



Hazel Oxenford



Jehroum Wood

ALL-ATLANTIC 2021 CONFERENCE

Challenges and opportunities
in the spread of sargassum across the
tropical Atlantic Ocean

Side Event: 2 June 2021

The Tropical Atlantic Sargassum Story: 2011-2021

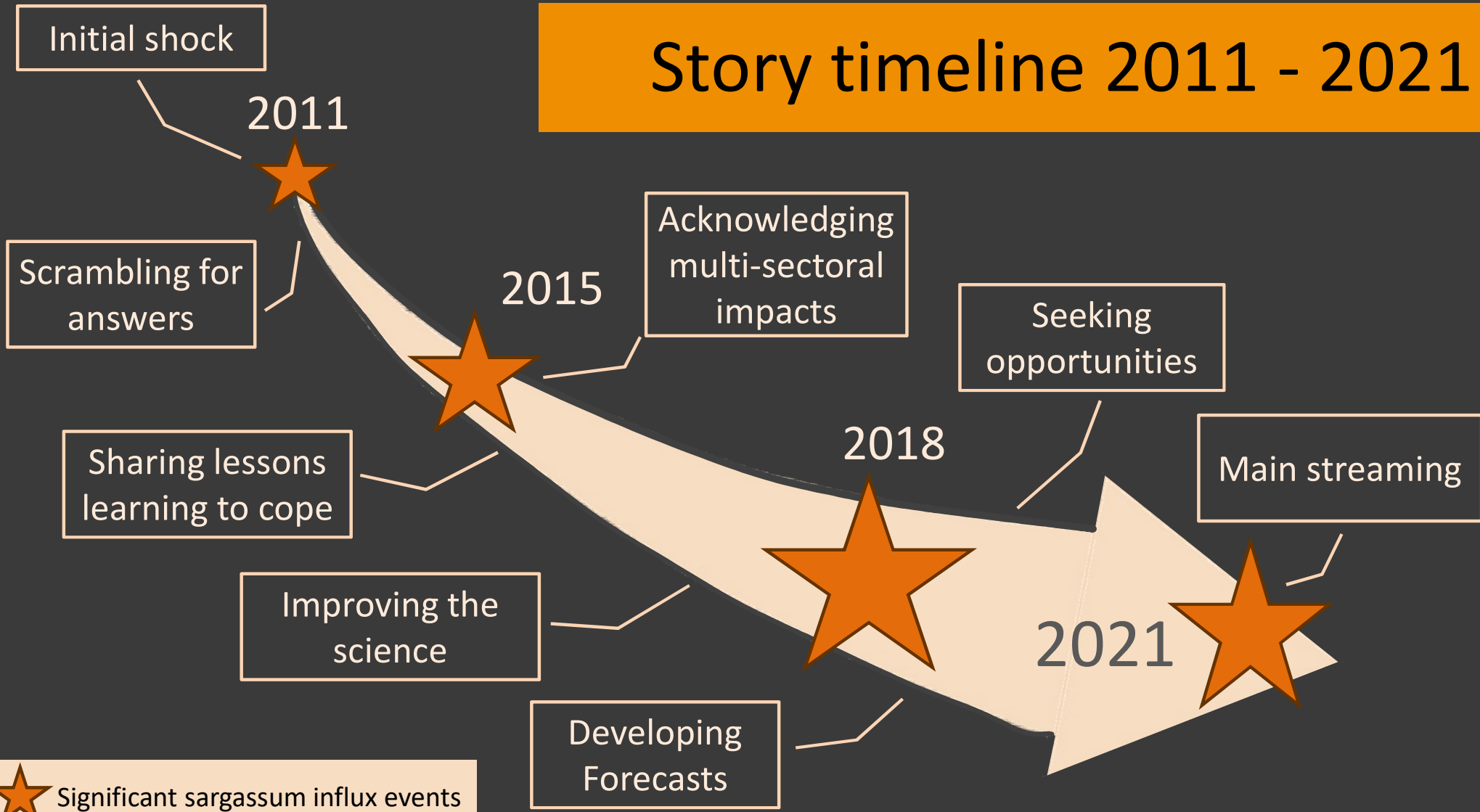
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Story timeline 2011 - 2021



Martinique



The initial shock

- 2011 first mass influxes into the Caribbean
- Lack of knowledge led to fear, misinformation and mistakes
- Lack of prior relevant policy (no one to take responsibility)
- Lack of funding a huge constraint
- Major uncertainty delayed planning response

Barbados



Scrambling for answers

Dispelling myths: What is it?

