Agenda 4.1

Contribution of the Sub-Commission to the implementation of SDG 14: Life below water

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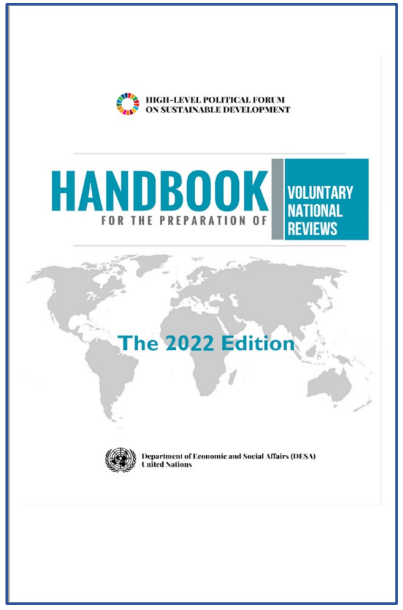
Decade Coordination Office, IOC Sub-Commission for the Western Pacific

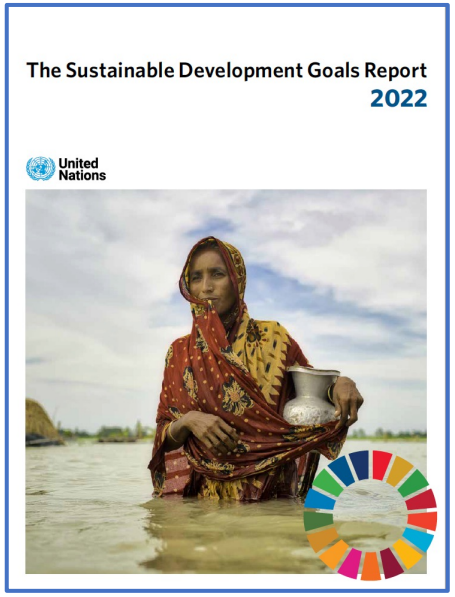
Fourteenth Intergovernmental Session of the IOC Sub-Commission for the Western Pacific
4-7 April 2023, Jakarta, Indonesia

Transforming our world: Agenda 2030

2

Follow-up and review: 17 SDGs and related targets





A country-led and country-driven regular and inclusive review process !

14 LIFE BELOW WATER

CONSERVE AND SUSTAINABLY USE THE OCEANS, SEA AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

TARGET 14.1 REDUCE MARINE POLLUTION

By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

TARGET 14.2 PROTECT AND RESTORE ECOSYSTEMS

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

TARGET 14.3 REDUCE OCEAN ACIDIFICATION

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

TARGET 14.4 SUSTAINABLE FISHING

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

TARGET 14.5 CONSERVE COASTAL AND MARINE AREAS

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

TARGET 14.6 END SUBSIDIES CONTRIBUTING TO OVERFISHING

By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.

TARGET 14.7 INCREASE THE ECONOMIC BENEFITS FROM SUSTAINABLE USE OF MARINE RESOURCES

By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

TARGET 14.A INCREASE SCIENTIFIC KNOWLEDGE, RESEARCH AND TECHNOLOGY FOR OCEAN HEALTH

Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the

TARGET 14.B SUPPORT SMALL SCALE FISHERS

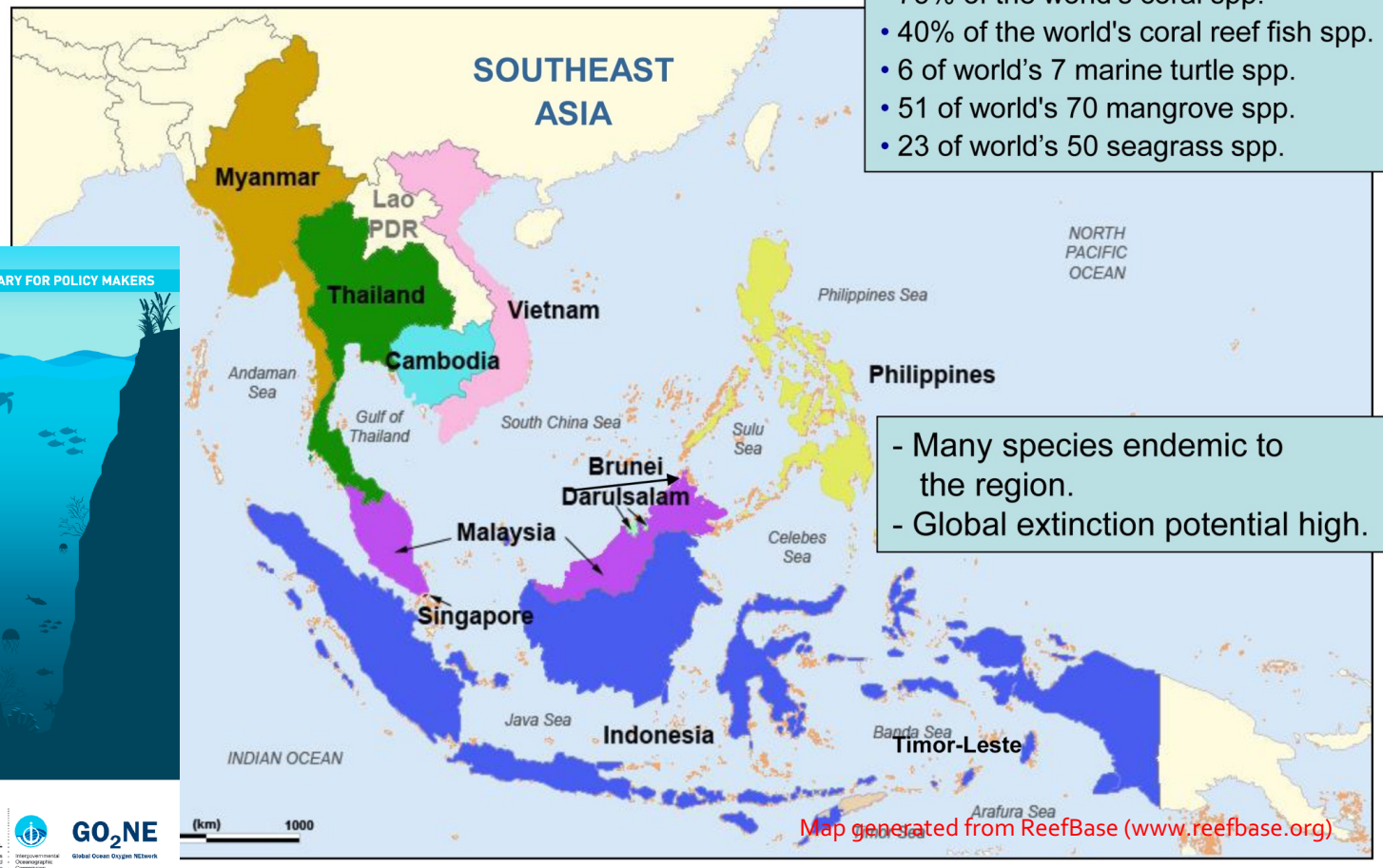
Provide access for small-scale artisanal fishers to marine resources and markets.

