The UN Decade of Ocean Science for Sustainable Development (2021-2030)

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United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

Sustainable Development Goals

Proposal for an International Decade of Ocean Science for Sustainable Development (2021-2030)

One Planet, One Ocean

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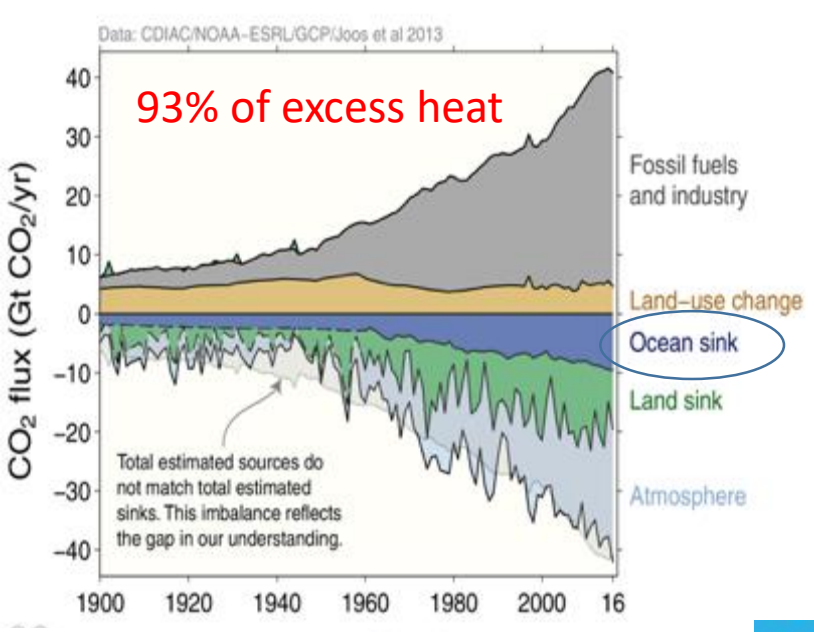
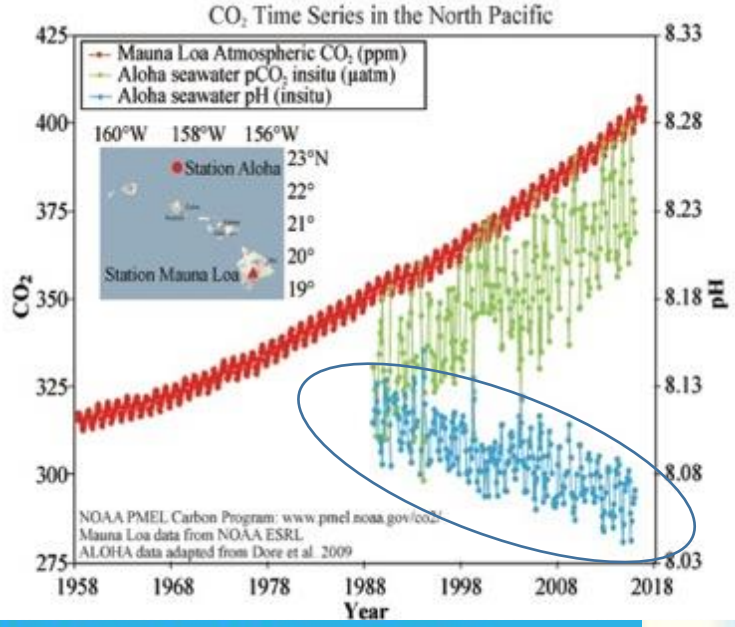
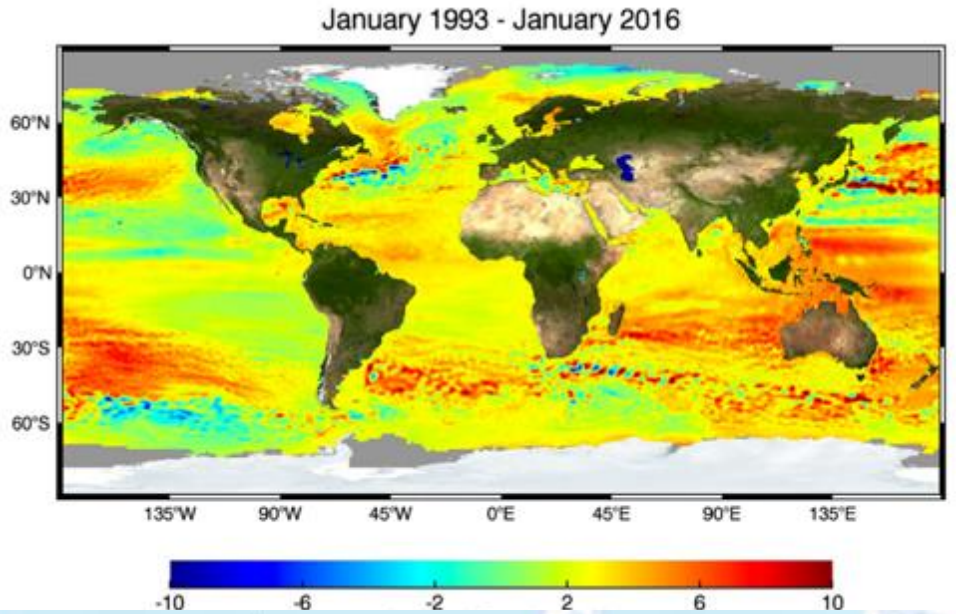
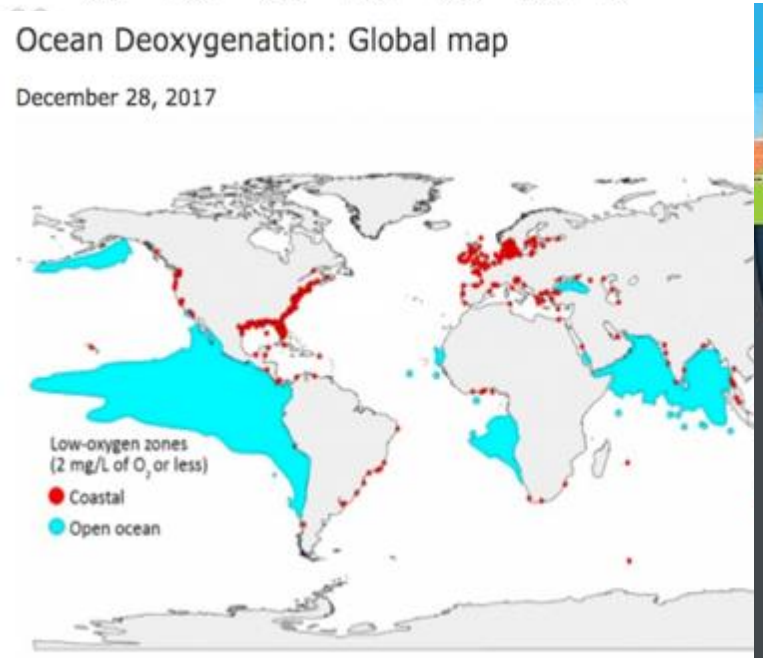
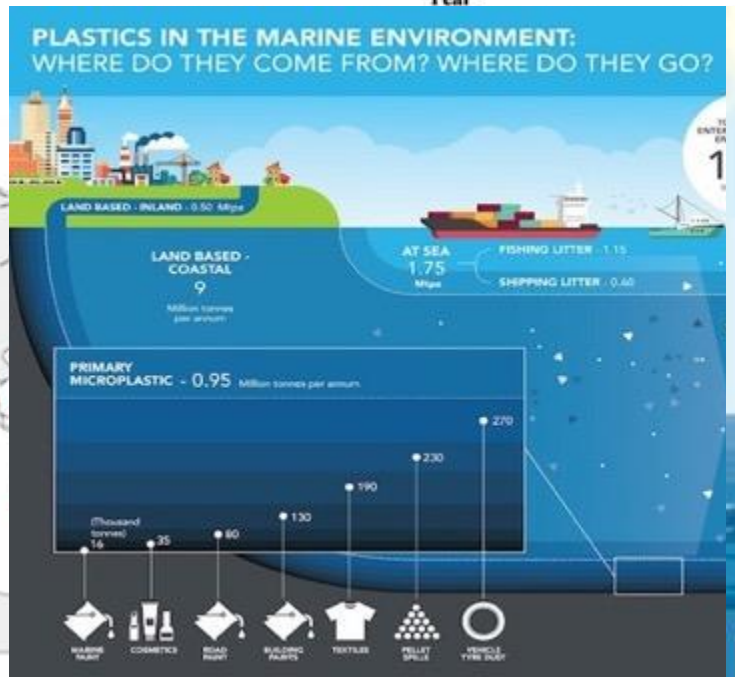
Ocean: hot, sour and breathless!

