A GLOBAL ASSESSMENT TO STRENGTHEN THE SUSTAINABLE USE OF THE OCEAN

Maria João Bebianno

mbebian@ualg.pt

EEAC

UAlg CIMA

UNIVERSIDADE DO ALGARVE

CENTRO DE INVESTIGAÇÃO MARINHA E AMBIENTAL

SUSTAINABLE DEVELOPMENT GOALS

2030 Agenda For the Sustainable Development

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Conserve and sustainably use oceans, seas and marine resources for sustainable development

14.1 ***Prevent and significantly reduce marine pollution from all kinds, in particular from land-based sources, including marine debris and nutrient pollution.***

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including strengthening their resilience and take action for their restoration in order to achieve healthy and productive oceans.

14.3 Minimize and address the impacts of ocean acidification through the enhanced scientific cooperation at all levels.

14.5 By 2020, conserve at least 10% of coastal and marine areas, consistent with international law and based on the best available scientific information.

SUSTAINABLE DEVELOPMENT GOALS

SDGs that contribute to achieve SDG14

SGDs that will benefit from SDG 14

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First World Ocean Assessment

The Regular Process to review the environment, economic and social aspects of the World Ocean was approved by the United Nations in 2004

The Regular Process is guided by international law including the United Nations Convention on the Law of the Sea and other applicable international instruments

DIVISION FOR OCEAN AFFAIRS AND THE LAW OF THE SEA
UNITED NATIONS

General Concerns

- State of the world's ocean and seas is deteriorating
- No system of assessments existed at that time that gives a global picture of the state of the marine environment with socio-economic aspects

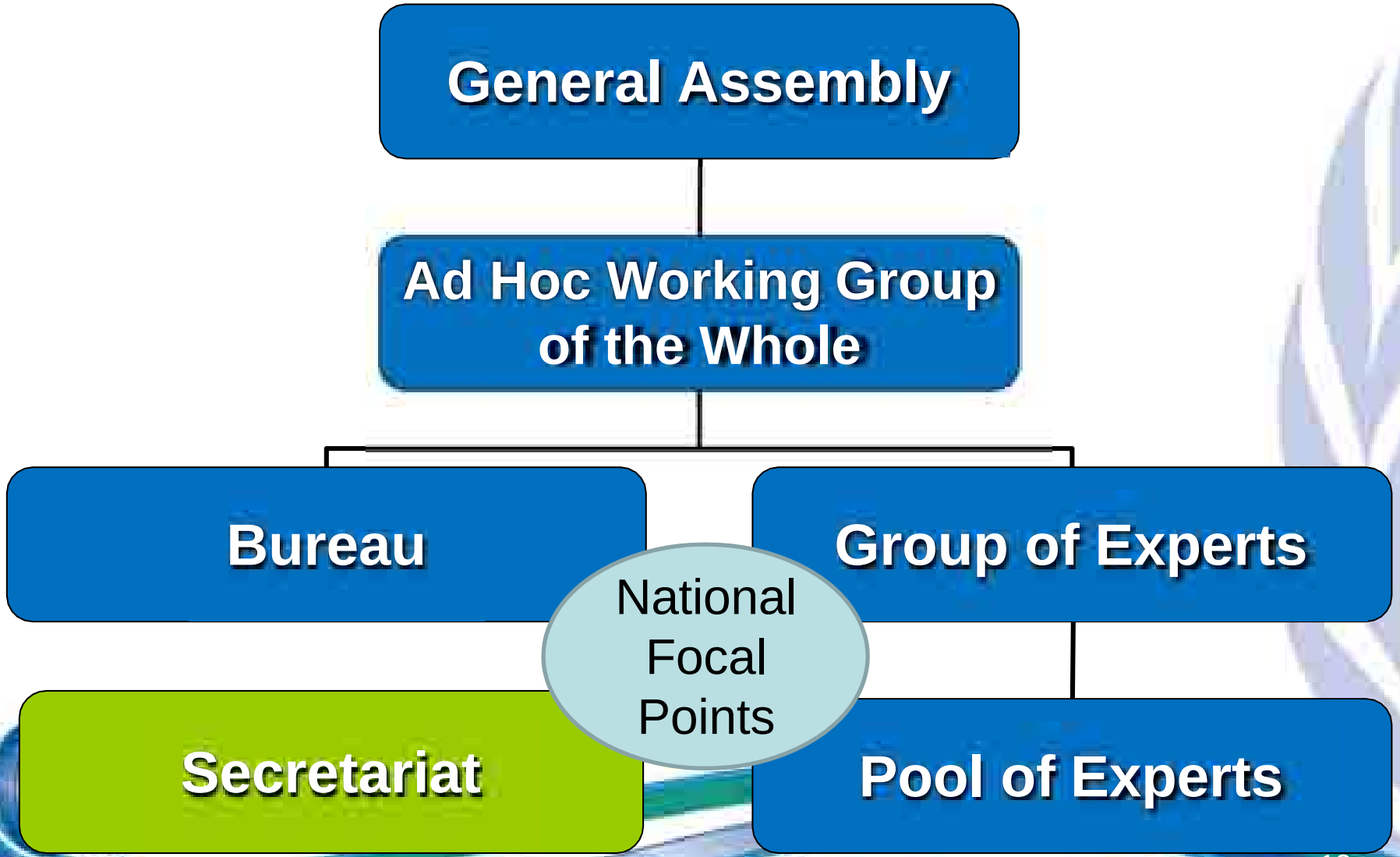
Science-Policy interface

- Approach to understand the oceans needs to be integrated and not only sectoral
- Oceans issues are interlinked including with social and economic development on land
- Need for a more effective interface between scientific knowledge and decision-making

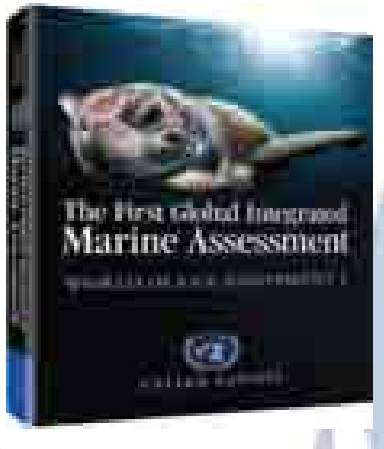
Science-Policy interface

- A scientific understanding of the ocean is fundamental to carry out an effective management of the human activities that affect the marine environment and the biota that it contains

Institutional Arrangements



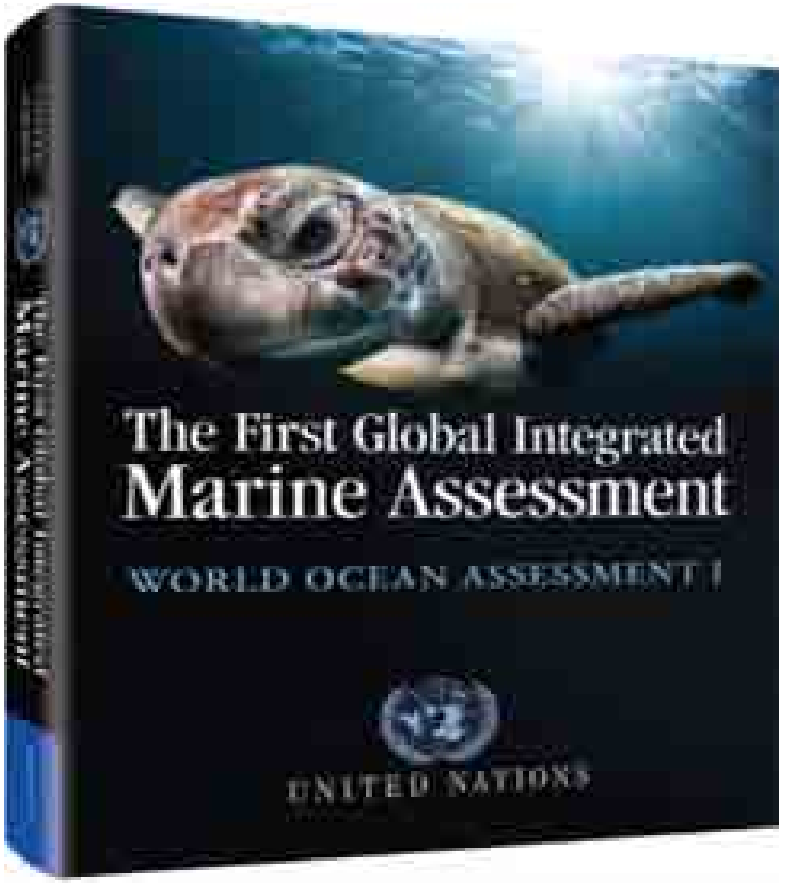
First World Ocean Assessment (WOAI)



The Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects produced the first integrated assessment of the marine environment in December 2016

