



Sargassum Basics: Information Tools and Platforms

Presented by: Dr. Shelly-Ann Cox

CHTA-CAST Sargassum Virtual Learning Series 8 September 2022

Negative Impacts are multi-sectoral







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Environment





Public health







Maritime

transport

Tourism

"Greatest single threat to the Caribbean's tourism industry"

 Huge impacts on tourism
 Negative international press

 Reports of booking cancellations
 Clean-up costs
 (USD\$120 million in 2018)

Fisheries

- Sargassum clogs fishing gear
- Impedes navigation
- Entanglement of engine propellers and rudders
- Engine overheating
- Hinders access to boats and jetties

Environment

- Damage to nearshore shallow water ecosystems (mangroves, seagrass beds, coral reefs)
- Beached sargassum may provide a challenge for turtles coming up to lay eggs
- Beached sargassum and large mats in the nearshore will also provide a challenge for hatchlings



Hard to look at. Leatherback sea turtle babies dead, trapped behind the ever-increasing sargassum seaweed, unable to make it to the ocean.

Image from Maunabo, #PuertoRico.

Difícil ver esta imagen. Tortuguitas marinas Tinglar muertas por el incesante sargazo.

#climatechange



8:12 PM · Jul 17, 2018

Coastal Living

- Residents unable to obtain relief from poor air quality, health impacts, and unpleasant odours by simply avoiding the area.
- Beach use negatively impacted
- Corrosion of electrical appliances and equipment

Public Health

- Trapped and wet sargassum decomposes anaerobically:
 - Hydrogen sulphide and ammonia gases
 - Human health impacts
- Harmful to health, even lethal at very high concentration
- If dumped/stored in wet environment

 could contaminate water supply
 (nitrate load and heavy metals)



Energy

Mats of Sargassum macroalgae overruns the Caribbean and culprit of the power outage in Puerto Rico

The Puerto Rico Electric Power Authority (PREPA) explained today that a sargassum "event" entered the system, plugged the filters and slipped through a pipe, which yesterday caused a forced exit from Unit 1 of the Aguirre Powerplant.

This situation caused the interruption of electricity service to thousands of customers.

The public corporation explained that the pipe, which is less than an inch in diameter, is what supplies the water for the condenser.

"This pipeline in normal operation supplies 115,000 gallons of water per minute, and these filters in normal operation are cleaned once or twice a year, since they hardly collect vegetative material," PREPA stated in a press release.

Likewise, it was reported that "the discharge channel pump motors are operating, and the levels and temperatures have remained within the parameters allowed by the EPA's National Pollutant Discharge Elimination System, known by its acronym in English NPDES.



Source: https://www.dailykos.com/stories/2021/10/12/2057577/-Mats-of-Sargassum-macroalgae-overruns-the-Caribbean-and-culprit-of-the-power-outage-in-Puerto-Rico

loop Environment 2 min read

USVI declares SoE on St Croix due to influx of sargassum seaweed

Loop News July 25, 2022 01:59 PM ET



Sargassum seaweed on a beach in St Croix. Photo: USVI Information Centre

S Virgin Islands Governor Albert Bryan has declared a state of emergency in an effort to mitigate the impact of high levels of sargassum seaweed piling up on the shoreline.

Bryan said the seaweed is having a negative impact on water-production capabilities on St Croix. The sargassum build-up and maintenance efforts have increased to keep the water intake for the desalinisation plant on St Croix clear from seaweed and biological build-up.

Bryan also sent a request to the Biden Administration to declare a federal emergency on St Croix regarding the sargassum inundation.

The Federal Emergency Management Agency (FEMA) has sent teams to the territory to assist the Virgin Islands Government in coordinating a response.

"I want to assure St. Croix that we don't anticipate any impact on public health from this annual invasion of Sargassum in our waters, including the stench that we all, unfortunately, have learned to live with every summer," Bryan said. "However, the seaweed overrunning our beaches also brings the potential for disruption to businesses and other negative financial impacts to our economy. I have assembled a team that includes primary public agencies, including Health, DPNR and VITEMA, and the semiautonomous agencies that have been meeting to coordinate efforts with FEMA and other federal partners."

The Executive Order that Bryan issued designates Department of Planning and Natural Resources Commissioner Jean-Pierre Oriol as the incident commander and directs the Virgin Islands Territorial Emergency Management Agency (VITEMA) to activate the Emergency Operation Centers.

The order also directs the Department of Licensing and Consumer Affairs to institute price freezes on some goods and services.

Bryan said while there is an immediate threat to St Croix, pre-emptive efforts are underway on St Thomas to prevent adverse impacts to water-production.

The US National Oceanography and Atmospheric Administration's Caribbean Coastal Ocean Observing System has forecast that sargassum blooms are expected to impact many Caribbean islands into mid-October.

