

# IOTC CATCH ALLOCATION SIMULATIONS: ORIGINS, DATA, ASSUMPTIONS, AND TOOL

*13<sup>TH</sup> MEETING OF THE TECHNICAL COMMITTEE ON ALLOCATION CRITERIA - 21-24  
OCTOBER 2024*

*IOTC SECRETARIAT*



Food and Agriculture  
Organization of the  
United Nations

IOTC-2024-TCAC13-INF17



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

# BACKGROUND & PURPOSES

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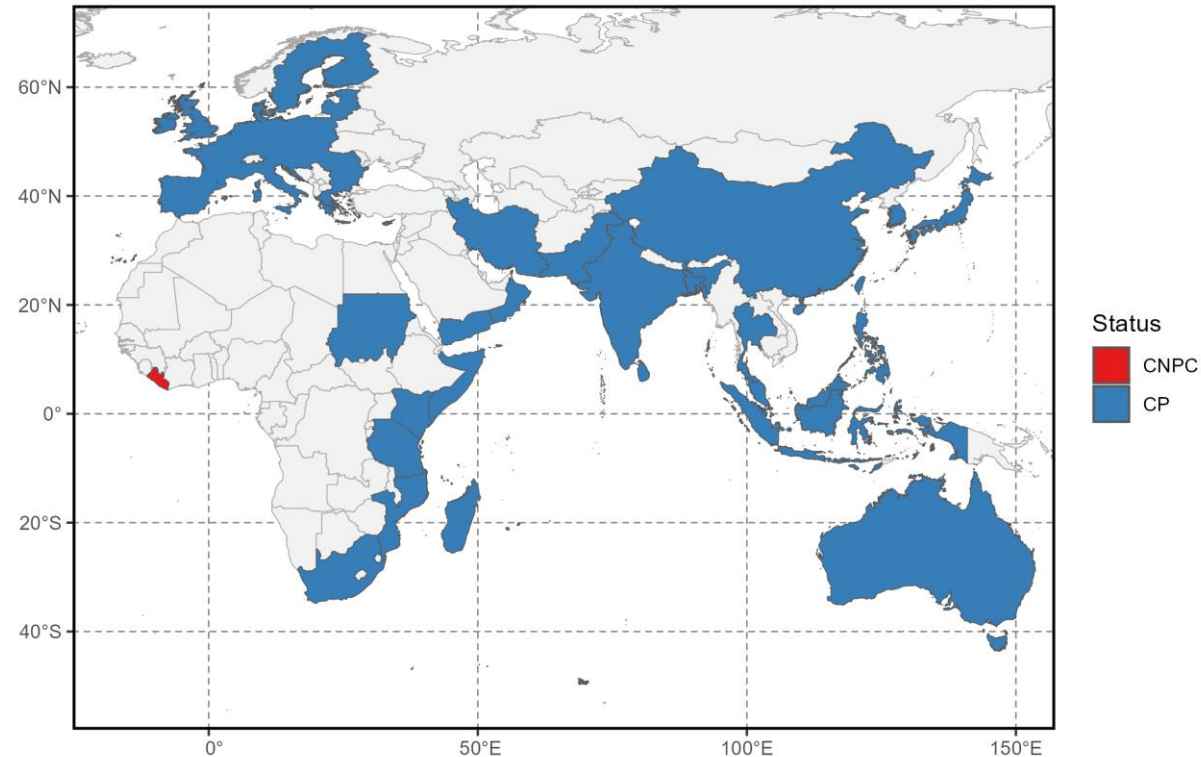
# PURPOSE

To provide participants at the 13<sup>th</sup> Meeting of the Technical Committee on Allocation Criteria (TCAC13) with an overview of the origins, data, assumptions and App developed by the Secretariat to simulate the allocation criteria outlined in IOTC-2024-TCAC13-REF02.