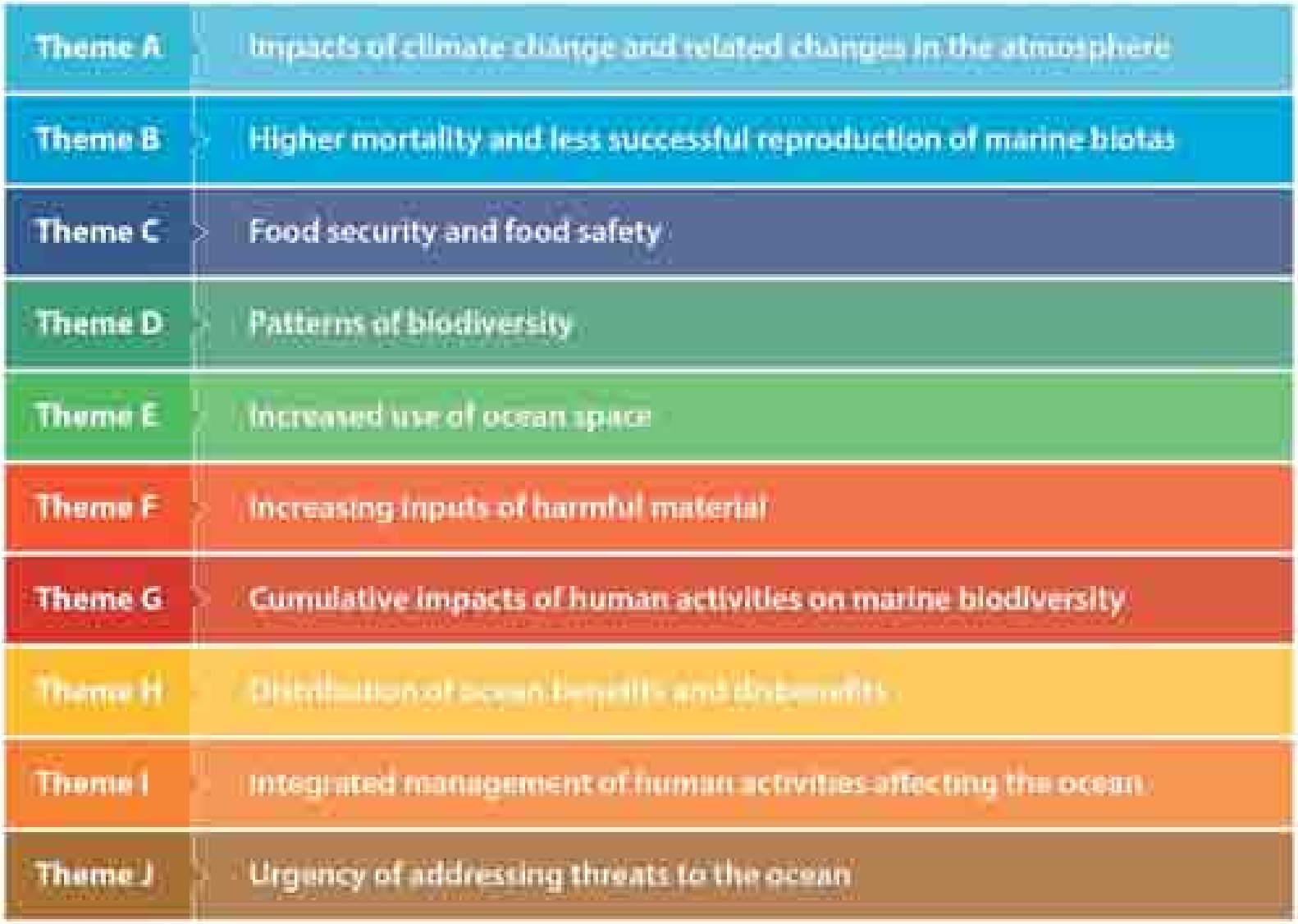
First Global Integrated Marine Assessment (WOAI)

- *"The ocean carrying capacity is near or at its limit. Urgent action on a global scale is needed to protect the world's oceans"* (Ban Kin-moon)
- Prioritize areas for action and input to **Sustainable Development Goals**



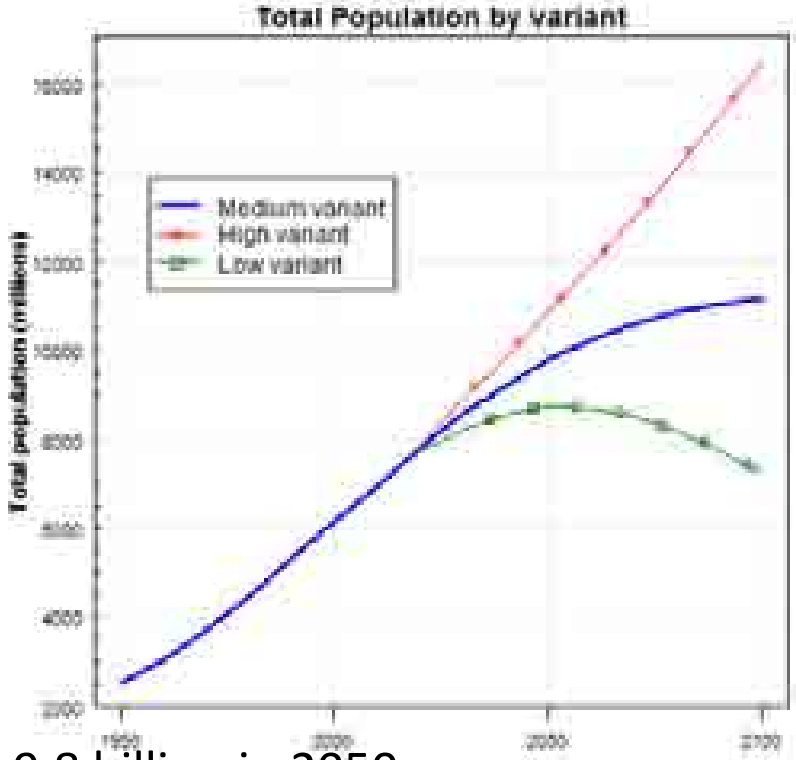
55 Chapters , 973 pages, 645 Experts contributed

The ten themes addressed in the World Ocean Assessment



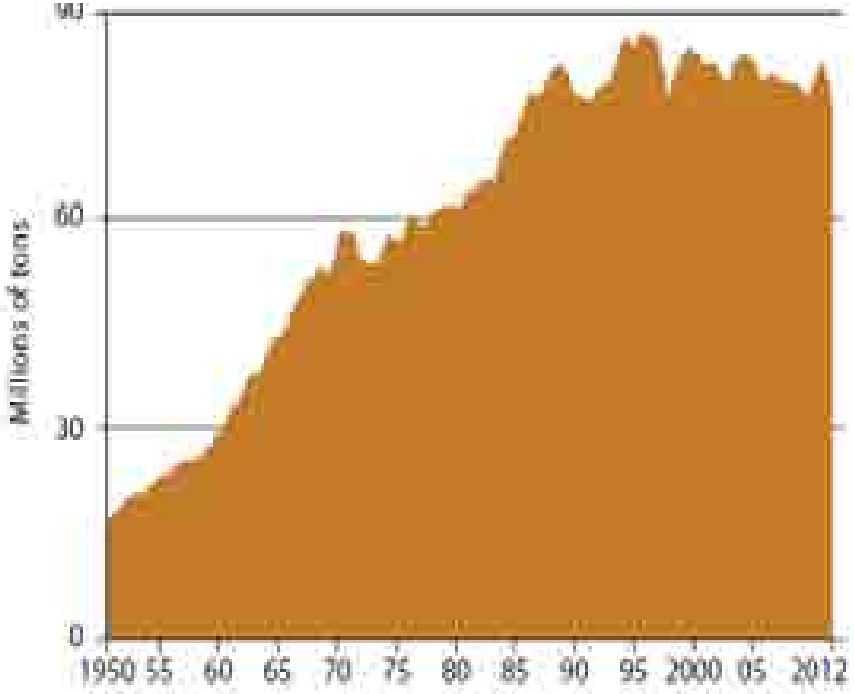
Is the Ocean capable of increasing food production ?

World Population Prospects 2017



- 9.8 billion in 2050,
- 11.2 billion in 2100

Global commercial catches reported by the Food and Agriculture Organization of the United Nations, 1950-2012



Source: Food and Agriculture Organization of the United Nations, The State of World Fisheries and Aquaculture 2014 (Rome, 2014).

