Status and Trends of Developing Countries' Fisheries

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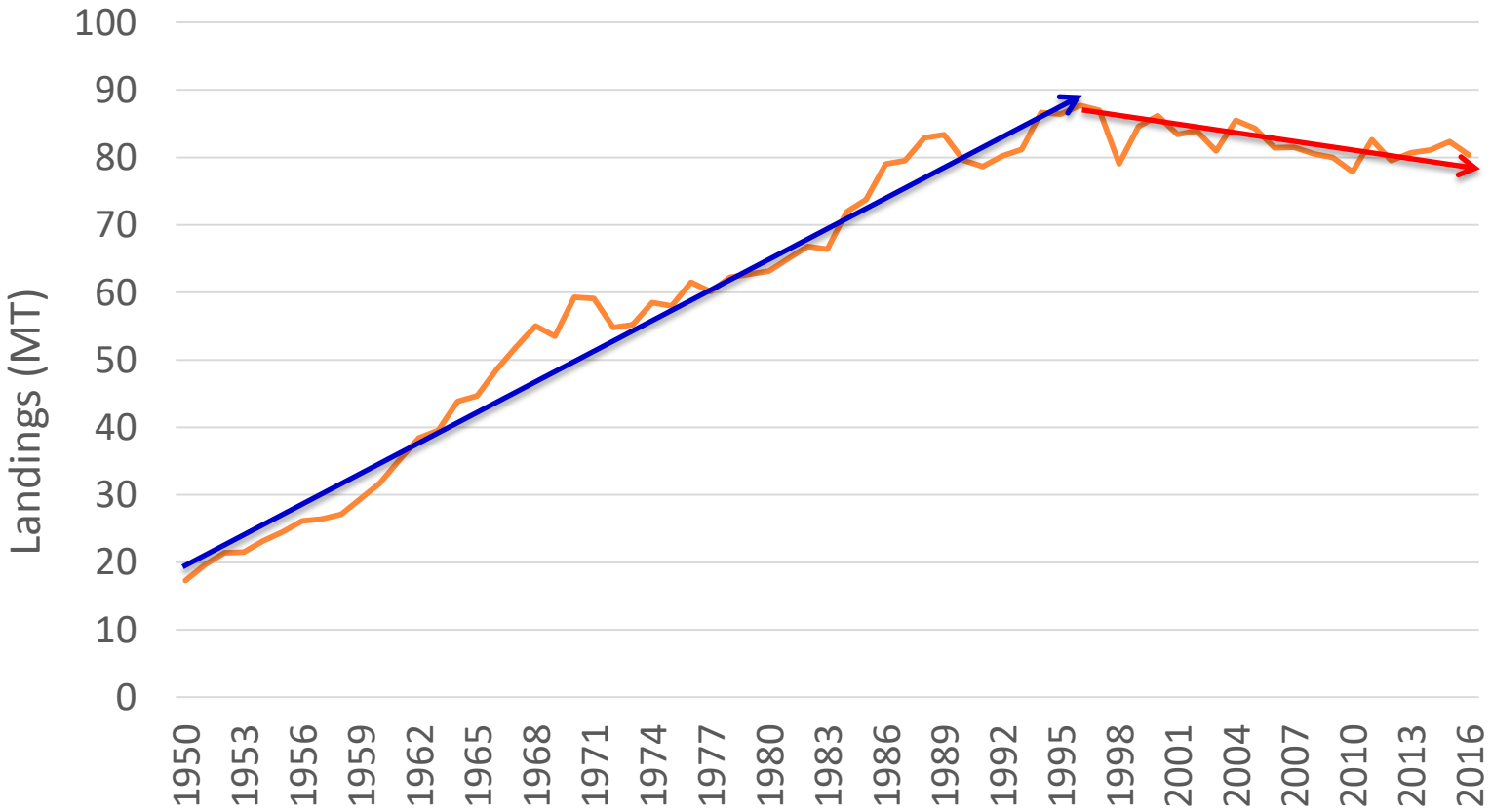
Outline

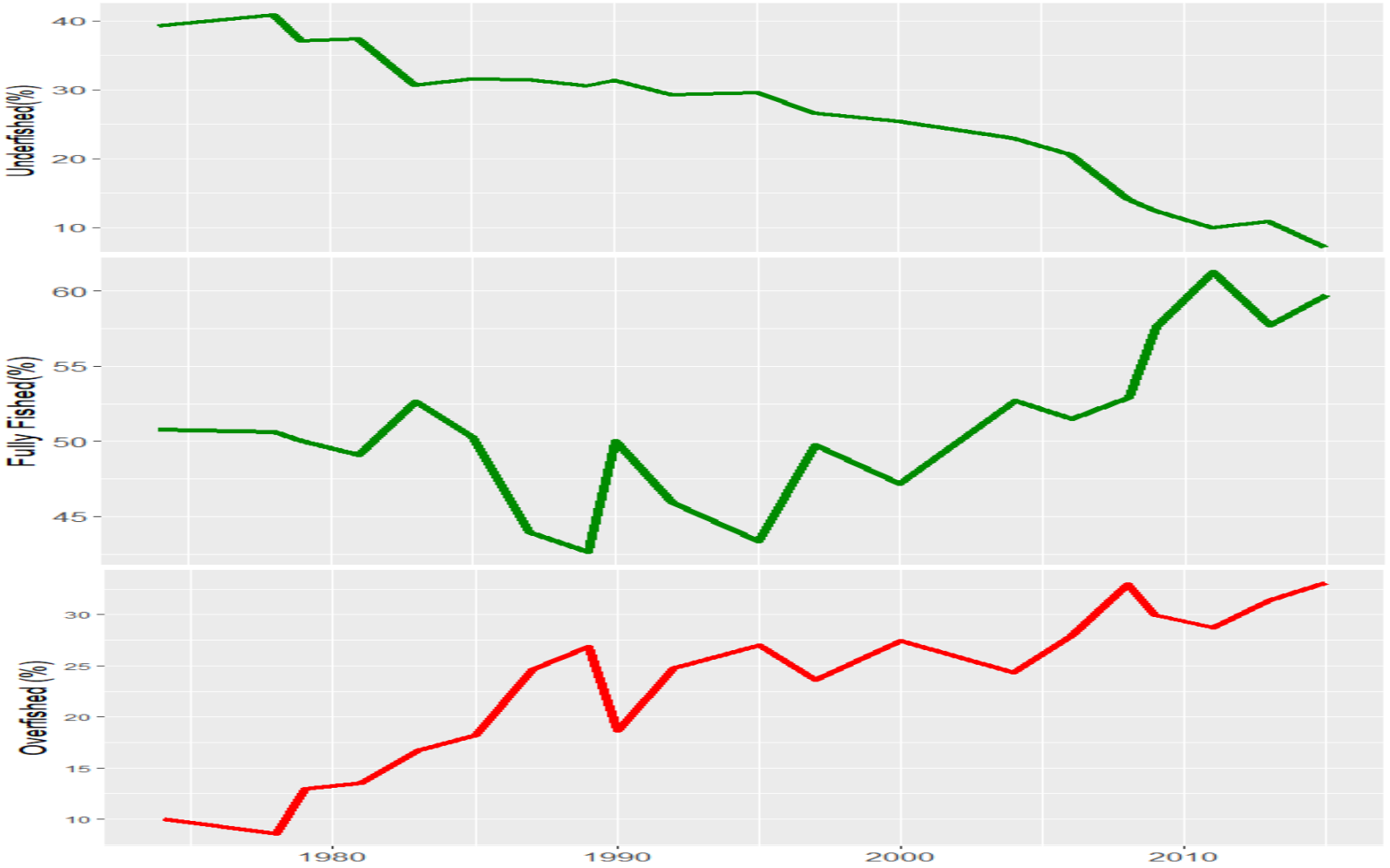
- Status and trends of global fish landings and resources
- The globalized nature of fishery production, trade and management
- Different patterns of fishing fleet capacity development between different countries
- Distribution of deep sea fishing fleets by region and country
- Issues face developing nations
- How to achieve global sustainable management of world fisheries

Landings of Global Marine Fisheries



- Increasing linearly up to 1995
- Slightly decreasing since then

The Status of World Fishery Resources and Its Ecological and Socio-economic Implications (FAO 2018)



Consequences of overfishing
(Ye et al. 2013)

- Loss of food production (17 mt/yr)
- Loss of economic rent ($32 b/yr)
- Cascading social effects (employment, livelihoods, inefficient resource use, etc)
- Impacts on biodiversity and ecosystem function

The Imperative Fisheries Reform – Rebuilding Overfished Stocks

The Sustainable Development Goals (2030 Agenda)

- Target 14.4: by 2020, ending overfishing and restoring fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

