United Nations Educational, Scientific and Cultural Organization

Intergovernmental Oceanographic Commission

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

The UN Decade of Ocean Science for Sustainable Development 2021-2030
Western Tropical Atlantic Regional Working Group

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Instituto de Investigaciónes Marinas y Costeras "José Benito Vives de Andréis"
Vinculado al Ministerio de Ambiente y Desarrollo Sostenible

CLEAN, HEALTHY, RESILIENT AND PRODUCTIVE OCEAN

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The Science We Need
For The Ocean We Want

THE OCEAN DECADE ACTION FRAMEWORK

United Nations Educational, Scientific and Cultural Organization · Intergovernmental Oceanographic Commission · 2021 2030 United Nations Decade of Ocean Science for Sustainable Development

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The Ocean We Want for a sustainable future is represented by seven Decade Outcomes

- **A clean ocean** where sources of pollution are identified and removed
- **A healthy and resilient ocean** where marine ecosystems are mapped and protected
- **A predicted ocean** where society has the capacity to understand current and future ocean conditions
- **A safe ocean** where people are protected from ocean hazards
- **A sustainably harvested and productive ocean** ensuring the provision of food supply
- **A transparent ocean** with open access to data, information and technologies
- **An inspiring and engaging ocean** where society understands and values the ocean

Key Challenges have been identified for the Decade.

and new Challenges will be added. Each Challenge contributes to one or more Decade Outcomes:

- Understand and beat marine pollution
- Protect and restore ecosystems and biodiversity
- Sustainably feed the global population
- Develop a sustainable and equitable ocean economy
- Unlock ocean-based solutions to climate change

Challenges may evolve throughout the Decade

- Increase community resilience to ocean hazards
- Expand the Global Ocean Observing System
- Create a digital representation of the ocean
- Deliver data, knowledge and technology to all
- Change humanity's relationship with the ocean

The Ocean Challenges will be achieved via Decade Actions that will be identified, implemented and resourced by a wide range of stakeholders.

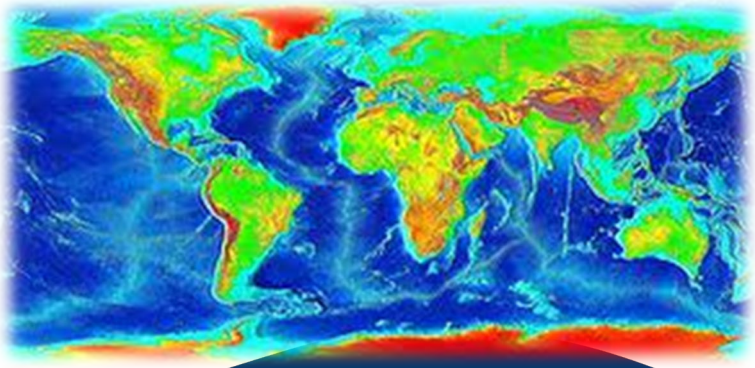
Examples include:

- Coastal zone management and adaptation
- Marine spatial planning/blue economy
- Establishment of marine protected areas
- Fisheries management
- Ocean-related Nationally determined contributions to UNFCCC
- Development of national ocean policies
- Development of national R & D strategies
- Regional and national capacity development planning
- Early warning systems

file:///C:/Users/usrtipjefe/Downloads/The_Science_We_Need_For_The_Ocean_We_Want.pdf

Working Group - A healthy and resilient ocean

A healthy and resilient ocean whereby marine ecosystems are mapped and protected, multiple impacts, including climate change, are measured and reduced, and provision of ocean ecosystem services is maintained.



WHAT IS EXPECTED OF A CLEAN, HEALTHY, RESILIENT AND PRODUCTIVE OCEAN?

Clean waters

Richness and Abundance of species

Functional Mitigation the Climate Change

Functional properties of the ocean working

Empowerment of environmental authorities for the oceans

Environment suitable for all the organisms

Support of the whole sectors of the economy

Increased Community awareness

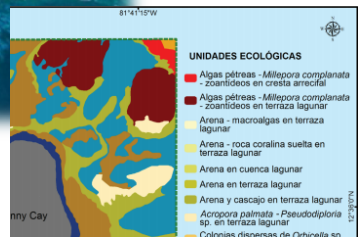
Good practices for the sustainability of the marine ecosystem services