WOA, 2016

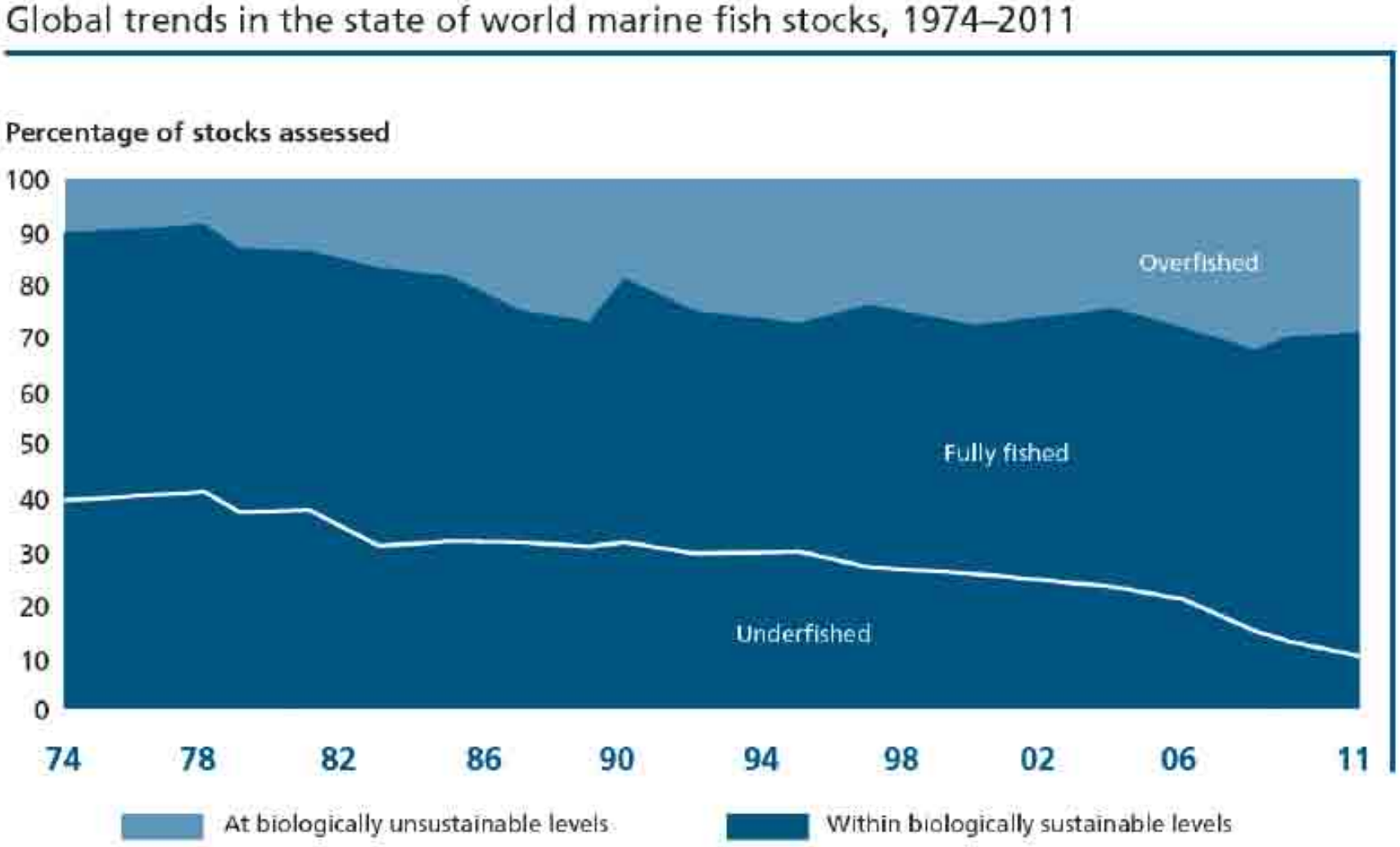


Figure 2. State of world marine fish stocks (from SOFIA, FAO 2014)

WOA, 2016

Ship Movements

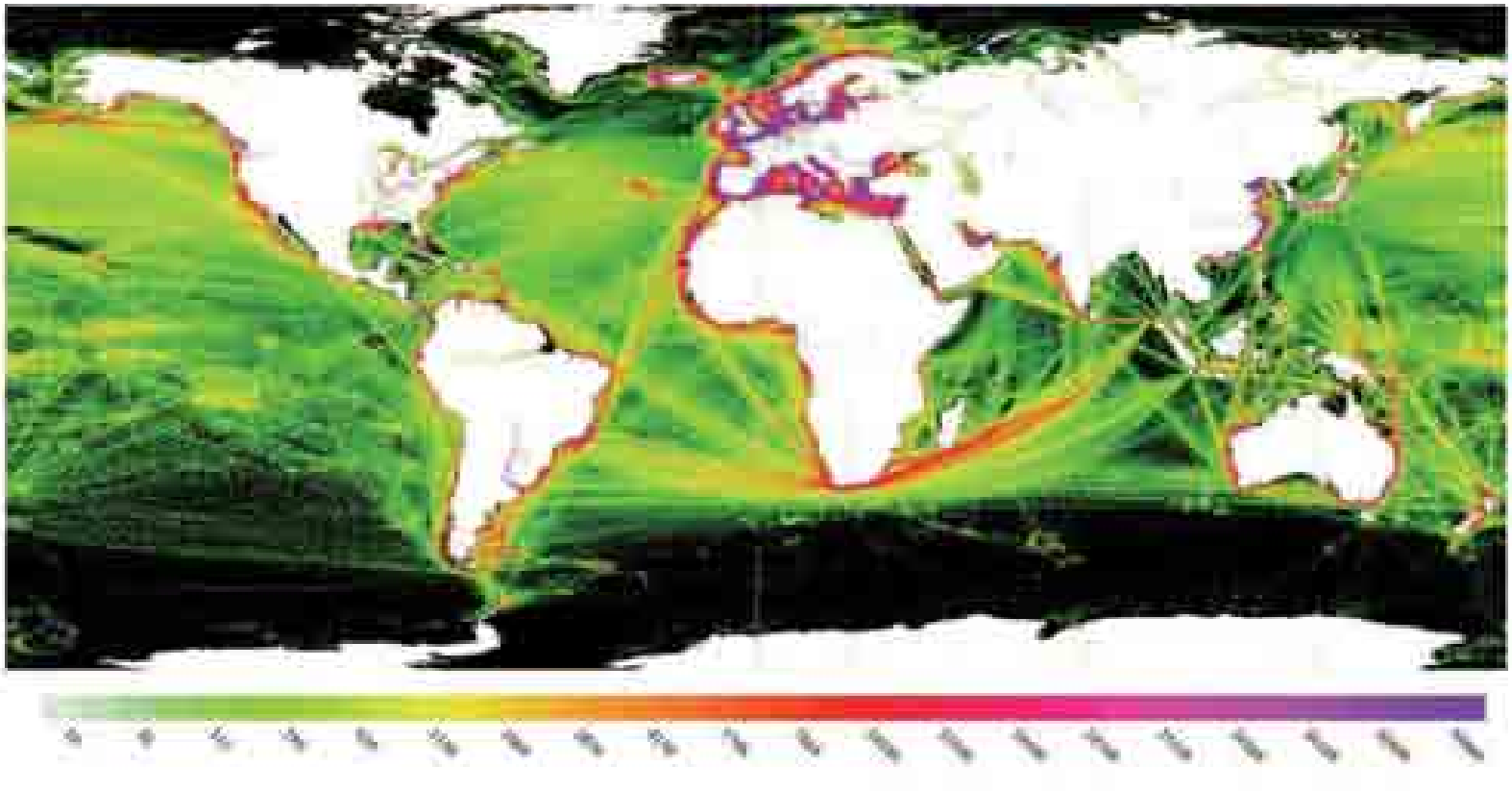
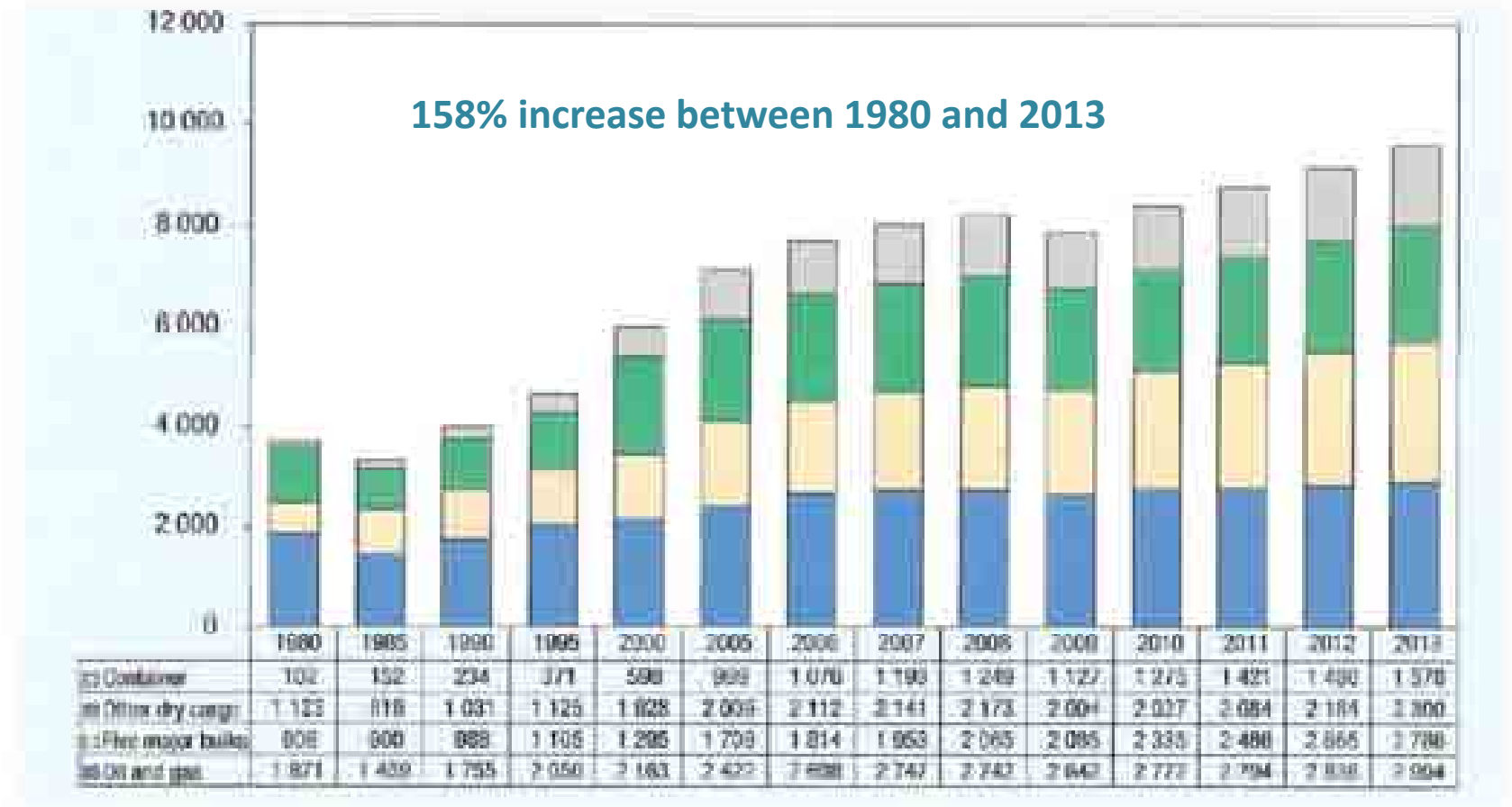


Figure 2. Global Network of Ship Movements (data 2012). Data derived from daily Automatic Identification System (AIS) messages recorded for each 0.2° × 0.2° grid square. The coloured scale shows the number of messages recorded over the year for the grid squares. Source: IMO, 2014o.