## **TOTAL ALLOCATION =**

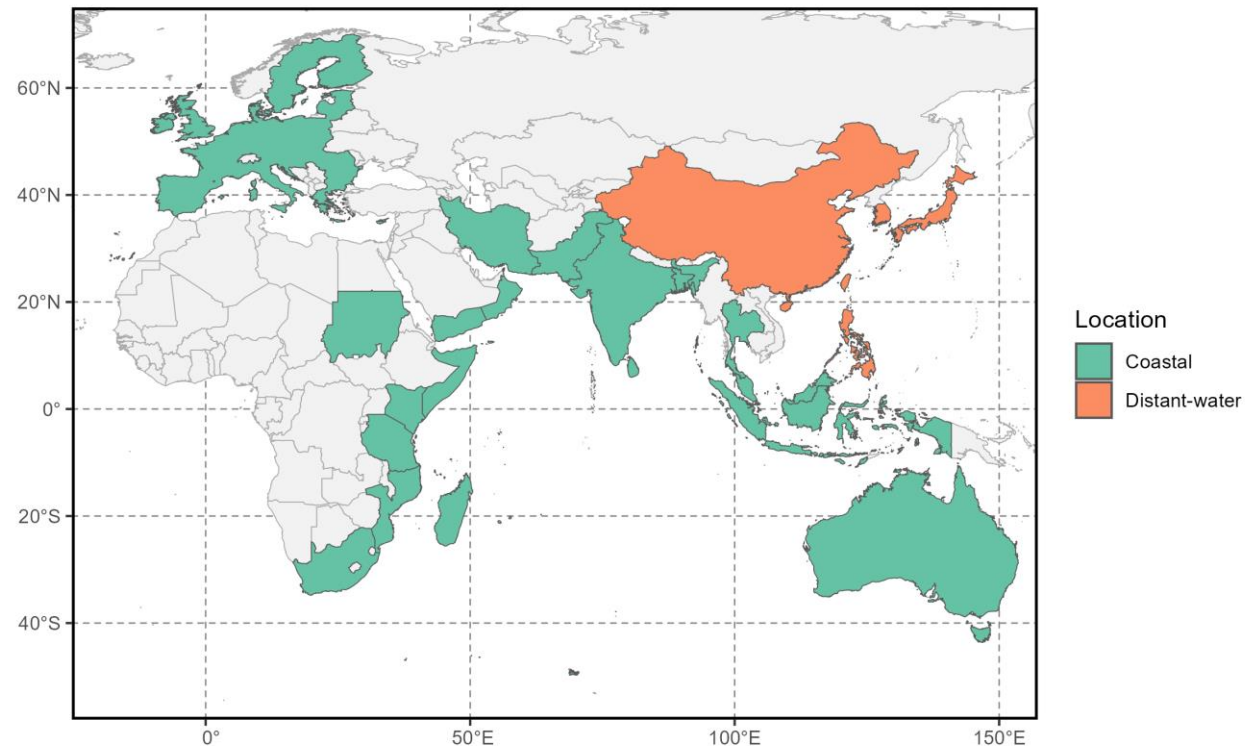
BASELINE ALLOCATION (para. 6.5) +  
COASTAL STATE ALLOCATION (para 6.6) +  
CATCH-BASED ALLOCATION (para 6.7)

# BASELINE ALLOCATION



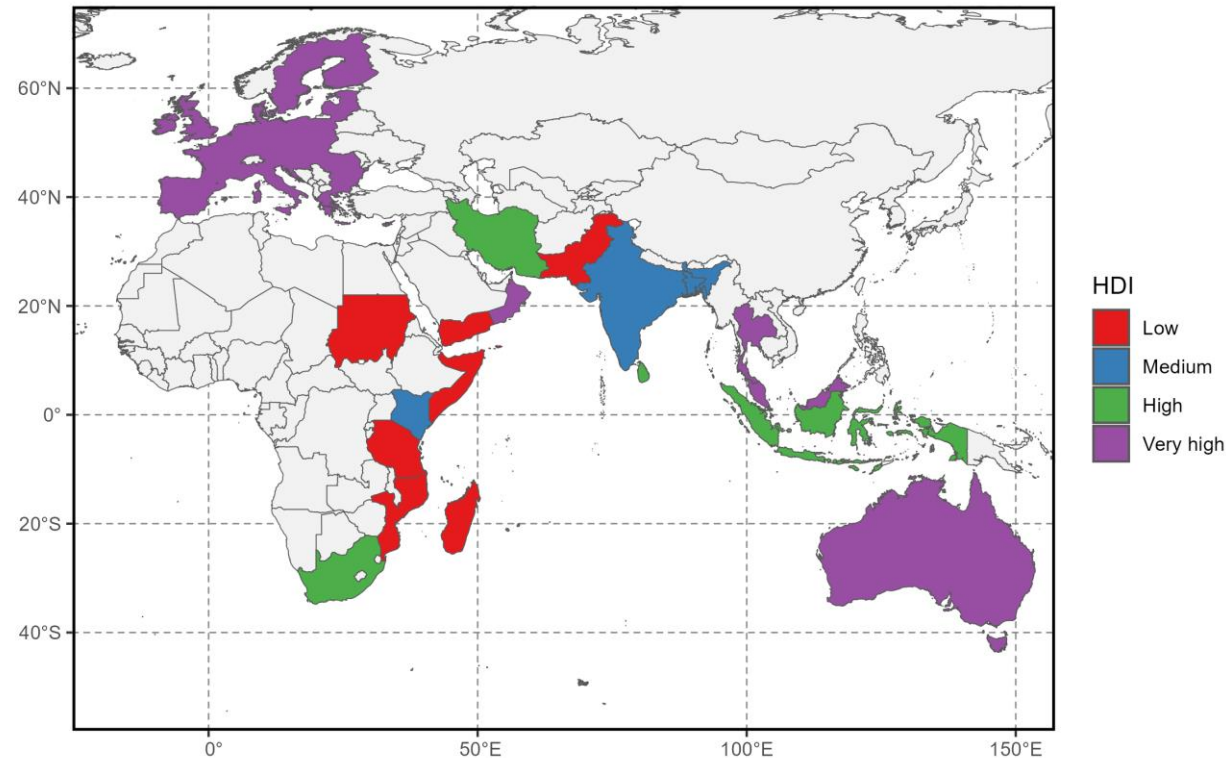
**CPC Status.** *“Baseline Allocation consisting of 5-10% of the Total Allowable Catch (TAC) for a given fish stock shall be allocated **equally** between all CPCs” (para. 6.5 of [IOTC-2024-TCAC13-REF02](#))*