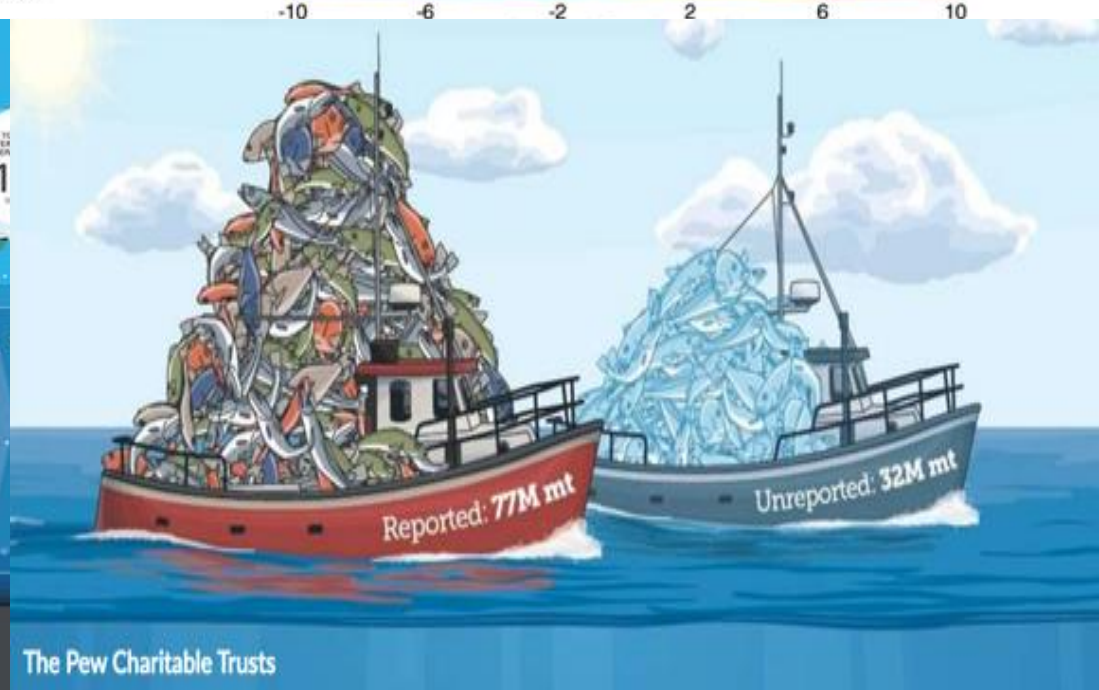






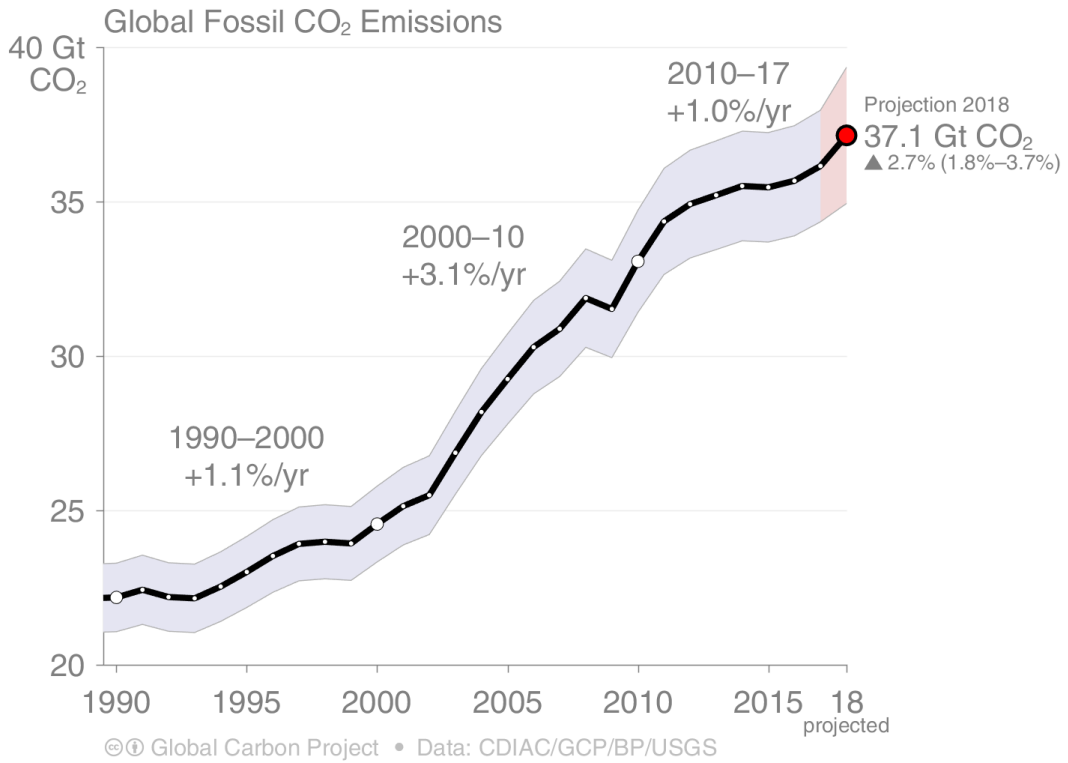




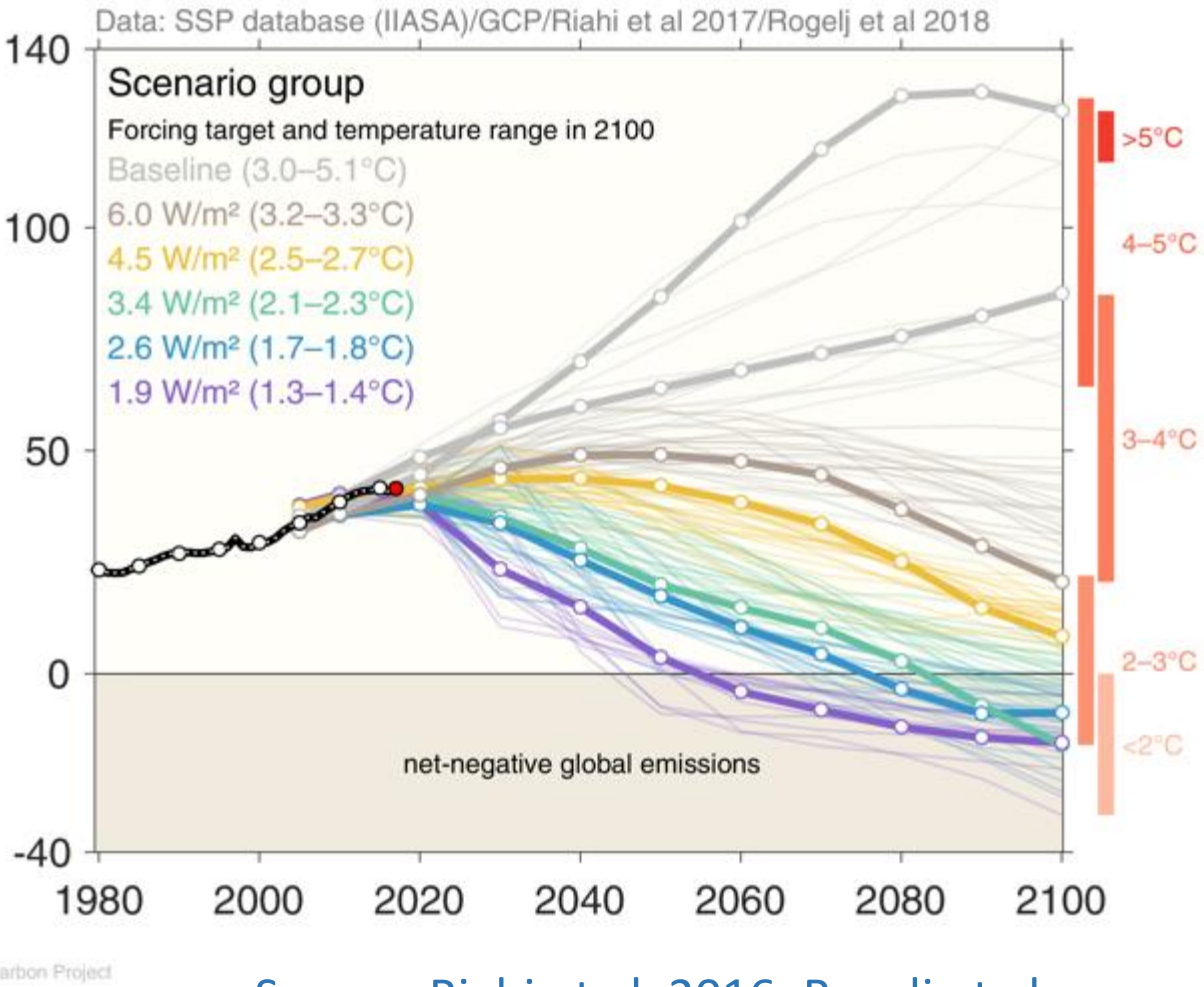


Reality Check: Where Are We?

Carbon Emissions and the Shared Socioeconomic Pathways

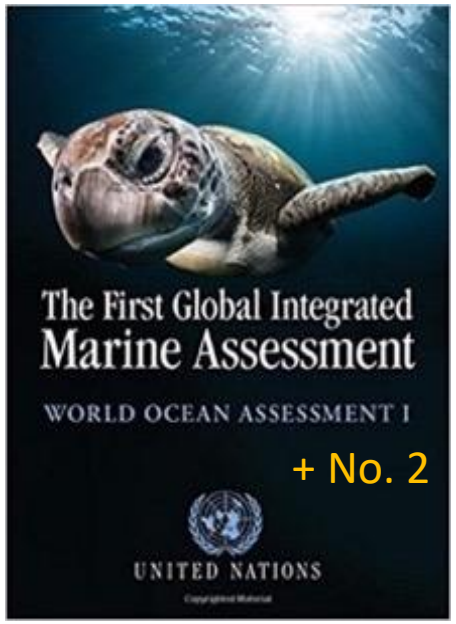


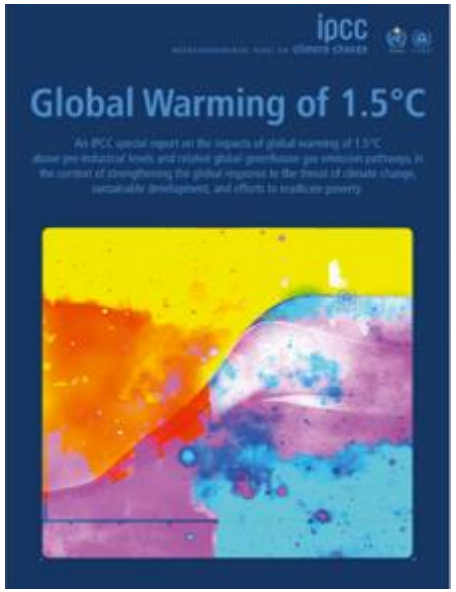
Source: CDIAC; Le Quéré et al 2018; Global Carbon Budget 2018

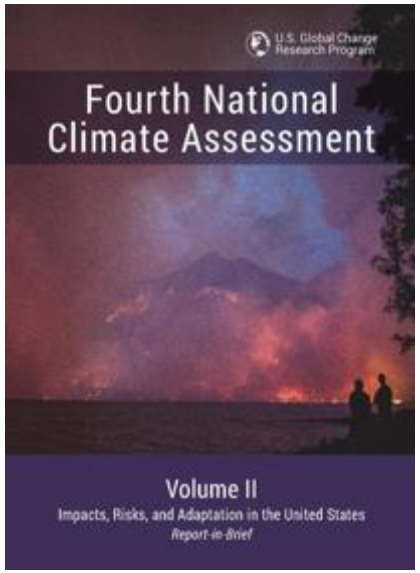


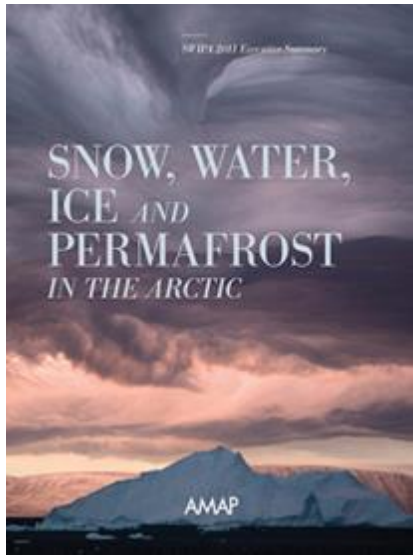
Source: Riahi et al. 2016; Rogelj et al. 2018; IIASA SSP Database; IAMC; Global Carbon Budget 2018