WOA, 2016

Transport of Goods



	1980	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013
Container	102	152	234	371	598	969	1 070	1 198	1 248	1 122	1 275	1 421	1 490	1 570
Other dry cargo	1 123	818	1 031	1 125	1 828	2 006	2 112	2 141	2 173	2 004	2 027	2 084	2 184	2 300
Five major bulks	808	900	888	1 105	1 285	1 709	1 814	1 953	2 065	2 085	2 335	2 488	2 665	2 788
Oil and gas	1 871	1 459	1 755	2 050	2 163	2 422	2 488	2 747	2 747	2 642	2 772	2 794	2 838	2 904

Figure 1. International Seaborne Trade: selected years 1980 – 2013. *Millions of tons loaded*. The "Five Major Bulks" are iron ore, grain, coal, bauxite/alumina and phosphate rock. "Other Dry Cargo" includes agricultural produce, metals, and forest products). Source: UNCTAD, 2013.

WOA, 2016

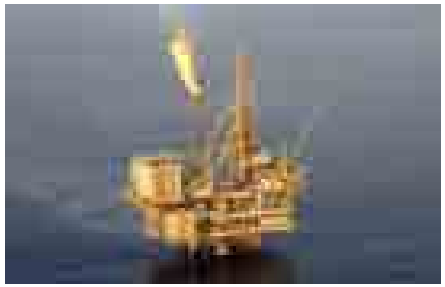
Origin of Tourists

Figure 1. Origins of tourists by WTO region. Source: WTO, 2014.

Number of passagens increased over the years

WOA, 2016

Oil Production



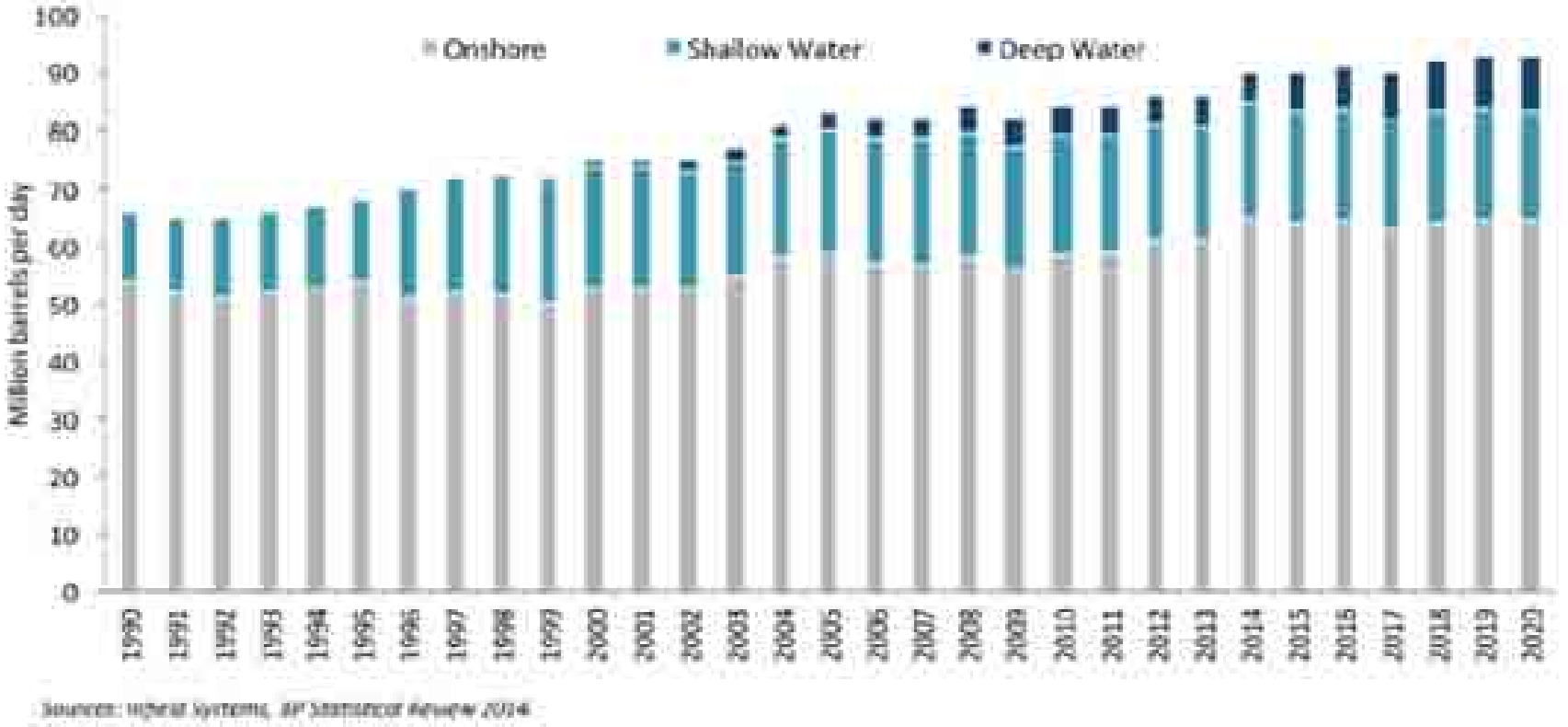
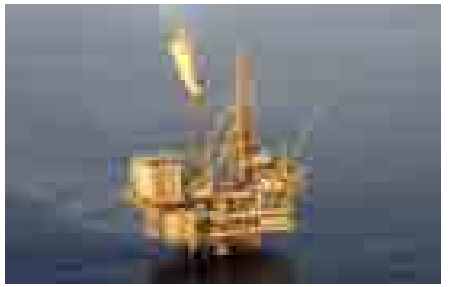


Figure 3. Global crude oil production, comparing onshore, shallow offshore (<100 m water depth) and offshore deep (>100 m water depth) production (from Infield, 2014).

WOA, 2016

Oil Trade and Spills



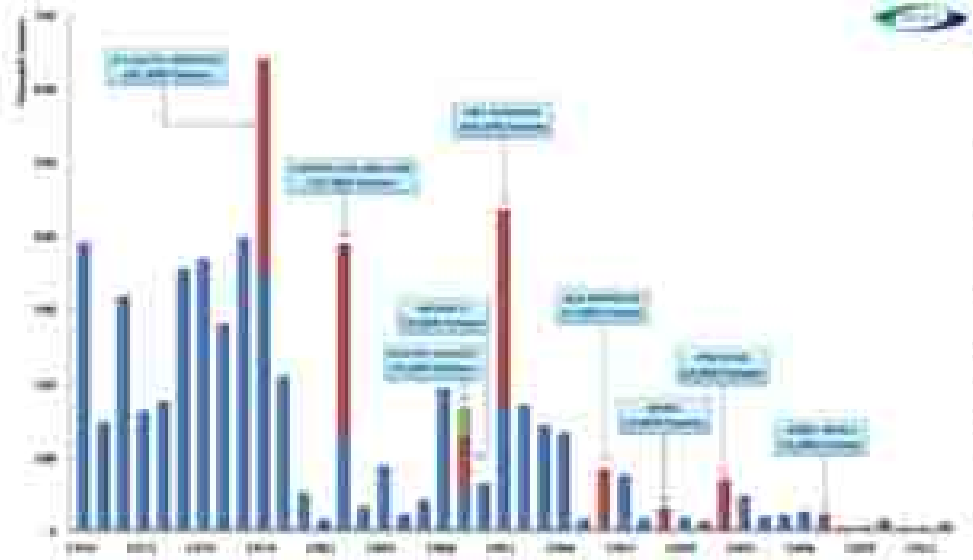


Figure 11. Quantities of oil in spills of more than 7 tons in the years 1970 – 2013. (with notes of the major recent oil spills and their sizes). Source: ITOPF, 2014b.

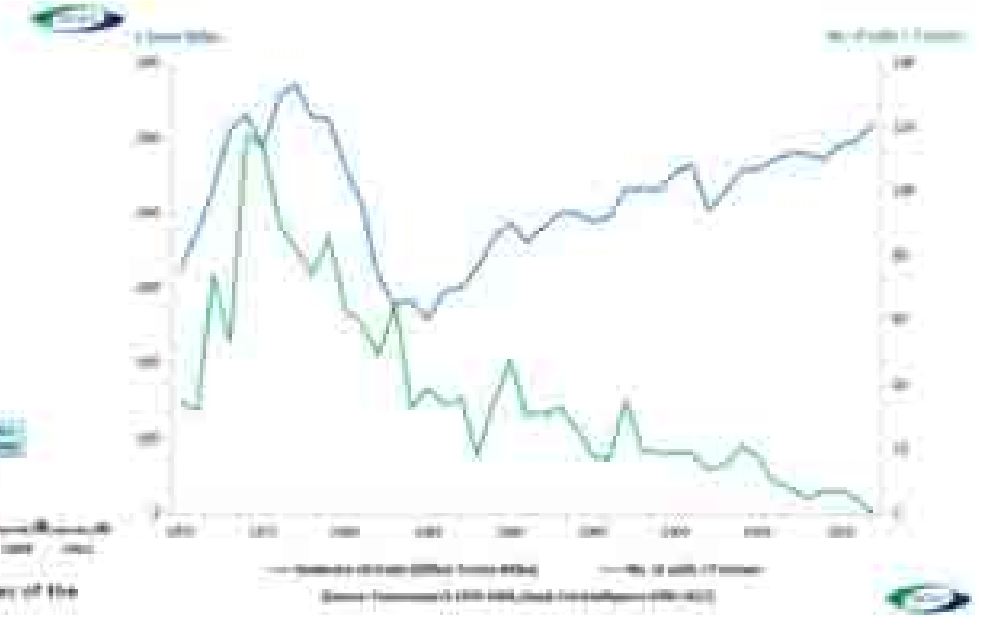


Figure 10. Seaborne oil trade and number of tanker spills of more than 7 tons 1970 – 2012. Source: ITOPF, 2014b.