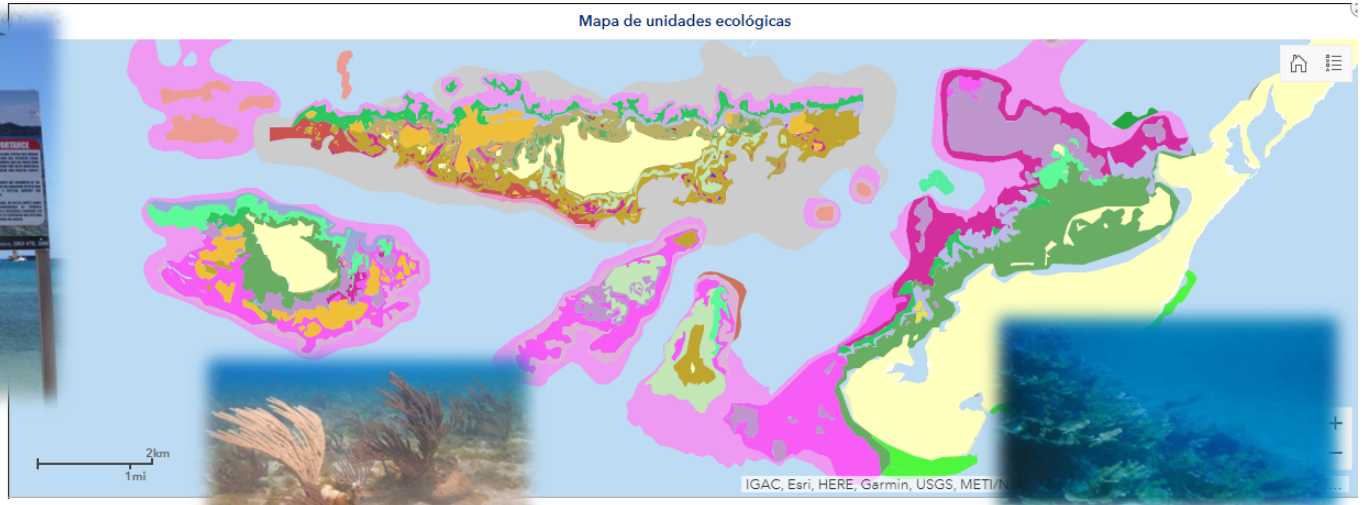
Topics for actions

- Mapping marine and coastal ecosystems
- Marine protected areas
- Multiple Impacts
- Climate change
- Marine and coastal ecosystem services
- Ocean information systems

Mapping marine and coastal ecosystems

Mapping of ecosystems at different depths (specially seabed), making public-private strategic alliances for the costs, data, observing platforms, and expertise and multilateral alliances for Biodiversity Beyond Nationals Jurisdiction (BBNJ) areas.