# COASTAL STATE ALLOCATION: 1- EQUAL SHARE



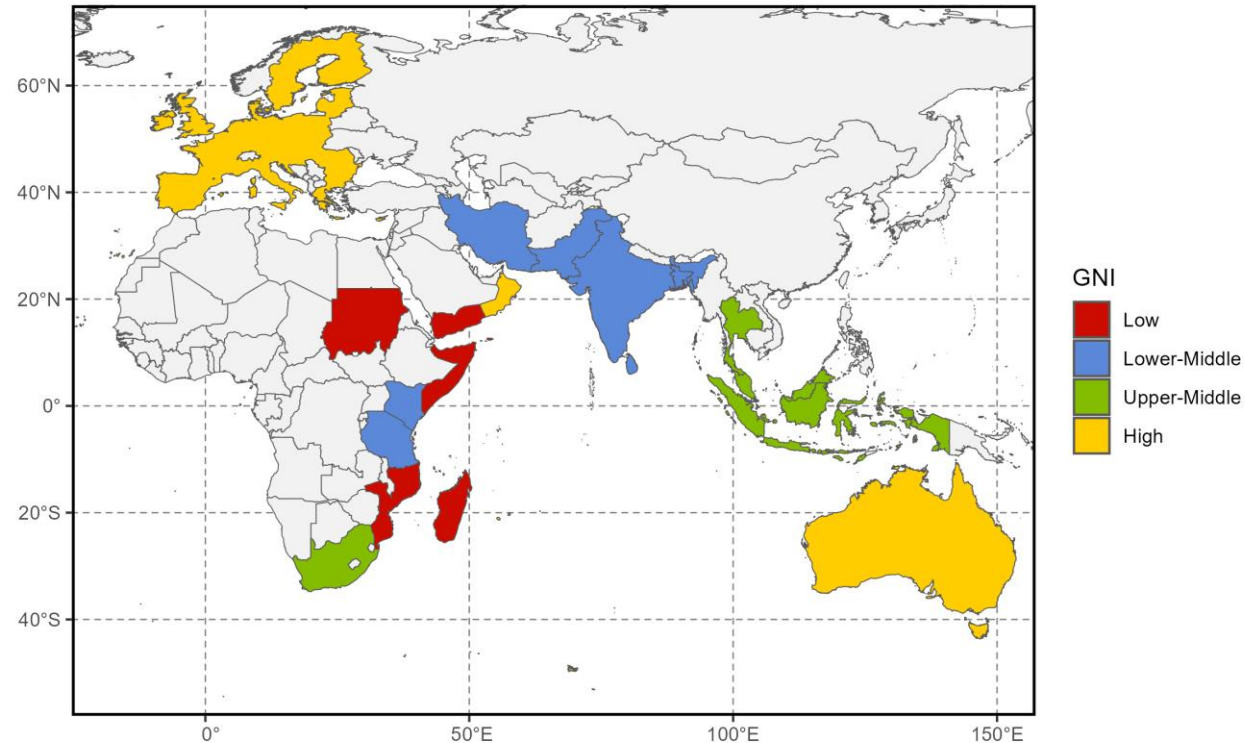
**Coastal status.** “35-45% of the Coastal State Allocation recognizing Coastal State CPCs’ interests and aspirations, to be shared in **equal portion** by all Coastal State CPCs” (para. 6.6a of [IOTC-2024-TCAC13-REF02](#)))