WOA, 2016

Origin of Invasive Species

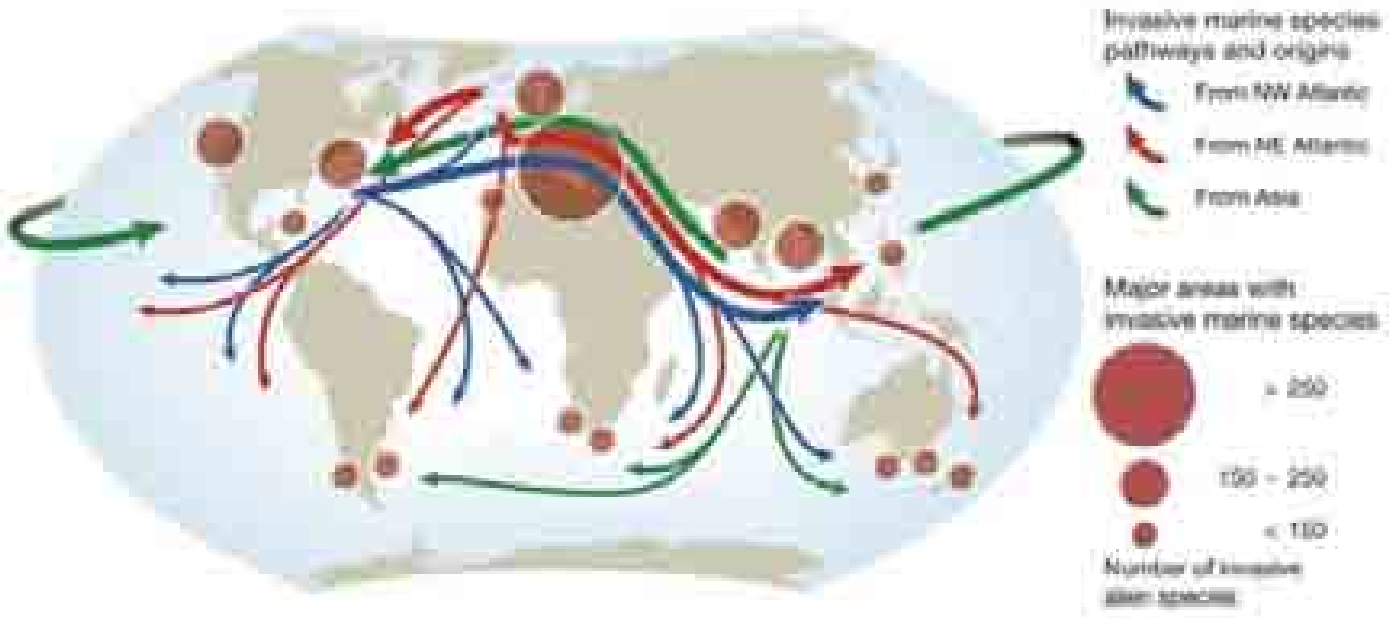


Figure 13. Major pathways and origins of invasive species infestations in the marine environment.

WOA, 2016

Dead and Hypoxic Zones

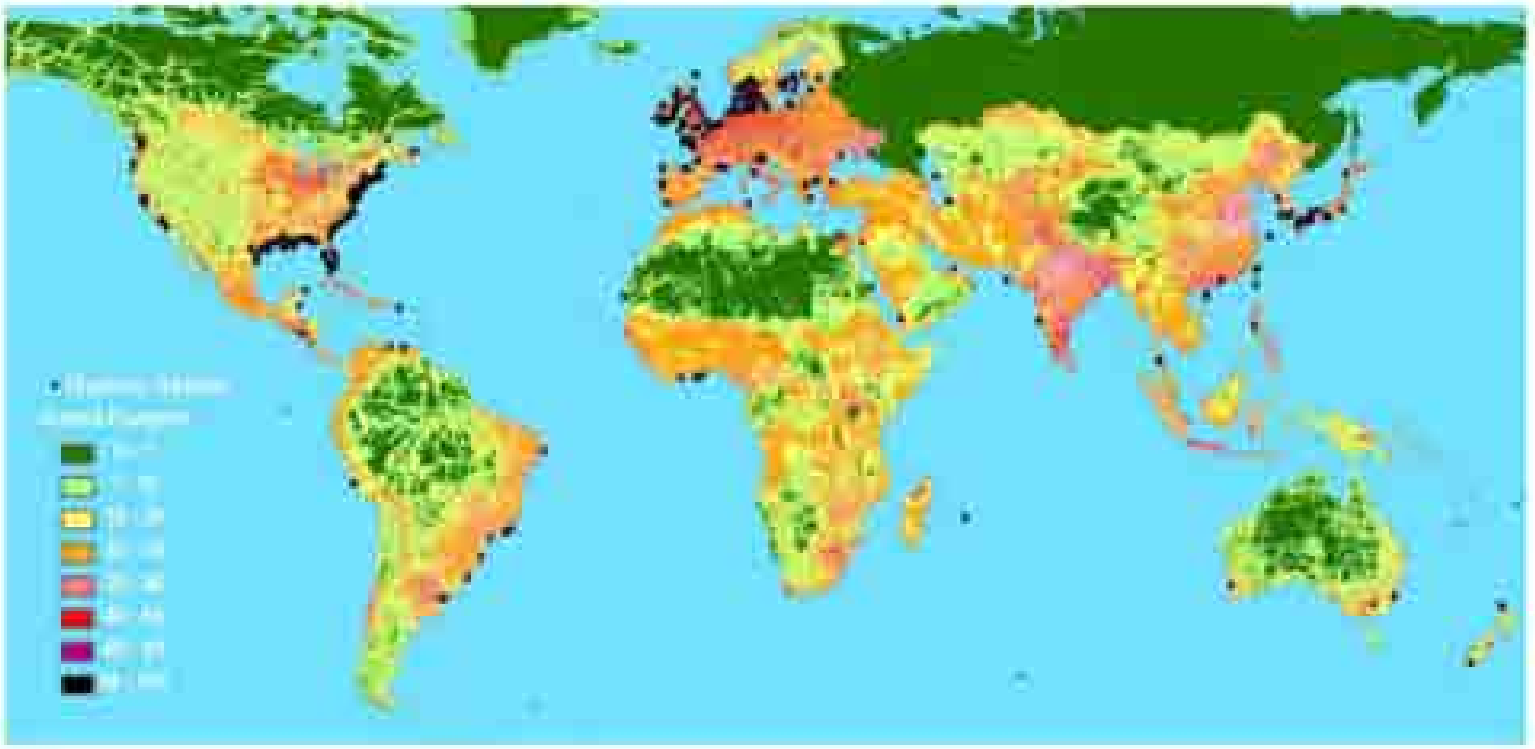
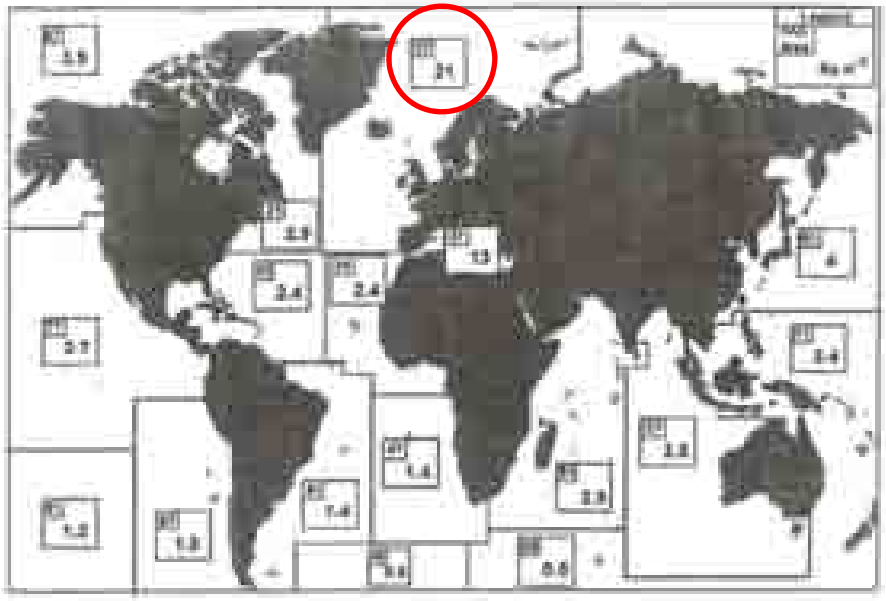


Figure 8. Global Map of Dead and Hypoxic Zones. Source: http://www.scientificamerican.com/media/inline/2008-08-15_bigMap.jpg.