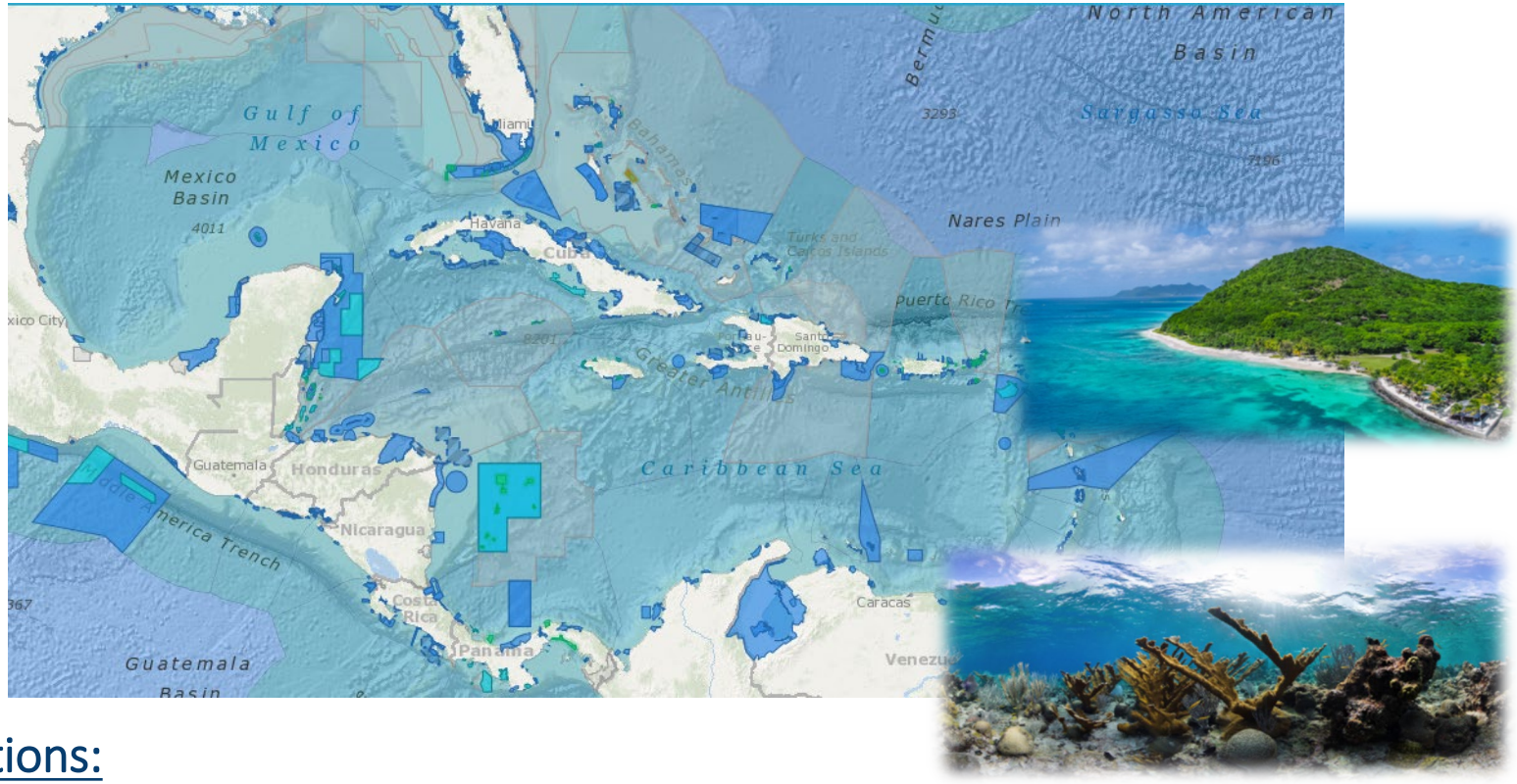


Active actions:

MACHC-Seabed2030 WebApp

Where marine ecosystems are mapped?

➢Marine protected areas



Active actions:

BIOPAMA
From Knowledge to Action for a Protected Planet

Where marine ecosystems are and protected?

Multiple Impacts

Understanding of combined effects of stressors in marine and coastal ecosystems and biodiversity, as well as the influence of tele-connections (e.g., between ocean basins and continents) on the climate and ocean processes.

REMARCO: The Latin American and Caribbean Network for Research in Coastal and Marine Stressors

Areas of work:

- Pollution (in particular microplastic pollution)
- Harmful Algal Blooms(HABs)
- Ocean Acidification
- Eutrophication
- Scientific communication

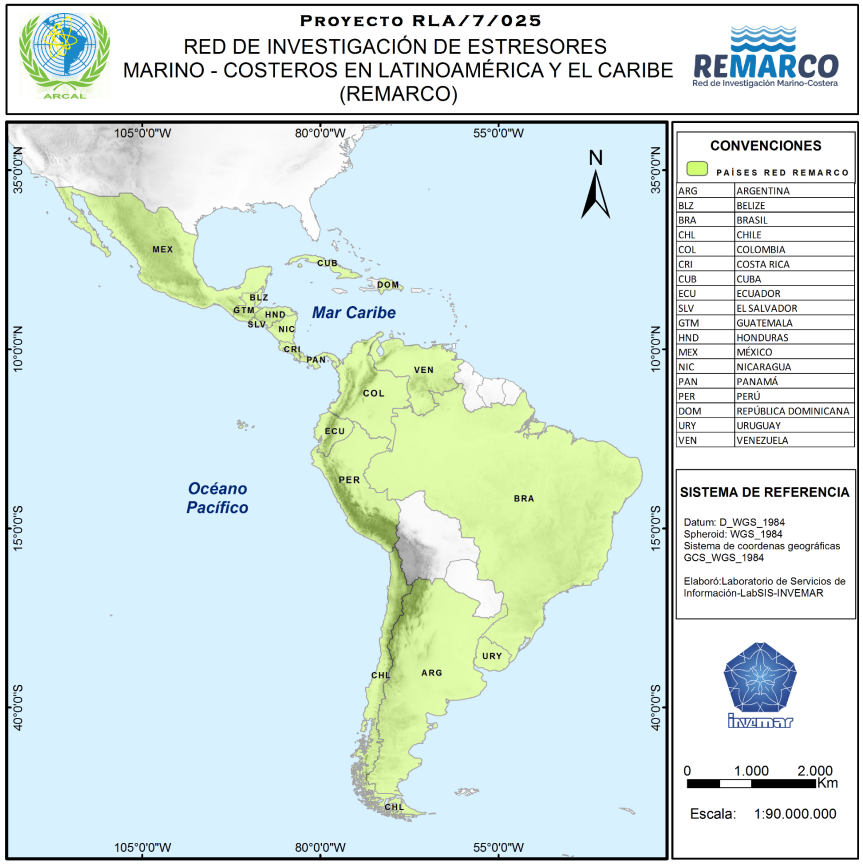
Active actions:

REMARCO
Red de Investigación Marino-Costera

Who participates in REMARCO?