- Unique free-floating non-toxic brown seaweed with air bladders for flotation
- Comprises 2 species (several morphotypes) that cling together
- Unlike the 100s of attached sargassum species, these 2 are only found in the Atlantic Ocean
- Propagate asexually and capable of fast growth (can double biomass in 11 days)



Amy Cox

Sargassum fluitans III



S. natans I

S. natans VIII

Hazel Oxenford

Scrambling for answers

Dispelling myths: What is it?

- Can form large floating mats or long windrows of weed
- Travels with ocean currents and wind
- Can accumulate over huge areas of open ocean (Sargasso Sea)
- Biomass varies over space and time (seasonal and annual)



Scrambling for answers

Sargassum
is good!

Open Ocean:

- Increases ocean productivity
- Supports ocean food webs
- High biodiversity, endemic species
- Nursery for endangered sea turtles
- Spawning substrate

Onshore:

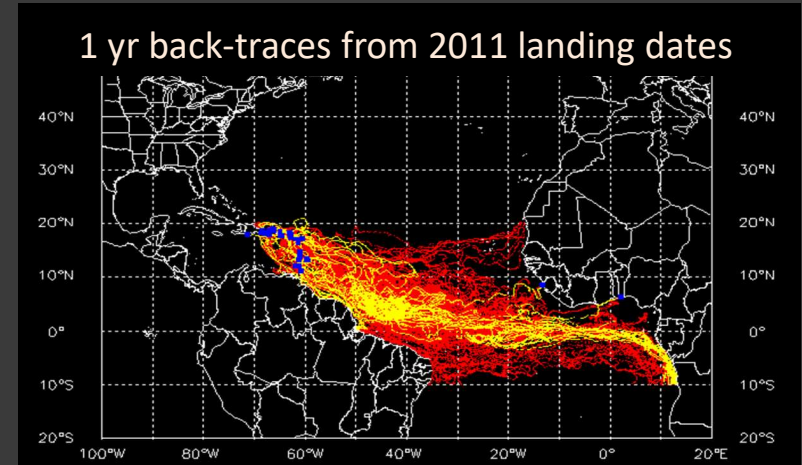
- Forage for shore birds
- Fertilizes shore plants
- Binds sand and builds dunes



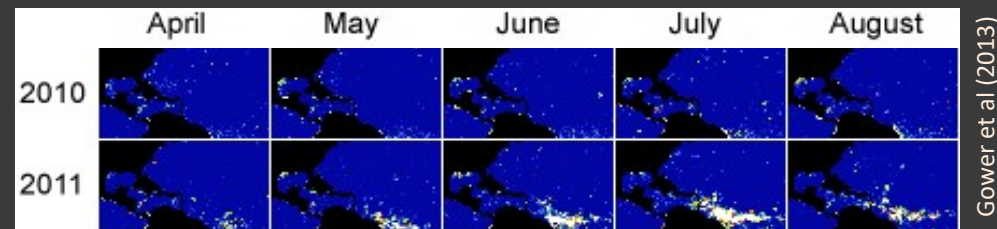
Scrambling for answers

Where has it come from?

- Sargassum well known in the Sargasso Sea
- Also know seasonally in the Gulf of Mexico