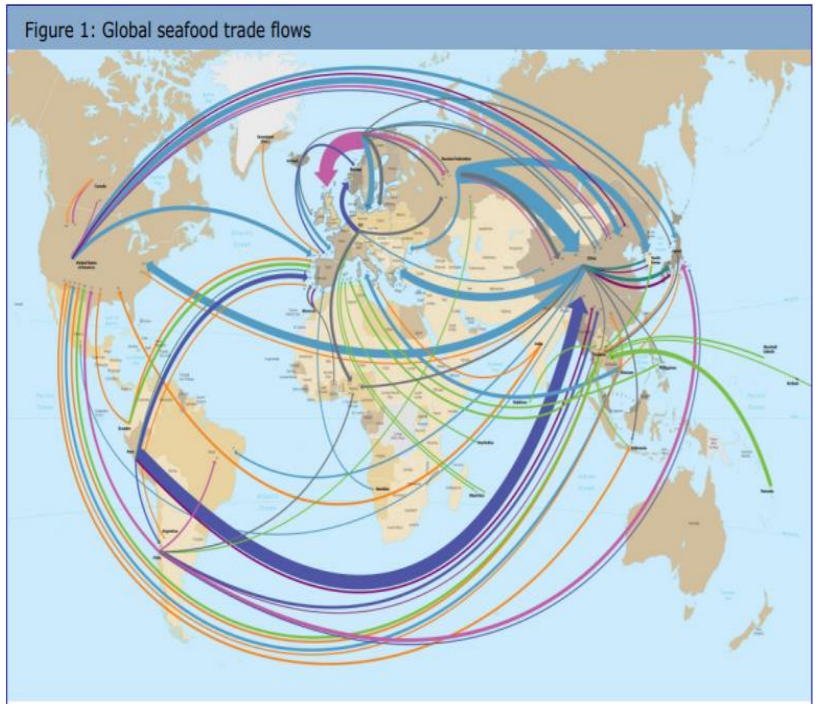
- **Indicator 14.4.1:** Proportion of fish stocks within biologically sustainable levels

Resource sustainability is unarguably fundamental to all other objectives of sustainable fisheries in the long run

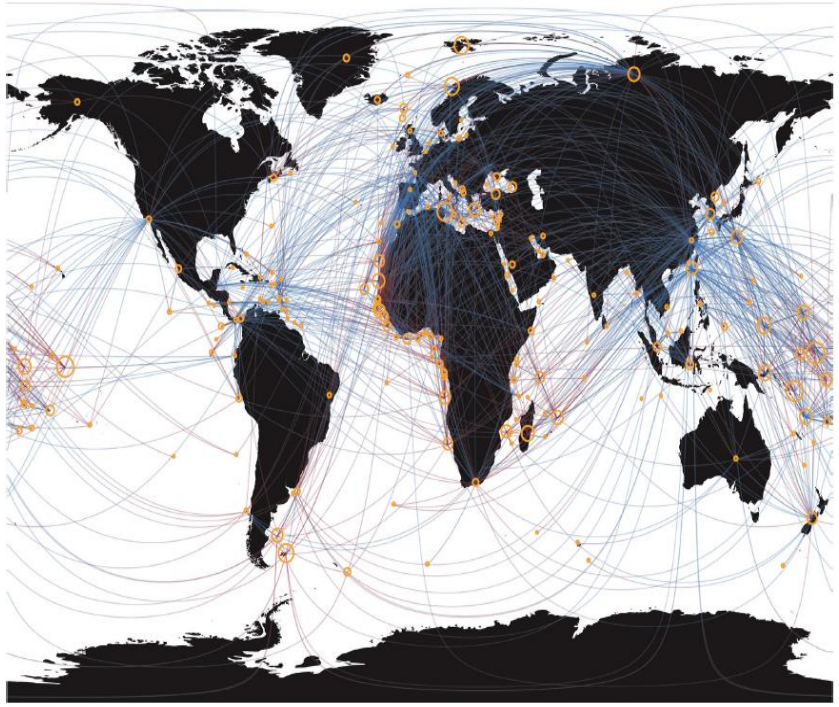
A Global Issue in Need of a Global Solution – Global Partnership

Connected through natural ecosystems

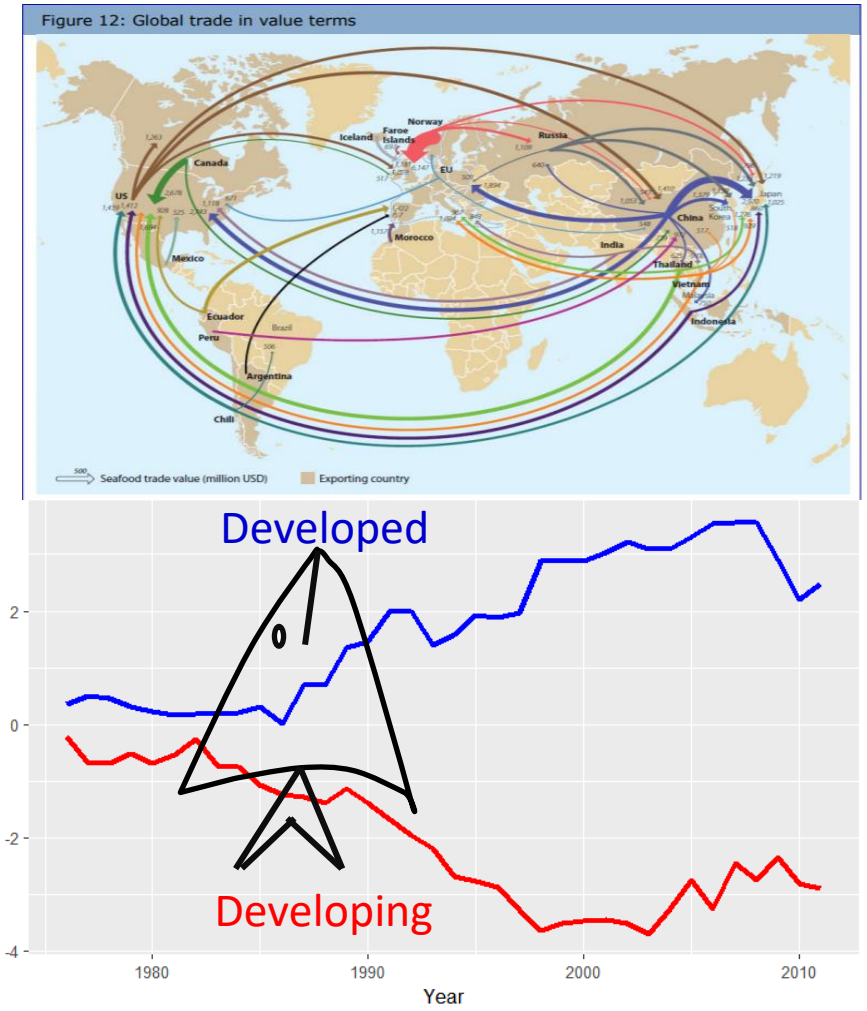
Connected through international trade
(Rabobank 2015)



Connected through distant water fishing network
(Cabral et al 2018)