REMARCO is currently composed of scientists and communicators from institutions in **18 Latin America and the Caribbean countries**:

Argentina	El Salvador
Belize	Guatemala
Brazil	Honduras
Chile	Mexico
Colombia	Nicaragua
Costa Rica	Panama
Cuba	Peru
Dominican Republic	Uruguay
Ecuador	Venezuela



REMARCO
Red de Investigación Marino-Costera

IAEA
International Atomic Energy Agency

How REMARCO contributes to the challenges of the United Nations Decade of Ocean Science for Sustainable Development?

The Ocean Decade promotes the integration of countries to generate the global ocean science needed to support the sustainable development of the shared ocean. In this sense, REMARCO contributes by joint efforts of 18 Latin America and the Caribbean countries, to generate evidence based knowledge that contributes to the Decade challenges, principally:

A predicted Ocean whereby society has the capacity to understand current and future ocean conditions, forecast their change and impact on human wellbeing and livelihoods;

- ✓ *Pollution*
- ✓ *Ocean acidification*
- ✓ *Harmful Algal Bloom – HAB and eutrophication*
- ✓ *Scientific communication*

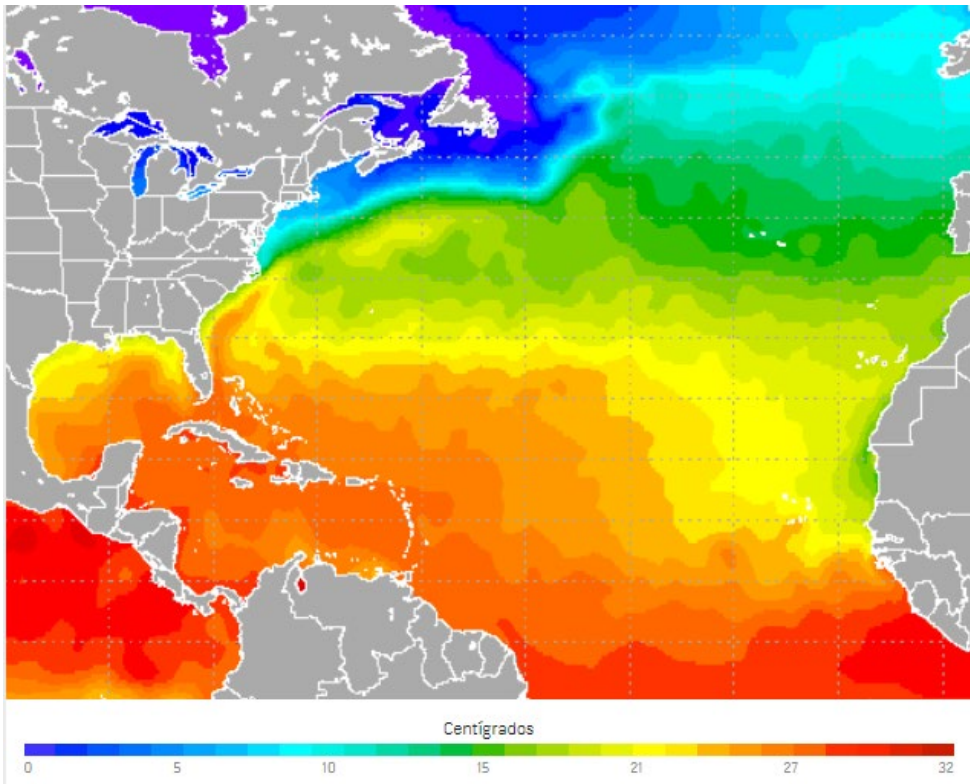
A clean Ocean whereby sources of pollution are identified, quantified and reduced, and pollutants removed from the Ocean;

A transparent and accessible Ocean whereby all nations, stakeholders and citizens have access to Ocean data and information, technologies, and have the capacities to inform their decisions.