- Back-tracking from landing sites using ocean current models



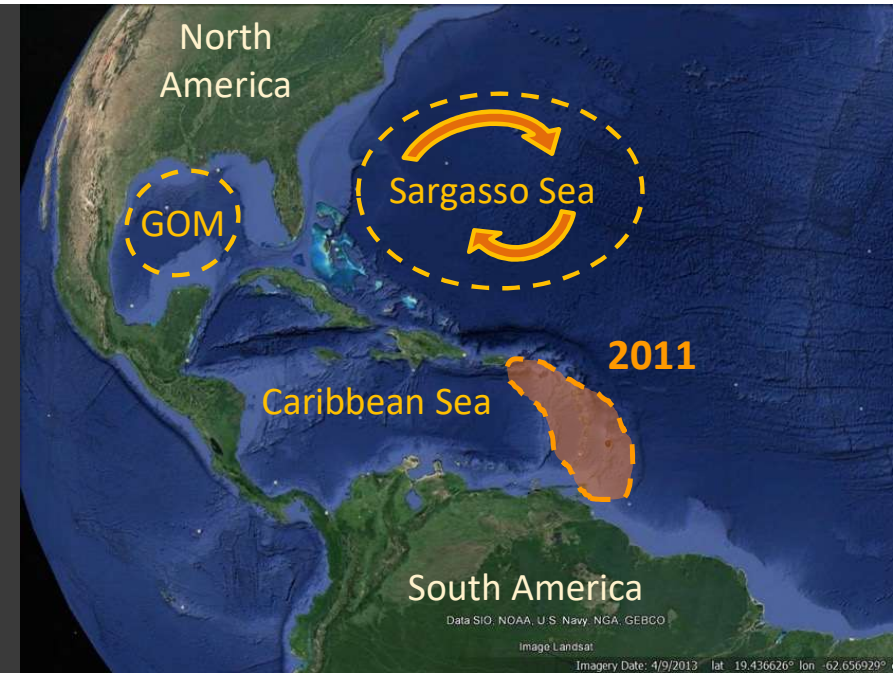
- Processed satellite imagery

A new source in the tropical Atlantic

The story unfolds

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2011

- Suddenly appears in the Eastern Caribbean

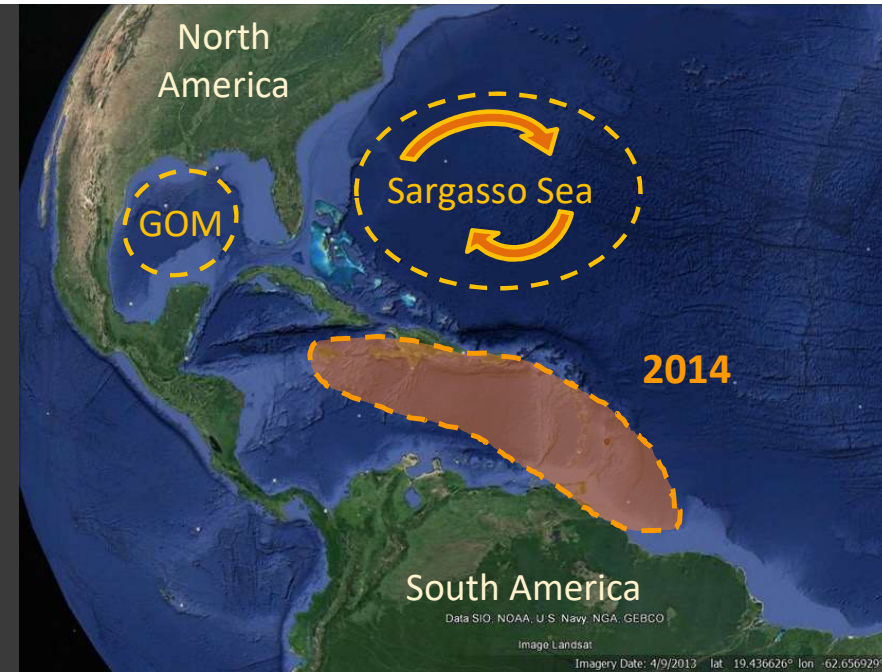


Lesser Antilles

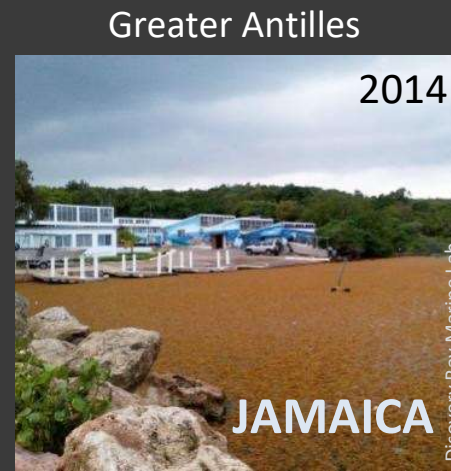


Influxes increase

- After a reprieve in 2013
- Sargassum influx affects extend to Greater Antilles by 2014