# COASTAL STATE ALLOCATION: 2- SOCIO-ECONOMICS



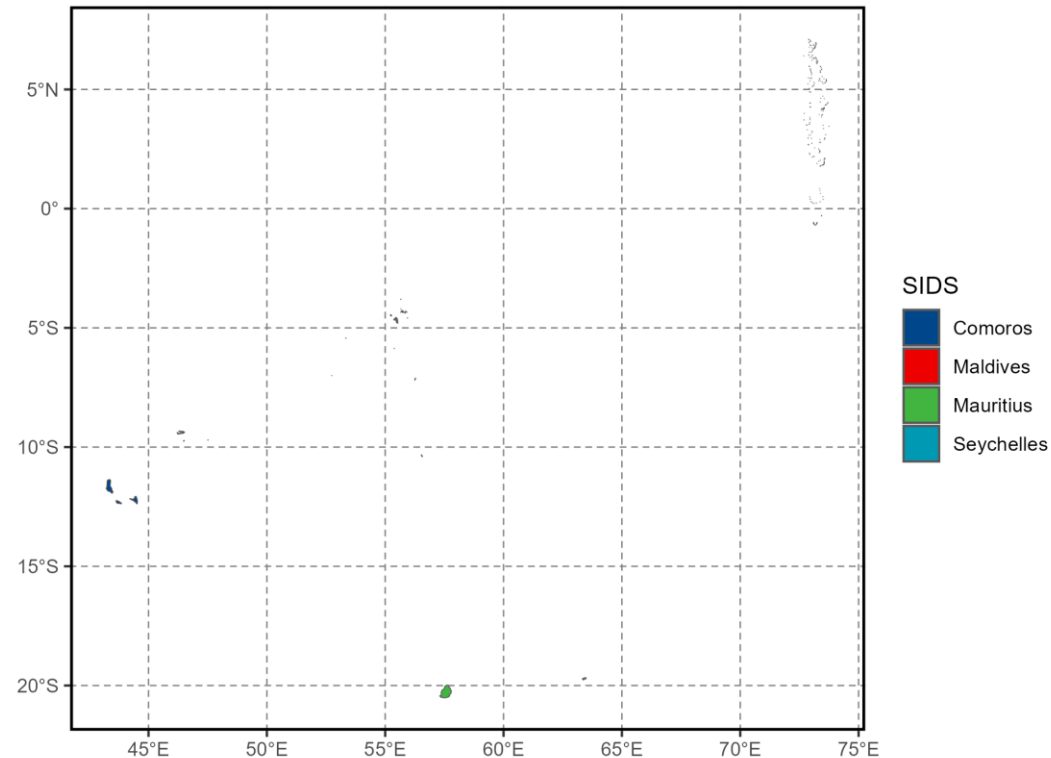
Human Development Index. *“47.5-55% of the Coastal State Allocation dedicated to Coastal State CPCs that are developing coastal States, in particular Small Island Developing States and least developed States” (para. 6.6b of [IOTC-2024-TCAC13-REF02](#))*

# COASTAL STATE ALLOCATION: 2- SOCIO-ECONOMICS



Gross National Income. *“47.5-55% of the Coastal State Allocation dedicated to Coastal State CPCs that are developing coastal States, in particular Small Island Developing States and least developed States”* (para. 6.6b of [IOTC-2024-TCAC13-REF02](#))

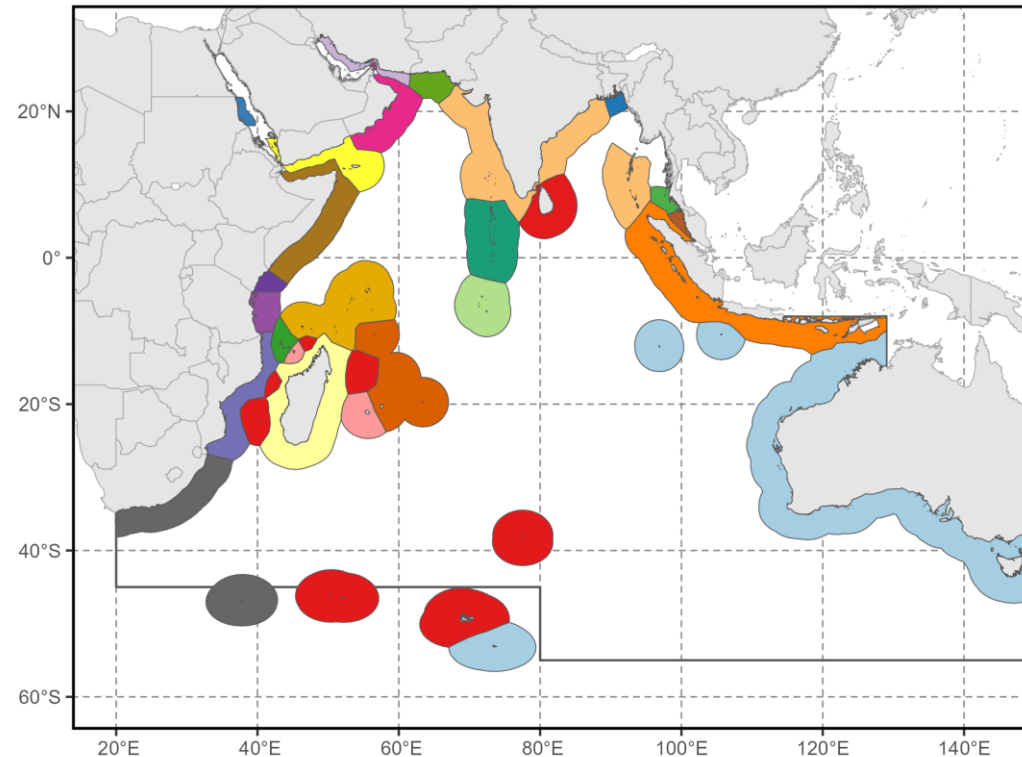
# COASTAL STATE ALLOCATION: 2- SOCIO-ECONOMICS



Small Island Developing States. *“47.5-55% of the Coastal State Allocation dedicated to Coastal State CPCs that are developing coastal States, in particular Small Island Developing States and least developed States”* (para. 6.6b of [IOTC-2024-TCAC13-REF02](#))

