

# THE STATE OF THE STOCKS AT GLOBAL AND REGIONAL LEVELS – where are we and where are we heading?

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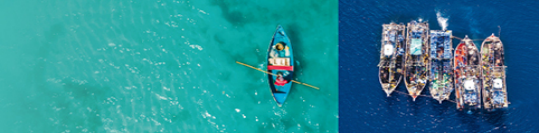


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Session 1  
Panel 1.1

International Symposium on Fisheries Sustainability:  
*Strengthening the Policy-Science Nexus*

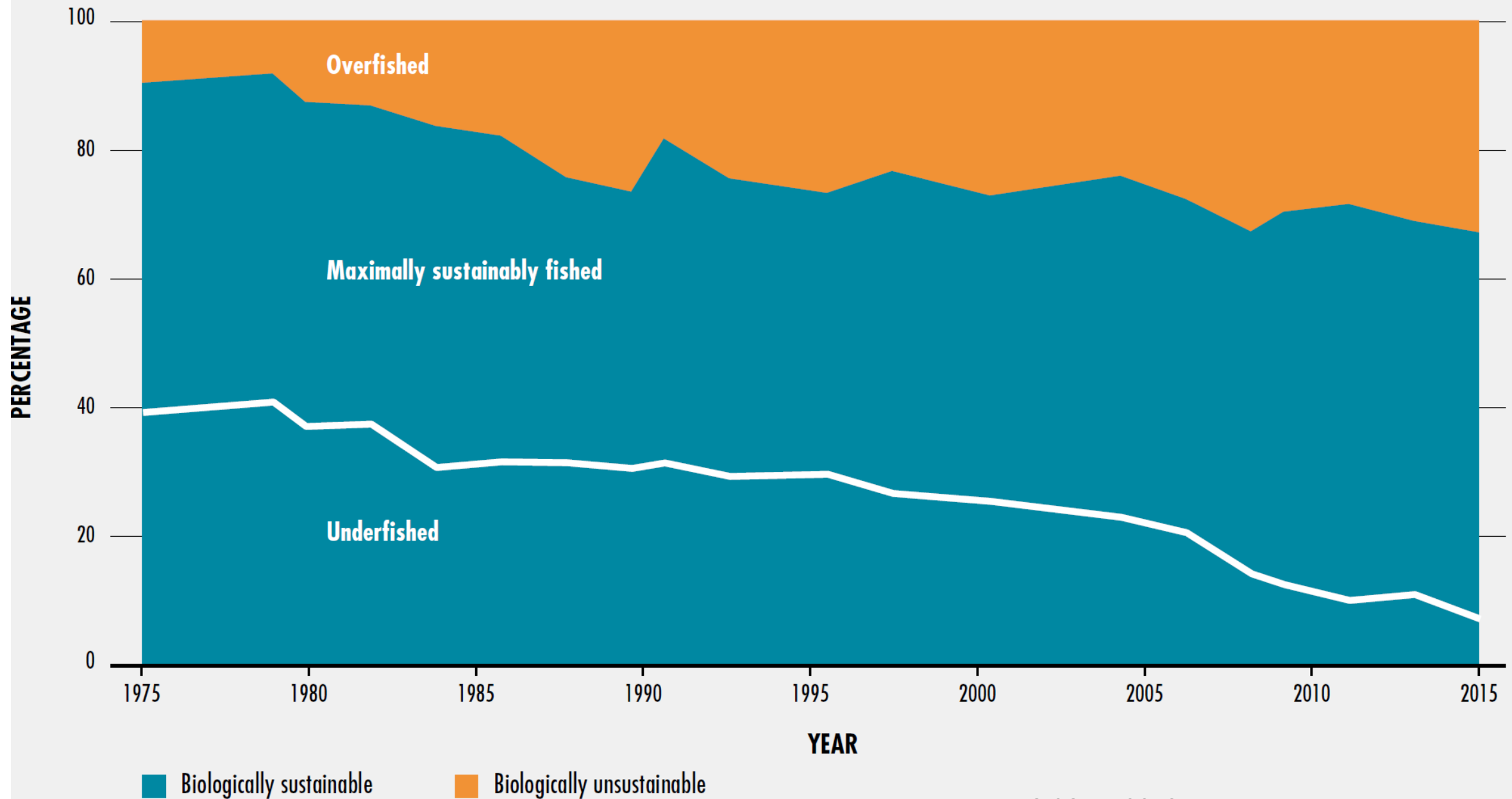




## Sustainable development goal 14.4

*By 2020, effectively **regulate harvesting** and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to **restore fish stocks** in the shortest time feasible, at least to **levels** that can **produce maximum sustainable yield** as determined by their biological characteristics.*