Gaps in Knowledge: Assessment Reports (existing and coming)





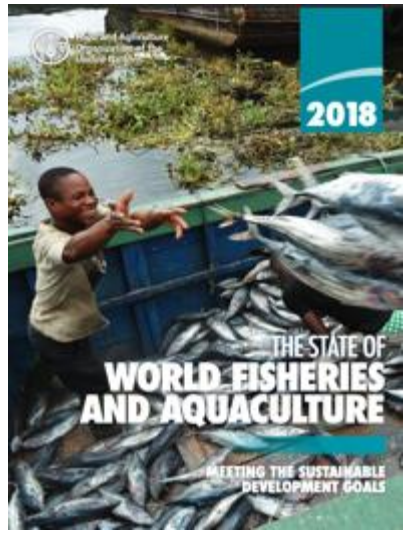




[AR5 Synthesis Report: Climate Change 2014]

[Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC)]

[AR6 Synthesis Report: Climate Change 2022]



Ocean in the UN Frameworks

THE LAW OF THE SEA

+ BBNJ

United Nations Framework Convention on Climate Change

Convention on Biological Diversity

UNEP Regional Seas

GPA Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

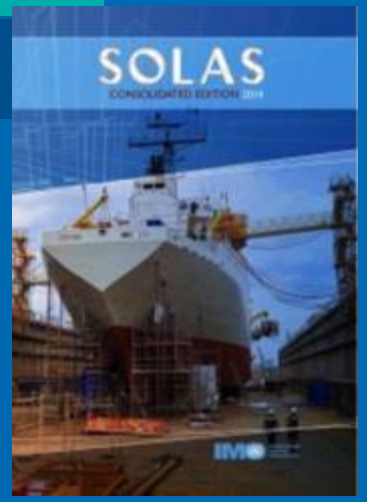
Sendai Framework for Disaster Risk Reduction

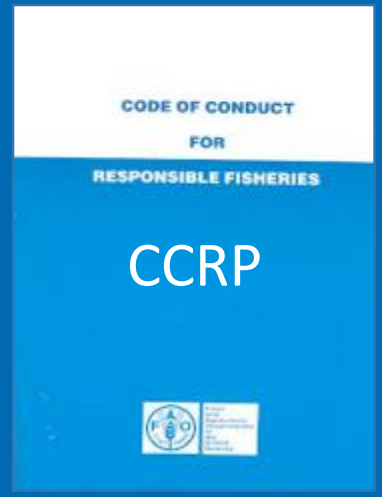
2015 - 2030

ISLAND VOICES GLOBAL CHOICES

UN Conference on Small Island Developing States

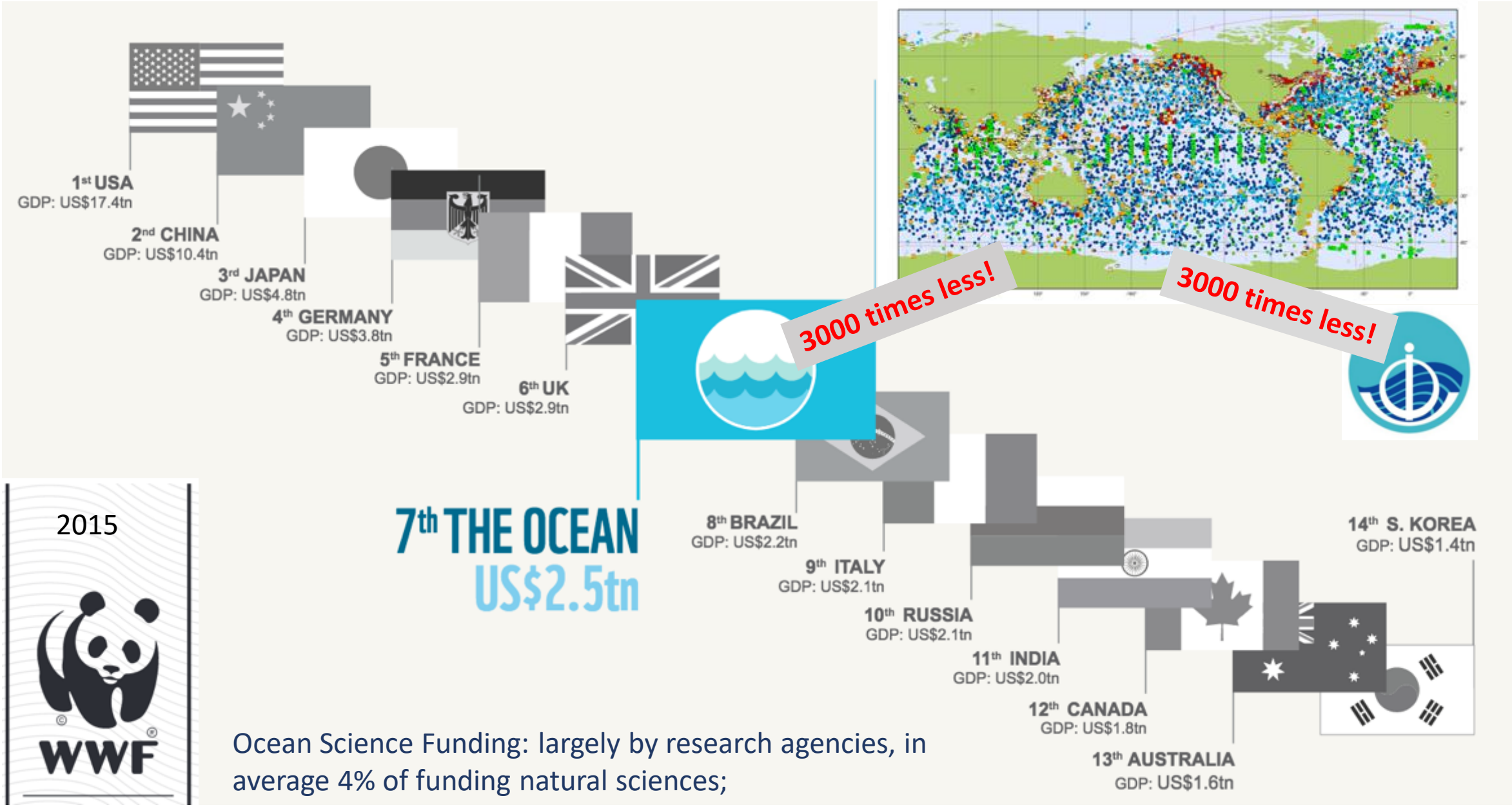
SAMOA PATHWAY





CCRP

PSMA

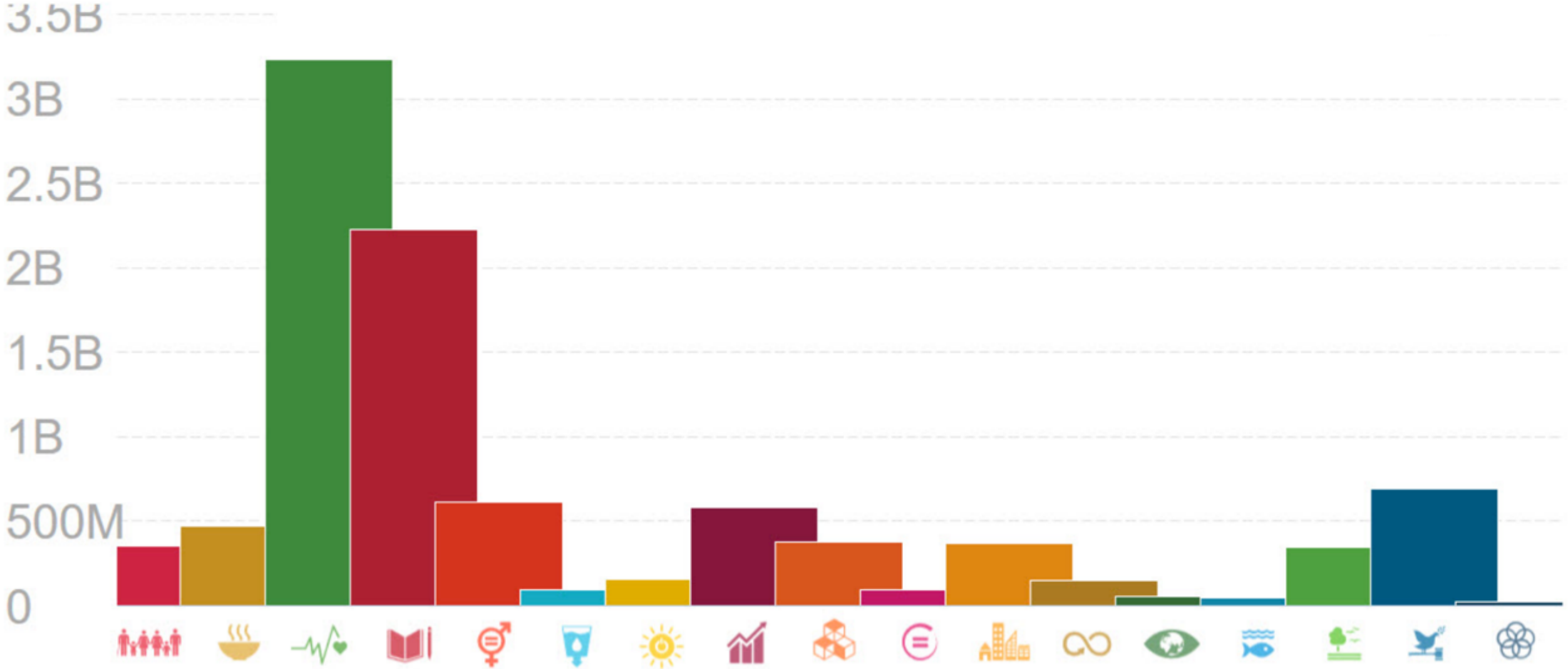


2015

WWF

Ocean Science Funding: largely by research agencies, in average 4% of funding natural sciences;