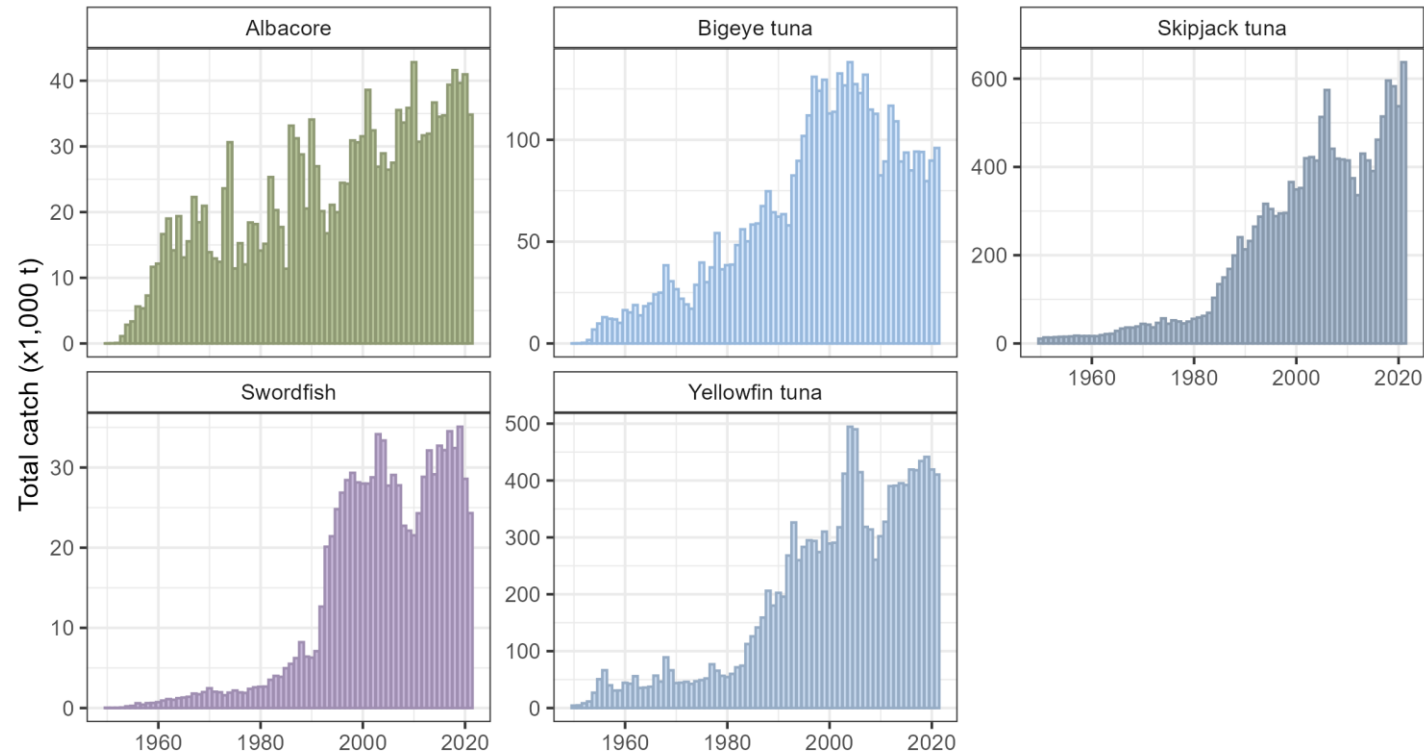


# COASTAL STATE ALLOCATION: 3- NJA SURFACE



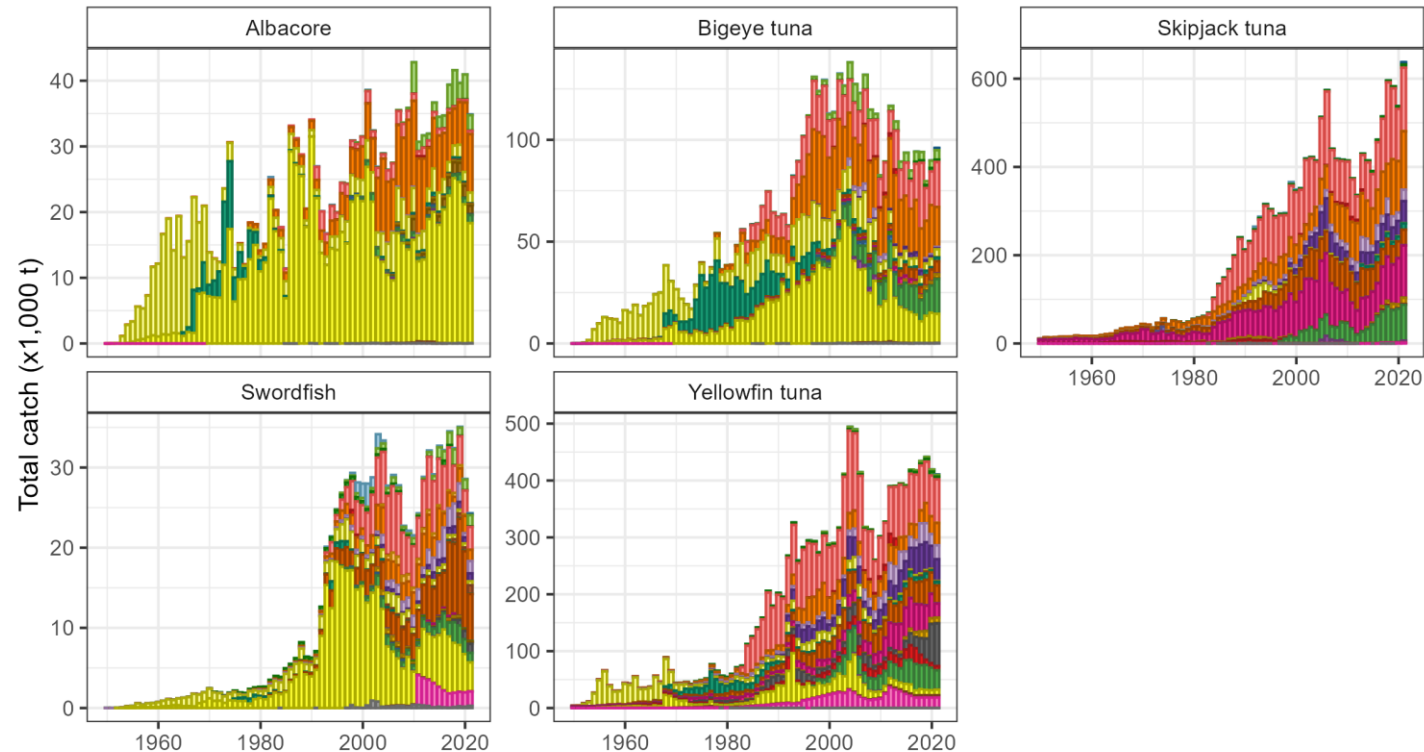
**National Jurisdiction Areas.** *“0-17.5% of the Coastal State Allocation dedicated to Coastal State CPCs to address their rights and status as coastal States, to be shared based on the indicators in Annex 2” (para. 6.6c