# FAO STATE OF THE WORLD FISHERIES: global trends in stock status



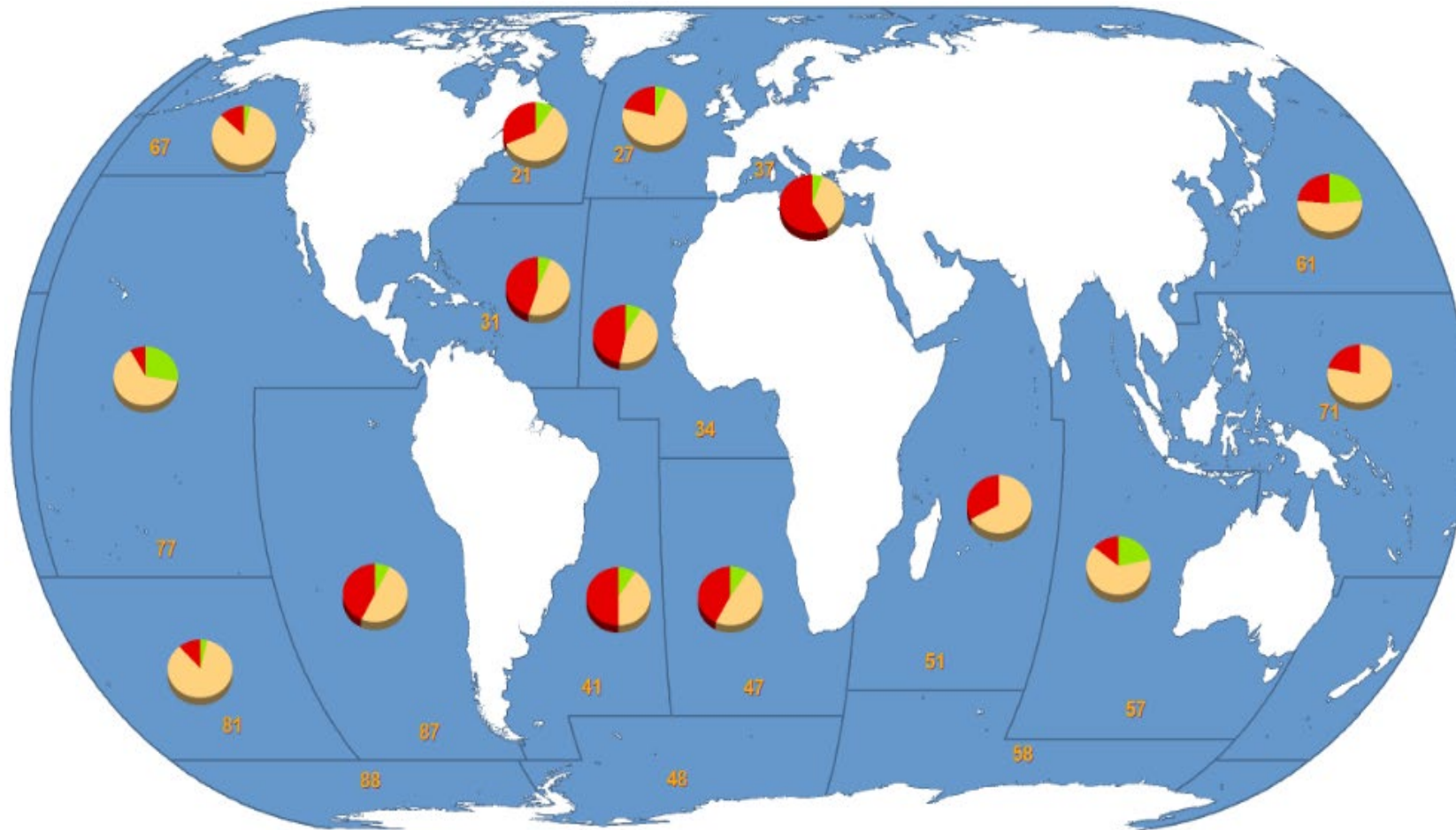
# FAO STATE OF THE WORLD FISHERIES: regional stock status



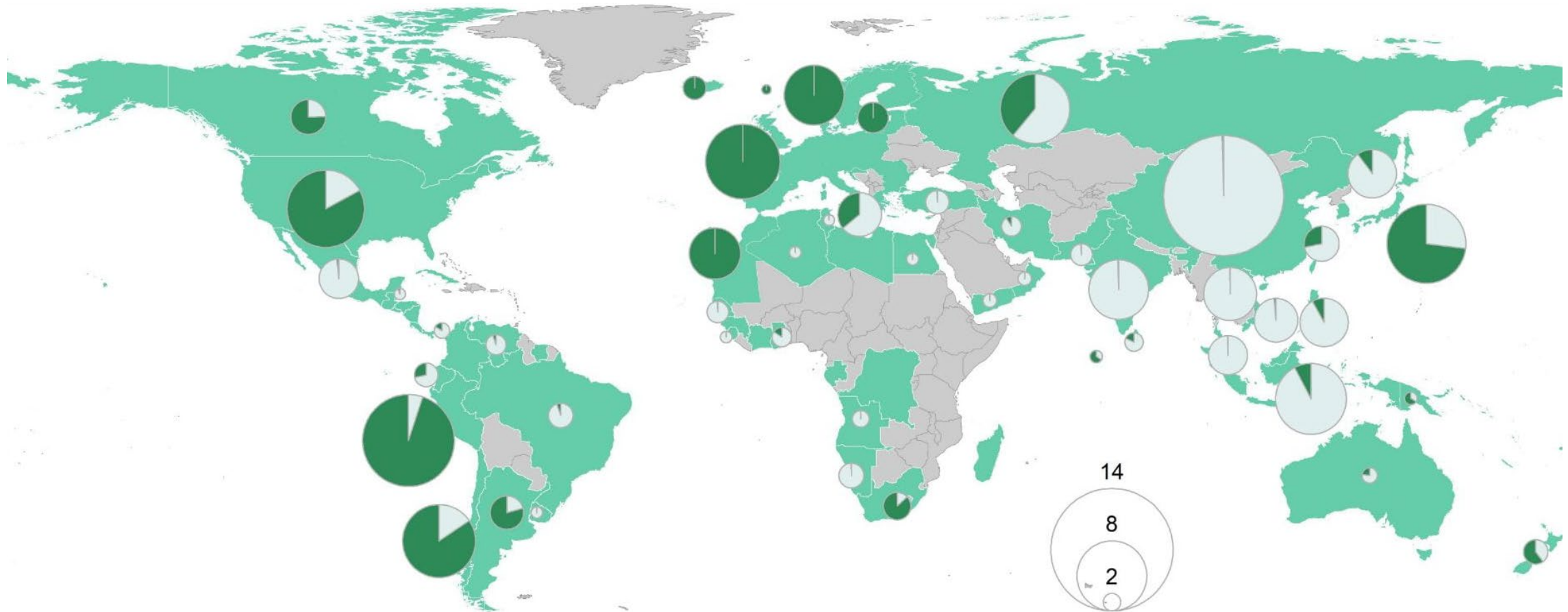
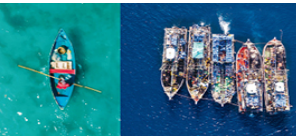
## Legend





