

How observations of sargassum west of Africa helps the Caribbean to prepare for seasonal influxes of Sargassum

Summary

The Global Monitoring Programme Data Warehouse serves the purpose of monitoring POPs in core media (air, human milk/blood and water) in order to enable policy makers and international organisations to improve decision-making in risk assessment.

SAMTool is an operational service which provide access to sargassum observations from satellite and sargassum drift estimation using a drift model.

Using a synergy of satellite sensors, it allows to access local information at 20-m resolution and immediate landings, and regional overview of the overall sargassum situation in the Atlantic Ocean at 300-m and 1-km resolution for seasonal planning of the future sargassum influxes.

Sponsor	Project	Soluti
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The e-shape project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 82085



Taxonomy

Environment, climate & health / Environmental, biodiversity, pollution

Managed living resources / Fisheries

Infrastructure & transport / Travel & tourism

User profile

CERMES (Centre for Ressource Management and Environmental Studies (CERMES) of the University of the West Indies), based in Barbados, has the mission to contribute to sustainable development in the Carribean region. CERMES provides environmental guidances, consultancy and services to regional governments, NGOs and private sector in the Carribean.

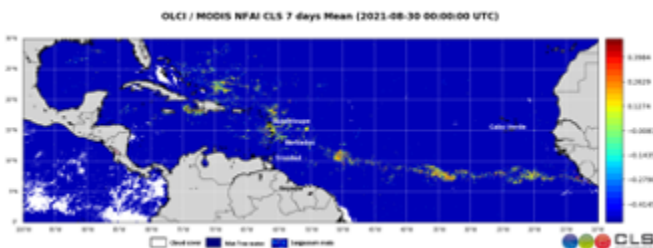


Service description

CLS, a subsidiary of CNES and CNP, is a worldwide company and pioneer provider of monitoring and surveillance solutions for the Earth since 1986. Our mission is to deploy innovative space-based solutions to understand and protect our planet, and to manage its resources sustainably.

The company works in 5 strategic areas of activity: sustainable fisheries management, environmental monitoring, maritime surveillance, mobility and energies & infrastructures monitoring.

CLS process environmental data and positions from 80,000 beacons per month , ocean and inland waters observations . In addition we monitor land and sea activities by satellite.



Customer experience

CERMES is relying on CLS high resolution (300m) weekly product of sargassum detection from multiple satellites sensors to produce a 6-month outlook bulletin on the upcoming sargassum season. This data helps CERMES to warn on the impacts on the tourism and fisheries industries in the Caribbean.

“CLS has graciously allowed us access to their 7 day composite data files of high resolution satellite coverage for the entire subtropical region of interest. Forward tracking using a drifter based climatological ocean model from sargassum identified in the CLS composite shows the present situation in the tropical Atlantic and the expected situation until 6 months in advance. Once again, thank you for allowing access to your great data”

Donald Johnson, USM, on behalf of CERMES

Need

Sargassum influxes are impacting the local communities of the Carribean, marine environment, population health and tourism & fisheries economies.

There is a need to prepare for the upcoming influxes events and prepare accordingly the mitigation actions for collection, beach cleaning, etc.

Challenges

Challenges: Detect sargassum data from daily satellite images over the whole Tropical Atlantic and in the West African regions for seasonal planning of sargassum influxes in the Carribean islands.

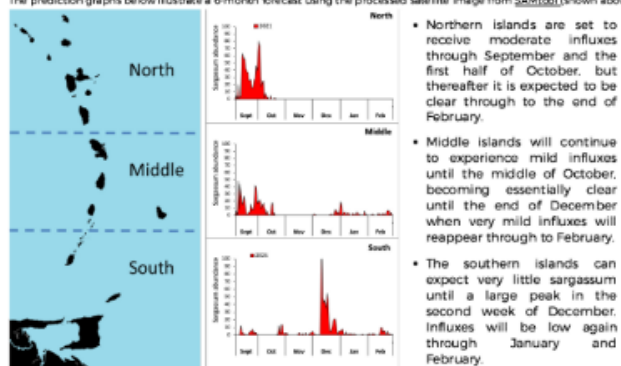
Initiative: CERMES is releasing bi-monthly sub-regional Sargassum Outlook Bulletin comprising a 6-monthly forecast of sargassum influxes.

Results

- Daily detection of sargassum of the entire Tropical Region including Gulf of Guinea
- EO images allow a 6-month prediction of the sargassum situation
- Allows the local communities to prepare the management of the sargassum issue

SIX-MONTH OUTLOOK (SEPT 2021 - FEB 2022)

The prediction graphs below illustrate a 6-month forecast using the processed satellite image from SAMtool (shown above).



These 6-month predictions are based on the same tracking model used in the 3-month prediction seeded by visible sargassum out in the Atlantic. The two sargassum forecasts provided in this bulletin for the period September to the end of November differ quite markedly when using the two different products (USF processed MODIS+ satellite images versus CLS processed Sentinel+ satellite images). This is because the high resolution sentinel images are better able to detect sargassum in the cloudy equatorial region and likely to allow more scattered sargassum to be detected.

References

Learn more about the service: <https://datastore.cls.fr/products/samtool-sargassum-detection/> <https://datastore.cls.fr/sargassum-seasonal/>

Learn more about e-shape: www.e-shape.eu

A question? Contact the Helpdesk: <https://helpdesk.e-shape.eu>