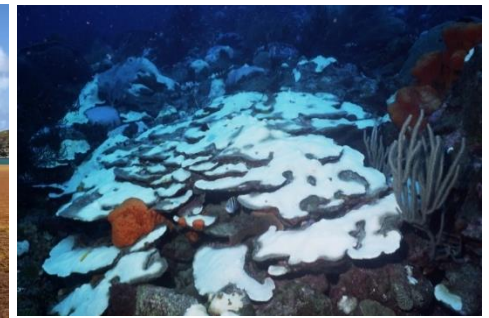
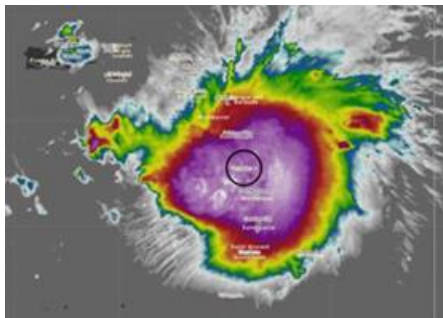


Climate Change Adaptation of the Eastern Caribbean Fisheries sector



2020 International Forum on the Effects of Climate Change on Fisheries & Aquaculture
25-26 February 2020, Rome

Dr. Iris Monnereau
Regional Project Coordinator

Climate Change Adaptation of the Eastern Caribbean Fisheries Sector (CC4FISH)



ClimeFish

This project has received funding from the European Union's Horizon 2020 research and innovation action under grant agreement no. 677039



Sargassum influxes



Storms and hurricanes



**Climate change challenges
of the Eastern Caribbean
fisheries sector**



Impacts infrastructure



Coral reef bleaching

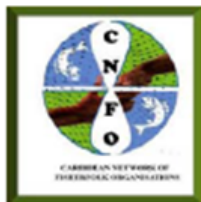
Climate Change Adaptation of the Eastern Caribbean Project (CC4FISH)

Implementing agency: FAO

Budget: USD 5,460,000 (GEF funded)

Duration: 1 January 2017 - 31 December 2020

Objective: *To increase resilience and reduce vulnerability to climate change impacts in the Eastern Caribbean fisheries sector, through introduction of adaptation measures in fisheries management and capacity building of fisherfolk, fisherfolk organisations and aquaculturists*





SOURCES OF NUTRIENTS

Some of the World's largest rivers drain into this equatorial region. Rivers provide nitrates and phosphates

July 2018

1000 km





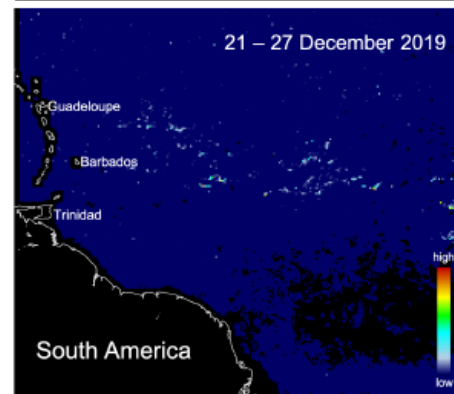
CC4FISH supported

- Prediction model of sargassum growth, abundance and transport within the Atlantic North Equatorial Re-circulation Region (NERR)
- Quarterly Sub-regional sargassum Outlook Bulletin tailored for the Eastern Caribbean;
- Utilization guide for Sargassum
- Sargassum Management Plans
- Model relationships between sargassum events and key fish landings (dolphin fish and flying fish)

SARGASSUM

SUB-REGIONAL OUTLOOK BULLETIN


 JANUARY 2020 | VOL I | ISSUE 2
 

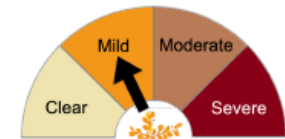


Sargassum image sourced from Optical Oceanography Laboratory USF. Click on picture above to access the source image.

The map above is a satellite image processed to show sargassum abundance over a 7-day period. Warm colours represent high sargassum abundance.