-  Underfished
-  Fully fished
-  Overfished



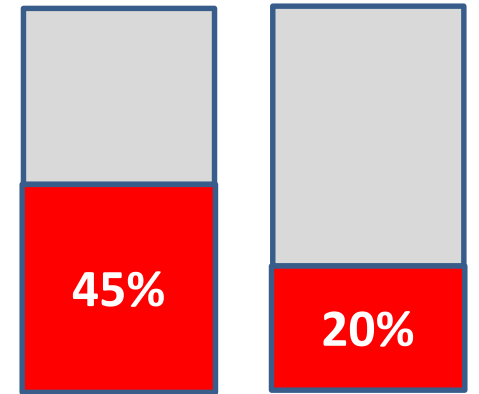
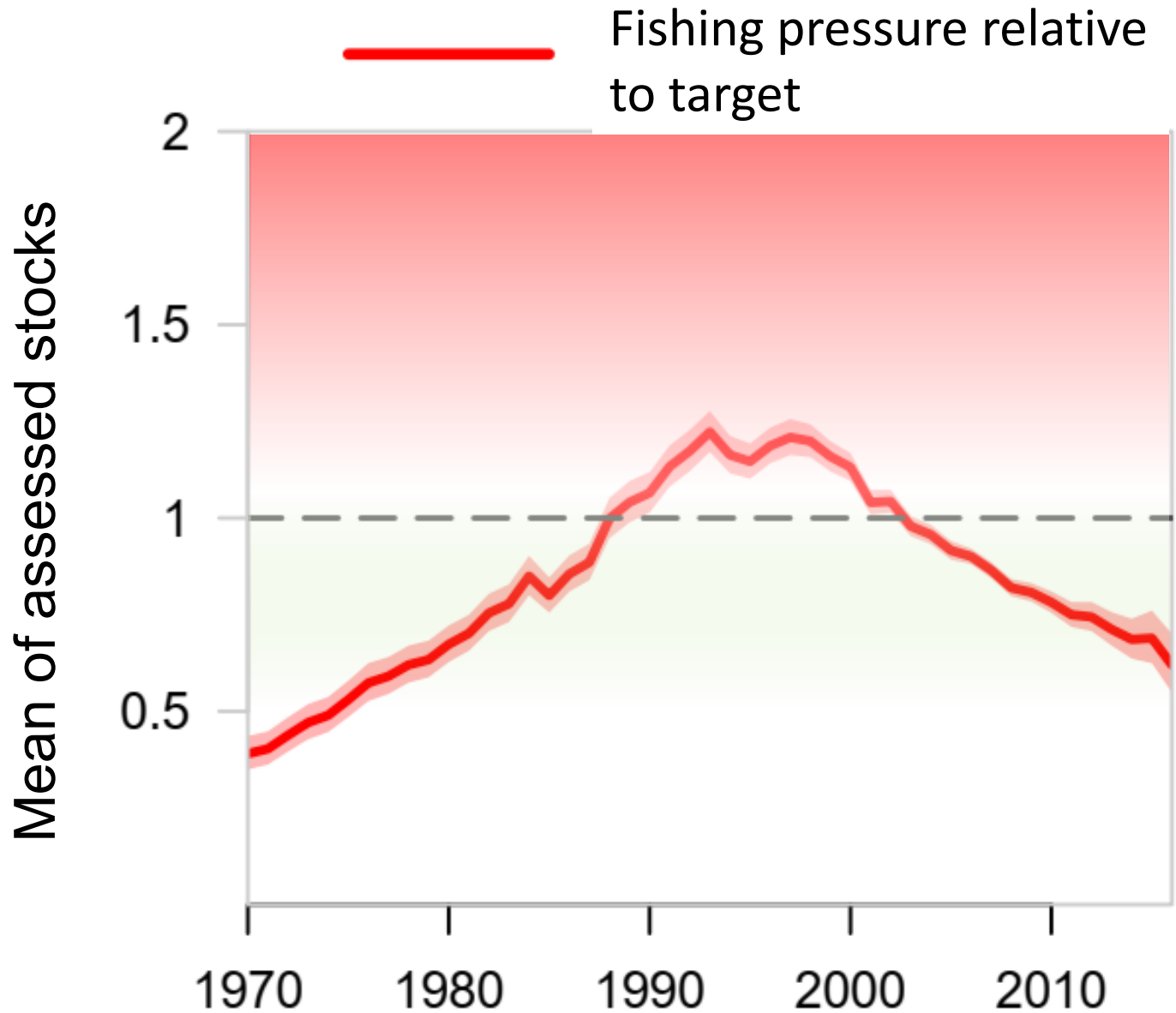
# STOCK ASSESSMENT COVERAGE IN RAM LEGACY DATABASE



-  stocks covered
-  stocks not covered

Average annual marine catch ( $10^6$  t)