of [IOTC-2024-TCAC13-REF02](#))*

# CATCH-BASED ALLOCATION



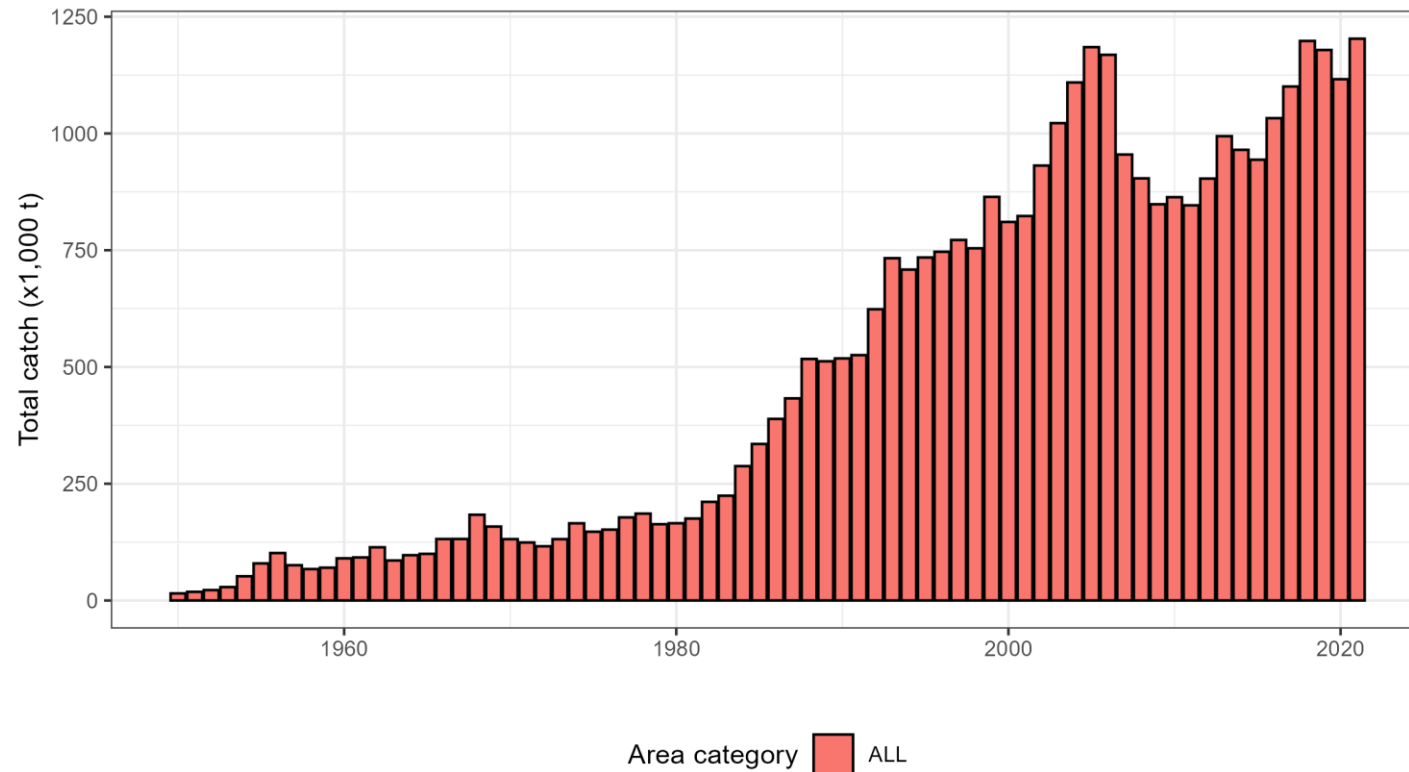
**Historical Catches by Stock (all CPCs).** *“Each CPC shall be eligible to receive a Catch-based Allocation consisting a share of the TAC established based on the historical catches of the CPC [...]”* (para. 6.7(1) of [IOTC-2024-TCAC13-REF02](#))