Sargassum Information Tools and Platforms

Sargassum Information Hub

SARGNET listserv and Slack Workspace

SPAW-RAC/UNEP-CEP Sargassum Online Forum

Bulletins (USF, UWI-CERMES, MeteoFrance, NOAA SIR)

Sargassum Podcast

Webinars, Symposia, Conferences, Workshops

Sargassum Reference Repository



Sargassum Hub https://sargassumhub.org

SARGASSUM

SARGASSUM INFORMATION HUB

Information about Sargassum in the Tropical Atlantic



HUB Partners









SARGNET Listserv & Slack Workspace https://listserv.fiu.edu/cgi-bin/wa?SUBED1=SARGNET&A=1





SPAW-RAC/UNEP-CEP Sargassum Online Forum

https://www.car-spaw-rac.org/?Sargassum-on-line-forum





Bulletins

Bulletin de surveillance et de prévisie

Lundi 14 Juin 2021

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METEO

S 101 S

Bulletin de surveillance et de pressant d'échouement des sargasses pélagiques pour la Guadeloupe

ument pour les 4 prochait



The maps below show Sorgossum abundance, with warm colors representing higher values. The overall Sorgassum quantity in the central Atlantic Ocean continued to decline from the summer peak, but August 2022 abundance (~11 million tons) was nevertheless greater than August of all previous years (this record for August was last set in 2021). Of note, over half of this total was recorded within the Caribbean Sea (CS), which means CS levels have decreased only slightly (< 10%) throughout the last 3 months. This comports with continuing significant beaching events reported throughout the nations/islands within the CS. In contrast, the amount in the Gulf of Mexico has decreased by > 20% from July to August, suggesting fewer beaching events around the GoM.

Looking ahead, we expect Sorgassum trends to follow previous major bloom years (2018, 2021), whereby tonnage will likely continue to decrease in the coming months, with a 2022 minimum abundance likely in November. The C5 may finally begin to see some relief by October. Transport of Sprpassum into the Gulf of Mexico (GoM) will likely continue into early September, but at lower levels than observed in August. More updates will be provided by the end of September 2022, and more information and near real-time imagery can be found under the Sorgossum Watch System (SaW https://optics.marine.usf.edu/projects/saws.html).



Reclaimer: The information bulletin is meant to provide a general outbook of current bloom conditio the Caribbean Sea. By no means should It be used for commercial purpose, or used for predicting block or beach. The authors of this builetin, as well as USP and NASA, take no responsibility for improper use

https://sargassumhub.org/monitoring/

SARGAS

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6-12 July 2027

CURRENT OUTLOOK (JULY-SEPT 2022)

SUB-REGIONAL OUTLOOK BULLETIN

SARCASSUM INFLUX EVENTS WILL BE MODERATE TO SEVERE OVER THE NEXT 3 MONTHS (JULY-SEPT 2022)

Sargassum Podcast https://marinefrontiers.org/sargassum





Webinars, Workshops, Symposia, Conferences....



https://sargassumhub.org/events/

Sargassum Reference Repository

RESEARCH INFORMATION

CERMES Sargassum Reference Repository

The Sargassum Reference Repository is a living and constantly growing collection of scientific works related to the biology, impacts and uses of sargassum within the Wider Caribbean Region and beyond,

For each entry in our repository you can view reference metadata (authors, title, date, etc.), and in most cases also its abstract. When an item is from an open source, you can click the URL provided to access it.

The references are organised and searchable based on a predetermined set of tags, listed below.

WE ENCOURAGE YOU TO EXPLORE THE HUNDREDS OF LISTINGS WE HAVE COMPILED HERE.



UWI – CERMES SARGASSUM REFERENCE REPOSITORY TAGS

Region	Biology	Uses	Management
Atlantic	taxonomy/life history	use - agriculture	management - collection
Caribbean	biodiversity (associated)	use - antifouling	management – governance
Europe	growth	use – bioenergy	management – guidance

https://sargassumhub.org/research-information/ https://bit.ly/SargRefRepository

Sargassum Opportunities

Food and Agriculture Organization of the

CERMES Technical Report No. 97 Special Edition

Sargassum Uses Guide: A resource for Caribbean researchers,

entrepreneurs and policy makers



Anne Desrochers, Shelly-Ann Cox, Hazel A. Oxenford, Brigitta van Tussenbroek



Sargassum in the Dutch Caribbean ntreras, Matthijs van der Geest, Bea Deetman, Ana M. Lónez Truus de Vrit VAGENINGEN

Opportunities for valorisation of pelagic

Sander van den



Source: UNEP 2021 Sargassum White Paper. Adapted from (Desrochers et al. 2020: Sargassum Uses Guide)

Thank You!

Photo credits:

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