# ASSESSED STOCKS: OVERALL GLOBAL TRENDS

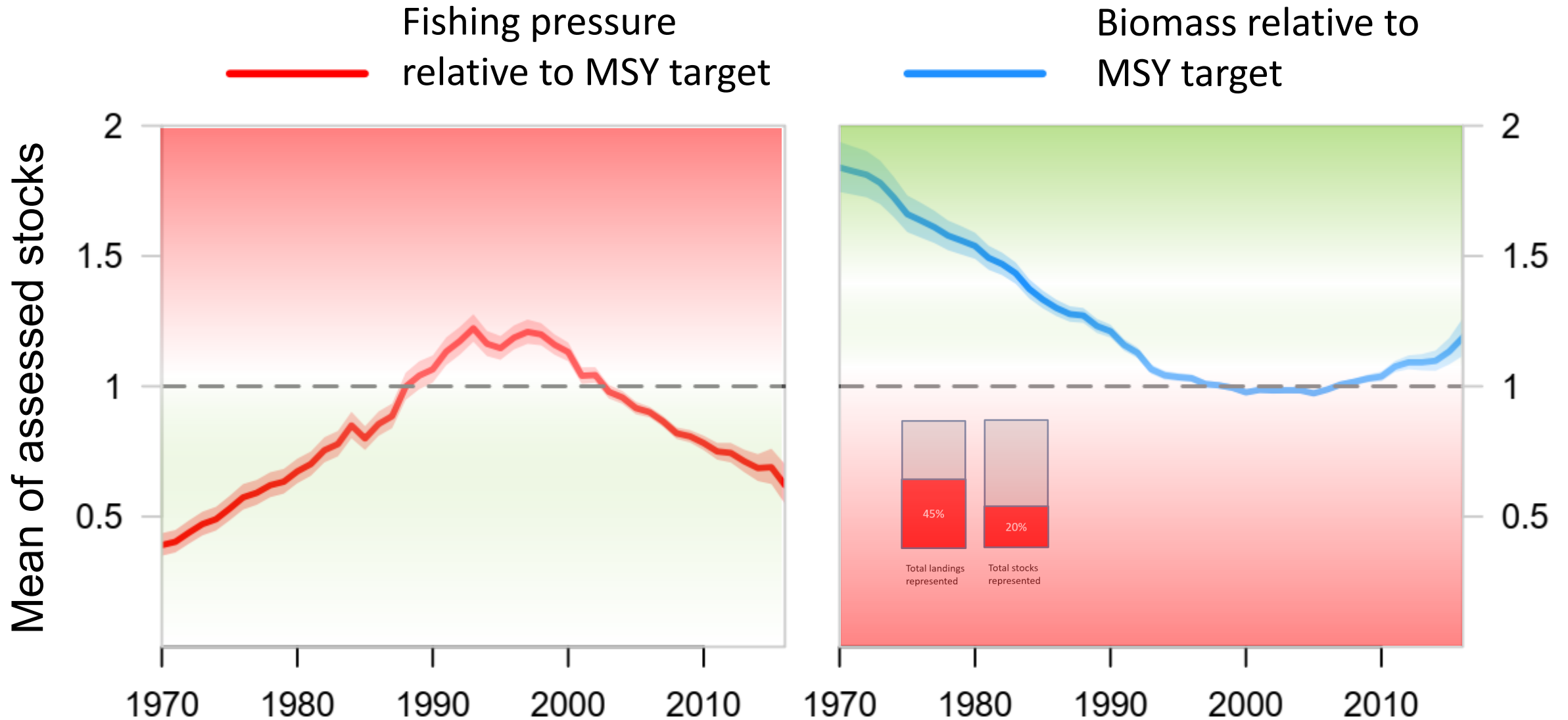


Total landings represented

Total stocks represented

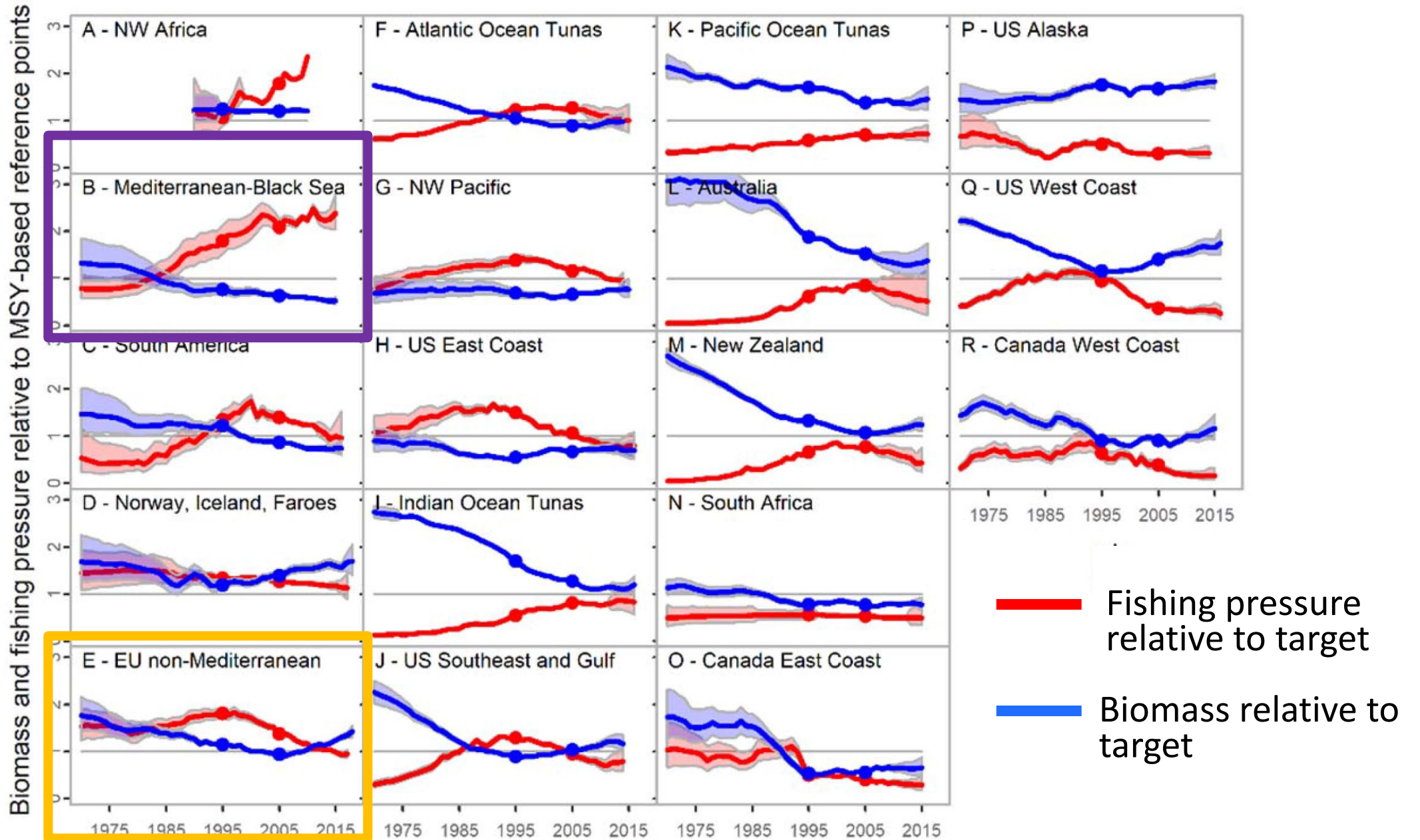
Fraction compared to all stocks in FAO landings database with catch > 1,000 MT