Impacts of International Trade on Fisheries

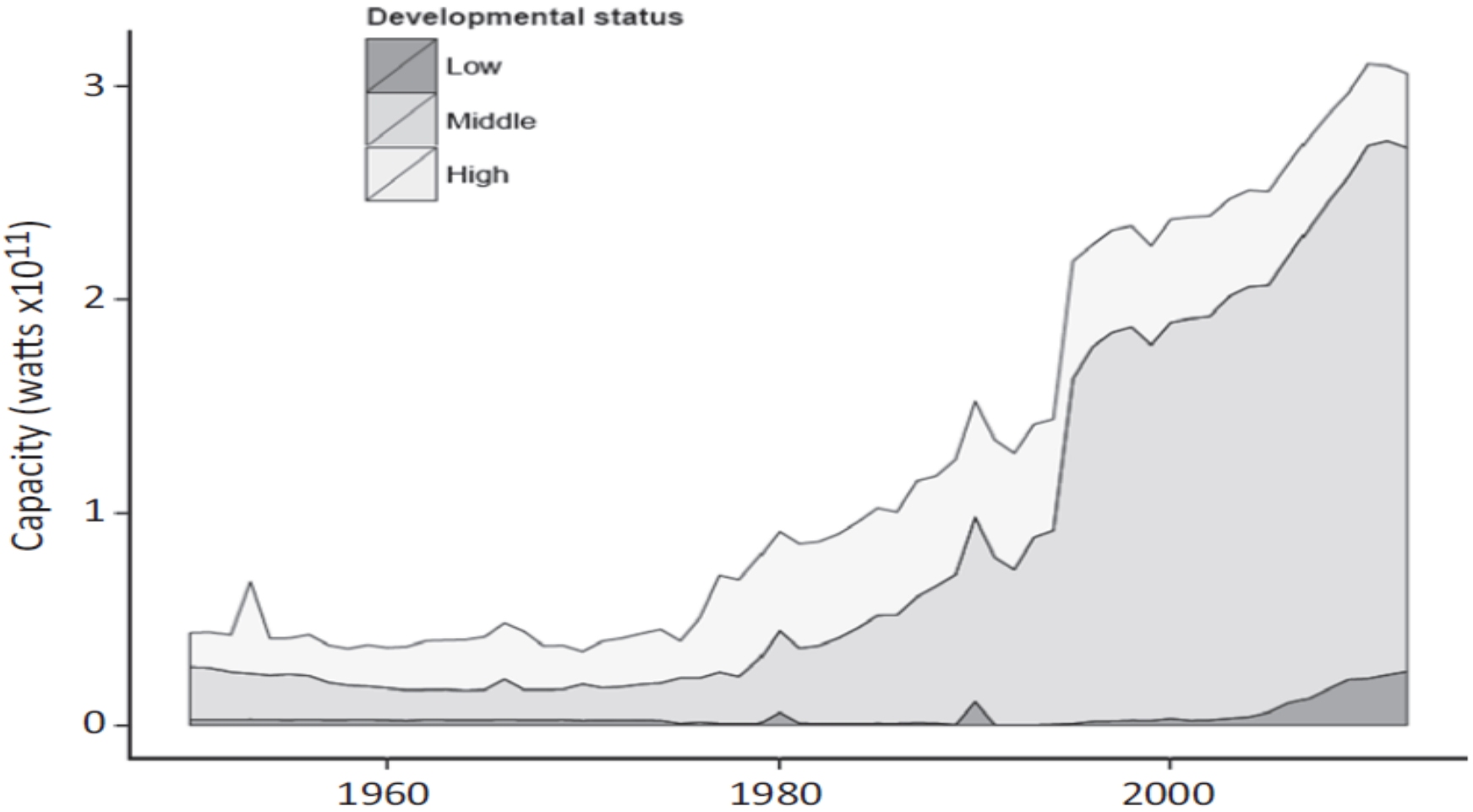


Ye & Gutierrez 2017

- International trade has many social and economic advantages for both import and export countries
- International trade may also increase fishing pressure on fish resources
- Without proper management, such increasing pressure may lead to more overfishing

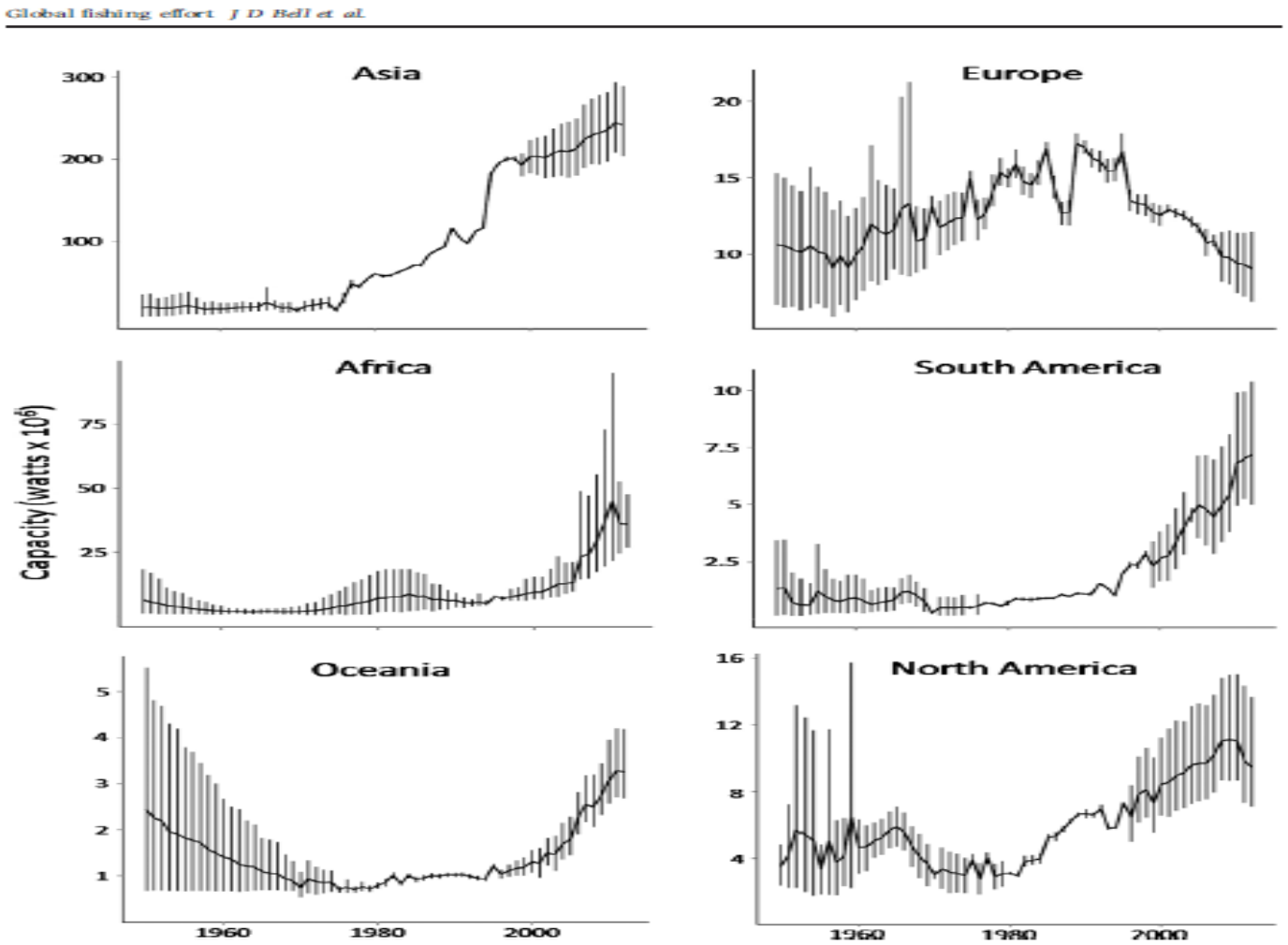
Fishing Capacity Development in Different Countries Groups

(Bell et al 2016)



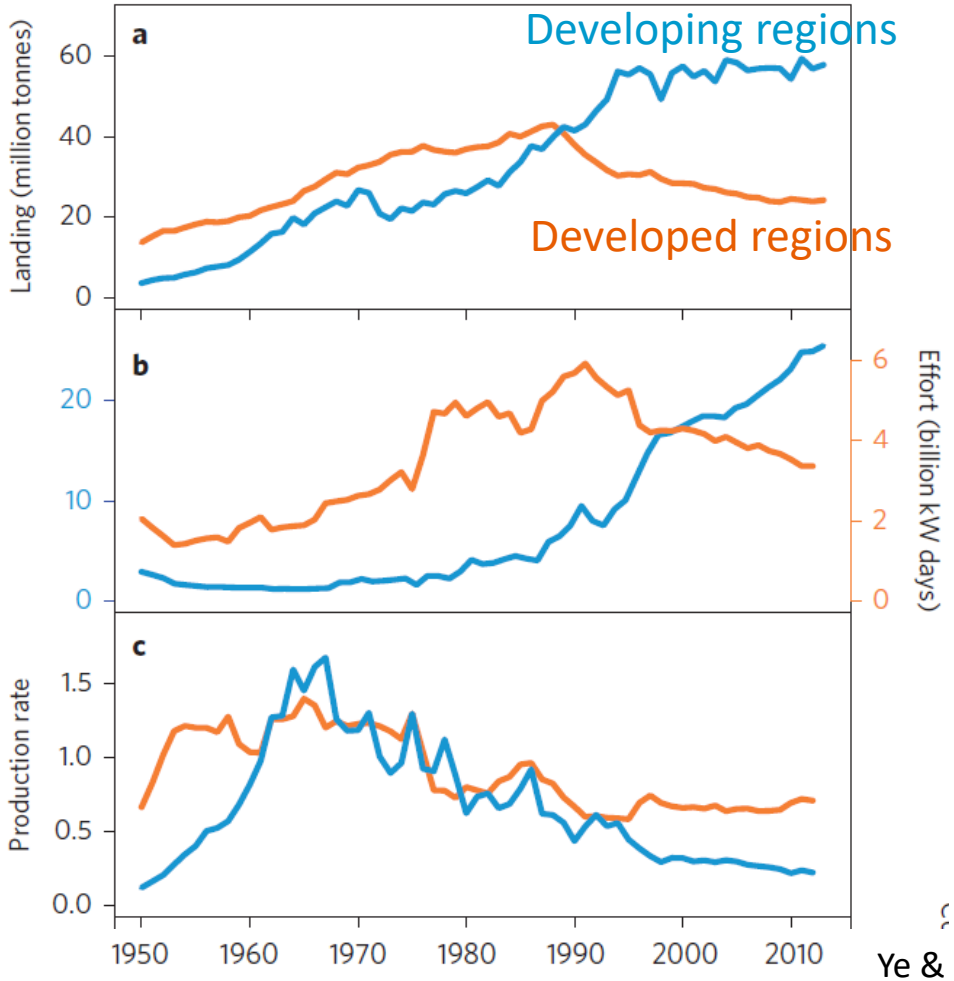
- About 50-50 share between the developed and developing nations before 1980
- Developing states have since experienced a rapid increase in capacity and contribute now +80% of the total