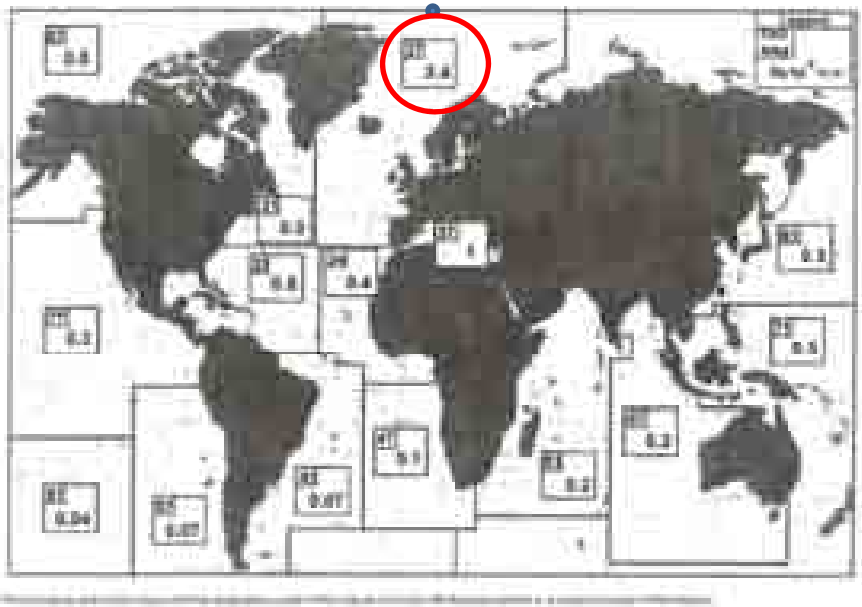
WOA, 2016

Radioative contamination

Seawater

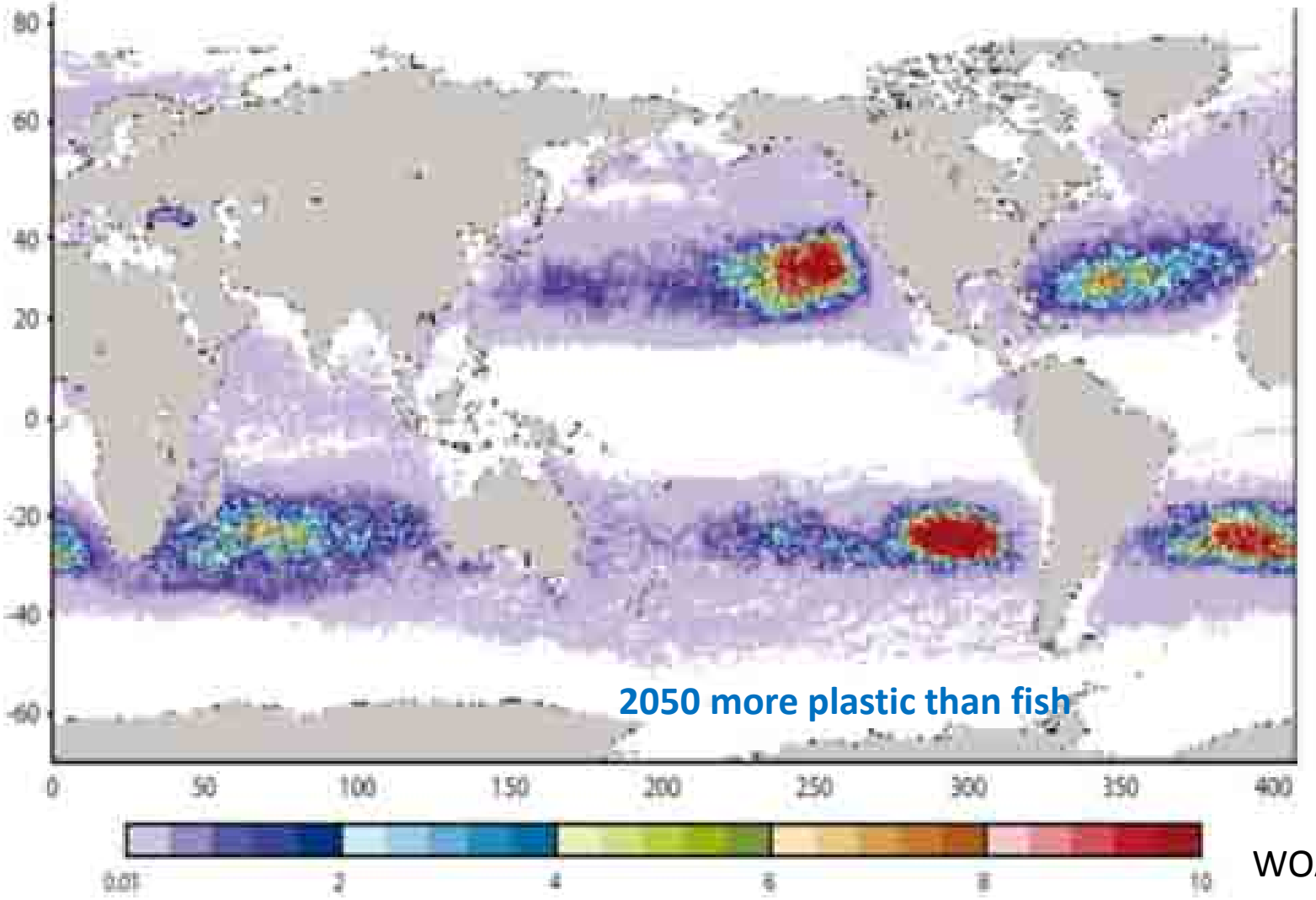


Fish



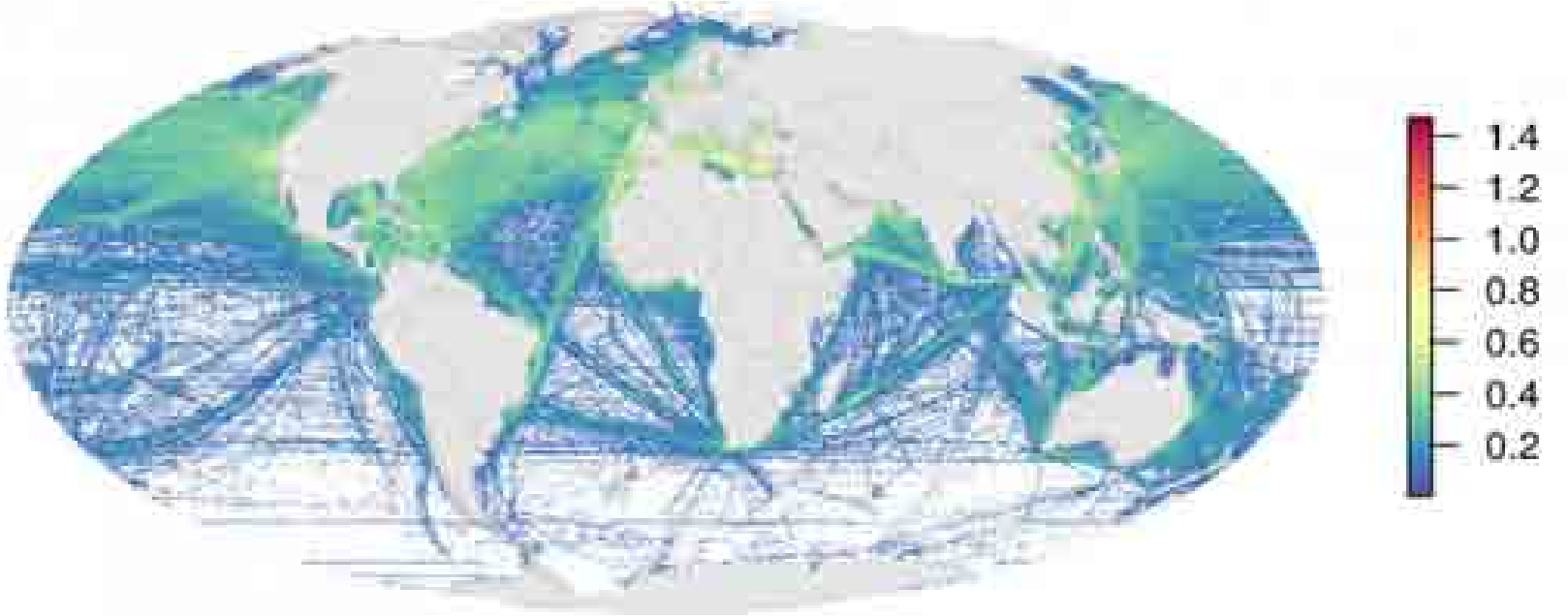
WOA, 2016

Plastic debris in surface waters of the global ocean

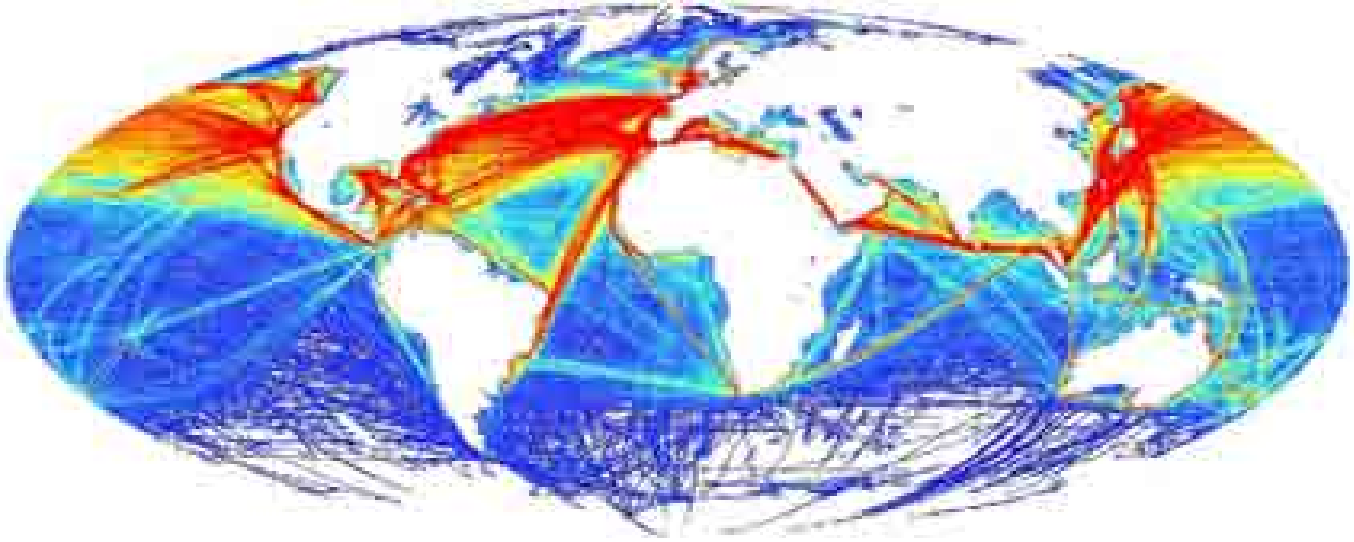


WOA, 2016

Ocean-based pollution



Global World Traffic