# ASSESSED STOCKS: OVERALL GLOBAL TRENDS





# REGIONAL GLOBAL TRENDS



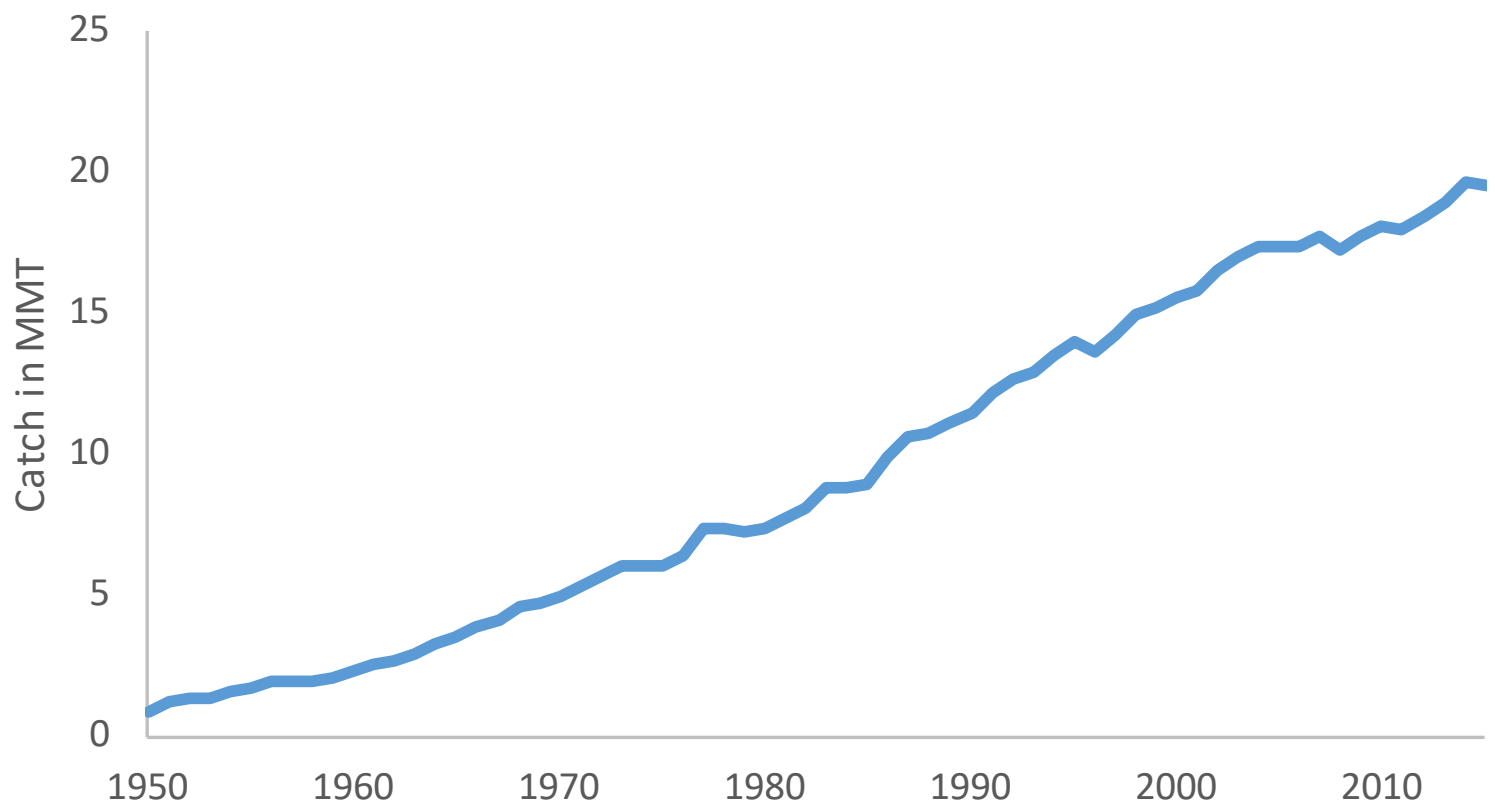




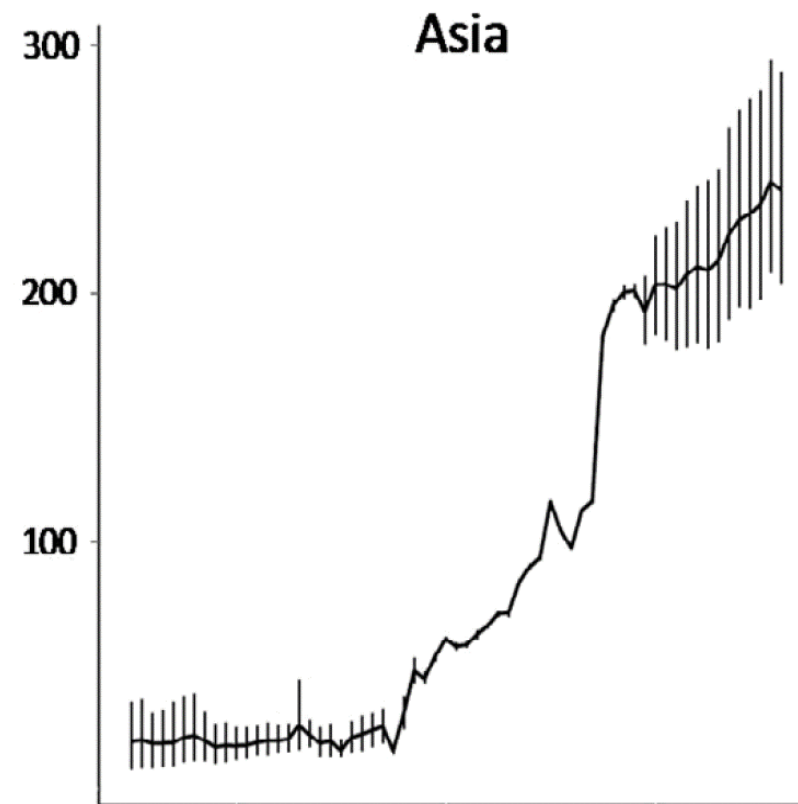
# WHAT DO WE KNOW ABOUT UNASSASSED STOCKS IN S. and SE ASIA?