➢Climate change

Temperature

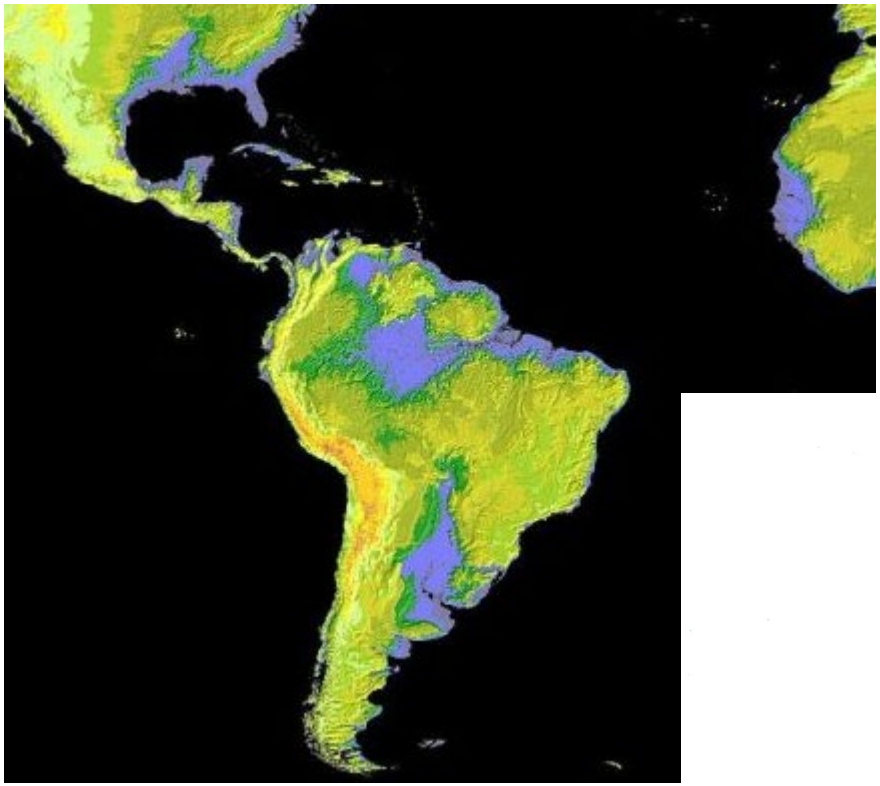
⇧0.87°C in the last 250 years

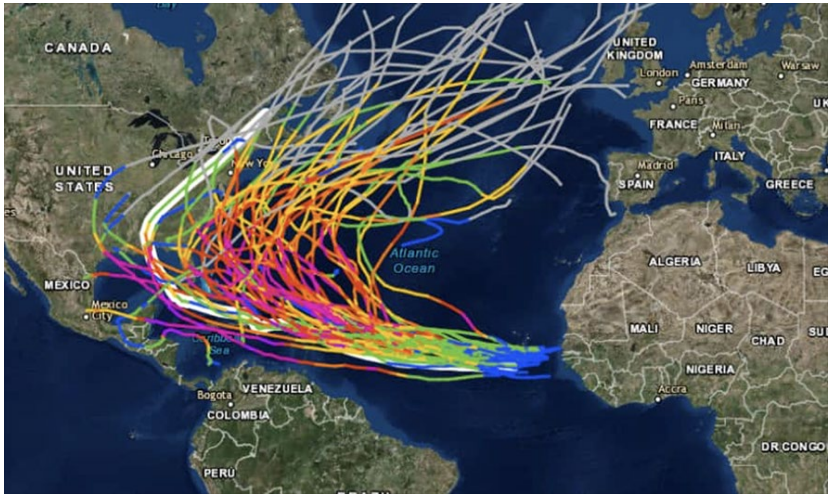


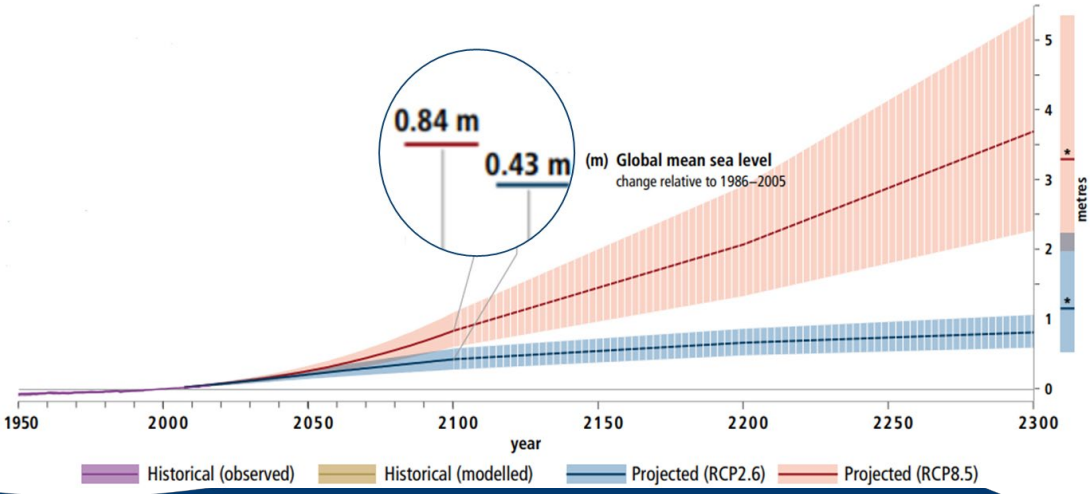
The ocean which is the engine of the climate, absorbs more than 90% of the excess energy by the climate system (IPCC, 2019)