# CATCH-BASED ALLOCATION



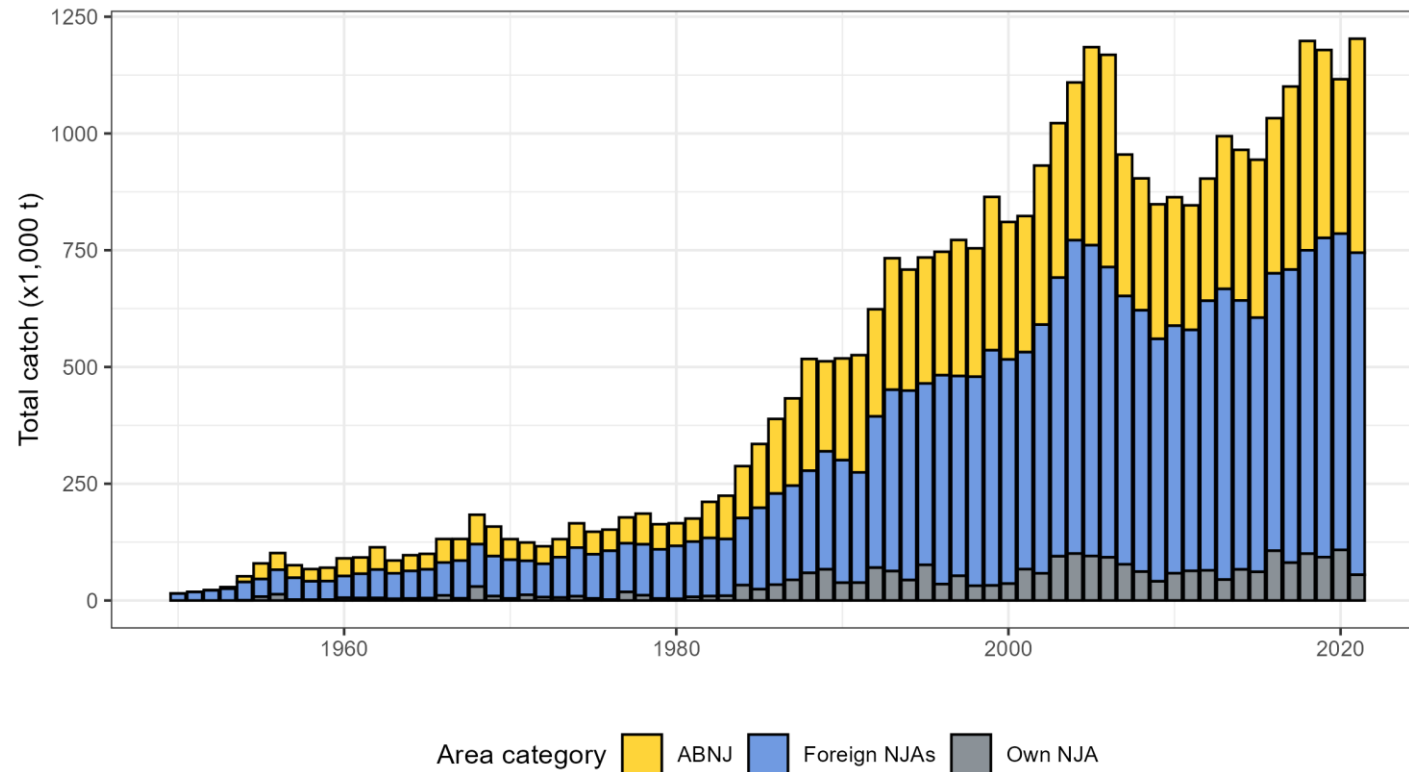
**Historical Catches by Stock (by CPC).** “Each CPC shall be eligible to receive a Catch-based Allocation consisting a share of the TAC established based on the historical catches of the CPC [...]” (para. 6.7(1) of [IOTC-2024-TCAC13-REF02](#))