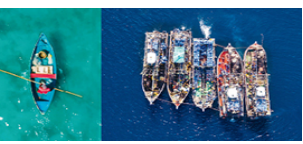


### Landings in S. and SE Asia



### Increase in fishing capacity





- Expansion of fishing grounds
- Increasing effort so on the verge of collapse
- Long lived species disappearing and replaced by higher productivity of short lived species

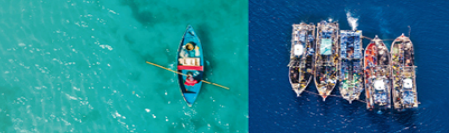


# METHODS OF ASSESSING THE UNASSESSED STOCKS



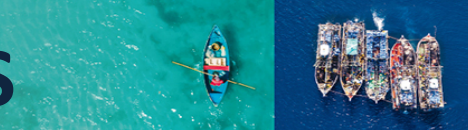
FAO Area	Status relative to MSY target Assessed Stocks
NE Atlantic	1.3
NE Pacific	1.84
Western Central Pacific	NA
Eastern Indian Ocean	NA
Mediterranean Black Sea	0.52

# METHODS OF ASSESSING THE UNASSESSED STOCKS



FAO Area	Status relative to MSY target Assessed Stocks	Status relative to MSY target Ensemble method
NE Atlantic	1.3	0.97
NE Pacific	1.84	1.02
Western Central Pacific	NA	1.06
Eastern Indian Ocean	NA	1.04
Mediterranean Black Sea	0.52	0.96

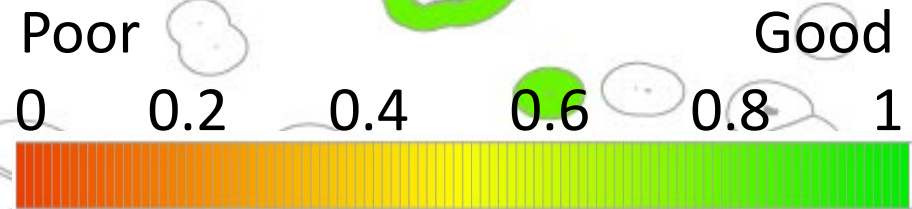
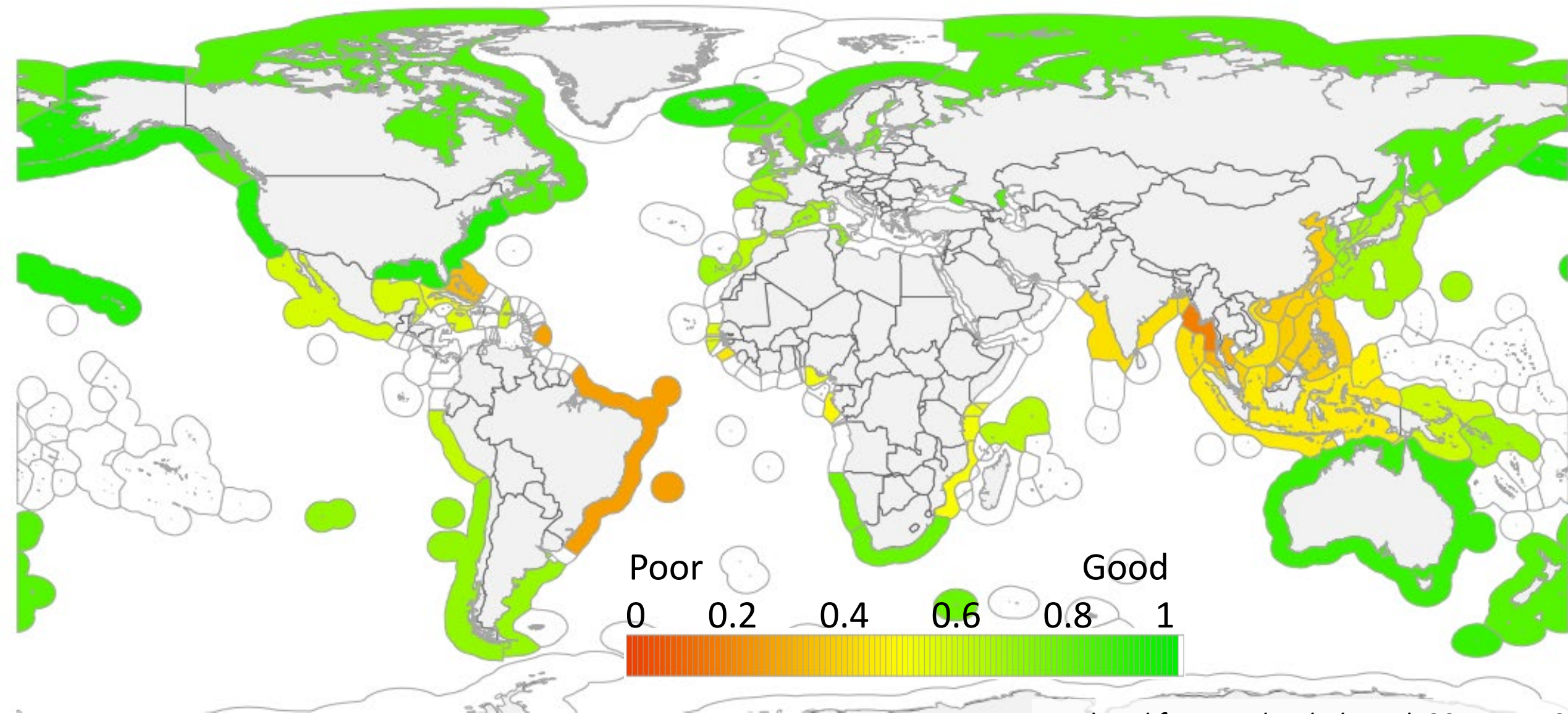
# METHODS OF ASSESSING THE UNASSESSED STOCKS



FAO Area	Status relative to MSY target Assessed Stocks	Status relative to MSY target Ensemble method	Catch/ maximum catch
NE Atlantic	1.3	0.97	0.24
NE Pacific	1.84	1.02	0.31
Western Central Pacific	NA	1.06	0.69
Eastern Indian Ocean	NA	1.04	0.75
Mediterranean Black Sea	0.52	0.96	0.28