Climate change

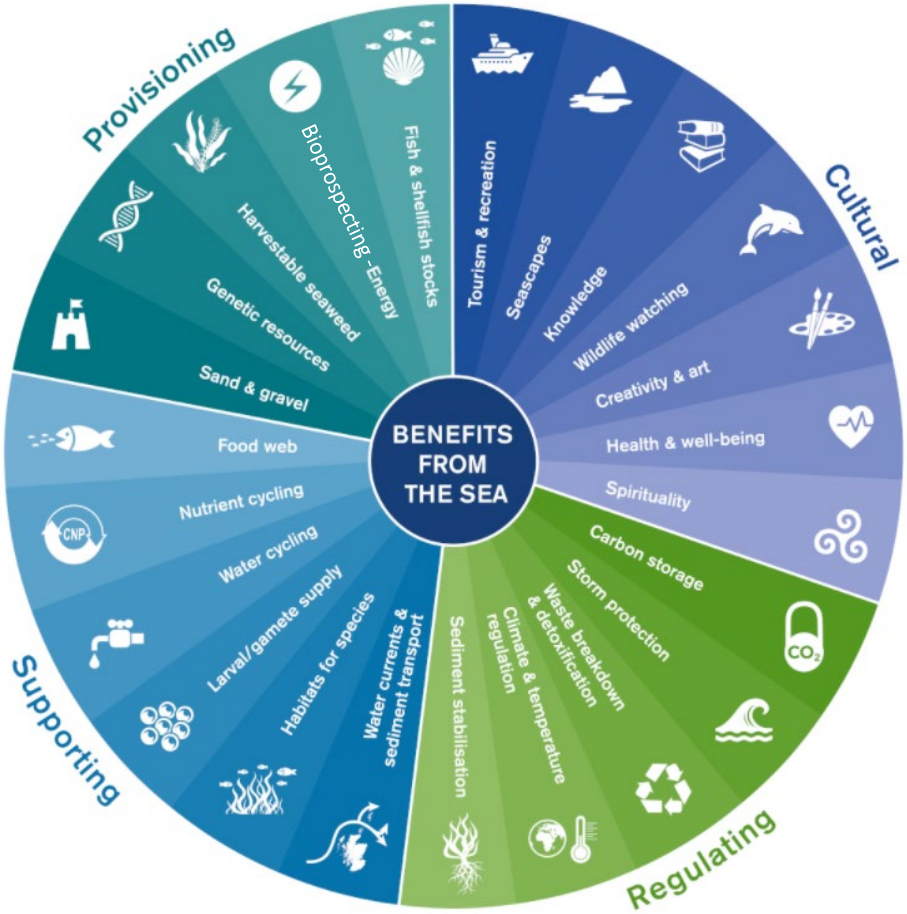
Rise in mean sea level and increase in extreme events – Hurricanes, Tsunamis







➢Marine and coastal ecosystem services



- Comprehensive valuation of ecosystem services

…All nations will benefit in a healthy and resilient ocean and by preserving its capacity to deliver food, income, support transportation and many other elements of sustainable development."

COASTAL PROTECTION

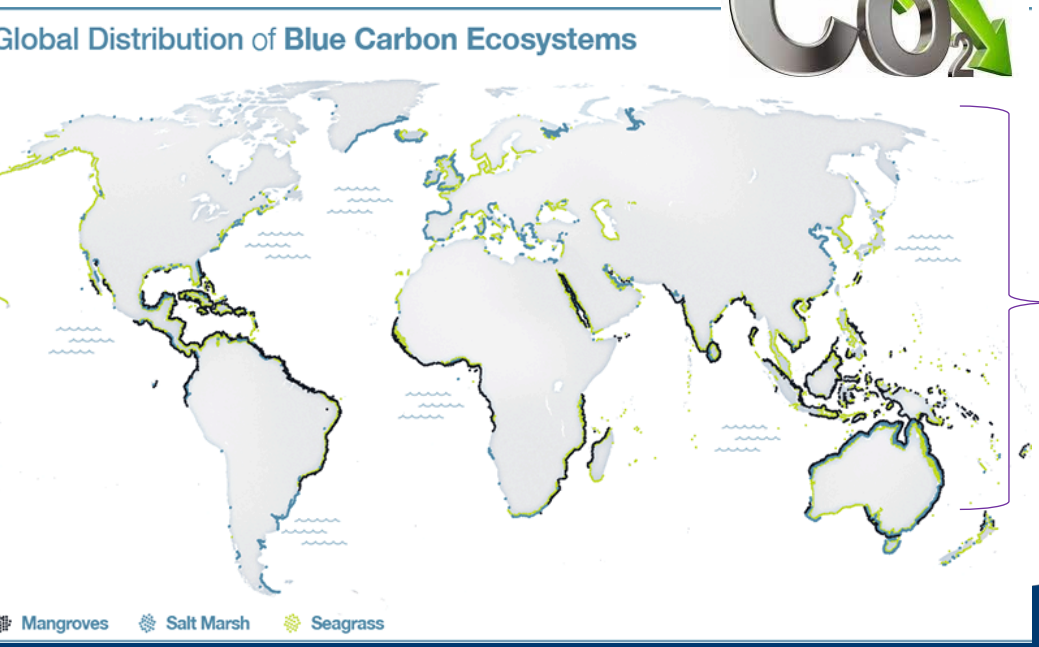
Mangroves
Coral Reefs
Rocky Reefs
Seagrass beds
Oyster Banks