Fishing Capacity Development Patterns in Various Contents



- Asia is the largest contributor
- All regions are increasing except Europe and North America

Tackling the Discrepancy between the Developed and Developing World



Fishing pressure

Developing
Developed

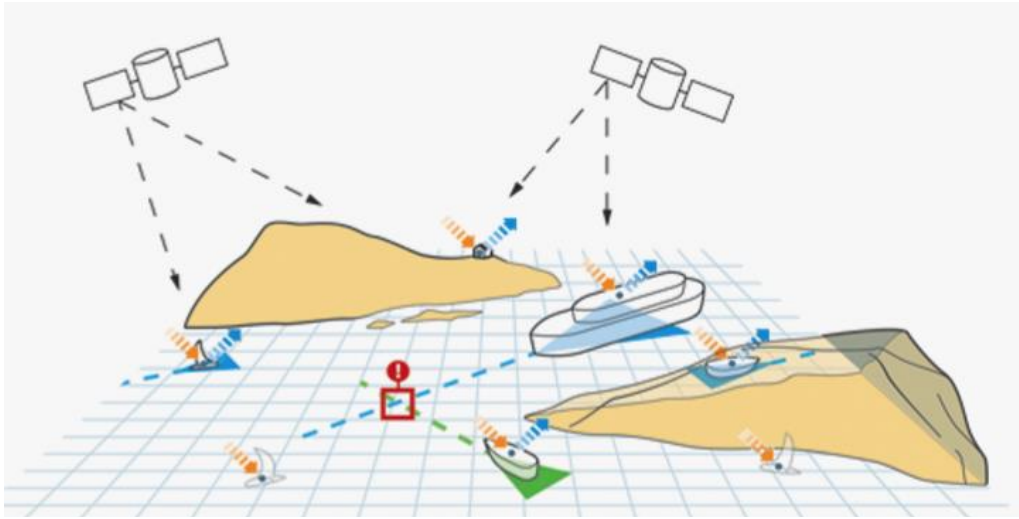
Resource status

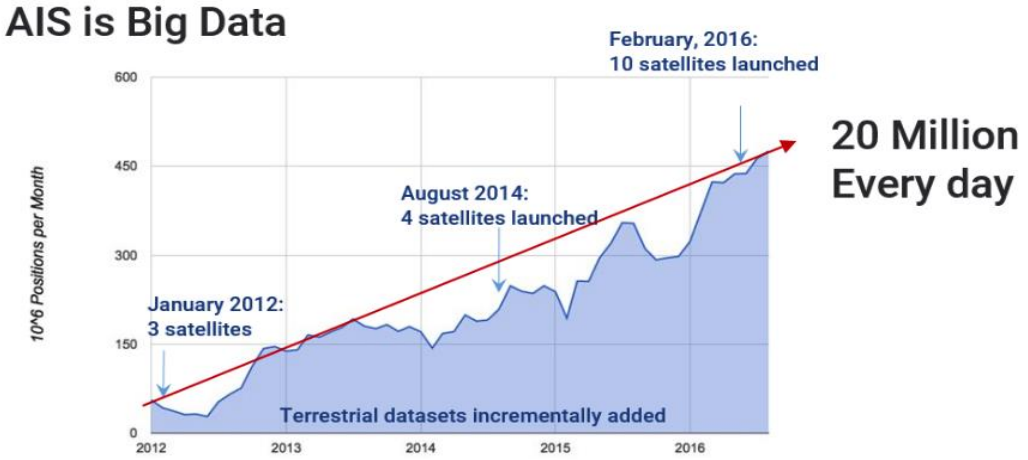
Developing < Developed

Ye & Gutierrez 2017

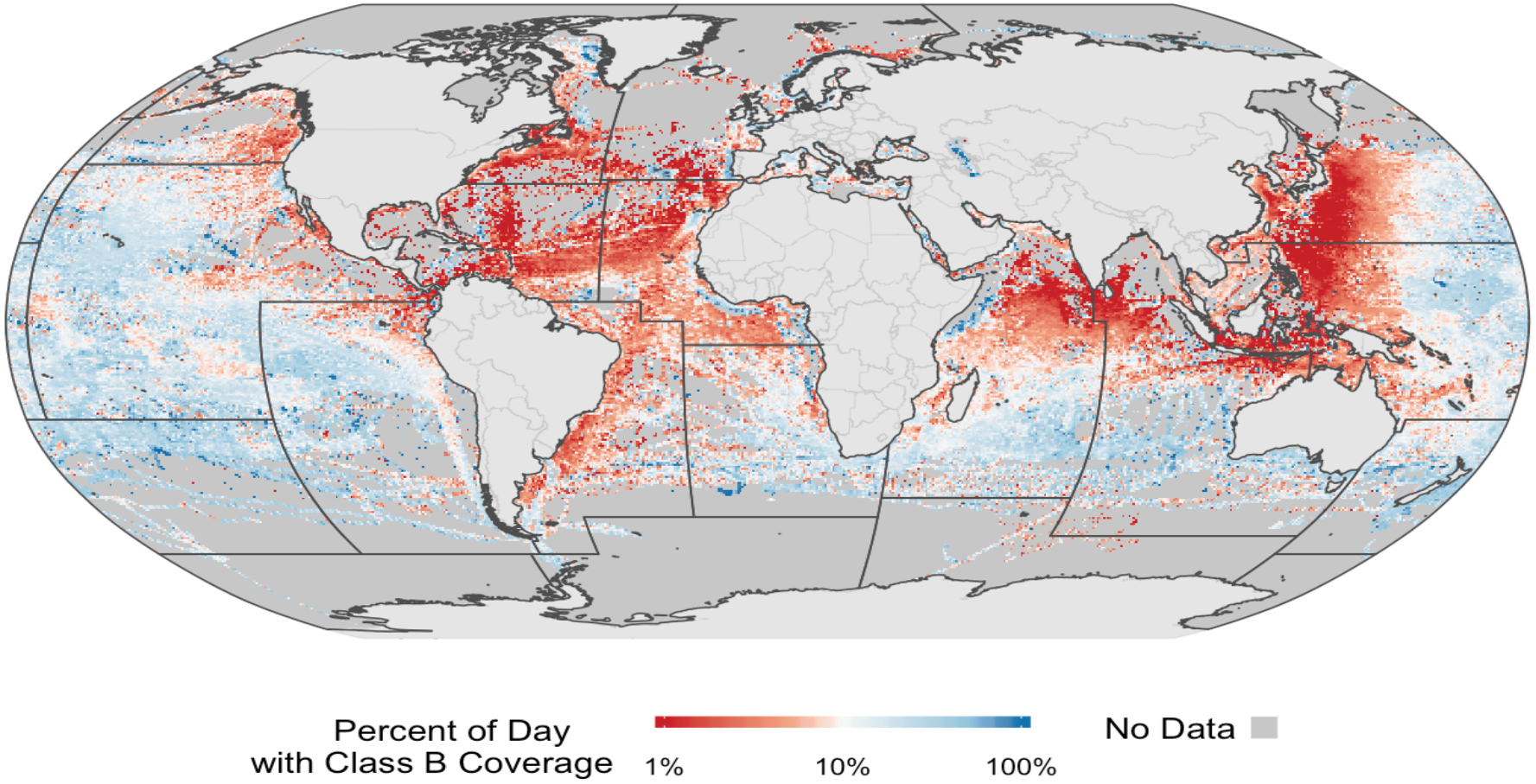
Automatic Identification System (AIS) and Its Data

- AIS is an automatic tracking system used on ships and by vessel traffic services to prevent ship collisions
- Message includes info: ship ID, position, speed, turning angle etc every few seconds
- Mandatory: vessels>24m (varies with regions)