Distribution of Foundation Funding by SDG for 2016+



FUNDING THE OCEAN.org

Growing Awareness: Conferences, Groups, NGOs, Days

THE OCEAN CONFERENCE
UNITED NATIONS, NEW YORK, 5-9 JUNE 2017

UN DESA

9 Communities of Ocean Action

OUR OCEAN

WORLD ECONOMIC FORUM

Friends of Ocean Action

SUSTAINABLE BLUE ECONOMY CONFERENCE
NAIROBI, KENYA
26th - 28th November 2018

UN Global Compact Sustainable Ocean Business Action Platform

G7

G20 2019 JAPAN

High-Level Panel on Sustainable Blue Economy

NGOs:

WORLD OCEAN COUNCIL

GLOBAL OCEAN FORUM

International days:

World Oceans Day

WORLD TSUNAMI AWARENESS DAY
5 NOVEMBER 2017

The Intergovernmental Oceanographic Commission (IOC) of UNESCO

- **The** only intergovernmental body of the UN system for **ocean science**, **services**, **observations**, **data exchange,** and **capacity development**
- Functionally autonomous part of UNESCO
- Established 1960, **149** Member States

UN - Oceans

CBD CTED ESCAP FAO IAEA ILO IMO IOC ISA DESA DOALOS ODA

OHRLLS UNCTAD UNDP UNEP UNESCO UNHCR UNIDO UNITAR UNU UNWTO WMO World Bank

Global Ocean Science Capacity

GENERAL ASSEMBLY OF THE UNITED NATIONS

Omnibus Resolution for Oceans and the law of the sea (A/RES/72/73)

The UNGA decided (Para. 292) to proclaim

the United Nations Decade of Ocean Science for Sustainable Development for the 10-year period beginning on 1 January 2021,
within existing structures and available resources,
and called upon the Intergovernmental Oceanographic Commission
to prepare an implementation plan for the Decade
in consultation with Member States, specialized agencies, funds, programmes and bodies of the United Nations, as well as other intergovernmental organizations, non- governmental organizations and relevant stakeholders.

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Fifty-first Session of the Executive Council
UNESCO, Paris, 3–6 July 2018

ROADMAP

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Executive Planning Group:

19 experts including
Suzan Kholeif (Egypt)
Dismore Gilbert Siko (South Africa)

The United Nations
Decade of Ocean Science
for Sustainable Development
(2021-2030)

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Overarching Goals

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

United Nations Educational, Scientific and Cultural Organization

IOC Sub-Commission for the Western Pacific (WESTPAC)

- **Goal 1: To generate the scientific knowledge and underpinning infrastructure and partnerships needed for sustainable development of the ocean.**
  -> Ocean Science, Infrastructure, and Partnership

- **Goal 2: To provide ocean science, data and information to inform policies for a well-functioning ocean in support of all Sustainable Development Goals of 2030 Agenda.**
  -> Science & Policy interphase, Ocean for Society

Expected Societal Outcomes of the Decade

A clean Ocean

A healthy & resilient Ocean

A predicted Ocean

A safe Ocean

A sustainable & productive Ocean

A transparent & accessible Ocean

Strategic Objectives 1 to 3

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

United Nations Educational, Scientific and Cultural Organization

IOC Sub-Commission for the Western Pacific (WESTPAC)

- **Objective 1**: To **generate knowledge of the ocean system**, its role in the earth and climate system, including the human component, its biodiversity and the seabed, to support sustainable management;
- **Objective 2**: To **develop and provide access to a comprehensive evidence base and capacities for ecosystem-based management** that will improve ocean health and support a blue economy; Emphasis will be given to research on socio-economic aspects of sustainable use of the ocean, and as well as understanding and managing the effects of cumulative stressors.
- **Objective 3**: **To save lives and reduce risks from extreme events and ocean-related hazards** through an accelerated programme of research and development supporting integrated multi-hazard early warning systems, accompanied by improved community preparedness and awareness;

Strategic Objectives 4 to 6

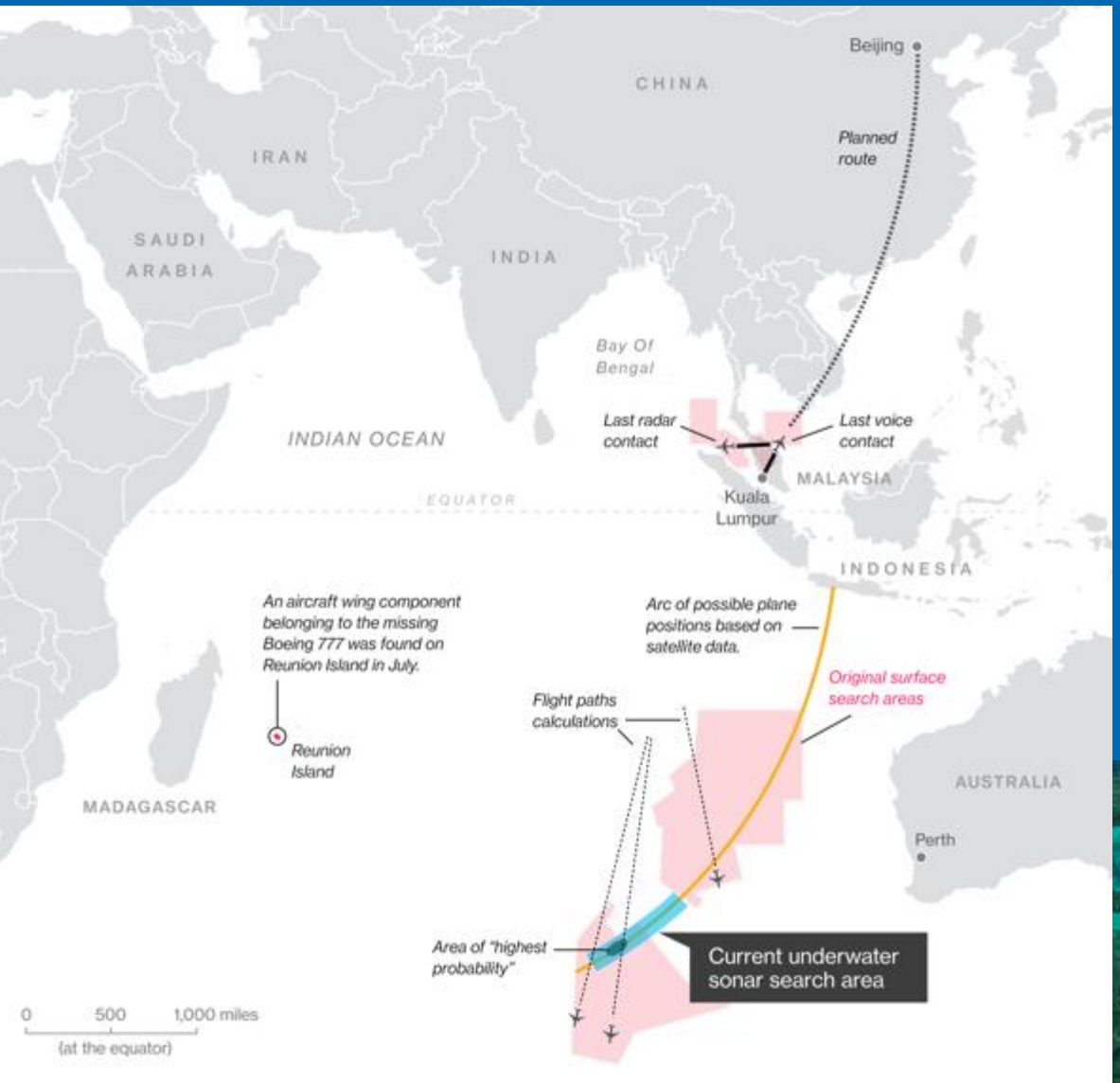
2021 2030 United Nations Decade of Ocean Science for Sustainable Development

United Nations Educational, Scientific and Cultural Organization

IOC Sub-Commission for the Western Pacific (WESTPAC)

- **Objective 4**: To **enhance ocean observing networks, data systems and other infrastructure**, and their supporting cooperation and partnerships to service the demands of all nations by 2030;
- **Objective 5**: To **transform the scientific and technical capacity of the ocean stakeholders**, especially for SIDS and LDCs, through greater access to and more informed use of scientific knowledge and accelerated transfer of marine technology, training and education, and increased ocean literacy so that all can participate in, and benefit from, developments in ocean science and technology and its application for sustainable economic development, food production, ocean management, assessments, and responses to climate change;
- **Objective 6**: **To enhance cooperation, coordination, and communication** between stakeholders, including the private sector, in ocean science, with immediate delivery of new and existing knowledge to policy and decision-makers in the context of the 2030 Agenda, and beyond.