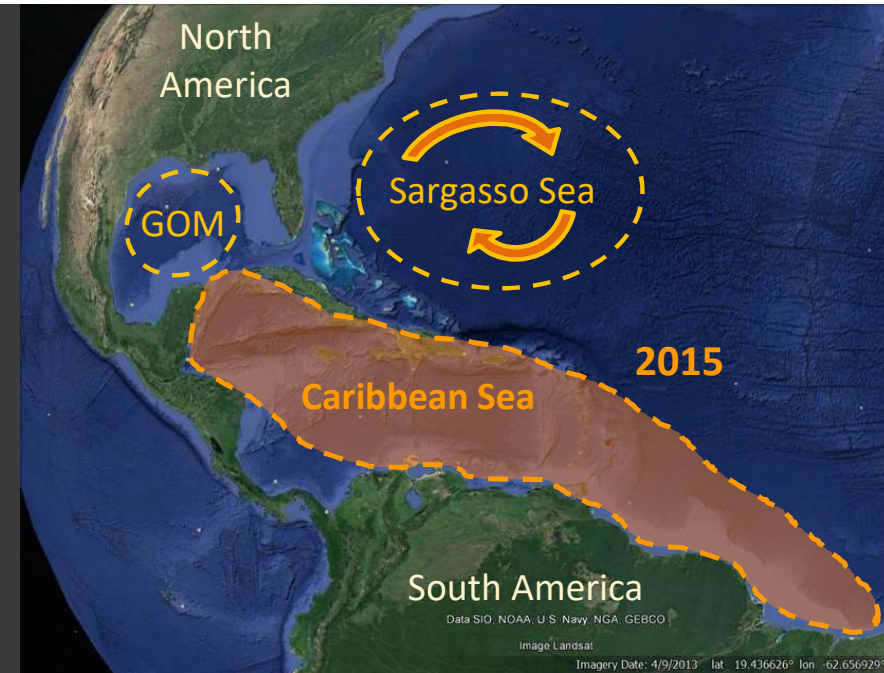


Mounting challenges
for fisheries and
tourism



Influxes get worse

- By 2015 mass influxes reach right across the Caribbean to Central and South America



Central & South America

Greater Antilles

Lesser Antilles



The word gets out



theguardian
Monday 10 August 2015 10.00 BST
Caribbean-bound tourists cancel holidays due to foul-smelling seaweed

Seaweed blankets the beach in Cancun, Mexico. The huge influx of sargassum has hit most of the Caribbean this year and prompted cancellations from tourists.
Photograph: Israel Leal/AP

Newsweek U.S.
TECH & SCIENCE
Sargassum Is Ruining Beaches From Texas to Tobago
BY MELISSA GASKILL / JUNE 28, 2015 1:45 PM EDT


Mail Online
By [Dailymail.com](#) and [Associated Press](#)
PUBLISHED: 05:30 BST, 18 October 2015
Stinking seaweed that smells of rotten eggs invades Caribbean beaches