SARGASSUM INFLUX EVENTS WILL REMAIN MINIMAL OVER THE NEXT THREE MONTHS (JAN-MAR 2020)

- The Eastern Caribbean islands have seen minimal levels of sargassum throughout the last quarter of 2019.
- The level has now increased slightly.
- Currently, there is some sargassum visible out in the Atlantic.

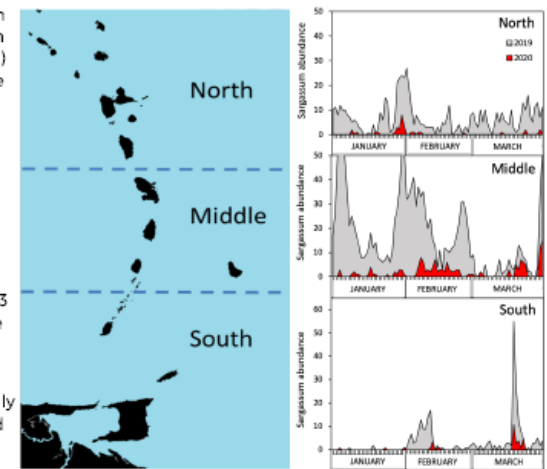


Sargassum abundance intensity level (based on image 21-27 December 2019)

CURRENT OUTLOOK (JANUARY - MARCH 2020)

The islands of the Eastern Caribbean can expect minimal sargassum influxes over the next 3 months (red) especially compared with the same period in 2019 (grey).

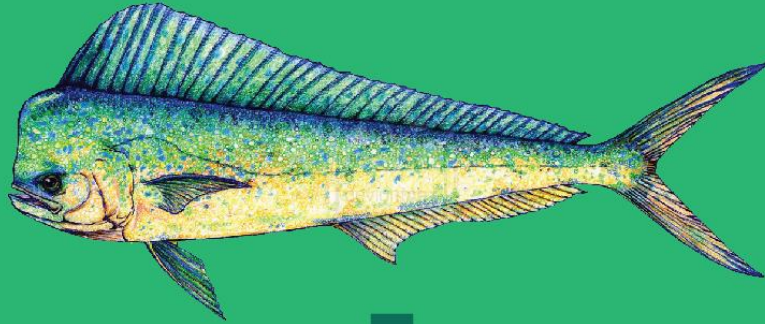
- Northern islands are likely to experience mild levels in late January, and be relatively free of sargassum influxes through late March.
- Middle islands are likely to experience mild levels of sargassum influxes over the next 3 months, increasing slightly in late March.
- Similar to last year the Southern islands are likely to remain virtually free of sargassum, except for mild influxes in mid March.



CLICK HERE TO ENLARGE

Impacts on Dolphinfish & Flyingfish

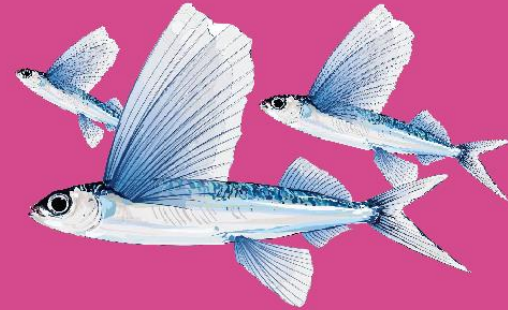
PRE-SARGASSUM



POST-SARGASSUM

A **37%** DECREASE IN LANDINGS

PRE-SARGASSUM



POST-SARGASSUM

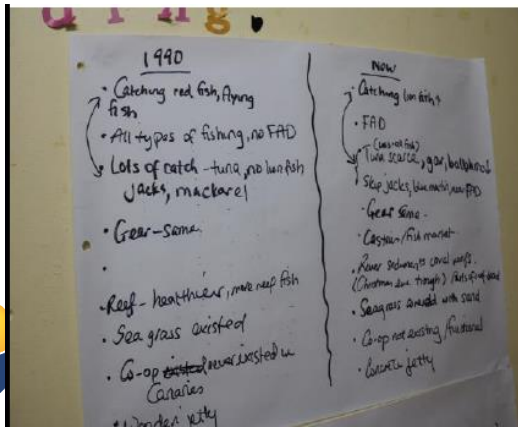
A **52%** DECREASE IN LANDINGS

BEST PRACTICES FOR CARIBBEAN FISHERS COPING WITH SARGASSUM





Local level vulnerability and capacity assessment of climate change of the fisheries sector to guide adaptation activities