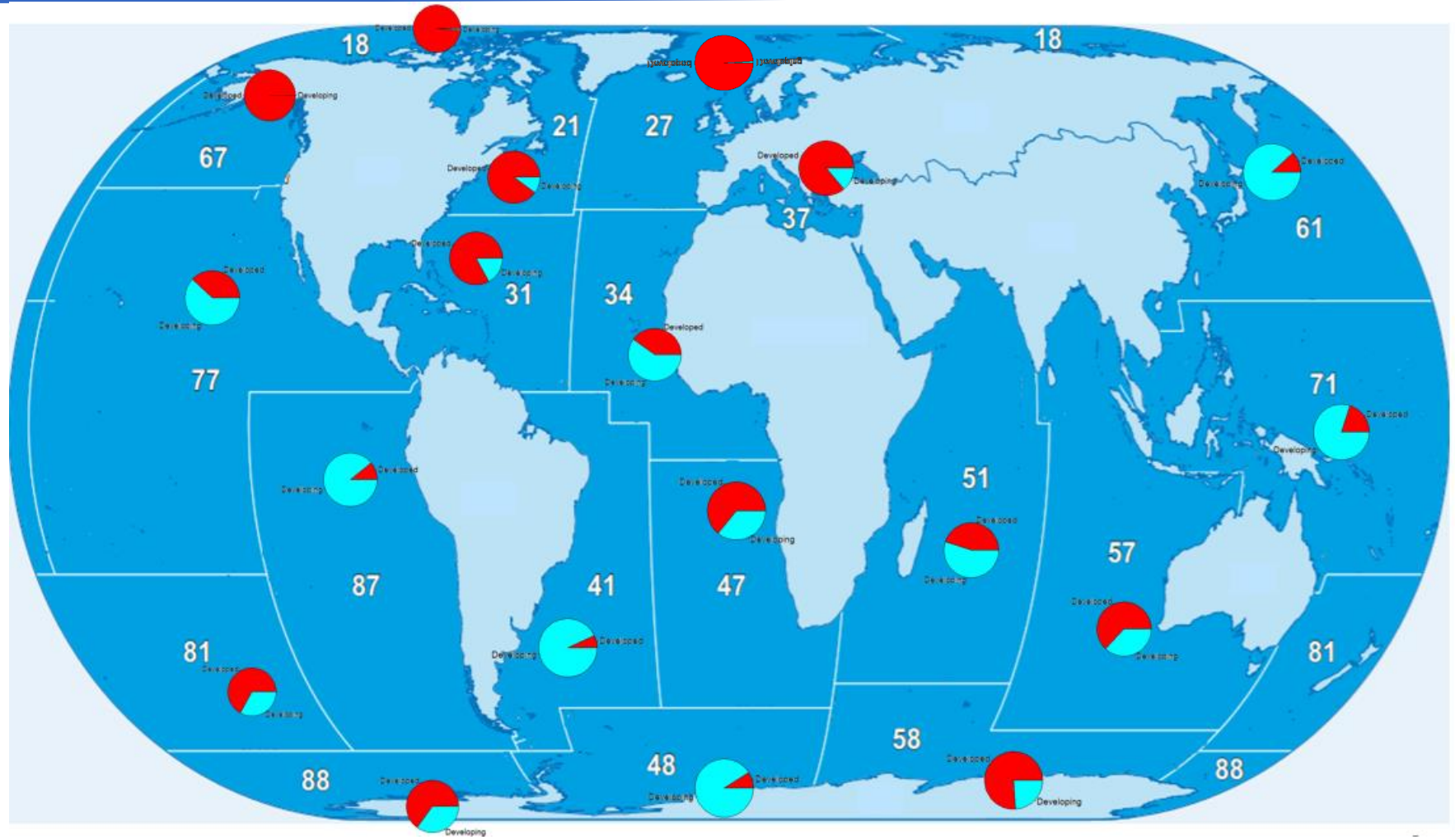


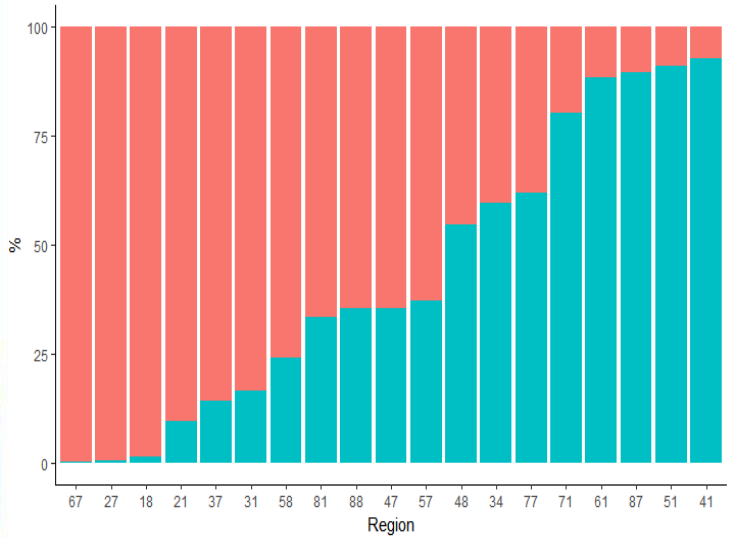


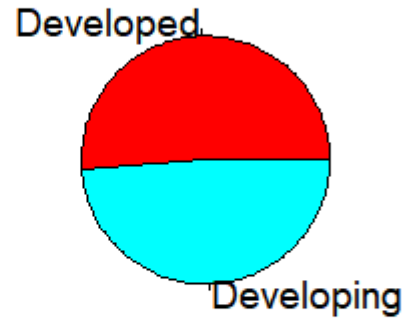
An Overview of the Fishing Fleet with AIS Data



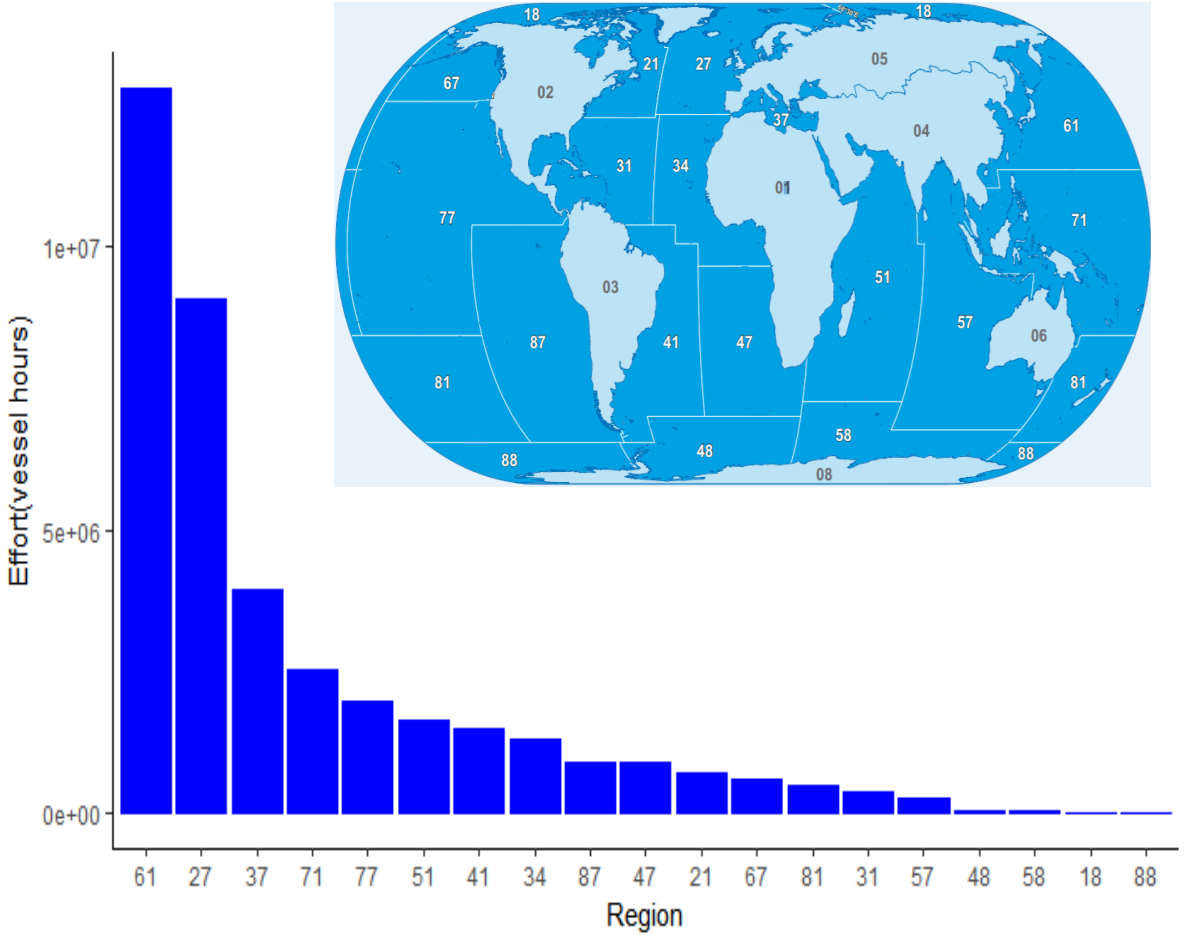
Spatial Distribution of AIS Monitored Vessels in Different Regions