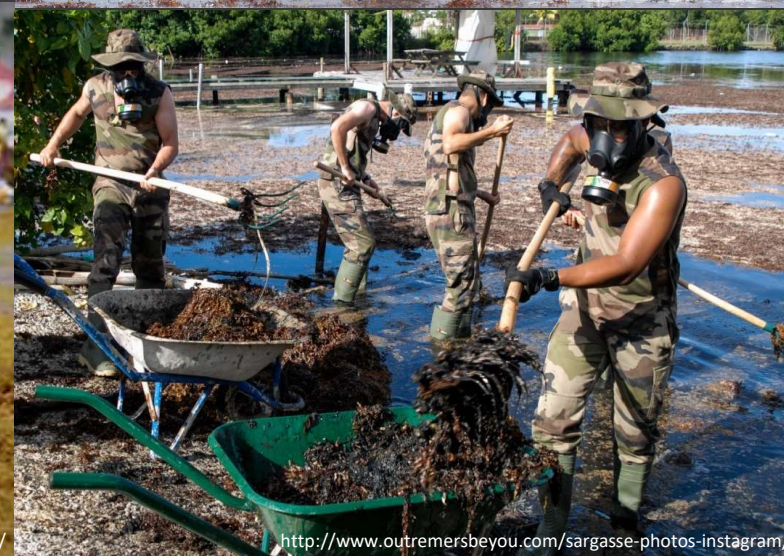



The problems get worse

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2015

Socio-economic disaster

- Disruption of livelihoods
- Impacts to human health
- Damage to property



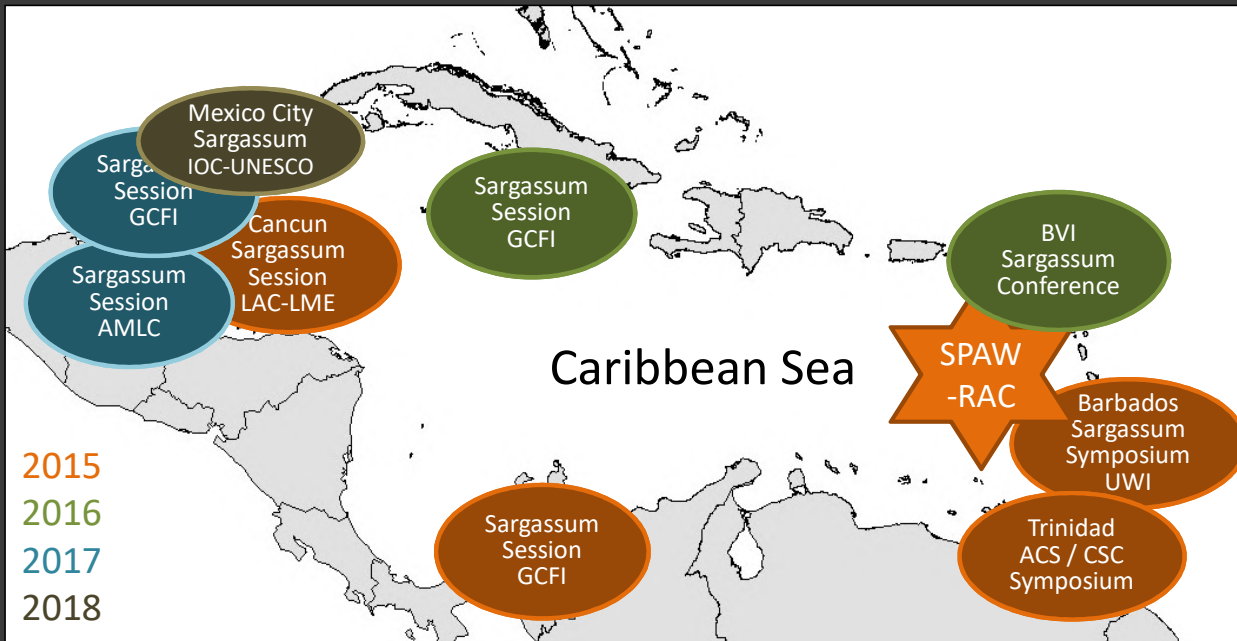
Not just a Caribbean problem

- Also affecting West Africa from Senegal to Nigeria

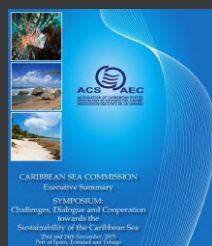


Sharing lessons

Coordinating Responses



- Regional symposia
- Regional communication network
- Partnering among regional institutions
 - UWI, USM, USF, French IRD
 - GCFI, CRFM, UNEP-CEP, ACS-CSC, FAO
 - CTO, CAST, CHTA
- Key messages
- Looking for funding



Learning to cope

Fact Sheets

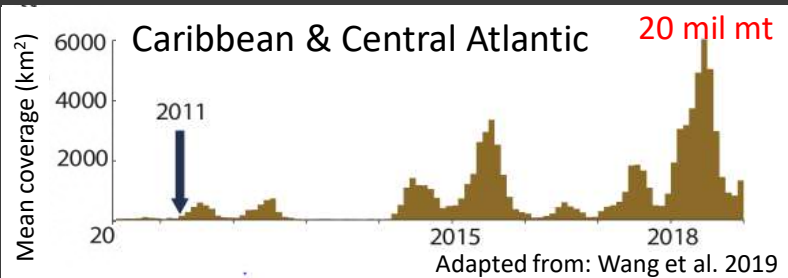
- Acknowledging the problem
- Causes and consequences
- First lessons on how to cope

The collage features several key documents:

- Communication Brief of the Caribbean Regional Fisheries Agency (CRFM)**, October 2014, titled "SARGAS" and "Background".
- Fact Sheet: Pelagic Sargassum Influx in the Caribbean**, September 2015, from the Ministry of Ecology of Martinique.
- CAST Caribbean Alliance for Sustainable Tourism**, July 2015, titled "UNDERSTANDING THE SPREAD OF SARGASSUM IN THE CARIBBEAN".
- UNEP Caribbean Environment Programme**, titled "A Resource" and "What is Sargassum?".
- ERMES Unit**, titled "Sargassum Management: Golden Tides: Management Best Practices for the Caribbean with a focus on..."
- Dutch Caribbean Nature Alliance (DCNA)**, titled "Prevention and clean-up of Sargassum in the Dutch Caribbean".
- Best Practices for Caribbean Fishers Coping with Sargassum**, featuring illustrations of fish.
- DEAL** (Dutch Caribbean Environmental Assessment and Learning) reports, including "Responding to a sargassum influx" and "Do's & Don'ts".

At the bottom of the collage, the text "2014 2019" is displayed, indicating the time period covered by the information.

Influxes continue to increase

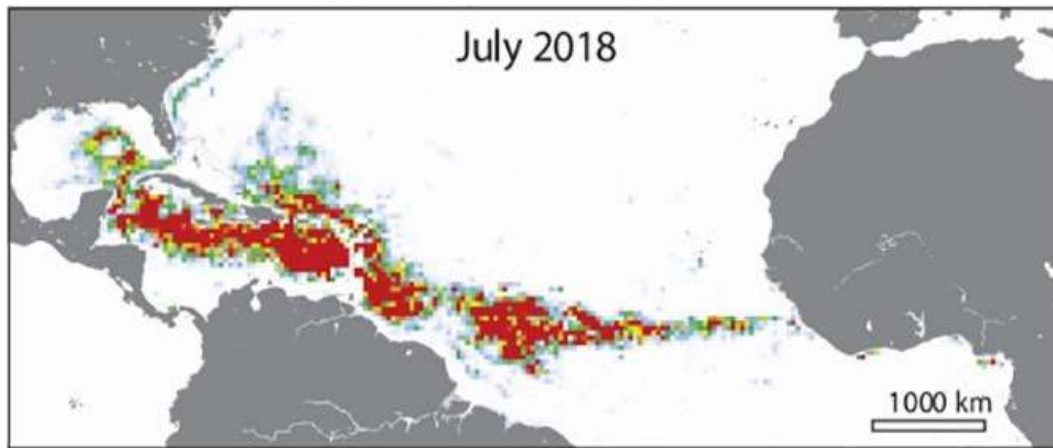


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2018



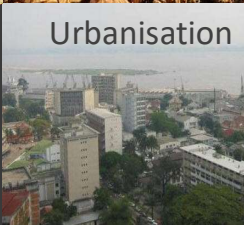
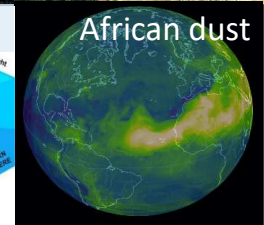
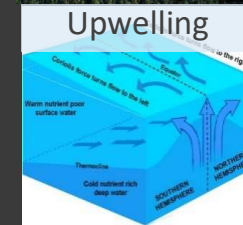
The great Atlantic *Sargassum* belt

Science 05 Jul 2019 Mengqiu Wang¹, Chuanmin Hu^{1,*}, Brian B. Barnes¹, Gary Mitchum¹,