Improved Safety at Sea in the Eastern Caribbean



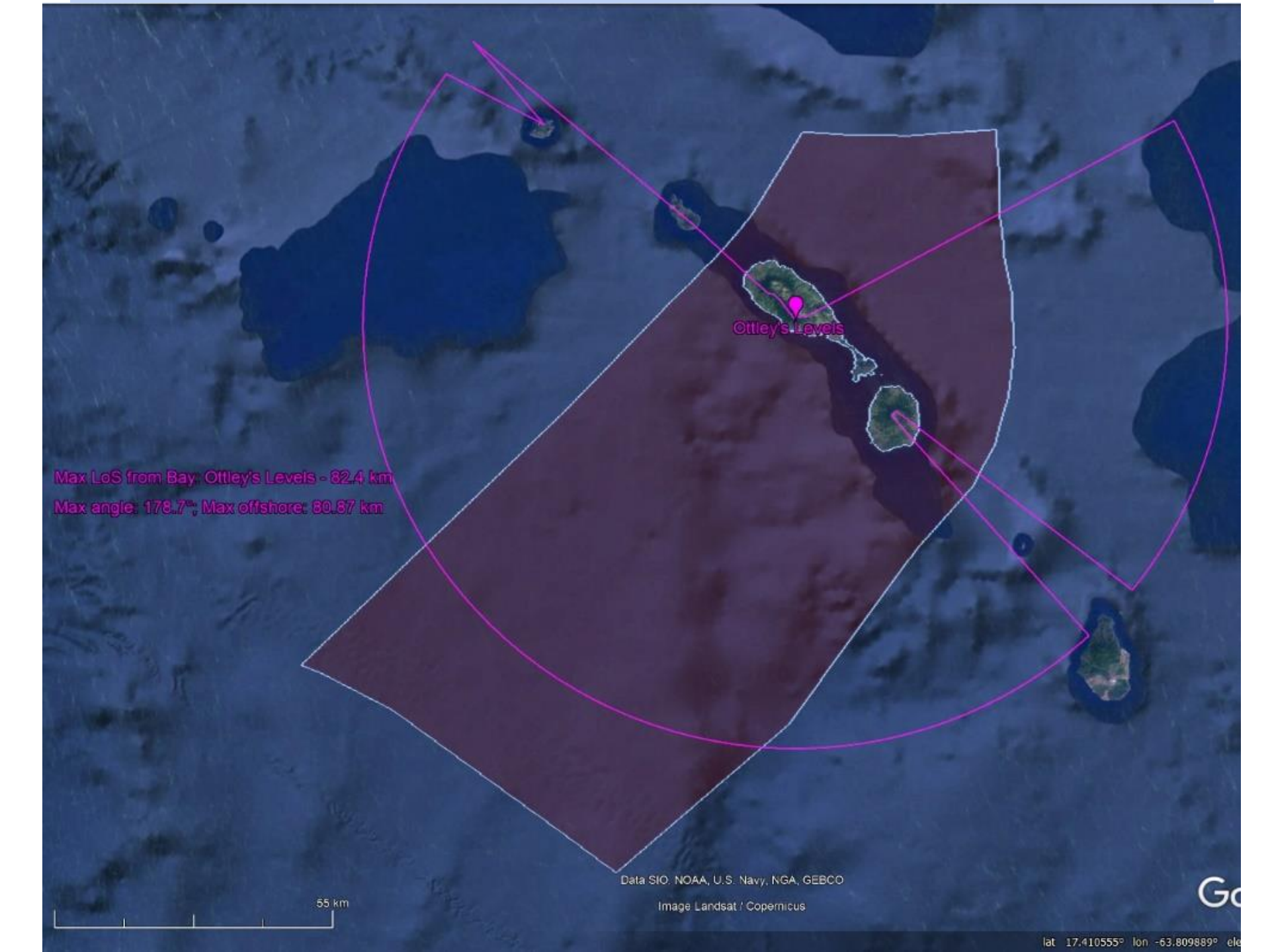
- Improved regionally appropriate Safety at Sea training materials
- Regional training of trainers to discuss and train in the new materials
- Safety at sea training of 1300 fishers
- Development of ICT Training of fisherfolk (VHF, GPS, cellphone)
- ICT training of 588 fishers