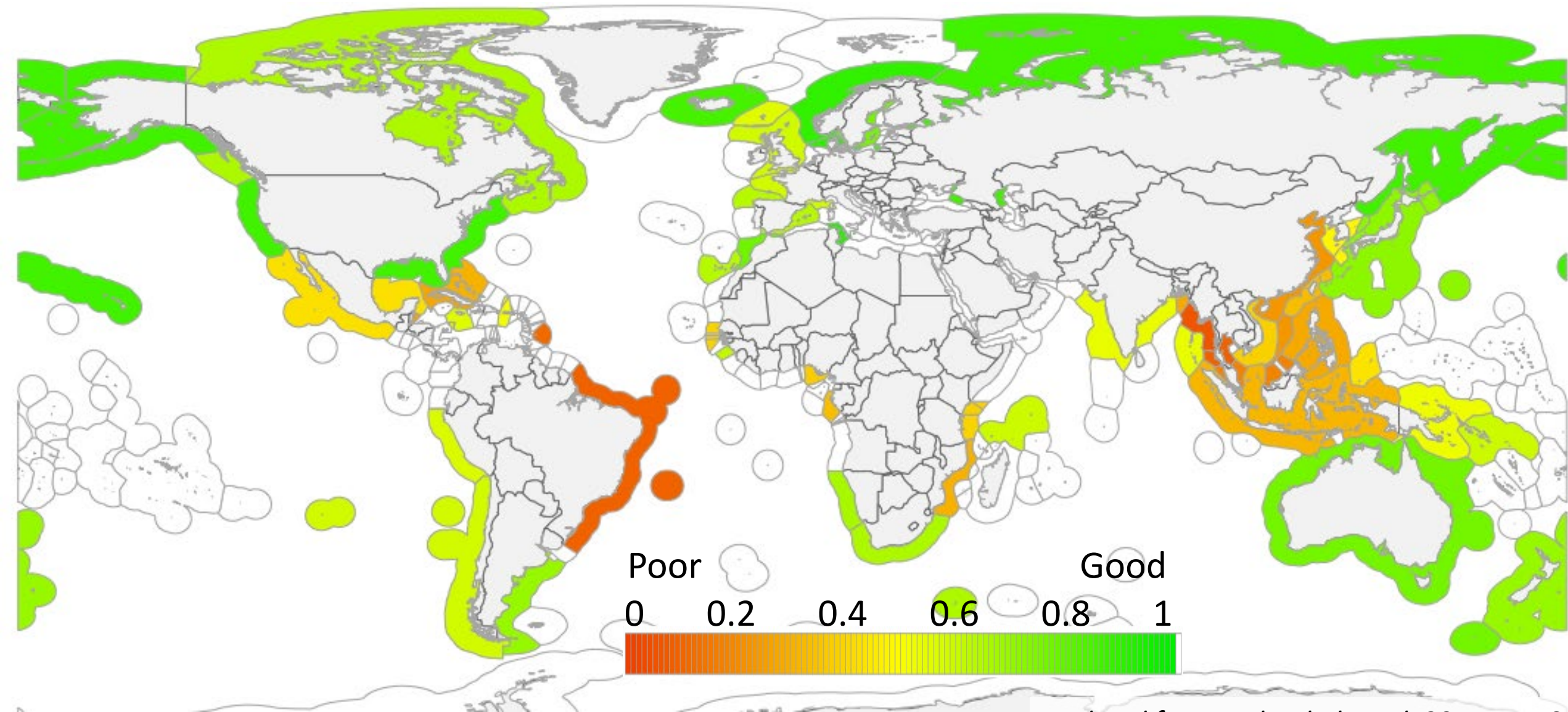
# FISHERIES MANAGEMENT INDEX: Average Management Intensity