TARGET 14.C IMPLEMENT AND ENFORCE INTERNATIONAL SEA LAW

Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want".

SUSTAINABLE DEVELOPMENT GOALS 2030 AGENDA

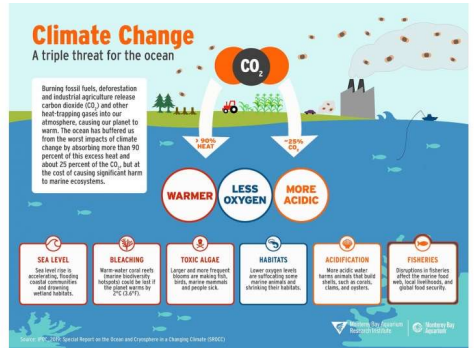
Ocean is warming up, turning sour, losing breath!

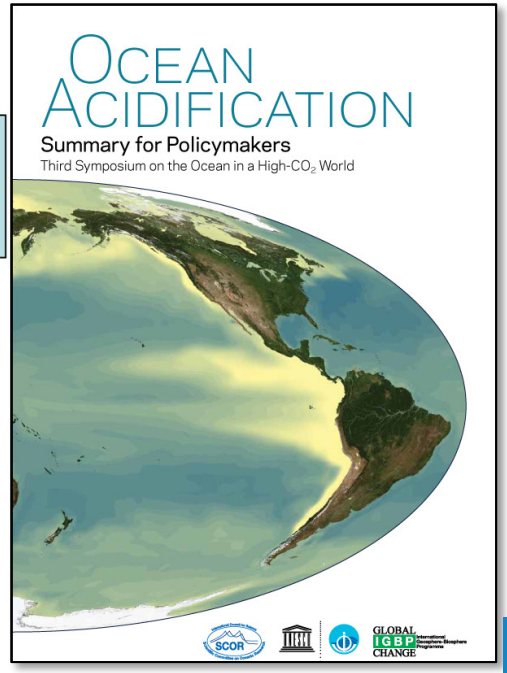


- 75% of the world's coral spp.
- 40% of the world's coral reef fish spp.
- 6 of world's 7 marine turtle spp.
- 51 of world's 70 mangrove spp.
- 23 of world's 50 seagrass spp.

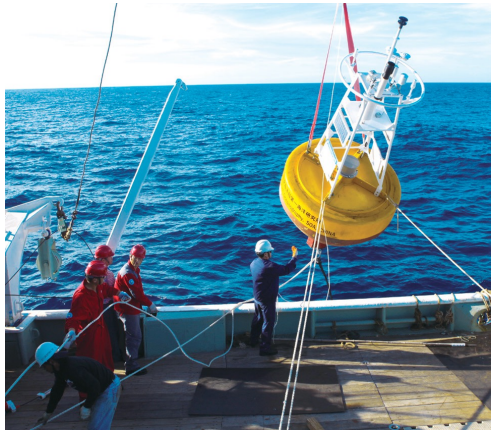
- Many species endemic to the region.
- Global extinction potential high.

Global hotspot for marine biodiversity

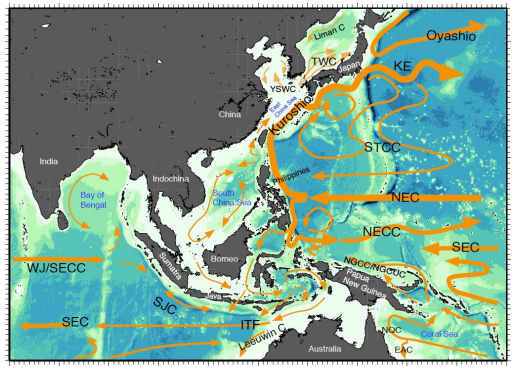




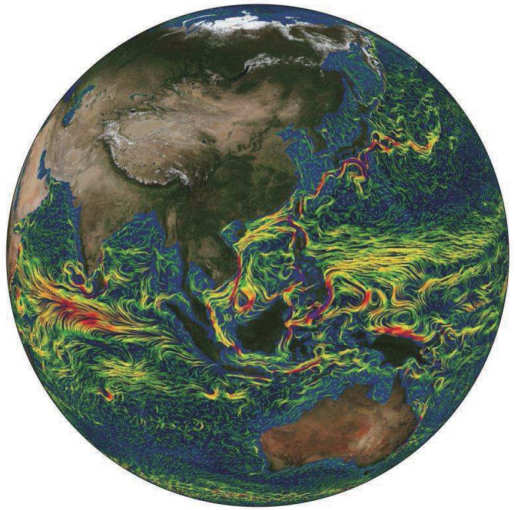
Delivering knowledge and services to serve the needs for ocean sustainability



