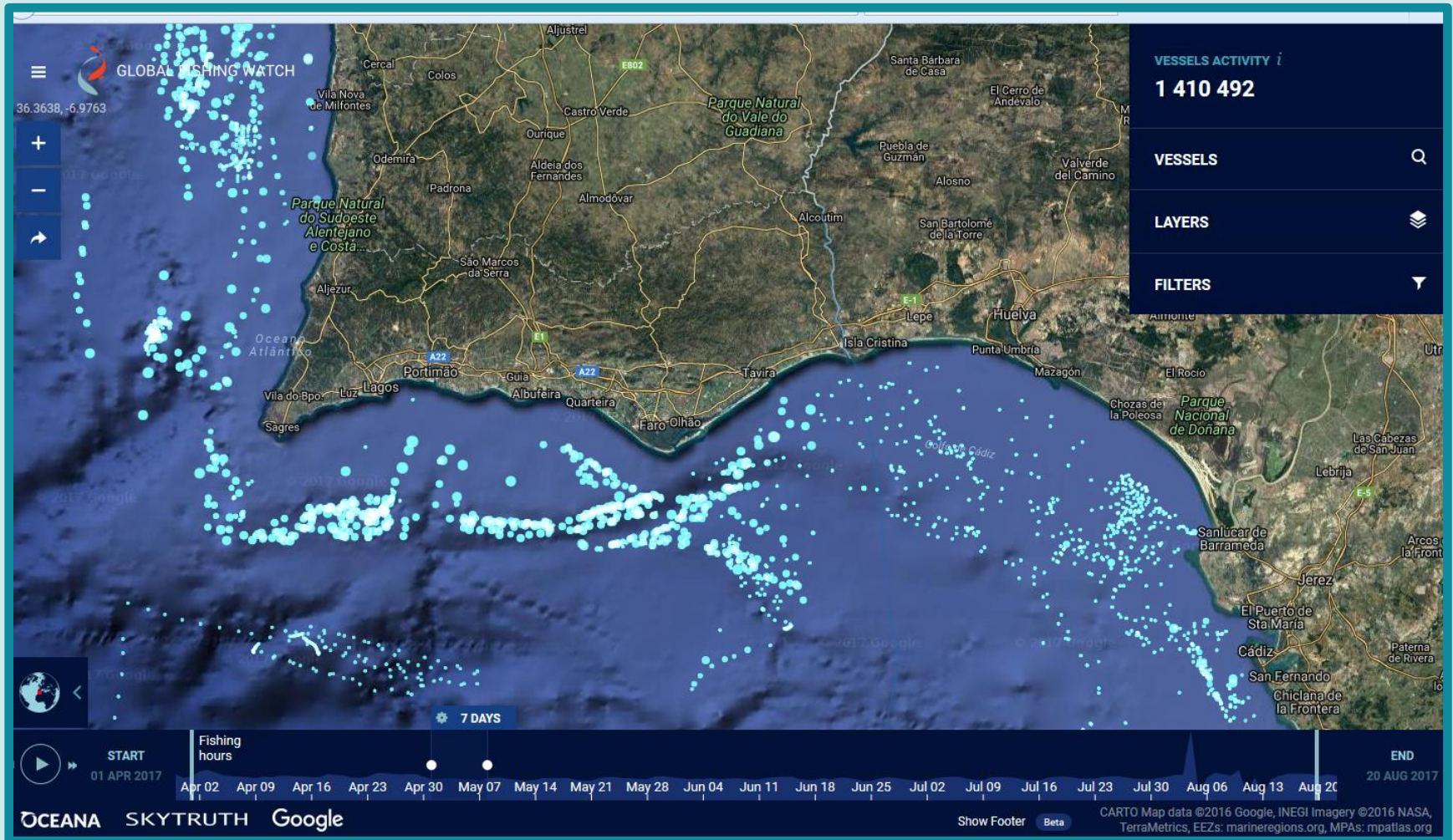


Glynn Gorick and the NeXOS project



# MAKE USE OF NEW TECHNOLOGIES FOR A BETTER MONITORING AND ENFORCEMENT?

 AIS and VMS data



# Final Remarks

**Fisheries: on the path of unsustainability?**

**There are alternative ways: MPAs, fisheries co-management, consumers awareness, ...**

**The use of new technologies should be focused on improving fisheries management (evaluation, monitoring and enforcement).**

***Sustainability is possible, desirable and achievable!***



**Thank you!**  
**Gracias!**  
**Obrigado!**

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