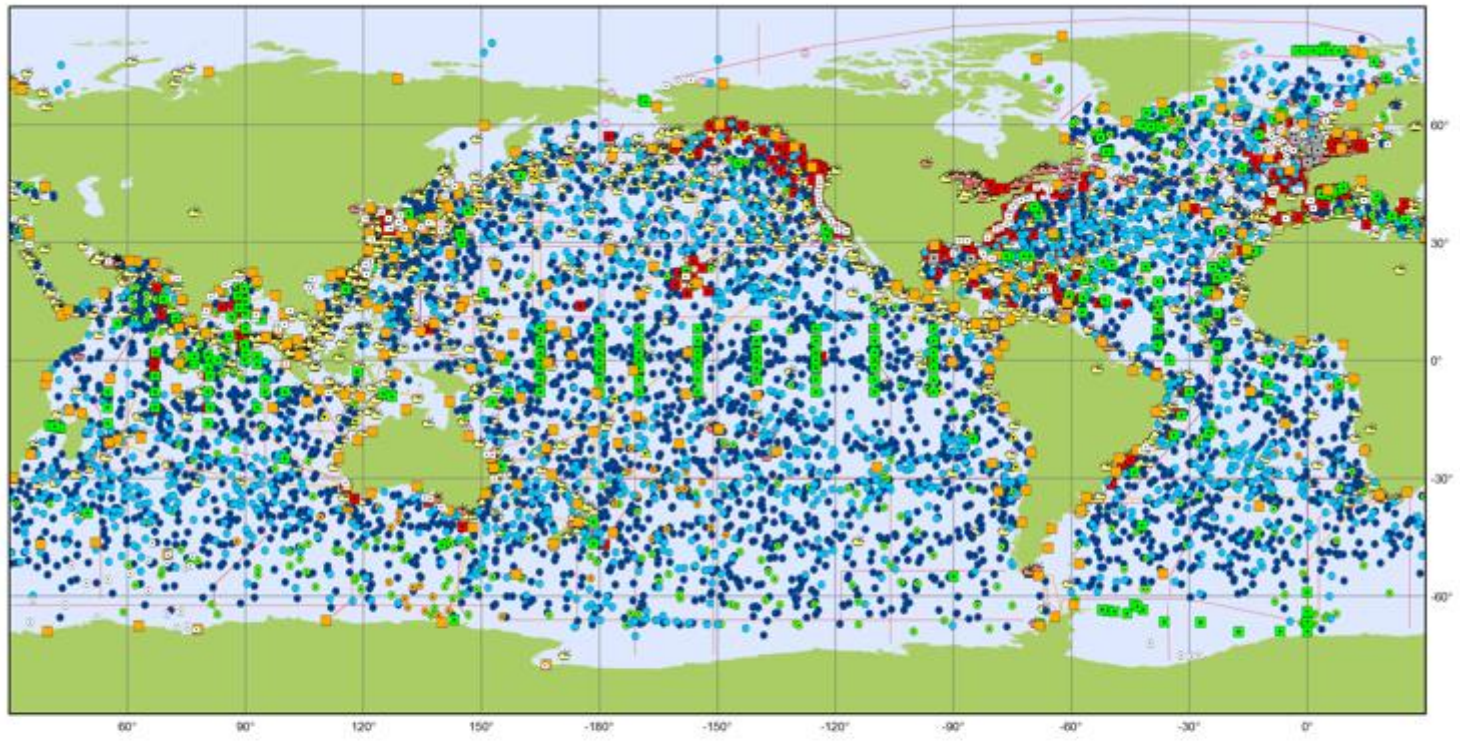
UN Decade of Ocean Science for Sustainable Development
Priority Research and Development Areas



R&D Priority Area 1:
Comprehensive map (digital atlas) of the ocean

(Scope:
well beyond topography)

UN Decade of Ocean Science for Sustainable Development
Priority Research and Development Areas



Main in situ Elements of the Global Ocean Observing System — April 2018

Profiling Floats (Argo)
- Core (3815)
- Deep (57)
- BioGeoChemical (305)

Data Buoys (DBCP)
- Surface Drifters (1408)
- Offshore Platforms (96)
- Ice Buoys (11)
- Moored Buoys (387)
- Tsunameters (32)

Timeseries (OceanSITES)
- Interdisciplinary Moorings (338)

Repeated Hydrography (GO-SHIP)
- Research Vessel Lines (61)

Sea Level (GLOSS)
- Tide Gauges (252)

Ship based Measurements (SOT)
- Automated Weather Stations (248)
- Manned Weather Stations (1767)
- Radiosondes (8)
- eXpendable BathyThermographs (37)

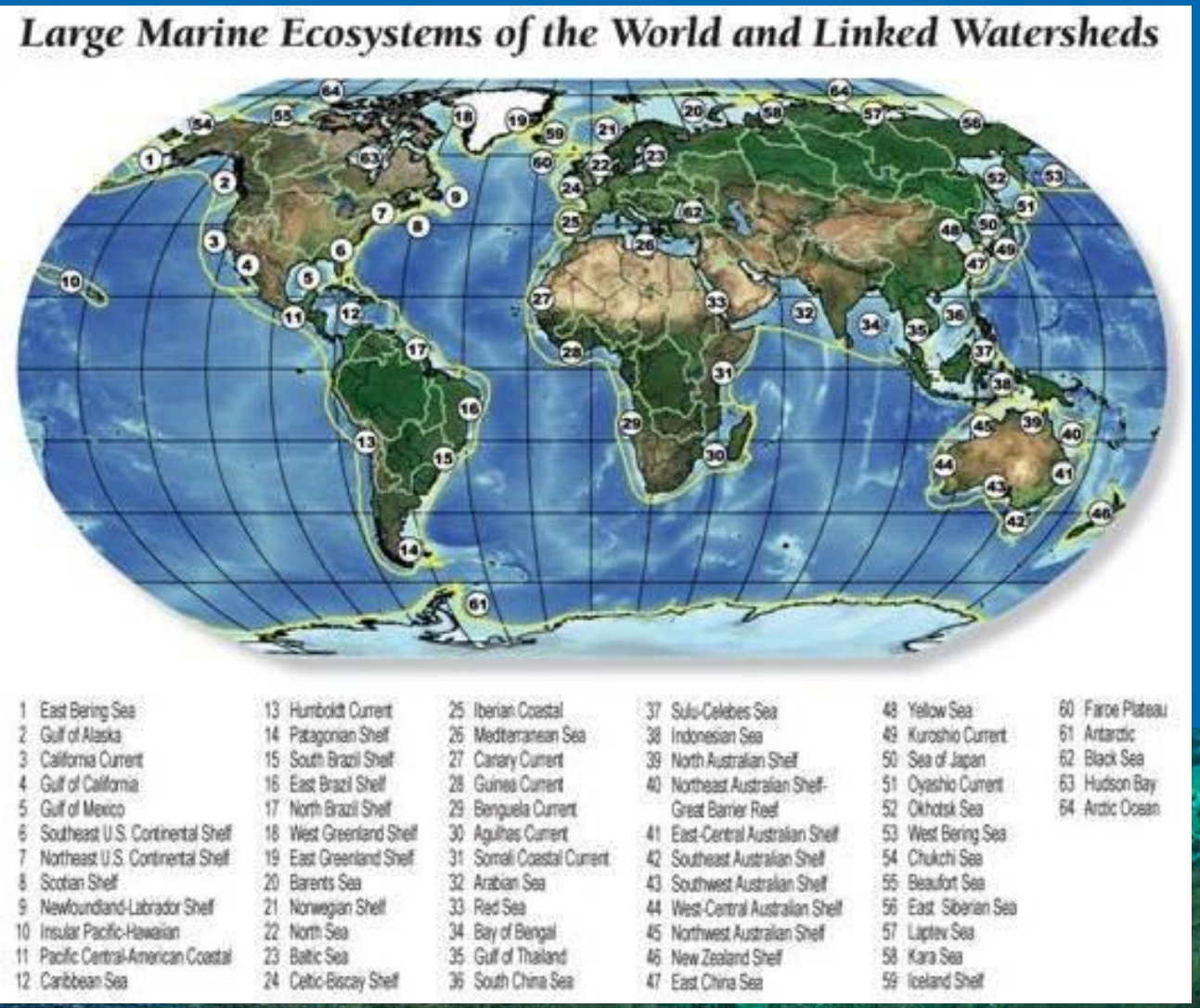
Other Networks
- HF Radars (270)
- Animal Borne Sensors (53)
- Ocean Gliders (31

Generated by www.jcommops.org, 14/05/2018

R&D Priority Area 2:
A comprehensive ocean observing system

(polar, bio, eco, BGC, eDNA, deep ocean, +)

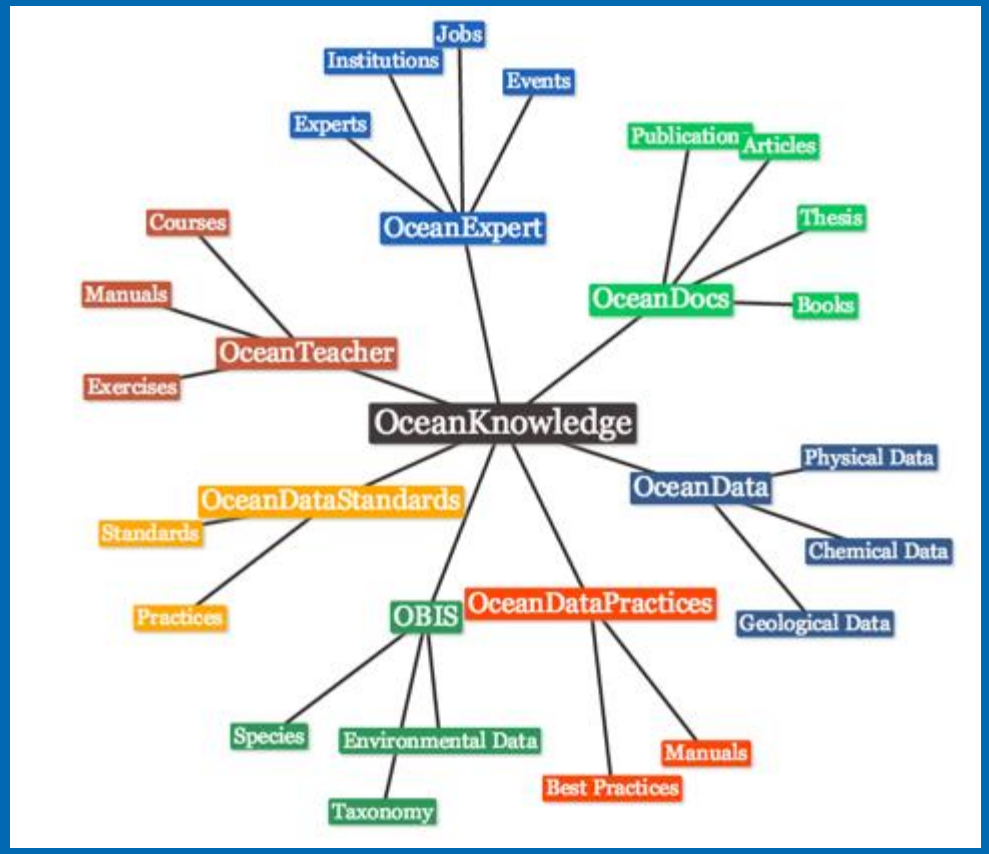
UN Decade of Ocean Science for Sustainable Development
Priority Research and Development Areas



R&D Priority Area 3:
A quantitative understanding of ocean ecosystems as the basis for their integrated ocean management

