

Interreg
Caraïbes



Fonds européen de développement régional

SARG'COOP
Programme caribéen de coopération de
lutte contre les algues sargasses



UN DECADE OF OCEAN SCIENCES FOR SUSTAINABLE DEVELOPMENT

Dr. Cesar TORO

Intergovernmental Oceanographic Commission
(IOC) of UNESCO
IOCARIBE

25/10/2019



Omnibus Resolution for Oceans and the Law of the Sea (A/RES/72/73) of 6 December 2017

1. Proclaimed the UN Decade of Ocean Science for Sustainable Development 2021-2030, **within existing structures and available resources**, and called upon the IOC to prepare an implementation plan for the Decade in consultation with ... (everyone).





United Nations
Educational, Scientific and
Cultural Organization

Intergovernmental
Oceanographic
Commission

2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

Societal outcomes



A Clean Ocean

Sources of pollution are identified, quantified and reduced, and pollutants removed from the Ocean.



A healthy and resilient Ocean

Marine ecosystems are mapped and protected, multiple impacts, including climate change, are measured and reduced, and the provision of Ocean ecosystem services is maintained.



A predicted Ocean

Society has the capacity to understand current and future Ocean conditions, forecast their change and impact on human wellbeing and livelihoods.





United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

The Decade will be mission-oriented



A safe Ocean

Human communities are protected from ocean hazards and the safety of operations at sea and on the coast is guaranteed.



A Sustainable Productive Ocean

The provision of food supply and alternative livelihoods are secured.



A transparent and accessible Ocean

All nations, stakeholders and citizens have access to ocean data and information, technologies, and are capable of making informed decisions.






One of the Guadeloupe International Sargassum Conference Outcome should be establishing a Partnership for implementing a series of projects to address the Sciences of Sargassum within the UN Decade

Causes and impacts of massive accumulations of the brown macro-algae *Sargassum* in the nearshore environment of the Wider Caribbean and West Africa

Way forward:

- As mass occurrences of *Sargassum* pose a major problem to coastal states in the Americas and West Africa and affects fisheries, tourism and other ecosystem services there is a need to enhance capacity to manage and mitigate *Sargassum* mass occurrences and landing;
- *Sargassum* is increasingly an issue of concern to several sponsoring agencies of GESAMP and GESAMP therefore provides a framework to address the issue coordinated and jointly;
- IOC-SCOR GlobalHAB has identified it as a priority to understand *Sargassum* growth dynamics as the basis for developing improved management and mitigation technologies for *Sargassum* ;
- The relatively large number of potentially contributory factors each of which has inherent uncertainties in space, time and magnitude - makes the task of fully understanding the causes and drivers of the *Sargassum* events intrinsically complex.



A vertical decorative image on the left side of the slide shows Sargassum seaweed floating in the ocean. The seaweed is a vibrant yellow-orange color, contrasting with the deep blue water. The image is partially obscured by a dark blue vertical bar.

To review these factors in depth and to identify research priorities that may lead to better mitigation options IOC-SCOR GlobalHAB and GESAMP are organizing an Open Science Meeting (OSM) on Sargassum

Objectives of the OSM:

- Identification of research priorities to understand Sargassum growth dynamics and to develop improved management and mitigation technologies for Sargassum beaching.
- The OSM will consist of a thorough review of current knowledge on Sargassum dynamics to be able to present a plan identifying research and technology development priorities. This will be achieved through expert workshops as part of the OSM.



Key questions to be addressed include:

- Does global warming influence the increase in *Sargassum* mass occurrences?
- To which degree does nutrient loading to the sea influence *Sargassum* growth?
- What is the role of physics, winds, storms, and spiraling currents in dispersing *Sargassum* throughout the world's oceans?
- Is there a long-term cyclical pattern?
- The blooming is it incidental or permanent?
- Are there possibly toxic (heavy metals, arsenic) accumulations in *Sargassum*?
- In terms of spatial extent, a study of the *Sargassum* phenomenon should include, as a minimum:
 - Wider Caribbean region from Trinidad & Tobago to the Gulf of Mexico
 - West African coastal waters from Senegal to Gabon
 - Coastal waters off northern Brazil
 - North Equatorial Recirculation Region (NERR)

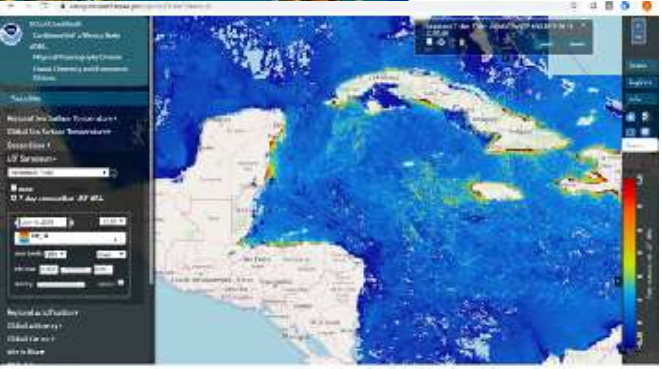




IOCARIBE of IOC UNESCO GEO BluePlanet & Partners Activities on Sargassum

Monitoring and Forecasting of Maritime Hazards for the Wider Caribbean

Currently, there is a documented lack of reliable long-term marine data resources to support the development of strategies and policies related to sustainable use of the marine environment around Small Island Developing States in the Caribbean and adjacent countries in Latin America. The region is facing many coastal hazards including tsunamis, storm surges, large amounts of Sargassum seaweed beaching on coastlines and frequent unreported oil spills.





Monitoring and Forecasting of Maritime Hazards for the Wider Caribbean

The Intergovernmental Oceanographic Commission (IOC) of UNESCO established the Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean and Adjacent Regions.

While the tsunami early warning system has been successfully developed, **the region lacks integrated monitoring and forecasting information required to develop early warning systems for Sargassum and oil spills in the Wider Caribbean.**

In response, **IOCARIBE and its GOOS Regional Alliance IOCARIBE-GOOS in association with GEO Blue Planet and partners outlined a pilot project to support an integrated approach to monitoring concentrations of Sargassum weed and oil spills—both significant regional water-borne threats.**

Networking of existing efforts

Networking has been ongoing between **17+ efforts** related to Sargassum monitoring and forecasting in the wider Caribbean. Integration of various efforts into an Atlantic-wide monitoring and forecasting system for Sargassum in partnership with the **Atlantic International Research Centre**, **AtlantOS**, the **Minho Advanced Computing Center** and various industry, government and academic partners is in development.

International Support

Resolution from the Fifteenth session of the IOC Sub-Commission for the Caribbean and Adjacent Regions:

Requests IOCARIBE-GOOS, GEO Blue Planet and other partners to continue efforts to develop an operational region-wide information and forecasting system for Sargassum and oil spills; and develop of a guide on best management practices for Sargassum events in the coastal environment.



NOAA CoastWatch / OceanWatch programme

NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML) and the NOAA CoastWatch / OceanWatch programme are developing a Sargassum in situ validation database to improve Sargassum detection.

A Sargassum database inventory is in progress that will allow for a better understanding of how the different stakeholders maintain sargassum information and design and implement the best practices to migrate them into an interoperable environment.



ioc.unesco.org
iocaribe.ioc-unesco.org/

감사합니다!

¡Muchas gracias!

Merci beaucoup!

Thank you!

شُكْرًا

Спасибо

谢谢

Danki



IOC