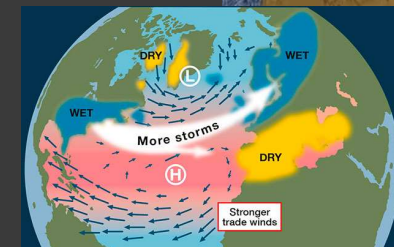
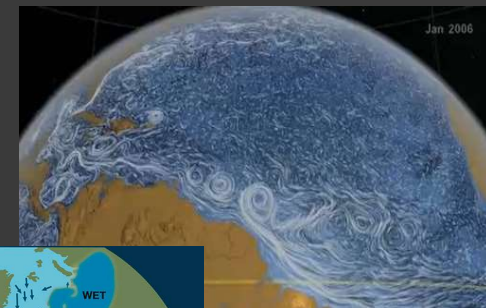
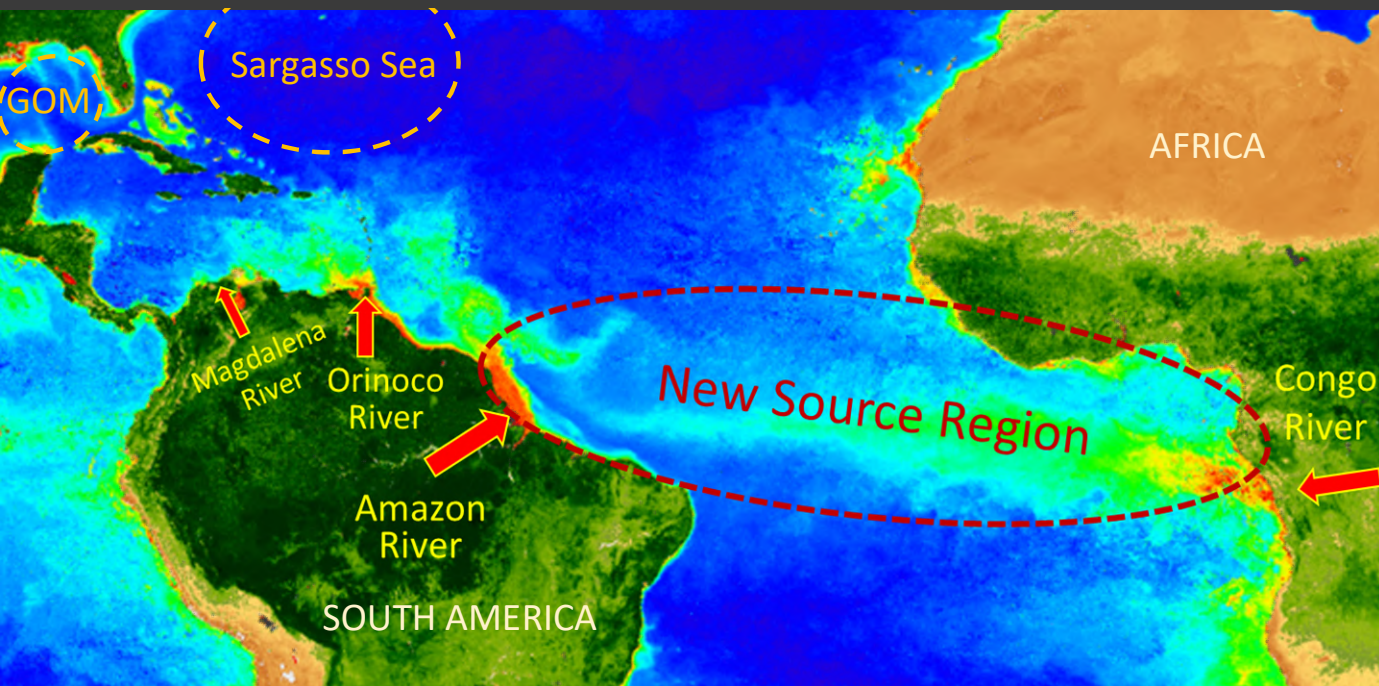


Improving the science

- Focus on understanding the drivers
- Developing forecasts to predict sargassum influxes