Acts of Piracy

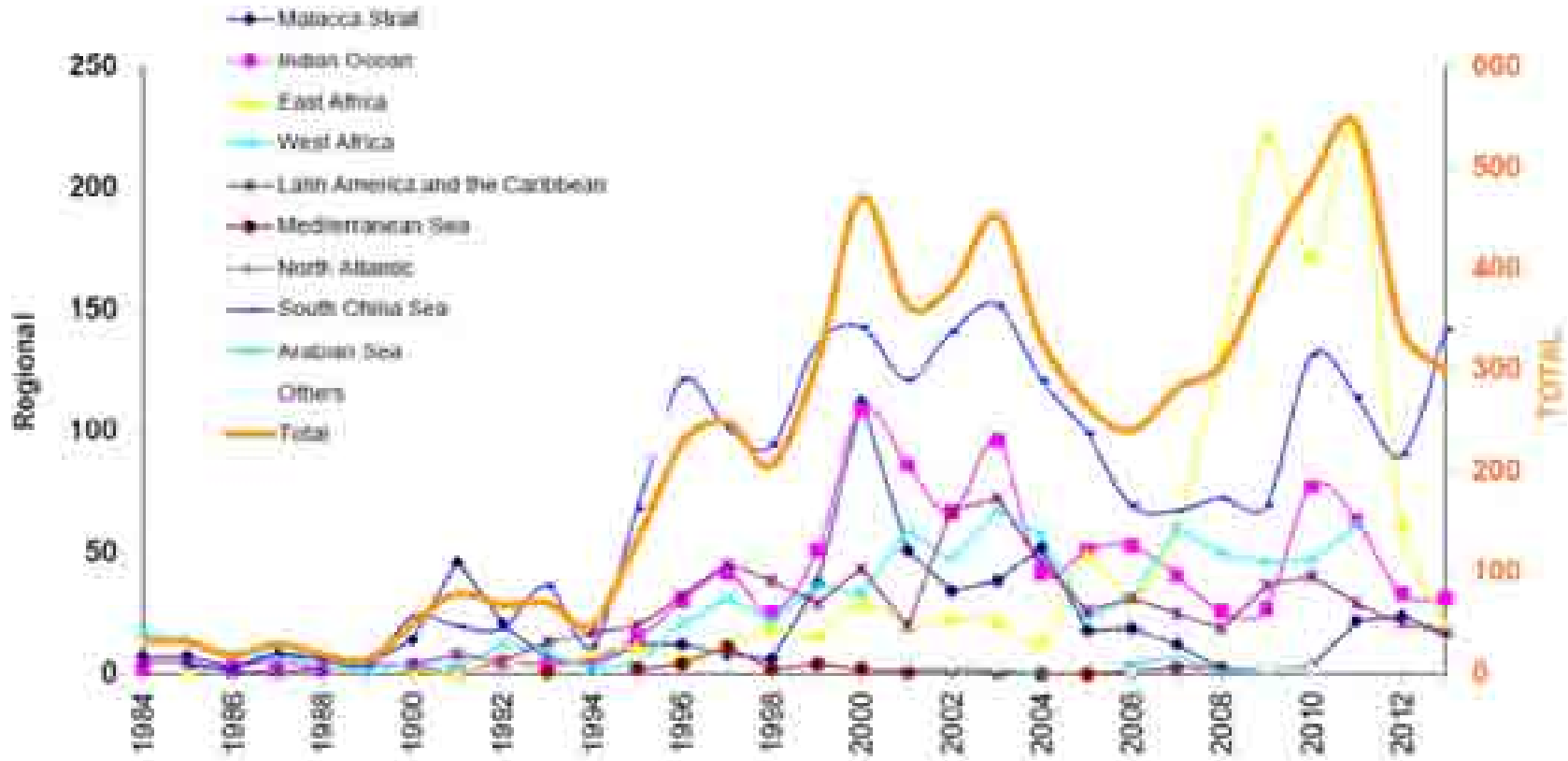


Figure 9. Reports of Alleged Acts of Piracy and Armed Robbery Committed or Attempted 1984 – 2013. Source: IMO, 2014a.

WOA, 2016

Submarine Cables

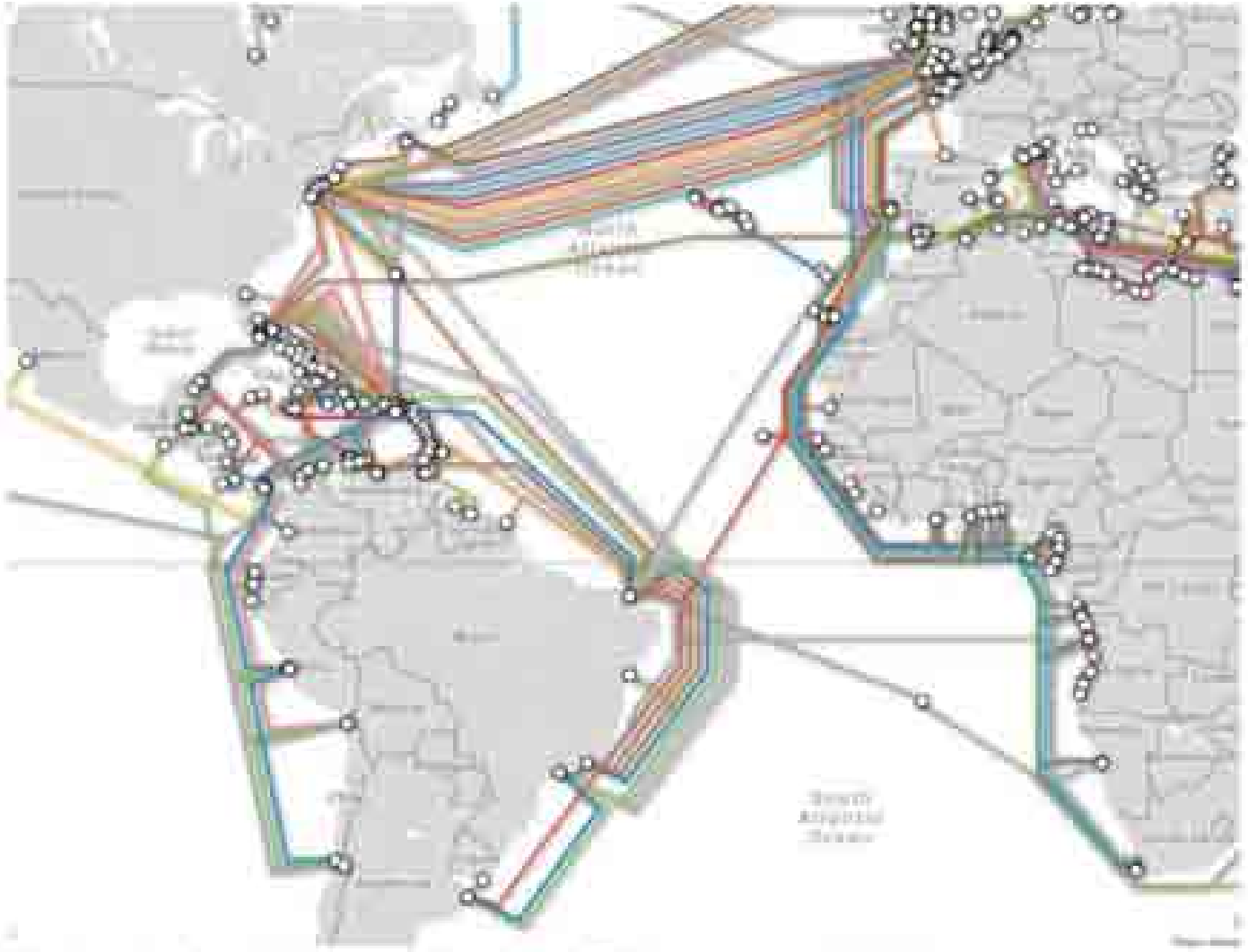


Figure 1. Diagrammatic map of transatlantic submarine cables. Source: Telegeography, 2014.