Wave attenuation
Sediment capture
Vertical accretion,
Erosion reduction
The mitigation of storm surge and debris movement

- Meteorological and oceanic events
- Natural phenomena: Hurricanes, storms
- Erosion
- Loss of sandy beaches
- Rising seas

Conservation and restoration of marine ecosystems should be a priority goal in the next decade

BLUE CARBON



83% is circulated through the Oceans

>2% coverage of these habitats in the world

50% approximately of the total carbon sequestered in the ocean are sinked into in sediments.

Courtesy: The Blue Carbon Iniciative

➢Marine and coastal ecosystem services

What do we need for a healthy and resilient ocean?

In order to achieve a **healthy and resilient ocean**, it is necessary to give a boost to marine and coastal ecosystems through **ecological restauration**. This way, it will be possible to guarantee their stability and the constant supply of environmental services.

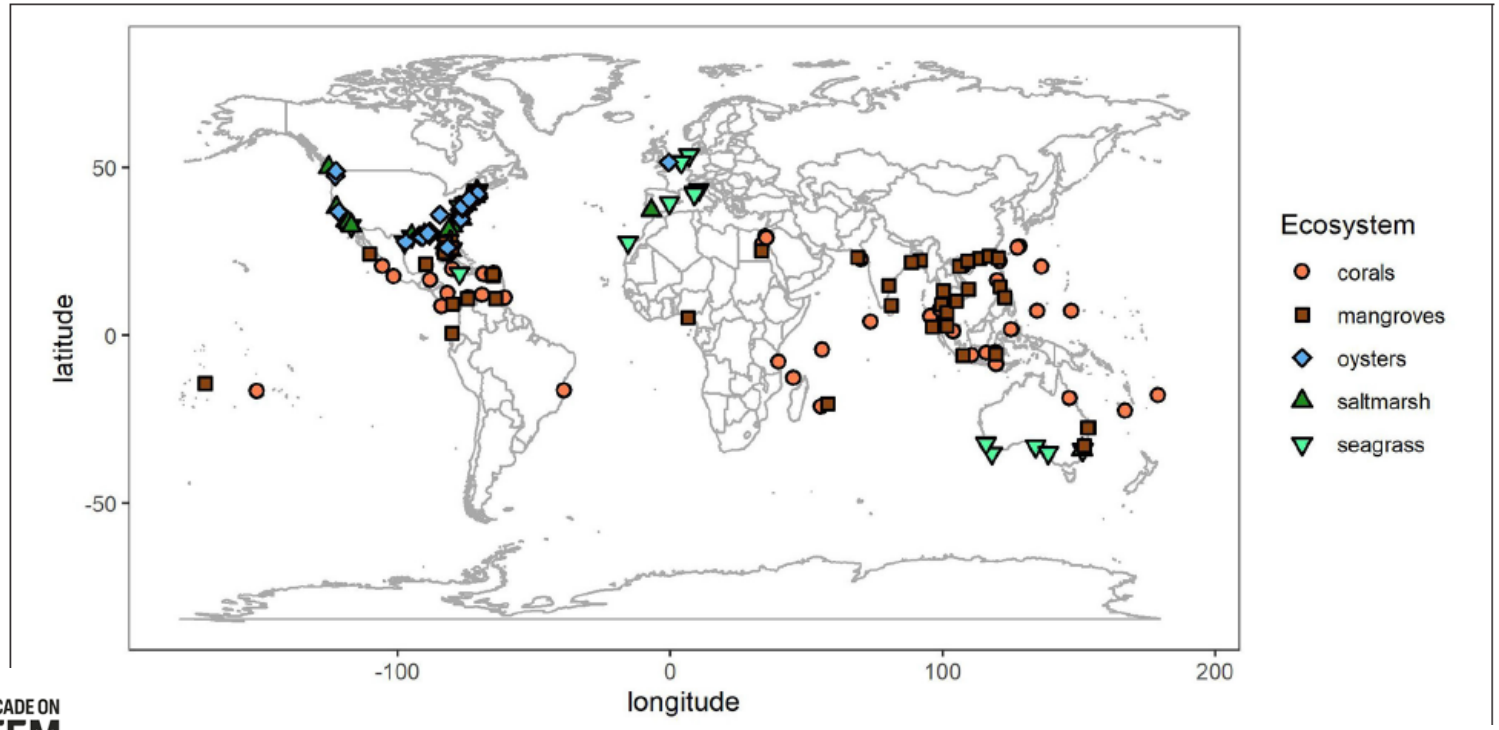
The accelerated deterioration and loss of terrestrial and marine ecosystems worldwide is putting at risk our food safety, as well as our water supply and biodiversity. In 2019, the period between 2021- 2030 was declared as '**The United Nations Decade for Ecosystem Restoration**'. Its goal is to increase and promote ecosystem restauration efforts within an area of 350 million hectares of degraded lands, thus generating 9 billion dollars in ecosystem services and eliminating around 13 to 26 gigatons of greenhouse gases.