*updated from Melnychuk et al. 2017, PNAS*

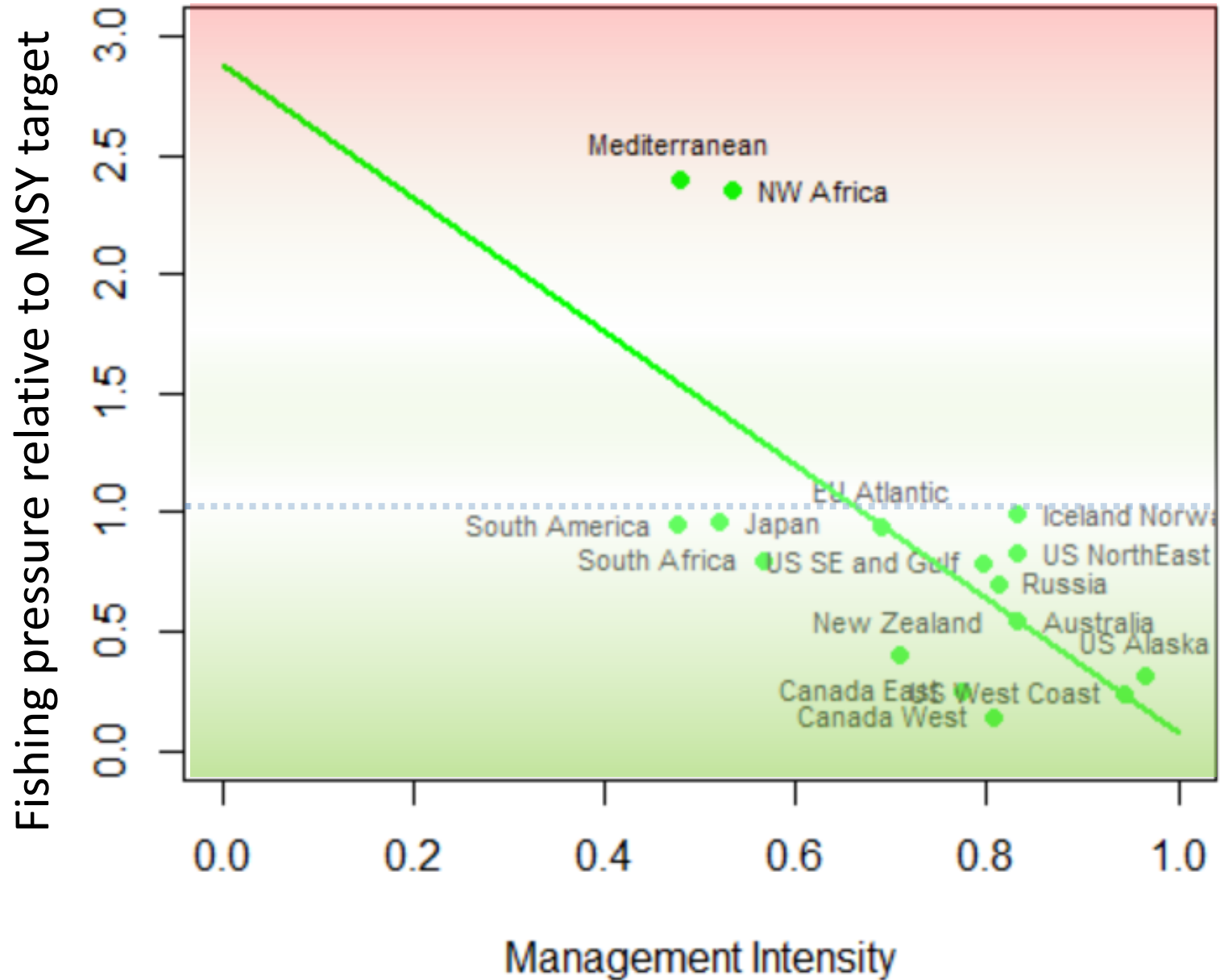


# FISHERIES MANAGEMENT INDEX: Expert opinion on stock status



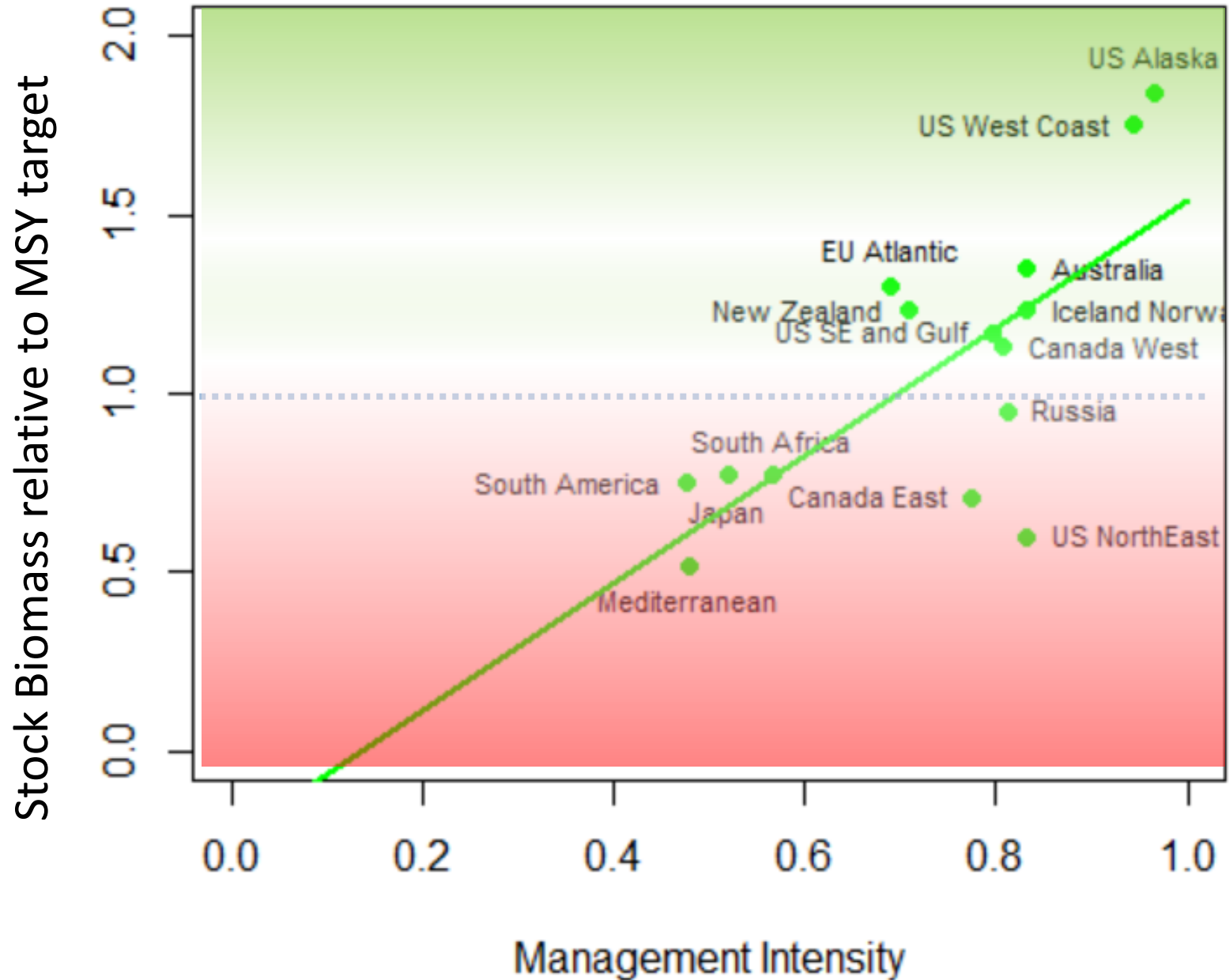
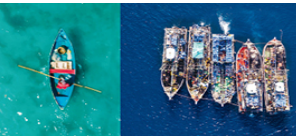
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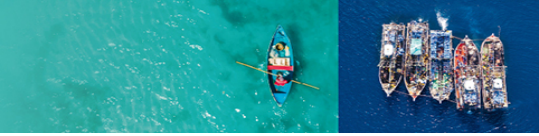
# MORE FISHERIES MANAGEMENT LEADS TO LOWER FISHING PRESSURE





# MORE FISHERIES MANAGEMENT LEADS TO MORE ABUNDANT STOCKS





# Sustainable development goal 14.4

By 2020, effectively **regulate harvesting** and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to **restore fish stocks** in the shortest time feasible, at least to **levels** that can **produce maximum sustainable yield** as determined by their biological characteristics.

# CONCLUSIONS I



- Intensive fisheries management helps meet the SDG 14.4 goals.
- Without intensive assessment and management expert opinion suggest they are not trending in the right direction.
- Management needs to improve in many countries.

## CONCLUSIONS II



- We need peer reviewed assessments of the major fisheries of the world.
- In some places there is a need to improve the state of the stocks.
- Scientific data collection, analysis, fisheries regulation and enforcement have been shown to work for large and small stocks in a wide range of countries.



# THANKS TO MANY COLLABORATORS







Food and Agriculture  
Organization of the  
United Nations

SUSTAINABLE  
DEVELOPMENT  
GOALS

# Partnering with FAO to make fisheries sustainable

Working for  #ZeroHunger