WOA, 2016

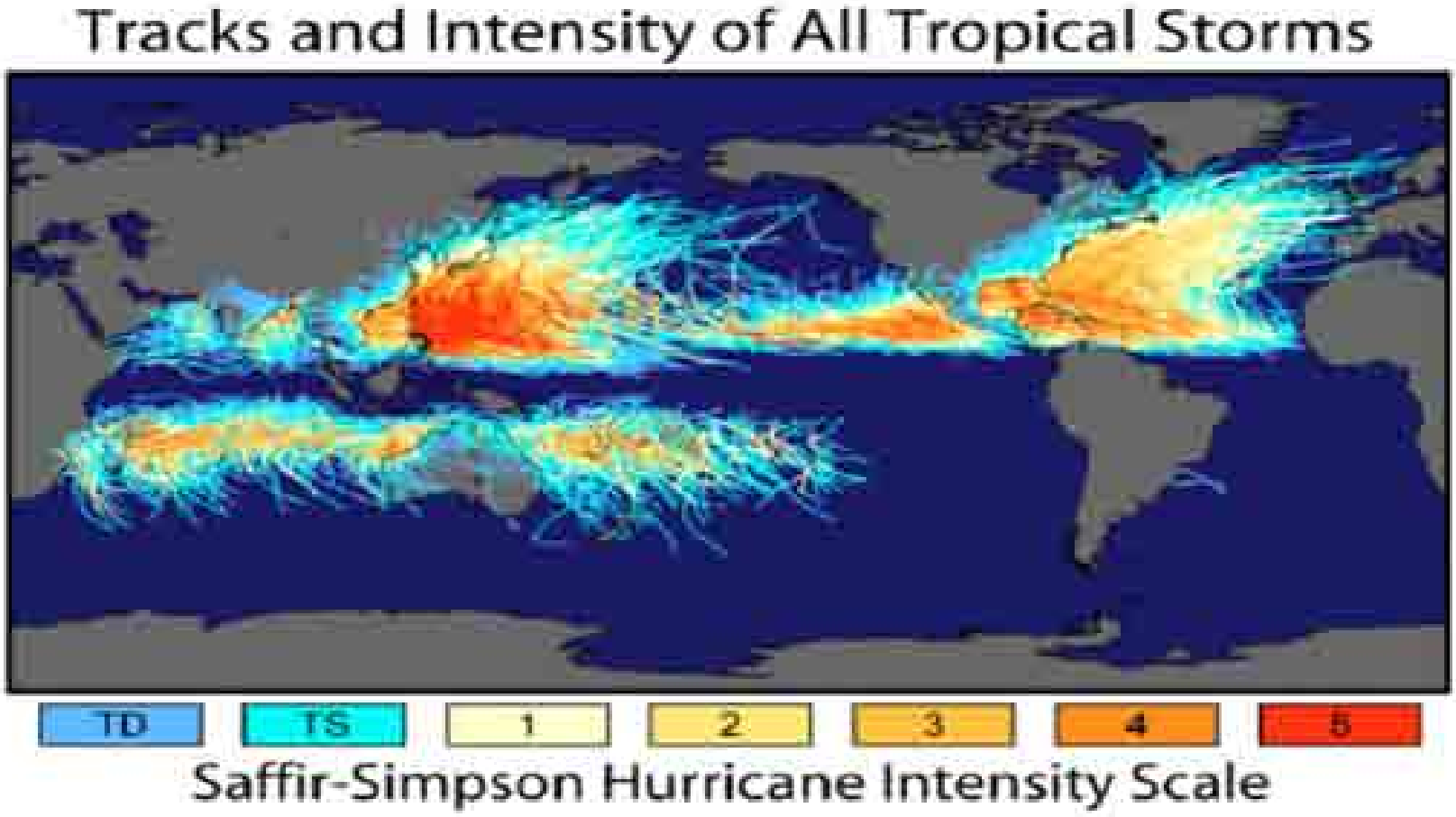


Figure 3: These plots of tropical cyclones (and typhoons) over the past 100 years illustrate that damaging storms are rare within a band between 7° North and South of the Equator, such that a large proportion of the high biodiversity reefs in Indo-Pacific are rarely damaged by damaging storms (courtesy of NASA, USA, 2008). There are predictions that under increasing climate change, the damaging strength of cyclones will increase with more category 4 and 5 storms, but the number of storms may not change (Wilkinson and Souter, 2008).

WOA, 2016

Outline for the World Ocean Assessment II

- The Second World Ocean Assessment - give a picture of the state of the world's marine environment, including socioeconomic aspects, based on the developments since **World Ocean Assessment I**, and using

  Drivers – Pressures – State – Impacts – Response (DPSIR) model.

- Sets out the relevant ***drivers***,
- Describe the trends in the current ***state*** of the main components of the marine environment, resulting from the developments in the effects of the many ***pressures*** and their ***impacts,***
- Developments in the effects of the management measures adopted in ***response***.

Outline of World Ocean Assessment II (WOAII)

Drivers of changes in the ocean

Pressure Trends

- Climate and atmosphere
- Nutrients
- Inputs from land, ships and offshore installations
- Solid waste
- Erosion
- Coastal infrastructures
- Seabed mining
- Hydrocarbons Exploration
- Tourism
- Invasive species
- Cumulative impacts

Current State and Trends

- Physical and Chemical
- Biodiversity
- Human society in relation to the ocean

Trends in management

- Spatial planning
- Managing
- Overall benefits to humans

31 Chapters

1st Draft concluded in December 2019

Knowledge and capacity building gaps

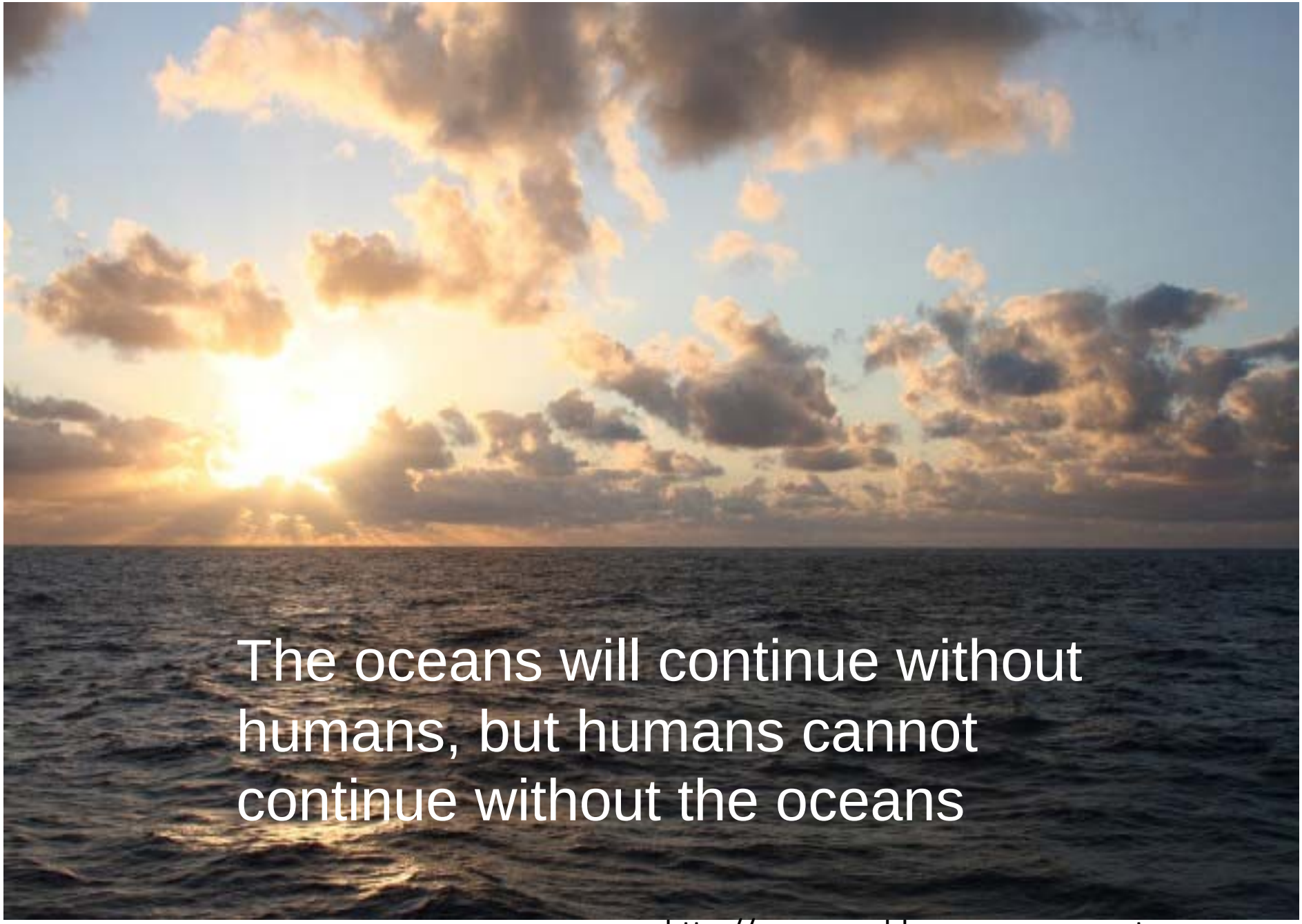
- **Knowledge Gaps**
  - Physical structure of the ocean
  - Waters of the ocean
  - Biotas of the ocean
  - Ways in which humans interact with the ocean
- **Capacity building gaps**

The Regular Process is helping to guide planning for the activities of the

United Nations Decade of Ocean Science for Sustainable Development providing an opportunity to progress the development of the science policy interface for sustainable use of the global ocean

https://en.unesco.org/ocean-decade

Next WOA3



http://www.worldoceanassessment.org

Lisbon will host the 2nd UN Ocean Conference

THE OCEAN CONFERENCE

2020

2 – 6 June 2020

For more information visit:

http://www.un.org/Depts/los/rp