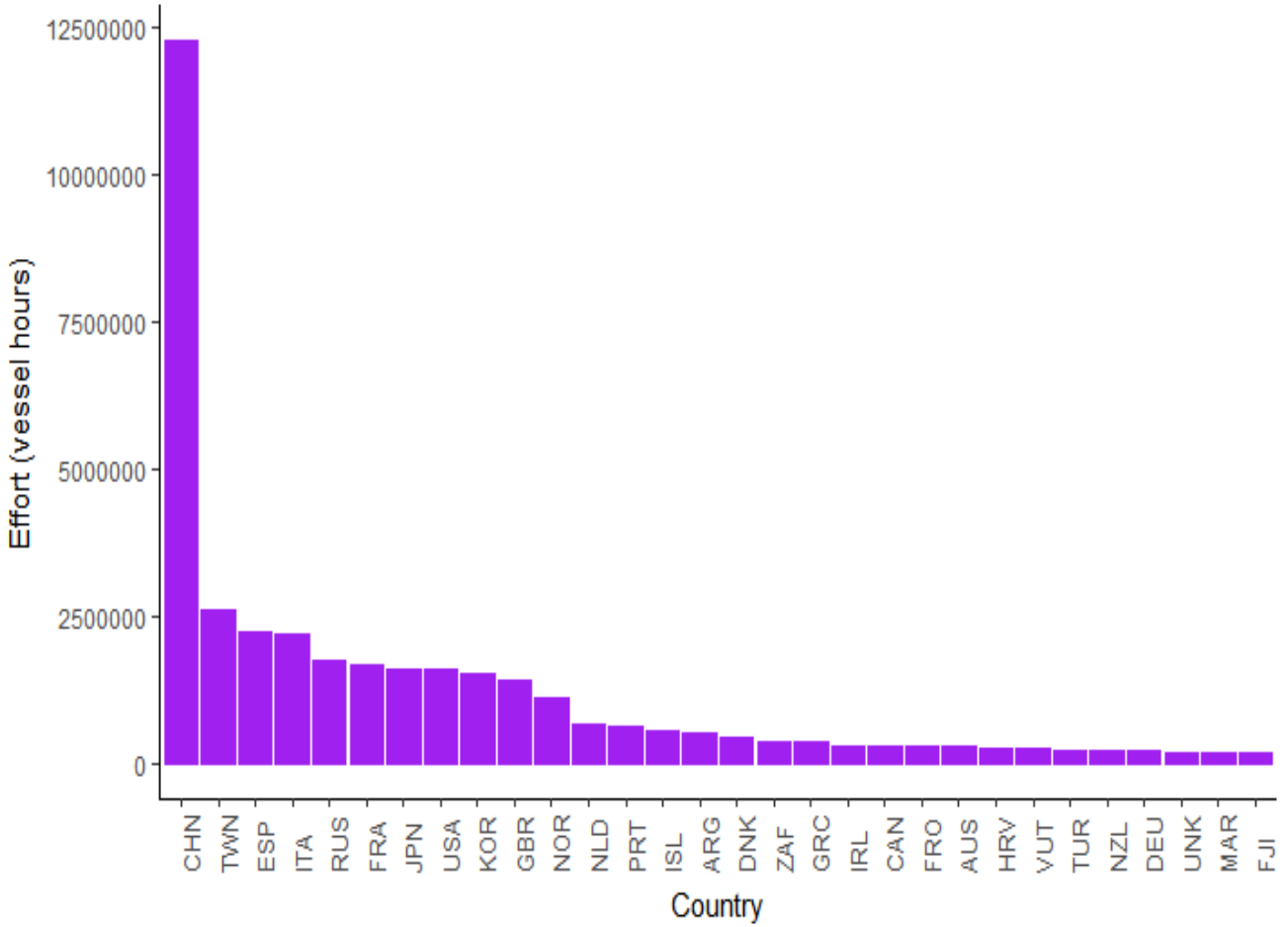




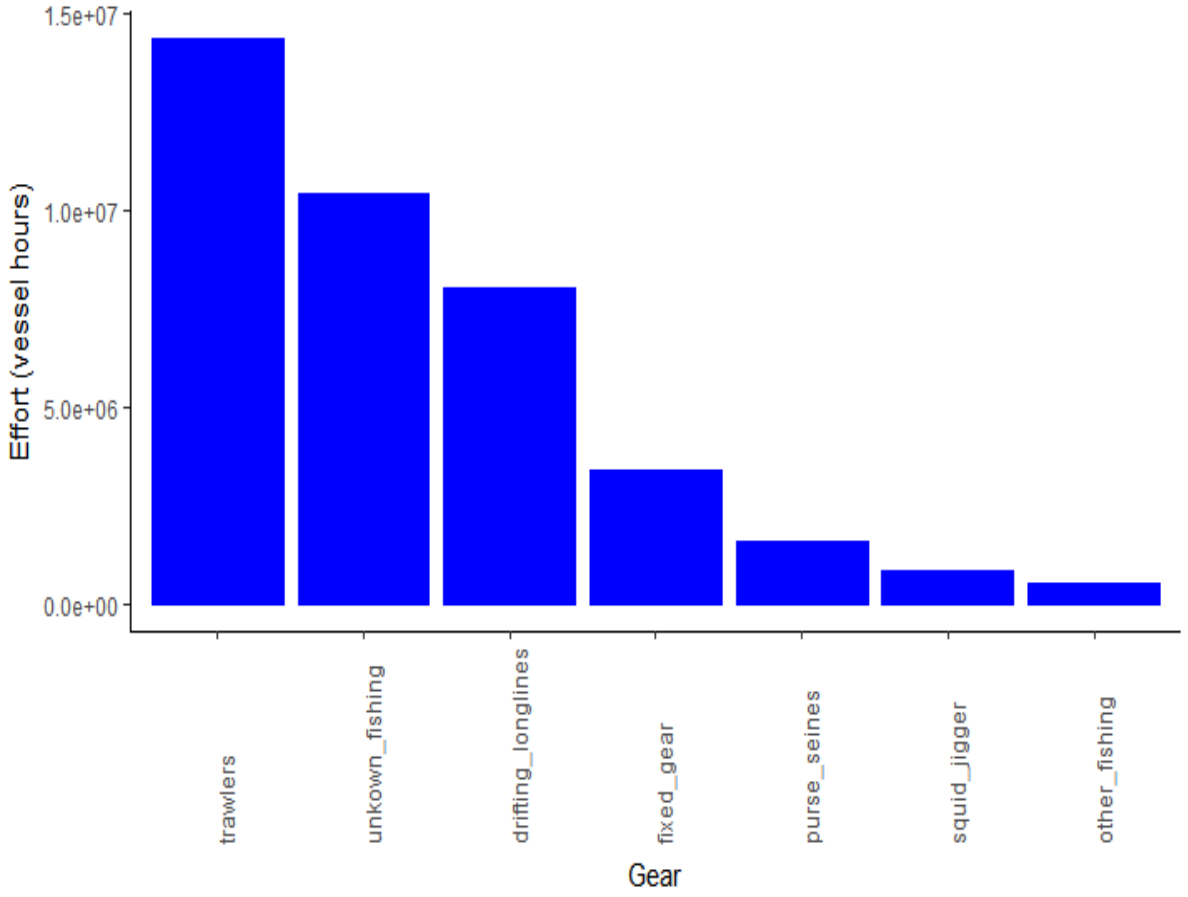


Effort (AIS Data) Distribution by Region and Country



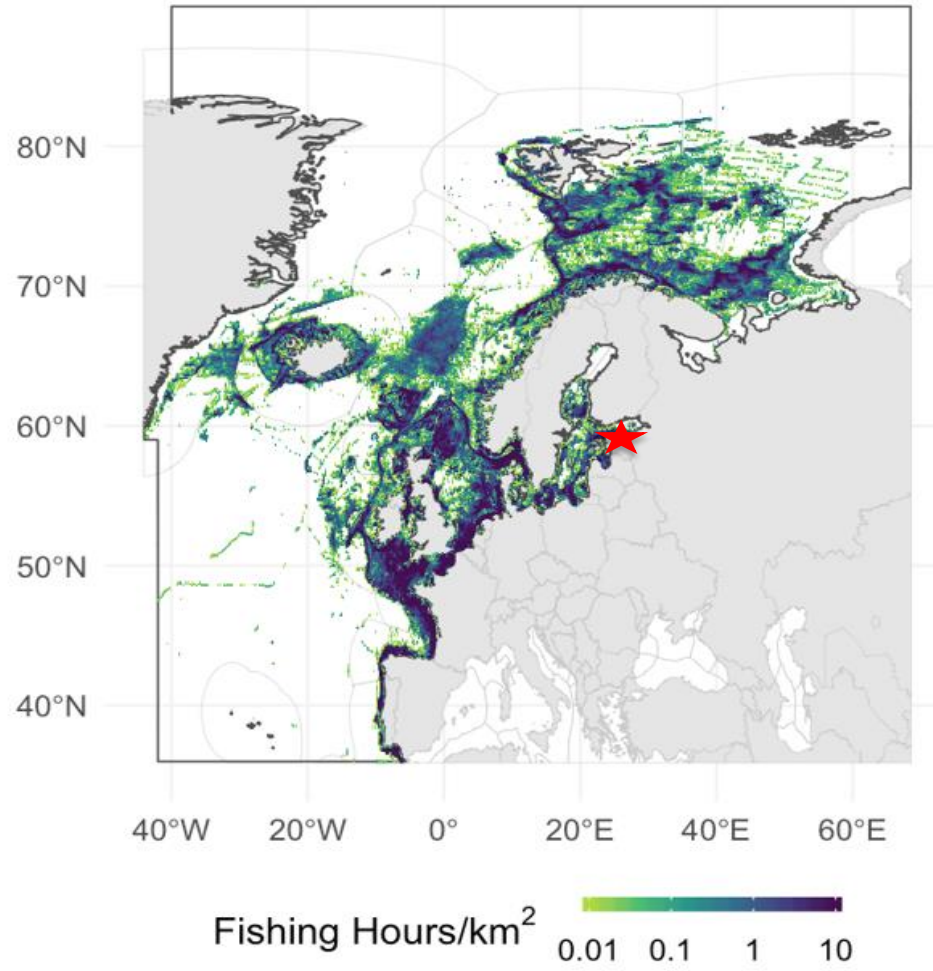


Effort (AIS Data) Distribution by Gear Type