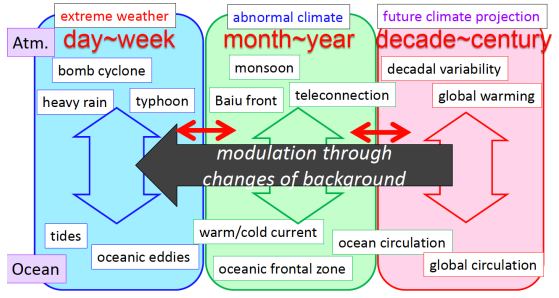
Observe



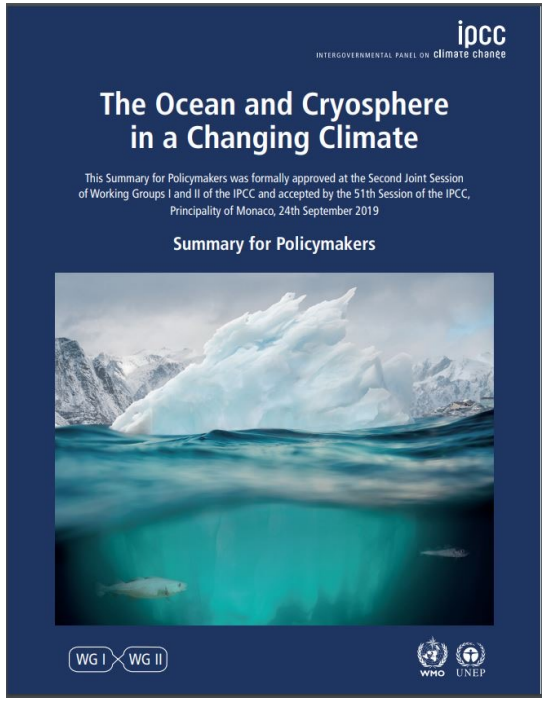
Process study



Forecast & prediction



- Ocean-Atmosphere interactions in these scales
- Scale-interactions, modulation of magnitude/frequency

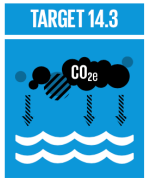


Impact analysis

Capacity Development

IOC & SDG 14 Indicator Development

- Identified as CUSTODIAN agency for 2 SDG 14 targets



REDUCE OCEAN ACIDIFICATION

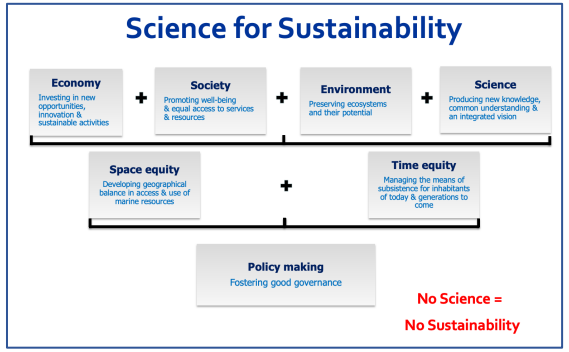
Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.

Indicator: 14.3.1 : Average marine acidity (pH) measured at agreed suite of representative sampling stations

INCREASE SCIENTIFIC KNOWLEDGE, RESEARCH AND TECHNOLOGY FOR OCEAN HEALTH

Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the

Indicator: 14.a.1: Proportion of total research budget allocated to research in the field of marine technology



- provides technical support to UNEP led targets 14.1 (pollution) and 14.2 (ecosystem management)

REDUCE MARINE POLLUTION

By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

PROTECT AND RESTORE ECOSYSTEMS

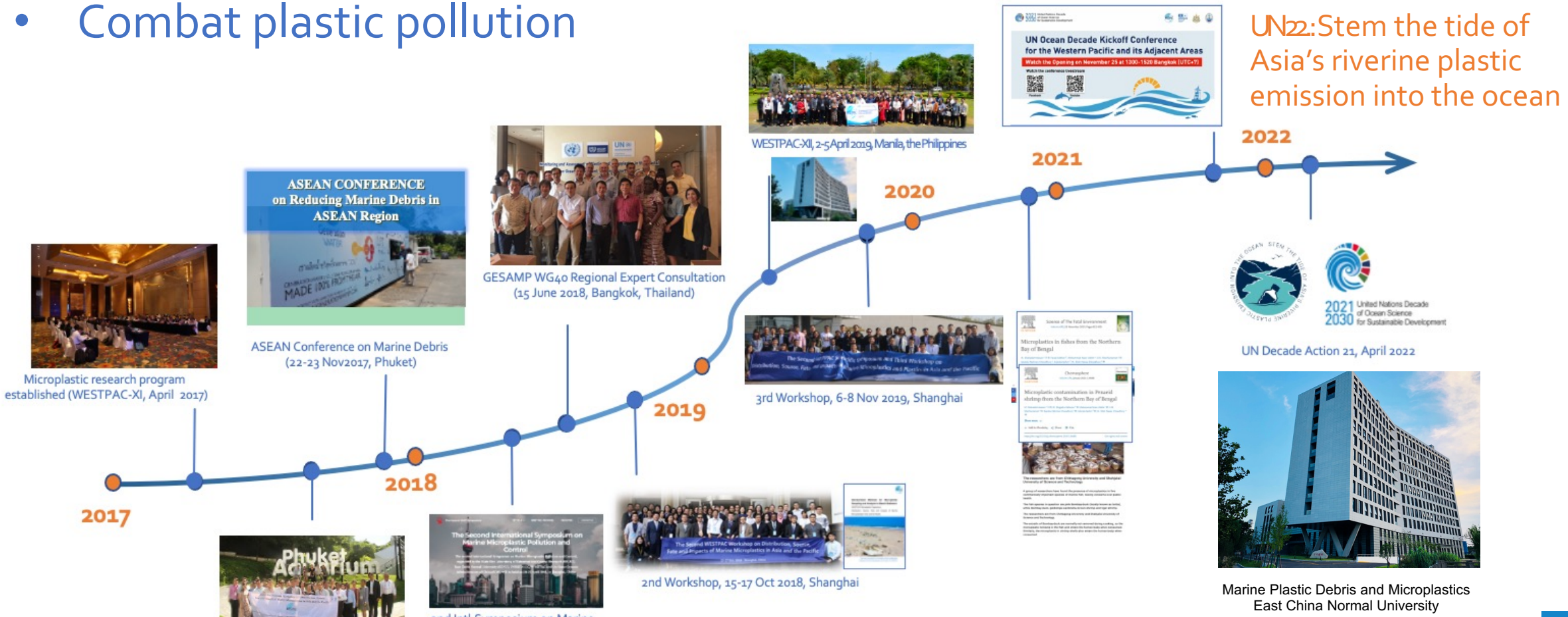
By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.