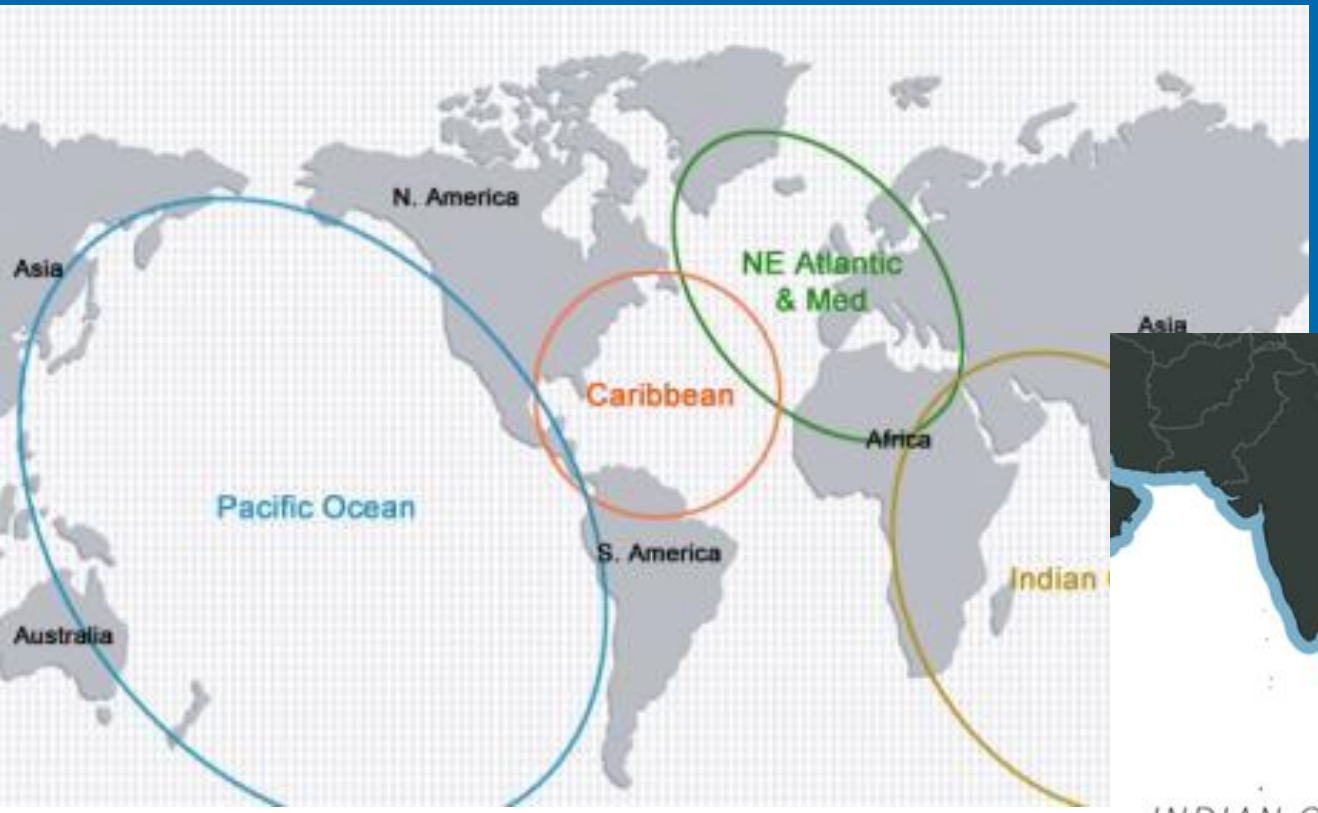
(multiple stressors, deep ocean, bottom, predictive, assisted adaptation, e.g. of coral reef ecosystem)

UN Decade of Ocean Science for Sustainable Development
Priority Research and Development Areas

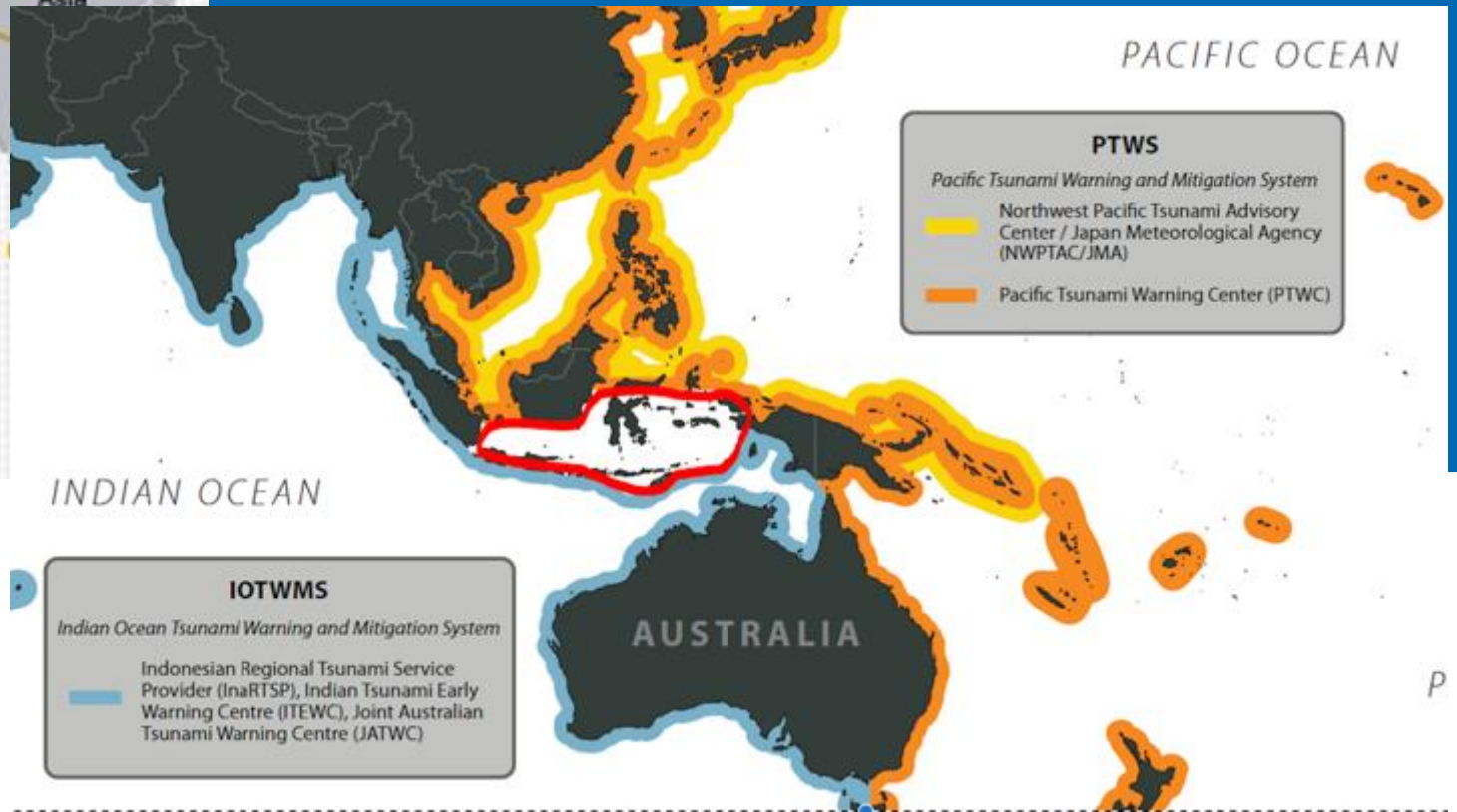


R&D Priority Area 4:
Data & information System

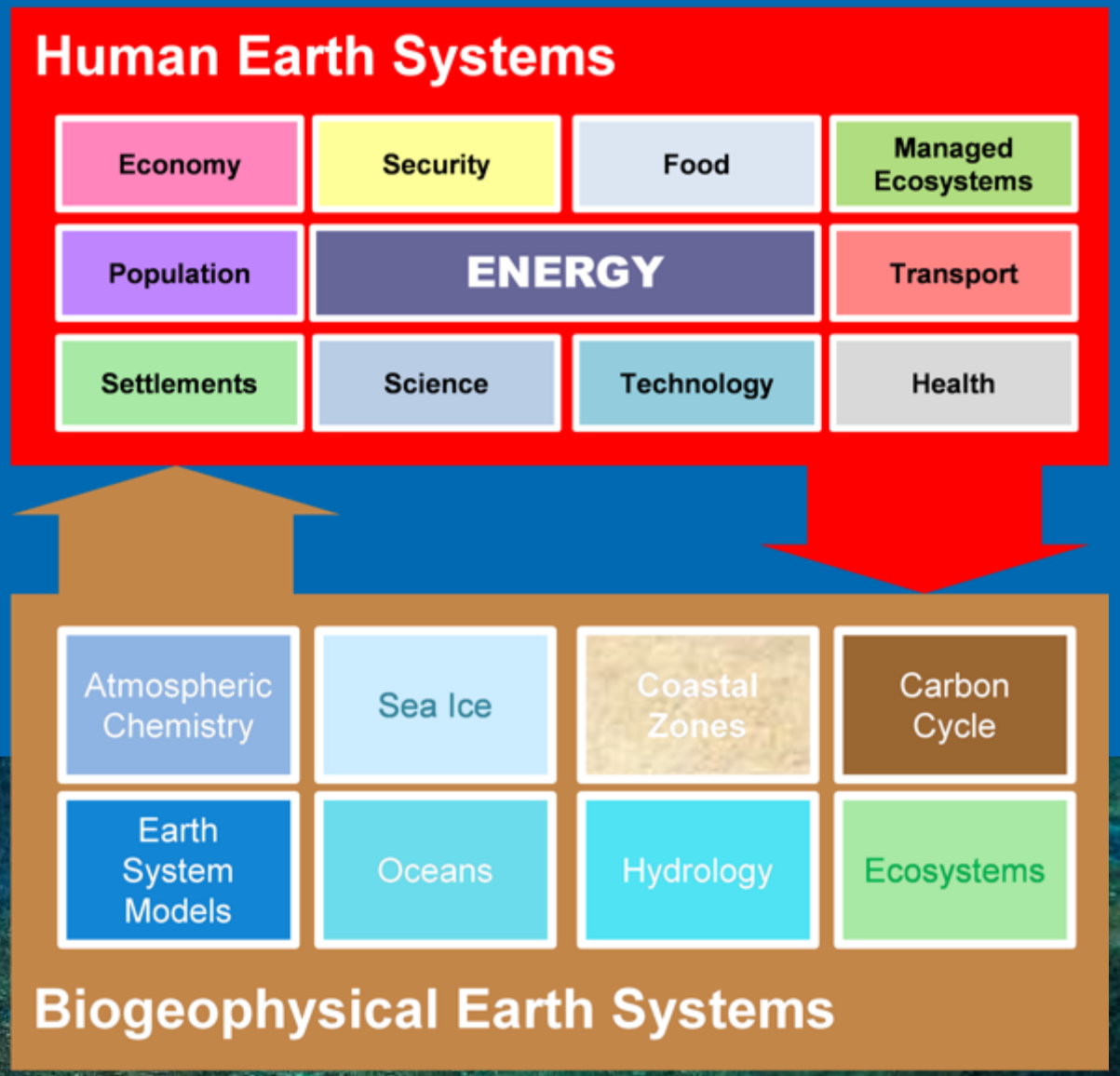
UN Decade of Ocean Science for Sustainable Development
Priority Research and Development Areas