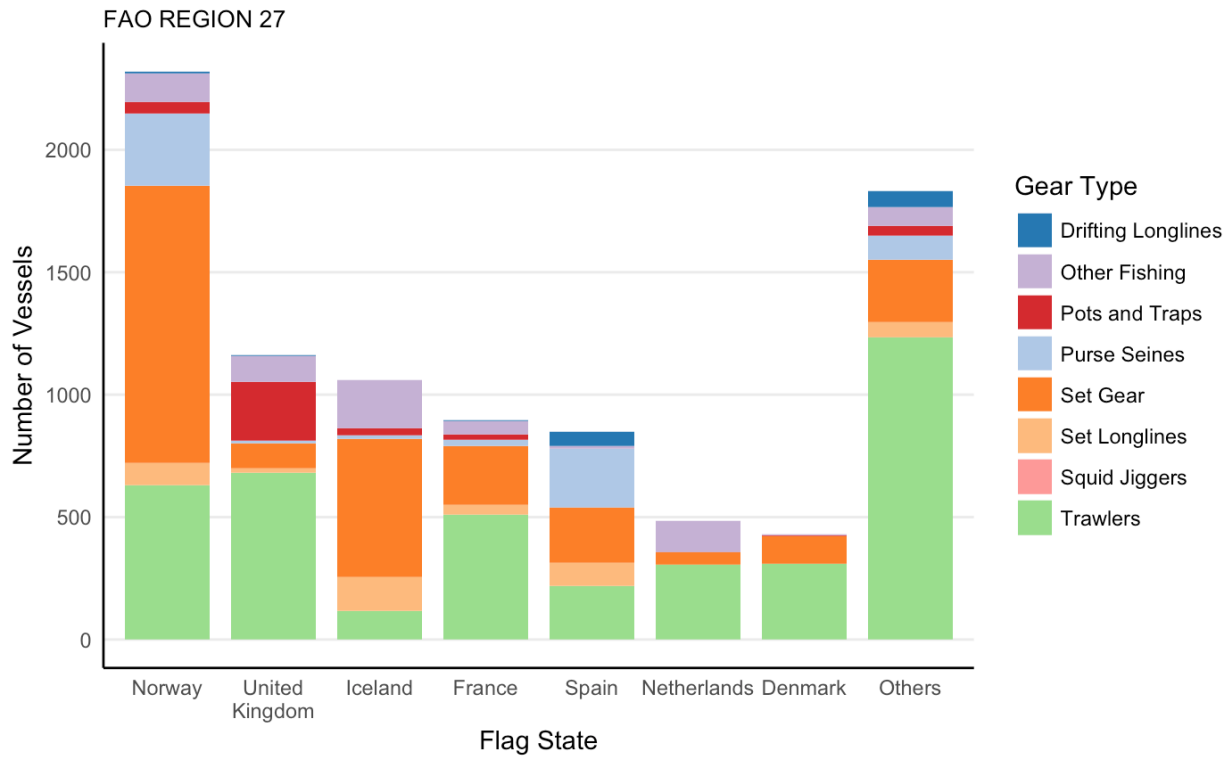


- Trawling is the largest
- A large part of effort is unknown of its gear type
- Large variation in gear type exists among regions

Fishing Effort Distribution in Northeast Atlantic (Region 27)