Delivering knowledge and services

to serve the needs for ocean sustainability

SDG 14.1: Reduce marine pollution

- Combat plastic pollution



UN22: Stem the tide of Asia's riverine plastic emission into the ocean

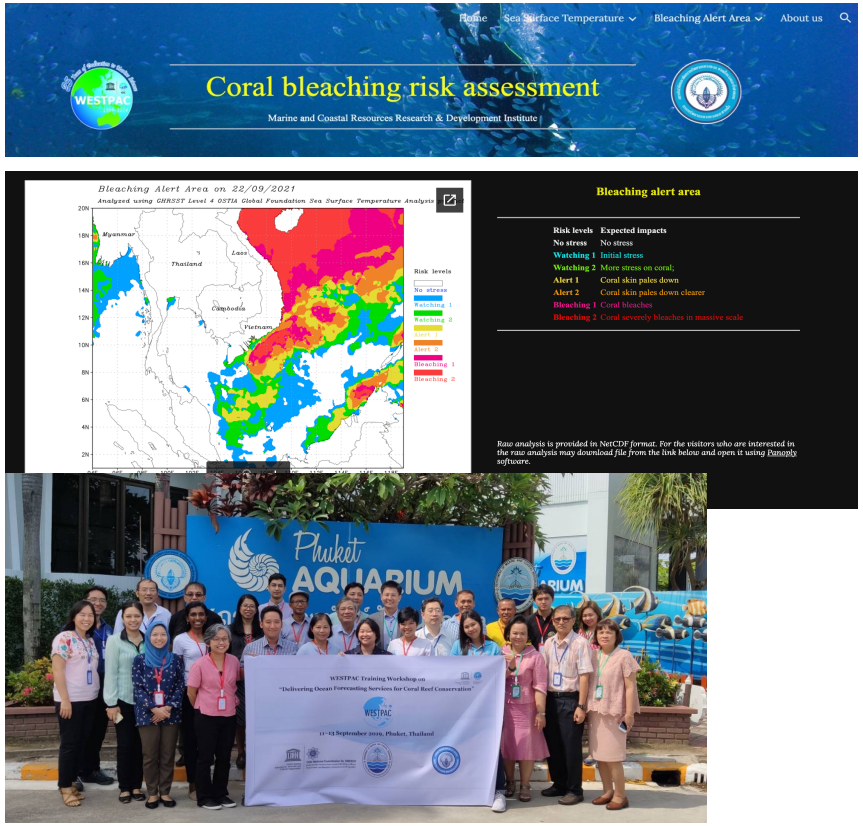
TARGET 14.2

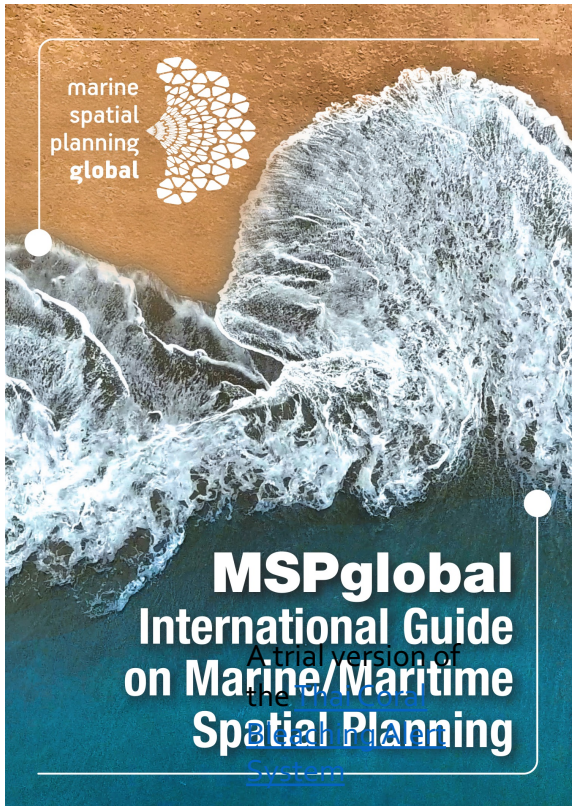
Delivering knowledge and services

to serve the needs for ocean sustainability

SDG 14.2: Protect and restore ecosystem

- Marine Spatial Planning, coral reef restoration and coral beaching risk assessment





A trial version of the Pilot Coral Bleach Risk Alert System

marine spatial planning global

MARINE SPATIAL PLANNING IN THE WESTERN PACIFIC

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

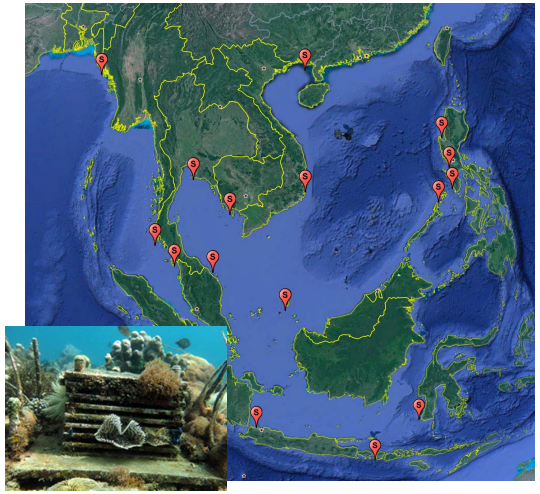
UN21. Accelerate Marine Spatial Planning in the Western Pacific