R&D Priority Area 5: Ocean dimension in an integrated multi-hazard warning system



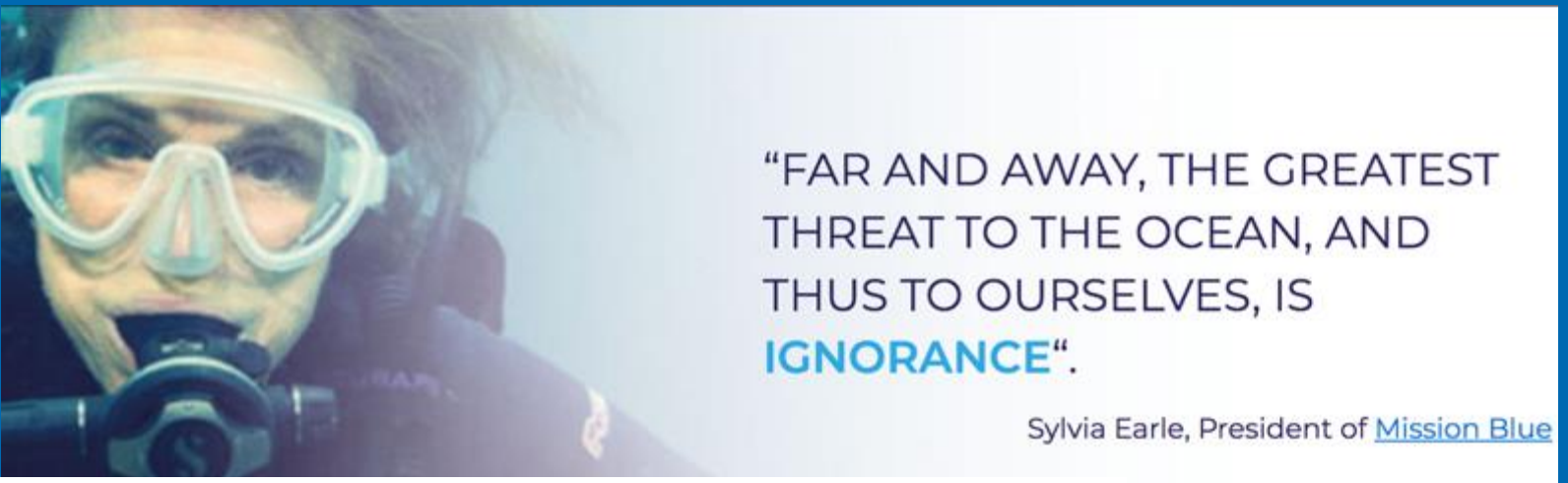
UN Decade of Ocean Science for Sustainable Development
Priority Research and Development Areas



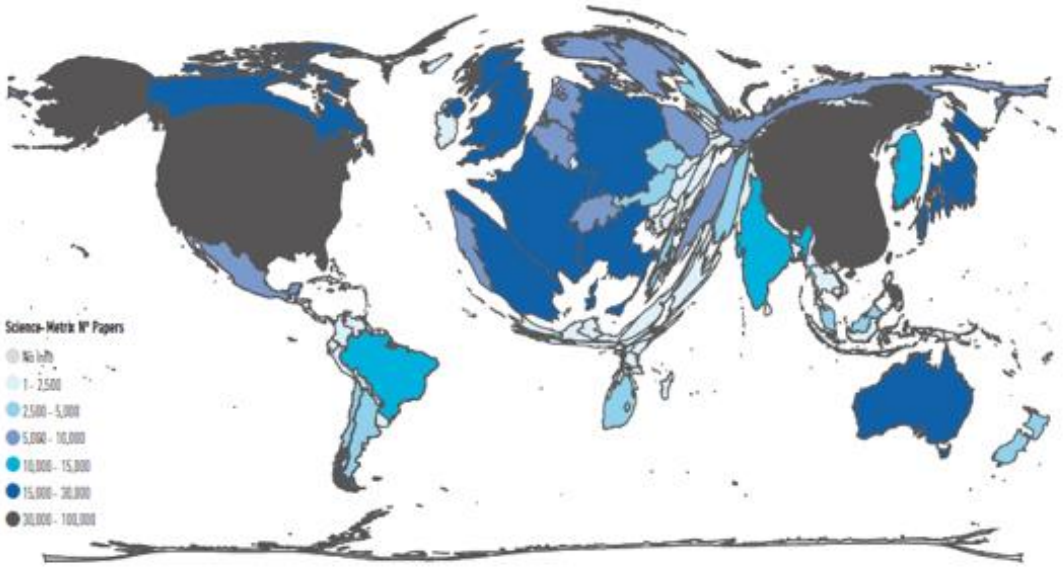
R&D Priority Area 6: Ocean compartment of the Earth System

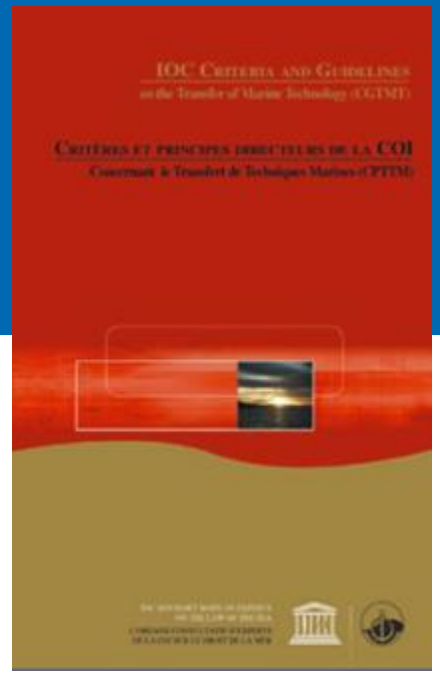
(The only way to climate prediction)

UN Decade of Ocean Science for Sustainable Development
Priority Research and Development Areas



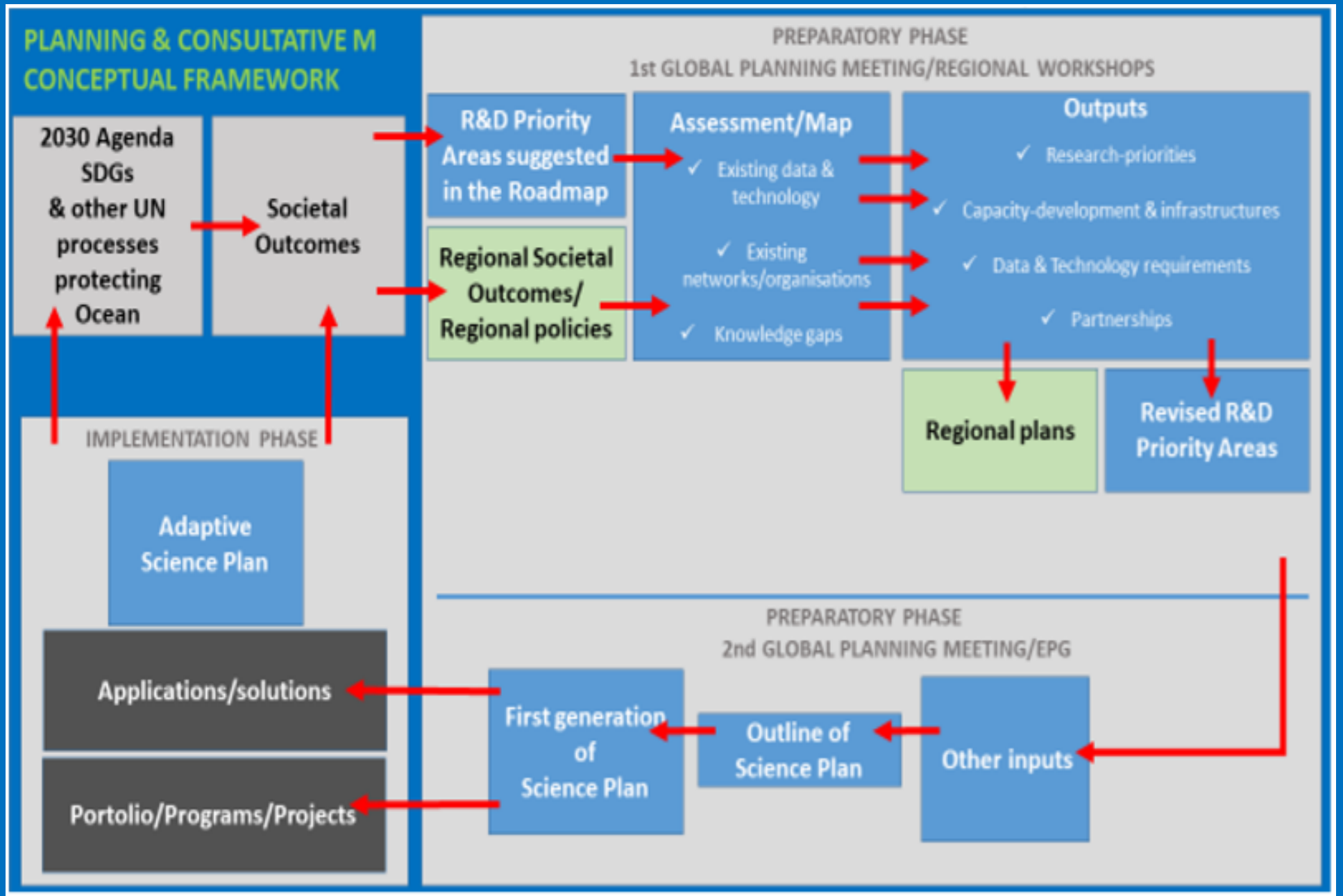
R&D Priority Area 7:
Capacity Development
Education and Training
Ocean Literacy