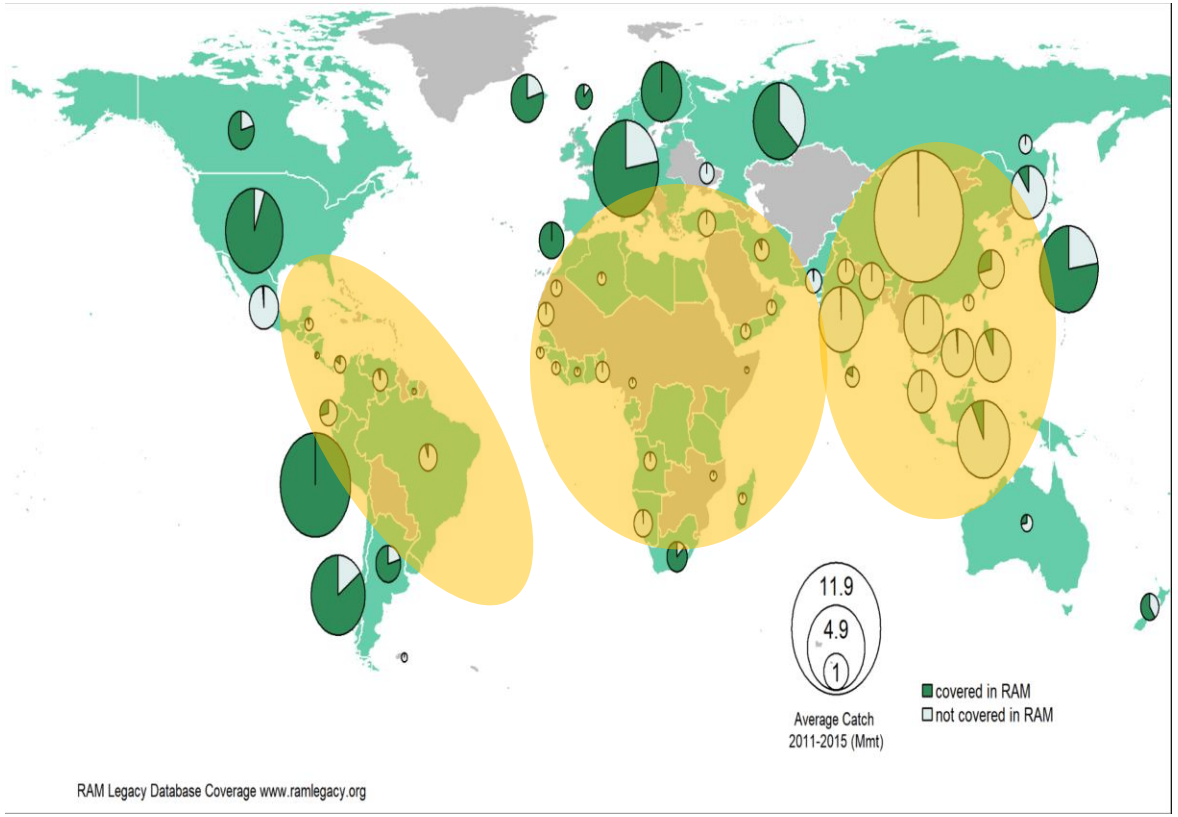


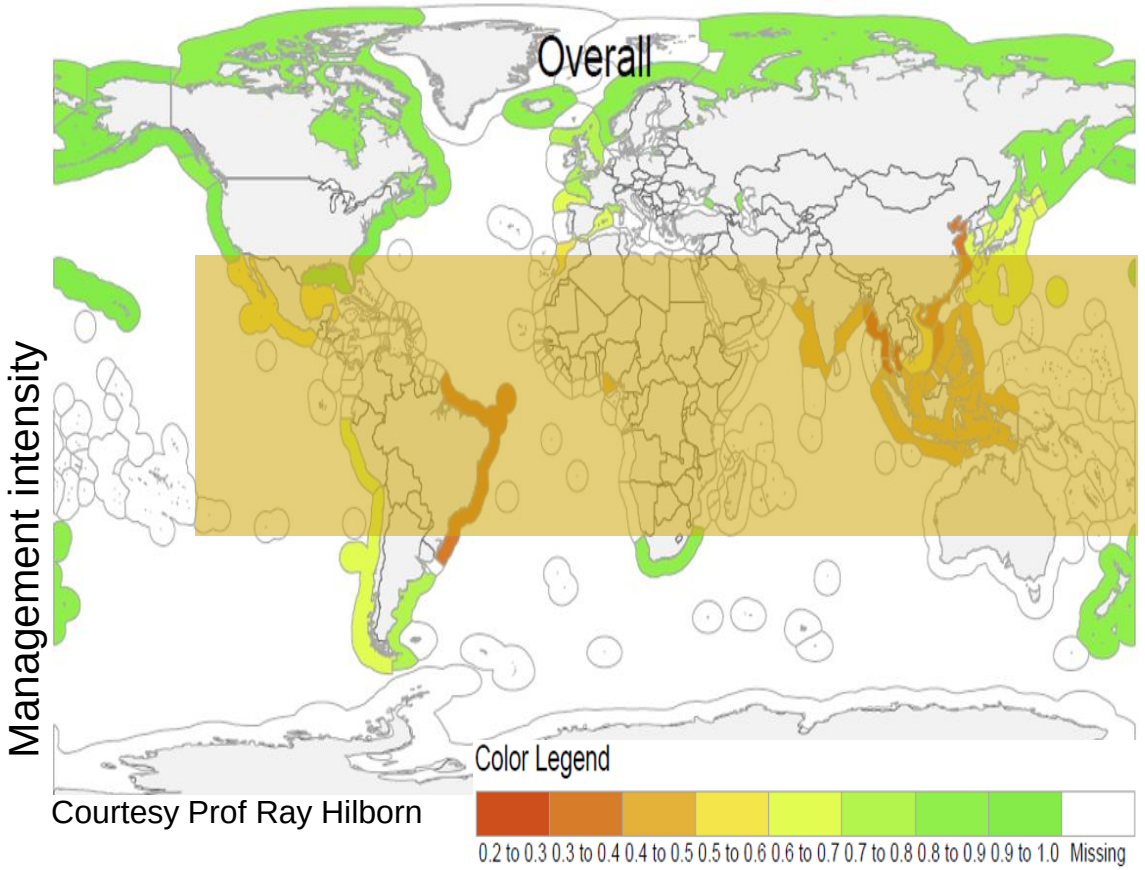
Major Countries and Gear Types in Northeast Atlantic (Region 27)



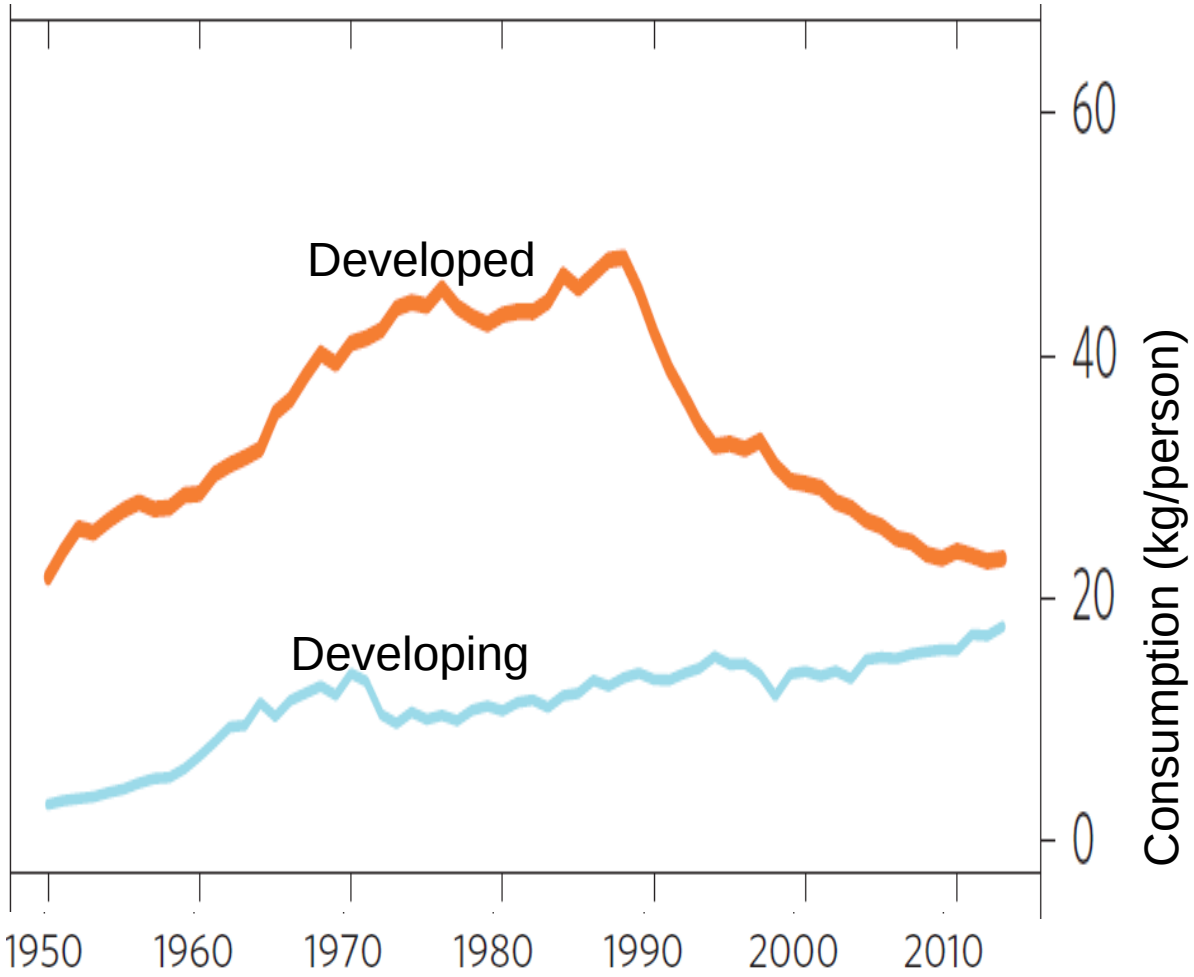
- Set gear (fixed gear) is the largest
- Followed by trawlers
- All others are minor

Regions of Limited Capacity in Data Collection, Science and Management





Difference in Fish Consumption



- In developing economies, fish consumption has been increasing linearly over time
- In developed nations, fish consumption started declining after 1988
- Fish consumption is higher in the developed world

Summary Points of Developing Nations' Fisheries

Fisheries Specific Facts

- 70% landings
- >80% fishing fleet capacity
- Lower fish consumption
- Exporting fish for economic benefits
- Limited resources and infrastructure
- Lower capacity in fishery science and management

Issues of General Nature

- High demand for food security and nutrition
- High pressure for economic development
- Social and cultural complexities involved in the vast coastal communities often hamper fisheries reform
- Fishery is often ignored in national level economic planning

How to Achieve the Global Sustainable Management of World Fisheries?

- Form a effective global partnership to enhance institutional and governance capacities, particularly in developing countries
  - Sharing of success experience and knowledge
  - Technology transfer
  - Capacity building in science-based policy making
- Control fishing capacity at sustainable levels through policy and regulations
  - judicious use of subsidies
  - eradication of IUU fishing
- Establish a seafood trading system that rewards sustainable fisheries
  - International rules and bilateral agreements
  - Domestic policy
  - Market driven mechanisms (eg eco-labelling)
- A stronger global monitoring system
  - SDG 14.4
  - Aichi Target 6

Thanks for Your Attention!