TARGET 14.3

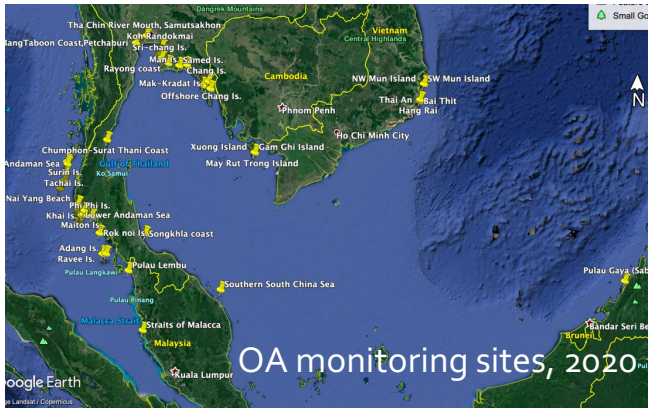
Delivering knowledge and services

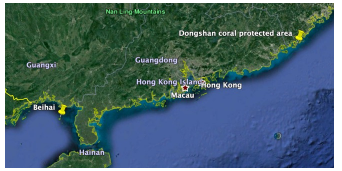
to serve the needs for ocean sustainability

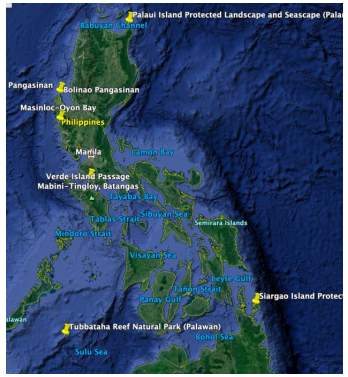
SDG 14.3: Reduce ocean acidification including through enhanced scientific cooperation at all levels

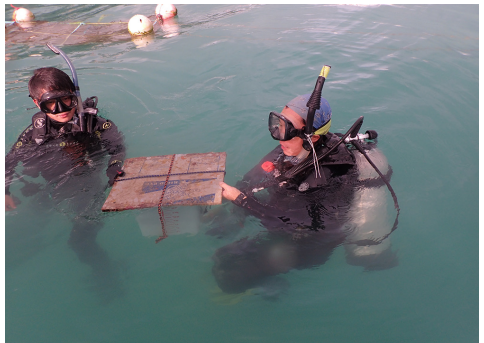


OA monitoring pilot sites, 2015







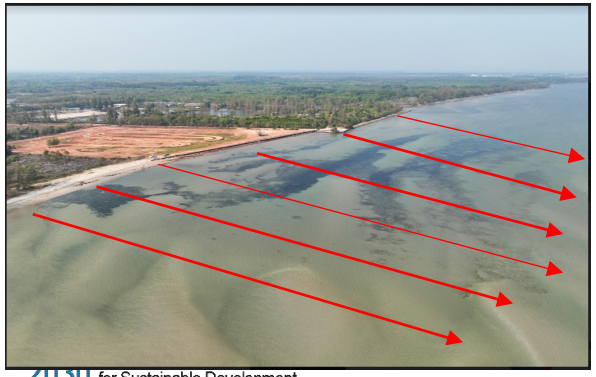


Delivering knowledge and services

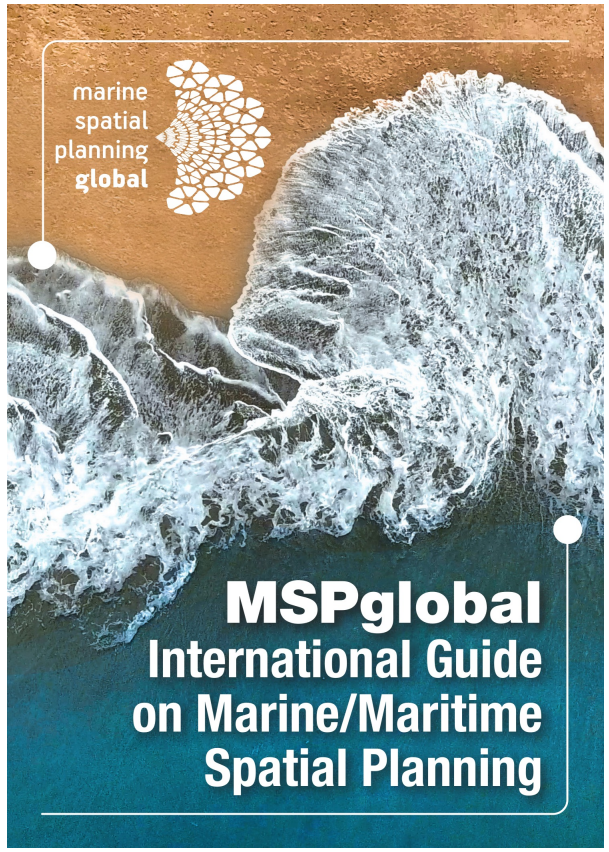
to serve the needs for ocean sustainability

SDG 14.5: Conserve coastal and marine areas

- Coastal habitat mapping, marine spatial planning, blue carbon



2030 for Sustainable Development

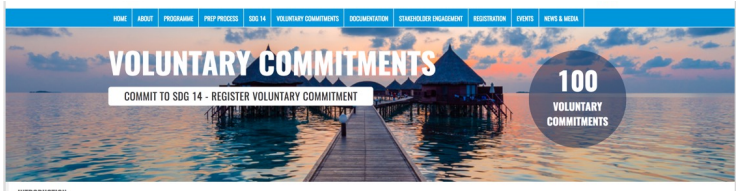


Delivering knowledge and services

to serve the needs for ocean sustainability

SDG 14.A: Increase scientific knowledge, develop research capacity and transfer of marine technology