Safety-at-sea equipment: 800 VHF radios



VHF only works within line of sight





Max LoS from Bay: Ottley's Levels - 82.4 km
Max angle: 178.7°; Max offshore: 80.87 km

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Image Landsat / Copernicus

55 km

lat 17.410555° lon -63.809889° ele

A close-up photograph of several pieces of dried fish, likely salmon, laid out on wooden planks. The fish are light brown and appear to be in the process of being dried or smoked. The wooden planks are weathered and have a natural grain. The background is slightly blurred, focusing attention on the fish and the text overlay.

Improved Value-Adding in Fish Chains

Improved value-adding in the fish chain

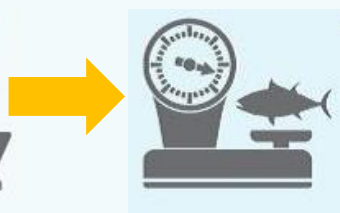
NATIONAL

INTERNATIONAL

Working with fisheries co-operatives



Fishers



Market vendors



Fish silage



Value adding

- Drying
- Salting/smoking
- Unutilized species
- Packaging/branding
- Loining of tunas



Benefits

- Improved food safety
- Higher quality fisheries product
- Decrease fish waste
- Improved income



Improved access
to foreign and
domestic markets
Increase in prices



Improving international tuna value chains

- ***Social sustainability***

Improvements in social standards for fishers through training and knowledge sharing

- ***Economic sustainability***

Financial benefits for all stakeholders. Profits shared between fishers, fisherfolk organisations, for-profit company and the government

- ***Environmental sustainability***

Implementation of an internationally recognized Comprehensive Fishery Improvement Project (C-FIP)



Supporting aquaculture development in the Eastern Caribbean

- Rehabilitate/establishomg seamoss and aquaponics farms
- Promote farmer-to-farmer training and networking
- Aquaponics and seamoss farming workshops
- Region-specific publications (manuals, brochures etc)
- Country specific Aquaculture Management Plans and Aquaculture Strategies

This project has received funding from the European Union's Horizon 2020 research and innovation action under grant agreement no. 677039





Establish new farms and strengthen capacity: St. Kitts and Nevis

- Private sector farmer aquaponics demonstration unit
 - Demonstration unit → train local/regional prospective farmers
- Mobile aquaponics teaching unit for secondary schools
 - Farmer builds aquaponics unit at secondary school and trains the teachers and students
 - The school runs the unit for a semester
 - Produce harvested and unit brought to a new school
 - The first school's teachers and students train the second school etc.

Mainstreaming of Climate Change Adaptation and Disaster Risk Management

- Incorporating EAF/CCA/DRM into Fisheries Plans, Policies and Legislation training (12)
- Regional NDC Dialogue in the Caribbean on Climate Resilient Fisheries and Coastal Communities
- Fisheries and Aquaculture Emergency Response (FARE) training
- “Protocol to Integrate Climate Change Adaptation and Disaster Risk Management in Fisheries and Aquaculture” into the Caribbean Community Common Fisheries Policy



A person wearing a cap and a light-colored shirt is on a boat, holding a flare that is burning brightly, creating a large fireball and sparks. The background shows the ocean and a blue sky with some clouds. The text "Thank you" is overlaid in the upper right.

Thank you

Contact: Iris.Monnereau@fao.org