Active actions:

UNITED NATIONS DECADE ON ECOSYSTEM RESTORATION 2021-2030

➢Marine and coastal ecosystem services

- Most of the restoration projects worldwide and the available data are concentrated in developed countries. We must increase efforts and investment in restoration projects in developing countries given the importance of the environmental services of these ecosystems for communities.



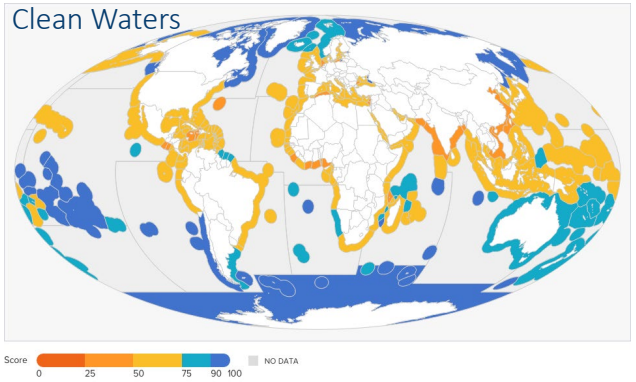
Marine and coastal restoration projects. Bayraktarov *et. Al.*,2020

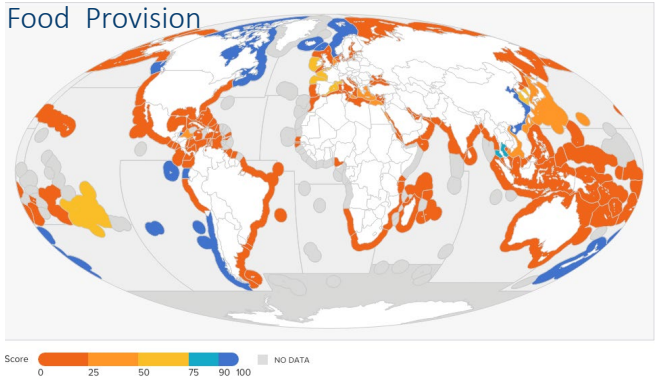
Active actions:

UNITED NATIONS DECADE ON ECOSYSTEM RESTORATION 2021-2030

Ocean information systems

Generation of indicators and regional monitoring systems integrated into information systems
and Ocean Info Hub could be provide information useful.





Active actions:

Caribbean Marine Atlas

Ocean InfoHub Project

OCEAN HEALTH INDEX

http://www.oceanhealthindex.org/

CARIBBEAN INITIATIVES

Marine spatial data

Caribbean Marine Atlas

OTGA OceanTeacher Global Academy

Regional Training Centre for Latin America and the Caribbean

Mapping capacity

OIH Ocean InfoHub Project

Caribbean OHI (pilot)

OIH Ocean InfoHub Project

(global)

Working for advancing the Decade in the Western Tropical Atlantic Region:

- ❑ A clean ocean
- ❑ **A healthy and resilient ocean**
- ❑ A predictable ocean
- ❑ A safe ocean
- ❑ A sustainably harvested and productive ocean
- ❑ A transparent and accessible ocean
- ❑ **Capacity development**

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WHAT DO WE NEED TO IMPROVE?

Meet the Paris agreement with a significant cut in carbon emissions (GHG) as soon as possible.

Improve and implement restoration strategies to the marine ecosystems and them species.

Increase the research about the effect of the climate change on the oceanic organisms and associated

Create communications in the social media or others to unite the community to improve the positive actions on the oceans.

Concern at the whole levels that extractive activities constitute an environmental destructor.

Invest in nature by financing the protection of mangroves, seagrass beds, salt marshes and coral reefs that are Nature's coastal defences against storm surges and sea-level rise.

Increasing the knowledge about Blue Carbon (natural marine and coastal sequestering and storage of carbon) and new ways to sink the Co2 from the atmosphere.

CROSS-CUTTING ISSUES

- Young Professionals, gender
- Indigenous and Local Knowledge
- Ocean Literacy (OL)
- Private Sector
- Capacity Development (CD)
- Participation in Global Process.


There is not another Earth planet in a short term as a Plan B
THE ACTION IS NOW!

Thank you

2021
2030
United Nations Decade
of Ocean Science
for Sustainable Development