- UNESCO/IOC Regional Network of Training and Research Centers (RTRCs)



RTRC specialized trainings and research for SDGs

- **Ocean dynamics and climate** (Qingdao, China)
- **Marine biodiversity and ecosystem health** (Jakarta, Indonesia)
- **Coral reef restoration and MPAs** (Bolinao, the Philippines)
- **Marine toxins and seafood safety** (Nha Trang, Vietnam)
- **Marine plastic debris and microplastic** (Shanghai, China)

Ocean Dynamics and Climate
First Institute of Oceanography, MNR, China

Marine Biodiversity and Ecosystem Health,
Indonesian Institute of Sciences

Marine Toxins and Seafood Safety
Institute of Oceanography, Vietnam

Reef Management and Restoration
University of the Philippines Diliman

Phuket Marine Biological Center, Thailand

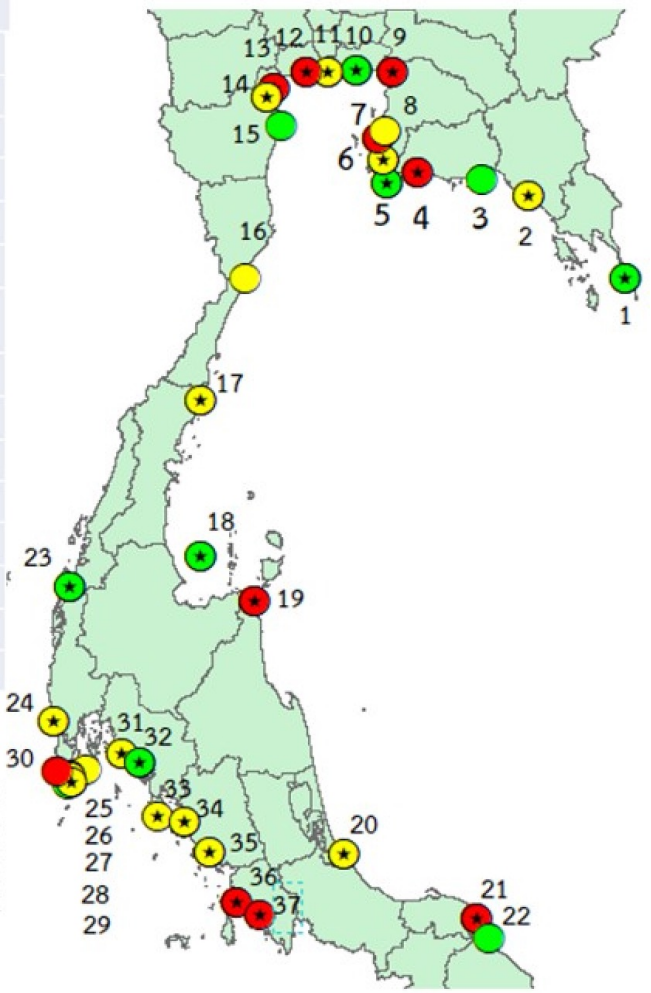
Marine Plastic Debris and Microplastics
East China Normal University

More RTRCs under establishment based on "demand driven" and willingness.

Effort with Thailand in SDG 14 and beyond

- **SDG-14.1**: Monitoring of Marine Plastic Debris and Microplastics in Thailand

Plastic debris monitoring in rivers and canals (by DMCR 2021), the main sources of plastic debris, including microplastic, entering the coast and ocean



Monitoring sites of Microplastic in Thailand, 2021

Area conditions

Populated

Moderated

Pristine

S = Sediment
W = Sea water
Z = Zooplankton

DMCR has initiated the microplastics monitoring programme in seawater, sediment, and zooplankton, with the technical support of the WESTPAC Marine Plastic Debris and Microplastic Programme.

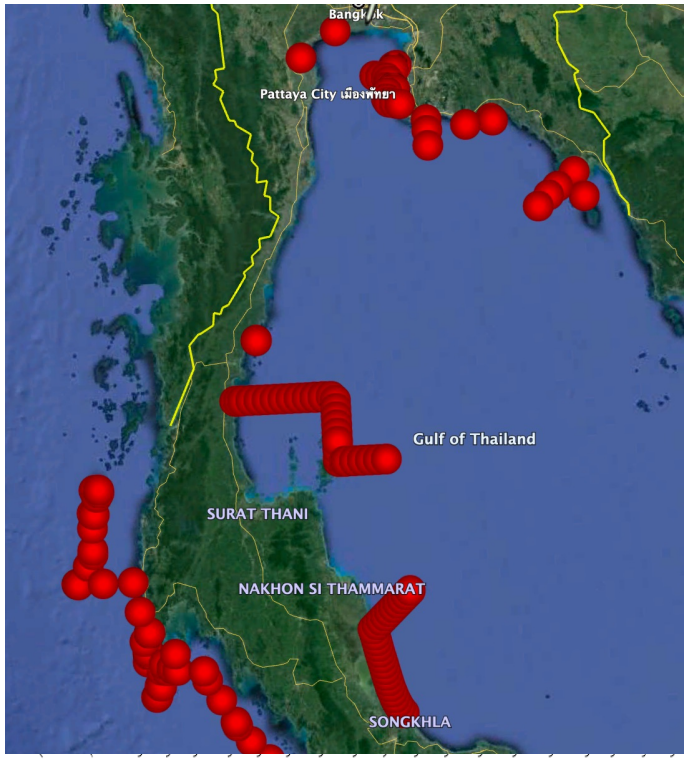
Effort with Thailand in SDG 14 and beyond