# CATCH DISTRIBUTED BETWEEN ABNJ AND NJAS



**Cumulative annual catches.** *“The spatial separation of historical catches, by each CPC, as between areas within (NJA) and beyond (ABNJ) national jurisdiction shall be made [...] (para. 6.8(3) of [IOTC-2024-TCAC13-REF02](#))”*

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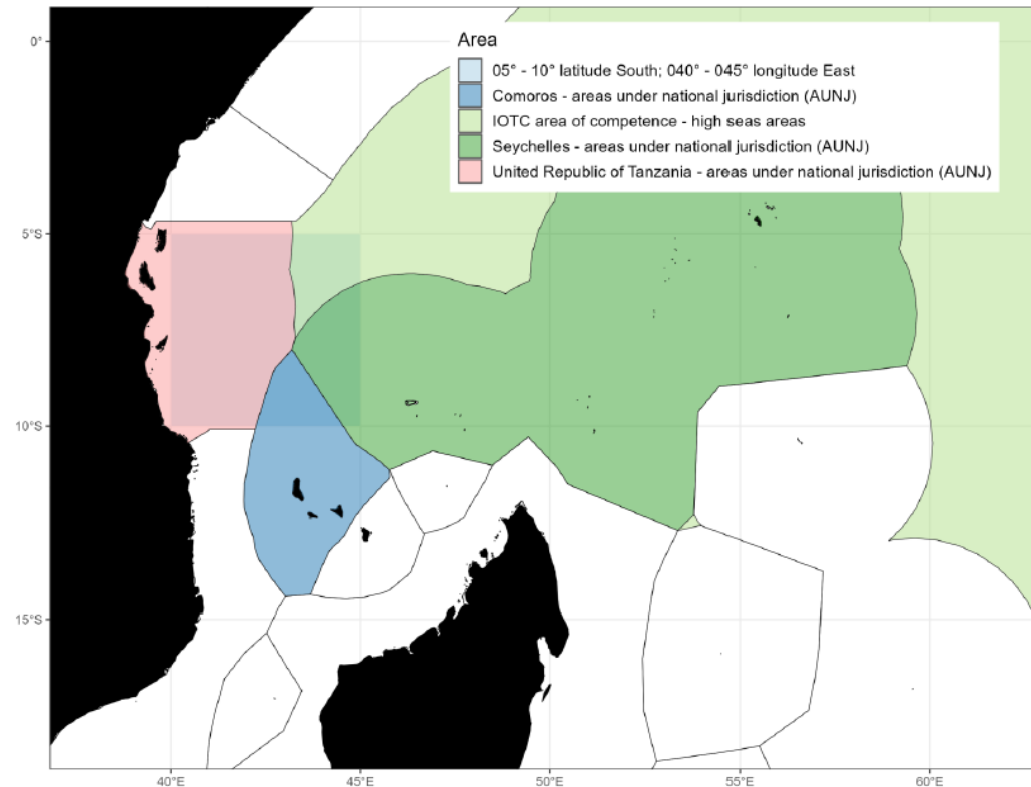
# CATCH DATA AVAILABLE AT THE SECRETARIAT

- Following Article XI of the Agreement for the establishment of the IOTC, CPCs are required to collect and report fisheries data in accordance with the Conservation and Management Measures
- Catch data are annually reported by the CPCs to the IOTC following Res. 15/02 *On mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)*
- The IOTC Secretariat collates and curates the catch data and makes them available as public-domain datasets

# UNCERTAINTIES IN IOTC CATCH DATA

- Annual catch data are considered to be under-estimated, particularly in coastal fisheries
- Annual catch data may be incomplete or inconsistent and are consolidated by the Secretariat according to the Scientific Committee
- Geo-referenced catch data:
  - May not be collected or reported
  - May not be raised to the whole fisheries
  - May be reported in both numbers of fish and weight
  - Are reported as 1x1° and 5x5° grids for surface and longline fisheries, respectively, according to Res. [15/02](#)

# ASSUMPTION FOR GRIDDED-CATCH DISTRIBUTION



**Example of 5x5° overlap.** *“Catches reported for 5x5 or 1x1 degree grid squares that overlap one or more areas under national jurisdictions of coastal States and/or the high seas, shall be distributed proportionately by area (para. 6.8.3(c)(i) of [IOTC-2024-TCAC13-REF02](#))”*



# ASSUMPTIONS REQUIRED FOR THE CATCH DATASET

- Use of best scientific estimates of total annual catches
- Estimates of average weights to convert numbers into weights
- Raising of geo-referenced catches to total annual catches
- Estimation of catches between national NJAs, foreign NJAs, and ABNJ

See details in [IOTC-2023-TCAC12-DATA01 presentation](#)

# IOTC TCAC SIMULATION TOOL

- R Shiny App accessible from <https://data.iotc.org/tcac13/simulations/>:
  - login: iotc
  - pwd: albacares
- Detailed information on data sources, assumptions, and user Guide available here:
  - <https://data.iotc.org/tcac13/simulations/README.html>
  - <https://iotc.org/documents/TCAC/13/INF16>