Nutrients



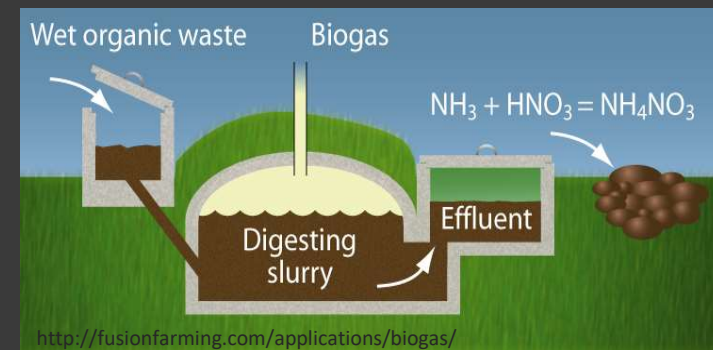
Currents and climate

Seeking opportunitites

- Focus on innovation
- Developing commercially viable products



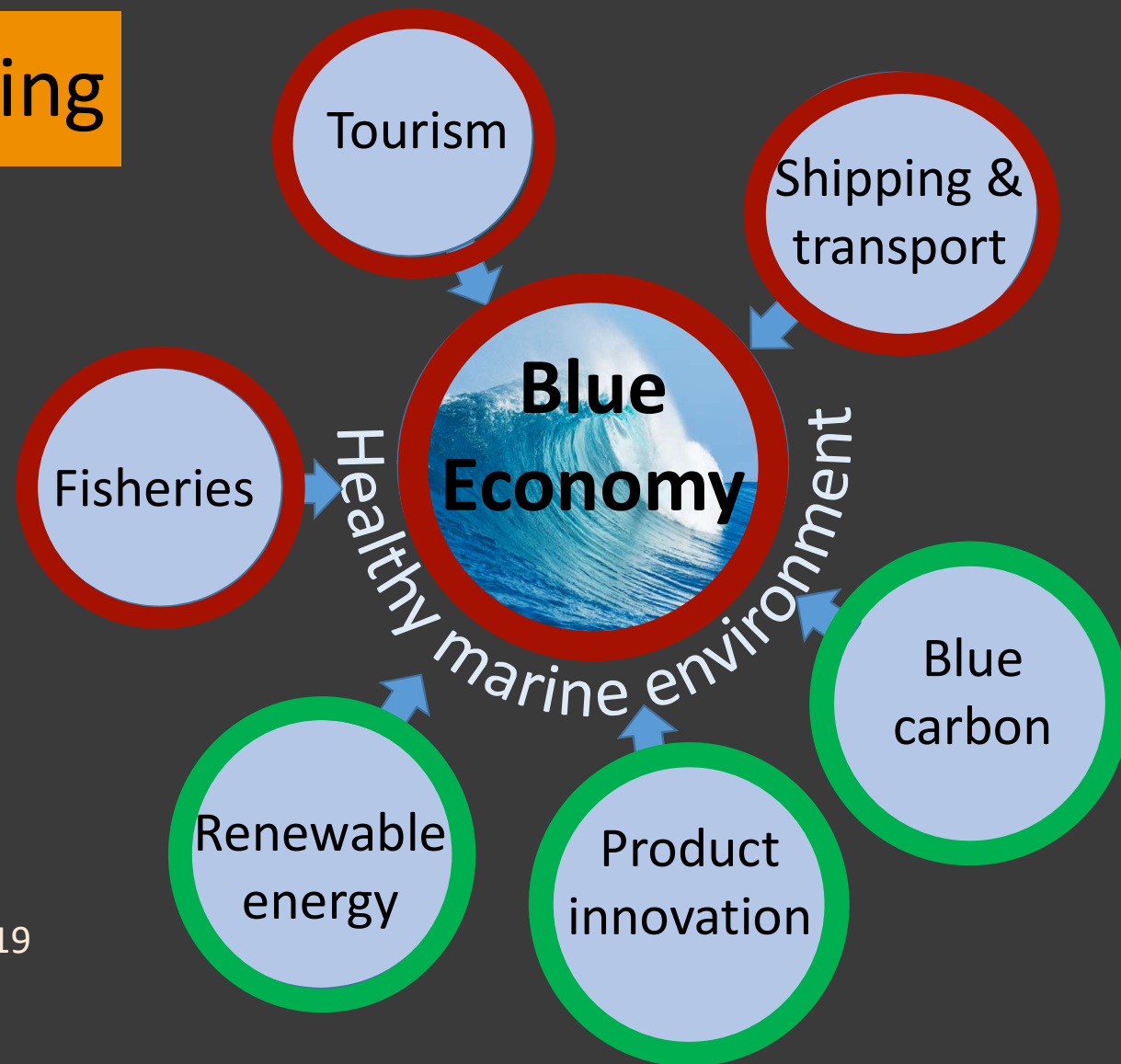
- Seeking uses for large biomass



Main streaming

Governance framework

- Integration with emerging blue economies
- Drafting national management plans
- Developing regional policy
 - CARICOM Heads of Gov 2015
 - UN General Assembly Resolution 2015
 - UNEP-CEP White paper 2018 (2021)
 - Caribbean Programme for Sargassum 2019



Thank you