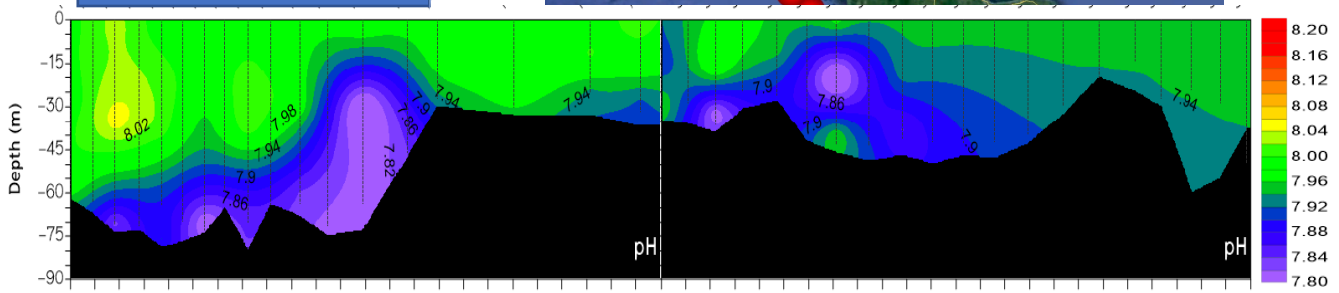
- SDG-14.3: Ocean acidification monitoring in Thailand

WESTPAC Ocean Acidification programme was established in 2015, with the strong support from Thai government through DMCR and Ministry of Education.

It developed national capacity for OA monitoring in support of their commitments to UN SDG14.3 and to mitigate the OA impacts on marine ecosystem.

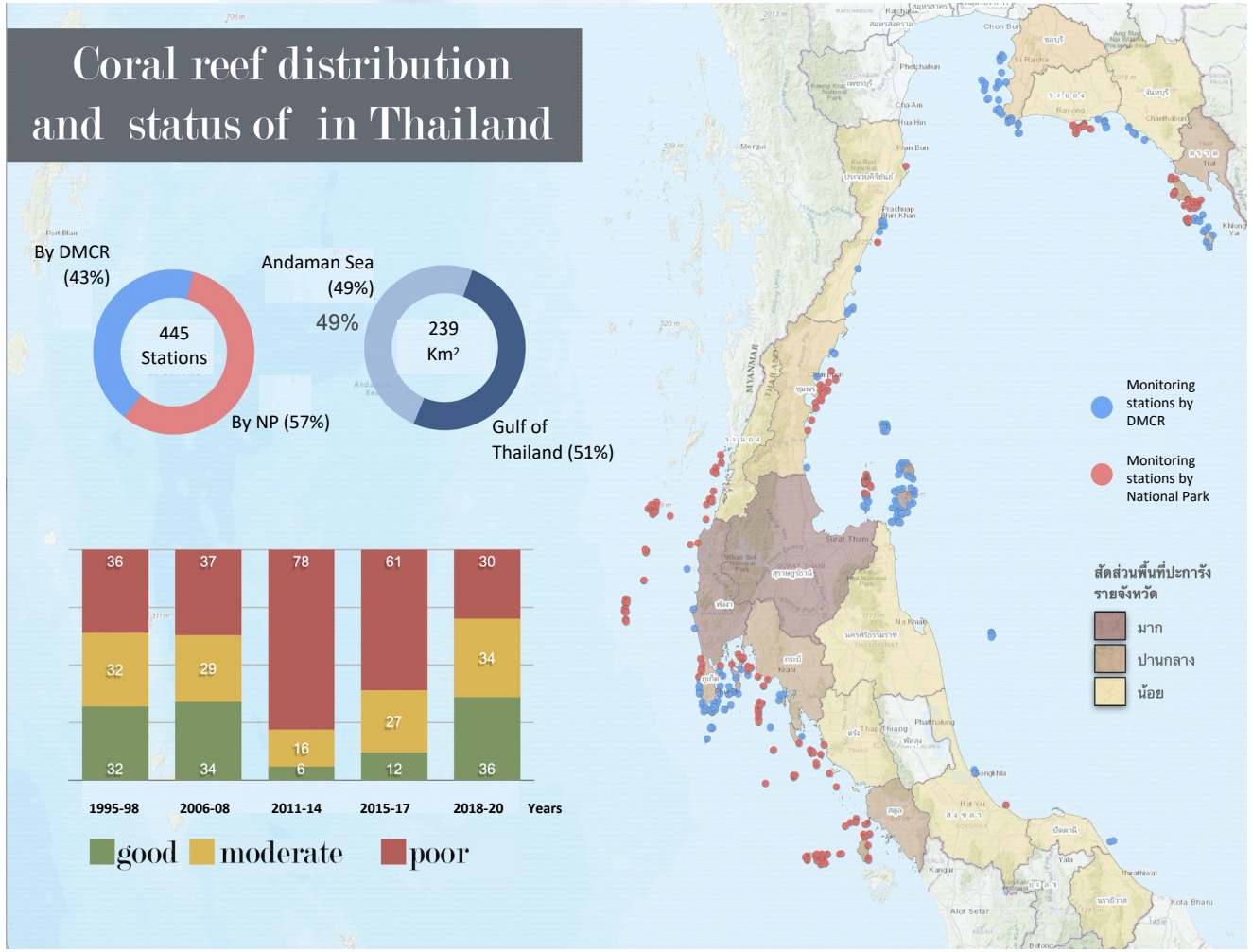
Monitoring pH and other related carbonate chemistry parameters in Thai waters, since 2015