Potential Massive-Scale Projects (not in any order)

- **Complete mapping of ocean including seabed + expand research of ocean floor**
- **Deep ocean observations and research**
- **Genetic image of the ocean – eDNA**
- **Guided adaptation of ocean ecosystems, e.g. selective breeding for saving corals (warming, pH, O_2, pollution, turbidity, light, invasive species, …)**
- **Ocean prediction – also for life in the ocean and fisheries**
- **Ocean Science for Climate Services – huge untapped potential**
- **Ocean economics, knowledge value chain**
- **Science for Governance, coastal zones, MSP, Cities**
- **Polar oceans & their observing system**



Conceptual approach to organize global and regional consultations

GLOBAL & REGIONAL CONSULTATIONS CONCEPTUAL FRAMEWORK

GLOBAL PLANNING MEETING 1

Multistakeholder participation

- Assess the status of Ocean research vs Decade objectives
- Further develop R&D Priority Areas & needs in response to Societal Outcomes
- Address cross-cutting issues (CD, Financing, Ocean Literacy)

REGIONAL WORKSHOPS

Multistakeholder participation

- Regional Workshop 1
- Regional Workshop 2
- Regional Workshop 3
- Regional Workshop 4
- Regional Workshop 5
- Regional Workshop 6

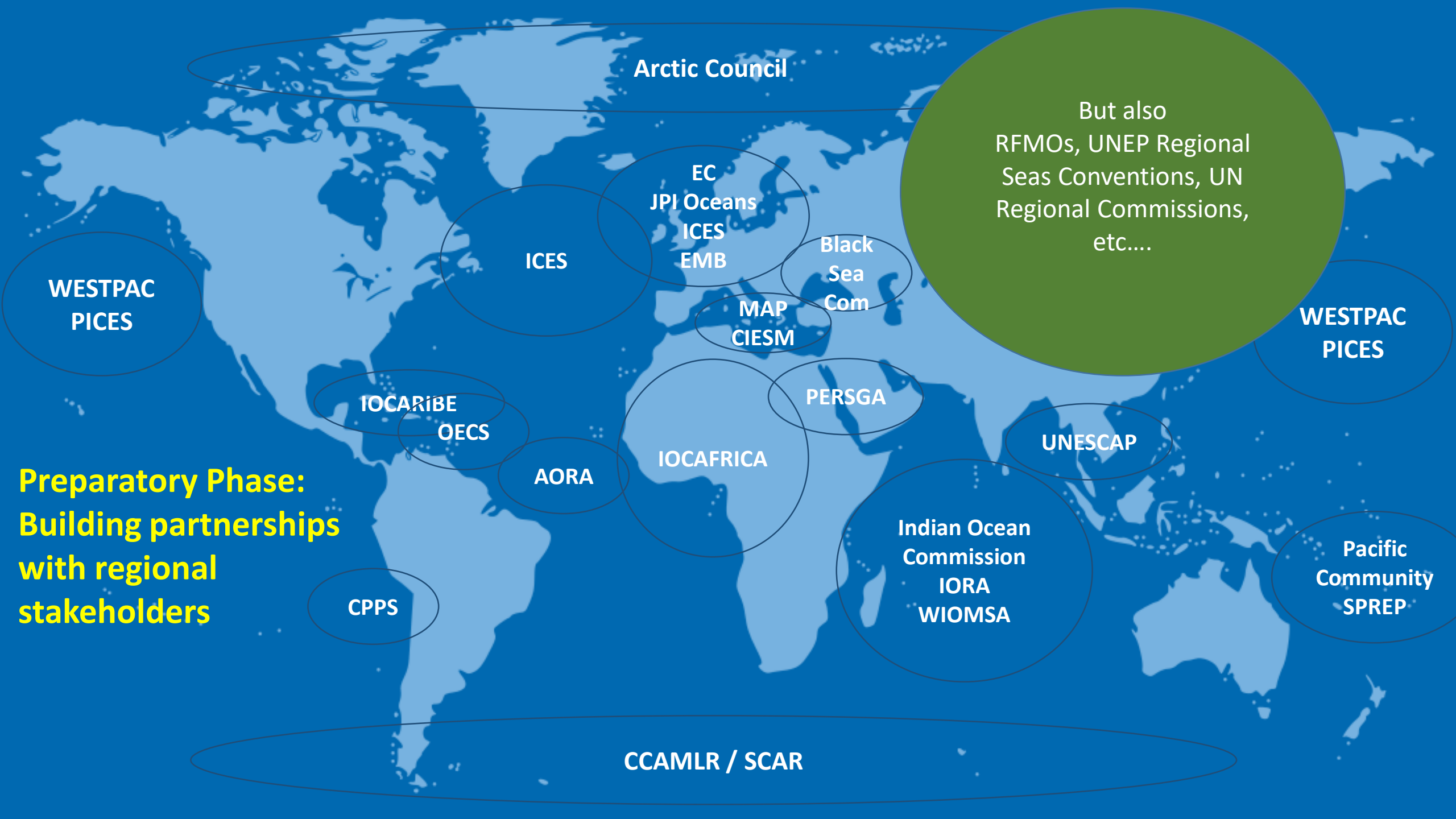
- Communicate the purpose & expected results to all stakeholders
- Consult the community on workshop themes/engage

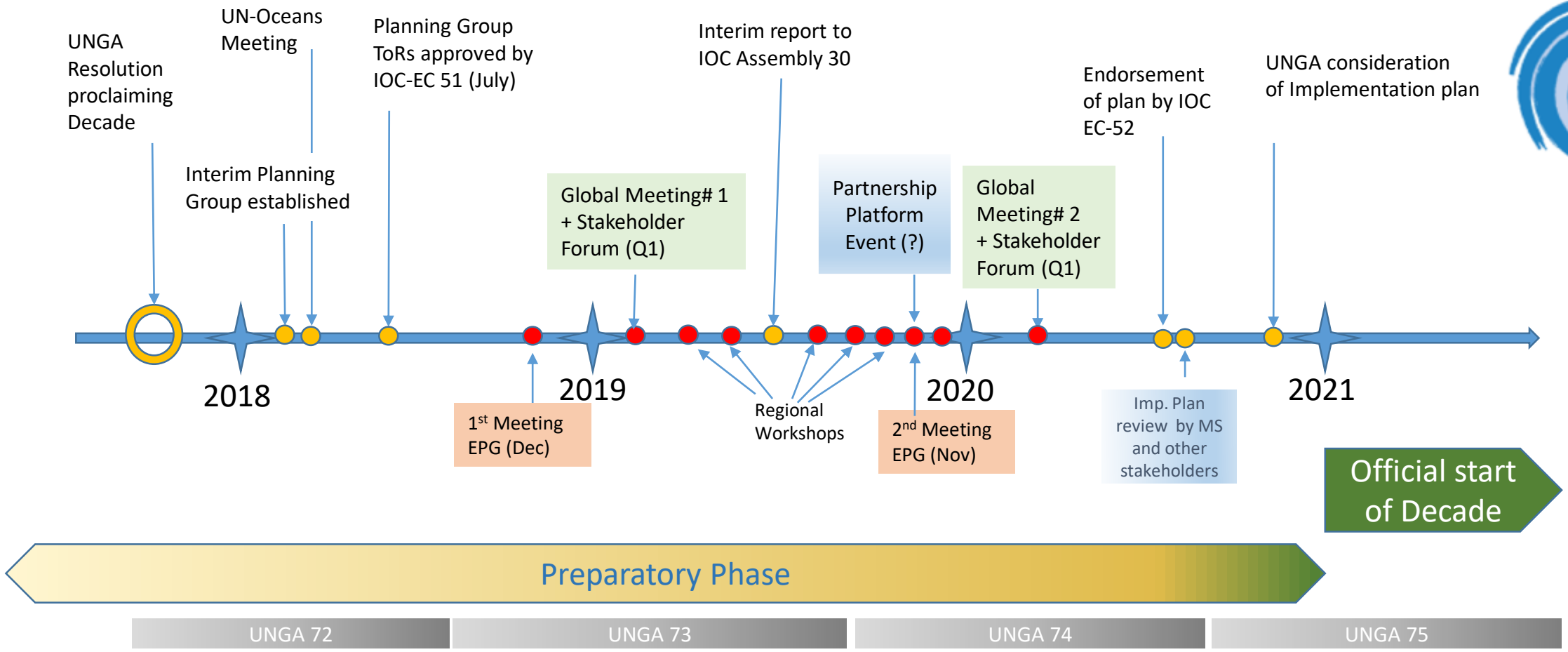
GLOBAL PLANNING MEETING 2

Multistakeholder participation

- Consolidate inputs from various consultations
- Structure Implementation plan & governance
- Formalise partnerships
- Address cross-cutting issues


Arctic Workshop (?)
North Atlantic Workshop Canada (TBC)
Medit Venice Dec/Jan
North Pacific Workshop (WESTPAC/PICES) 31 July/2 August
Carribean Oct/Mexico (TBC)
Preparatory Phase: Consult with regional stakeholders
Southeast Pacific (CPPS) Fin Sept/Oct
South Atlantic Workshop Brazil (TBC)
Indian Ocean Sept/Oct/Nov (date to be specified)
Pacific Community Workshop (SPC) 23-25 July
Antarctic Workshop (?)


Arctic Council
But also
RFMOs, UNEP Regional Seas Conventions, UN Regional Commissions, etc….
EC
JPI Oceans
ICES
EMB
ICES
Black Sea Com
MAP
CIESM
WESTPAC
PICES
WESTPAC
PICES
IOCARIBE
OECS
PERSGA
UNESCAP
AORA
IOCAFRICA
Indian Ocean Commission
IORA
WIOMSA
Pacific Community
SPREP
CPPS
CCAMLR / SCAR
Preparatory Phase: Building partnerships with regional stakeholders



Preparing for the Decade: Next Steps