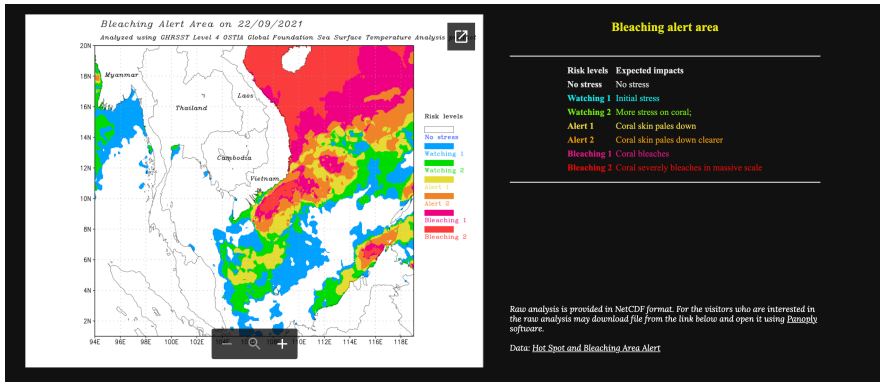
Distribution of pH profile (surface to bottom) along the Andaman Sea coast of Thailand (~500 kms, left = North, right = South), during late April to early May 20

Knowledge generation for coral monitoring and management



Thailand (DMCR and National Park) has been regularly monitoring coral status, to inform coral management . Not only the anthropogenic impacts, but the high water temperature was a major cause of massive coral bleaching that impacts on large scale of coral, particularly in 2010 and 2016.

WESTPAC and DMCR has initiated the development of an online monitoring coral bleaching system, based on knowledge generate from MOMSEI and product of OFS



https://sites.google.com/view/cbalertsystem/bleaching-alert-area

To what degree have we achieved the SDG 14 targets ?

PROTECT AND RESTORE ECOSYSTEMS

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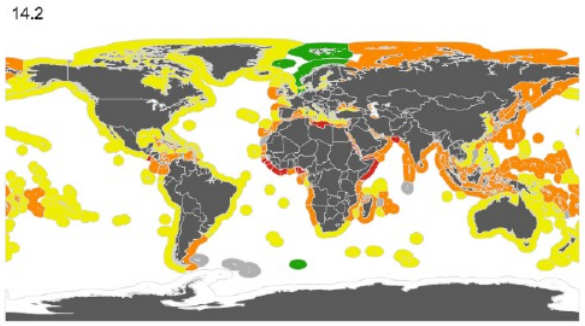

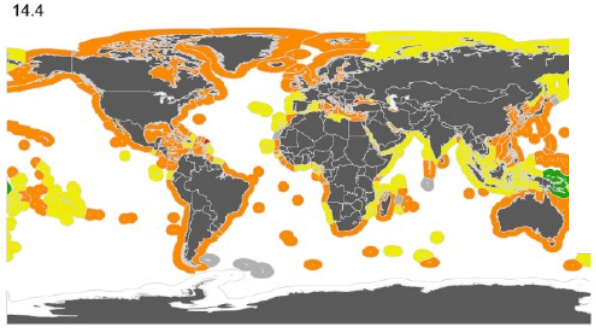

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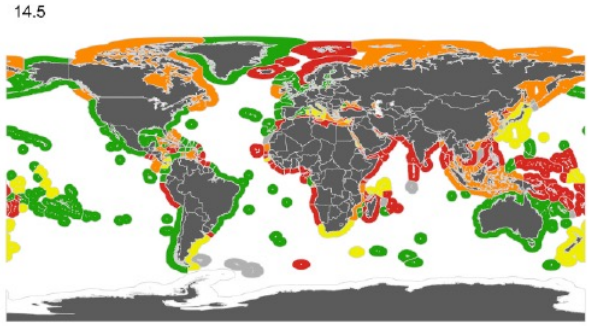

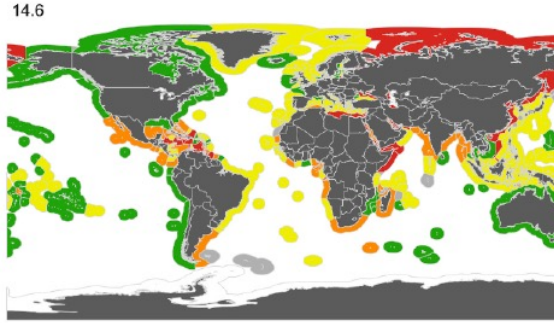

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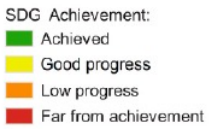


Fig. 1. Global maps of achievement of the four SDG 14 targets (14.2, 14.4, 14.5 and 14.6).

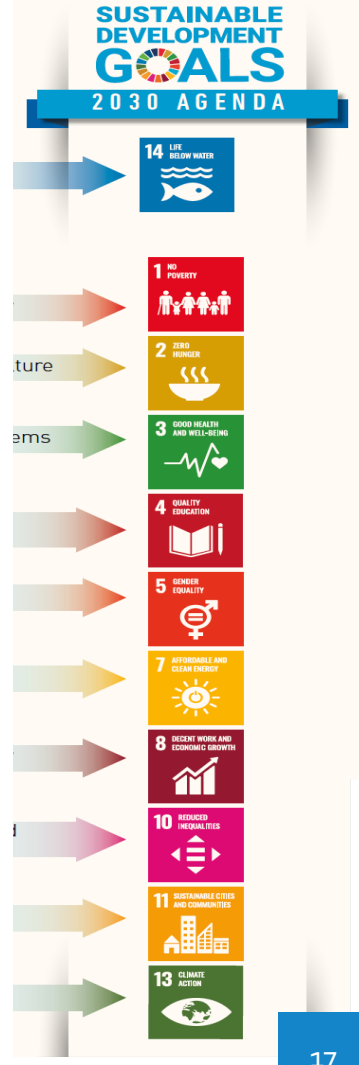
UN Decade of Ocean Science for Sustainable Development (2021-2030)

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

Vision: 'the science we need for the ocean we want'

Mission: 'to catalyse transformative ocean science solutions for sustainable development, connecting people and our ocean'

Co-design
Co-develop
Co-deliver



The SDG could be achieved only through meaningful and long-lasting collaborations across disciplines, sectors, generations, genders, and geographies!

Let us know how we can help?

14 LIFE BELOW WATER