Working Paper #3

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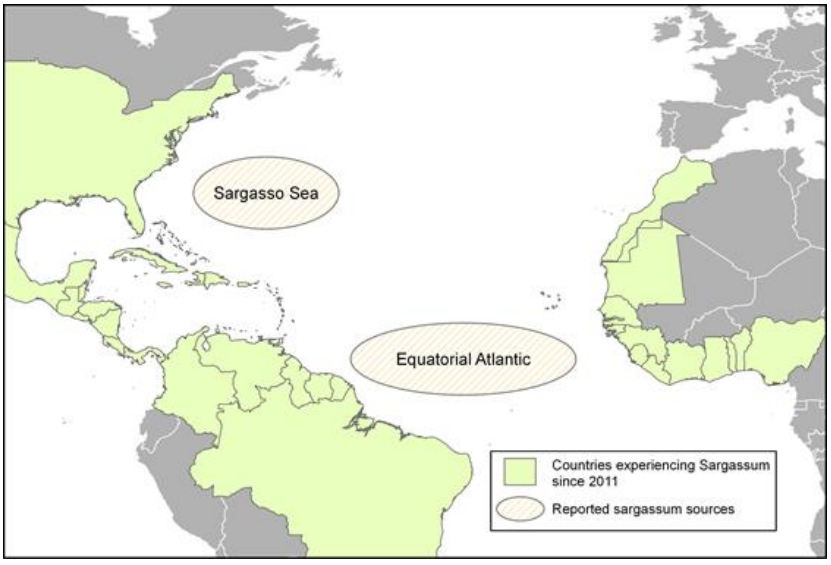
SARGASSUM DATA COLLECTION FORM



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About SARTRAC Working Papers

This series is based on the work of the project 'Teleconnected Sargassum risks across the Atlantic: building capacity for TRansformational Adaptation in the Caribbean and West Africa' (SARTRAC), funded by the UK's Economic and Social Research Council (ESRC) through the Global Challenges Research Fund (GCRF) call on Equitable Resilience. The ESRC GCRF 'Equitable Resilience' programme supports collaborative interdisciplinary research to inform resilience and adaptation policy and practice. Titles in this series are intended to share initial findings and lessons from research studies commissioned by the programme. Papers are intended to foster exchange and dialogue within science and policy circles concerned with climate change adaptation in vulnerability hotspots. As an interim output of the SARTRAC project, they have not undergone an external review process. Opinions stated are those of the author(s) and do not necessarily reflect the policies or opinions of ESRC, GCRF, or partners. Feedback is welcomed as a means to strengthen these works: some may later be revised for peer-reviewed publication. Contact Prof. Emma L. Tompkins Email: E.L.Tompkins@soton.ac.uk

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The views expressed in this work are those of the creators and do not represent those of ESRC and GCRF or its Boards of Governors. SARTRAC focuses on three case study countries in the Caribbean and West Africa: (i) Jamaica, (ii) Ghana (iii) St Lucia, working with various project teams from each country that are part of the consortium. Hence, the Working Paper has greatly benefited from a number of discussions with and feedbacks from various members of the country teams during different consortium meetings and communications.

Contents

1. Introduction

A universal *Sargassum* data collection form can provide coastal managers with information on the size and nature of a sargassum event. Following Fidai et al (2020:9), within the SARTRAC project, a sargassum event is defined as "*a continuous bloom of any Sargassum in open oceans, or, an aggregation of landed sargassum, with the potential to disrupt social, economic or ecosystem functioning, or to impact human health*." Having standard parameters measured across affected areas can improve comparison between events over time, and between sites. It can also assist in the identification of where sargassum events are repeatedly occurring, and the severity of impacts. To gather an ideal amount of data on sargassum events, the data should ideally be collected as soon as the sargassum event starts, and continue regularly (daily, weekly or monthly, depending on resource) until the event has ended.

The aim of this working paper is to provide coastal managers with a simple, shareable form to support data collection on sargassum events. This form can be accessed freely through the SARTRAC website.

2. Results

When considering the nature of a sargassum event, the main parameters to be measured include: specific location of event, date, sea conditions, quantities of beached and nearshore sargassum, percentage of beach affected, state of decomposition, species present and level of plastics observed trapped in the sargassum. Collectively, these parameters should provide a solid basis for comparing sargassum landings across time and space in any affected location. Additional information, including temperature and wind pressure, length of beach, stranded/dead animals in sargassum, may also be useful for coastal managers in other locations.

Within the SARTRAC project, the Jamaican National Environmental Protection Agency (NEPA) and the Jamaica-based Mona GeoInformatics Institute (MGI) have collaborated to produce a sargassum data collection form to be used on site visits to document sargassum sightings, and to monitor sargassum events (Table 1).

SARGASSUM DATA COLLECTION FORM	
Name of Collection Officer:	
Name of Beach:	
Community:	
Parish:	
GPS Coordinates – XYZ: N (DD.ddddddd) W (-DD.ddddddd)	LAT: (deg N)
	LON: (deg W)
	Z: elevation (m):
Date of Inspection: (yyyy/mm/dd)	
Time of Inspection: (pm / am Ja local time)	
Sea/Weather Conditions:	□ calm or □ windy; □ high tide or □ low tide ; □ rainy or □ dry
Temperature and Wind Pressure:	_____deg C _____Pa

Amount of beached Sargassum:	Length of beached *Sargassum*: (m)	□ <50m□ (51-100m) □ (101-200m) □ (201-300m) □ (301-400m) □ (401-500m) □ (+500m) □ none
	height on beach: (average height of beached mats, m)	□ severe (>1 m) □ above-normal (0.2- 1.0 m) □ normal (<0.2 m) □ very tiny fragments observed *(Est., Actual classifications to be determined by prel field recon.)*
Amount of Sargassum in water:	cover in water: (total area of floating mats, sqm)	□ severe (> 25 sqm) □ above-normal (4 - 25 sqm) □ normal (< 4 sqm) □ very tiny fragments observed *(Est., Actual classifications to be determined by historical imagery.)*
	depth in water: (average depth of floating mat, m)	□ severe (> 2 m) □ above-normal (1 - 2 m) □ normal (< 0.5 m) □ none *(Est., Actual classifications to be determined by prel field recon.)*
Length of beach: (m)		
Percentage of beach length affected by Sargassum, calculated as (length of beached *Sargassum*/length of beach)* 100	□ above normal (> 70%) □ normal (30-70 % m) □ low (< 30%) □ none	
State of Decomposition: (beached Sargassum)	□ fresh golden □ old golden □ old dry □ Level 1 □ Level 2 □ Level 3 □ Level 4 □ Level 5 (Guided by appropriate age classification scheme which needs to be further refined)	
	□ no scent noticeable □ mild stench □ strong stench □ Not applicable	
Dead/stranded animals observed in Sargassum mat?:	□ Yes □ No □ Not applicable List: _____	
Plastic-based solid waste observed trapped in Sargassum?	□ scanty (<100 items/sqm)□ a little dense (100 – 1,000 items / sqm)□ very dense (>1000 items / sqm) □ No plastic litterobserved	
Recommended Action	□None □Manual clean-up□Mechanical clean-up	
Community Group Organization Contact	Name of organization:	
	Address:	
	Full name of representative:	
	Position / Role of representative:	
	Tel number: email:	
Species Varieties present: Rapid varietal assessmentmay be further developed with CMS guidance *(CMS-NEPA post processing for identification of: S.natans I, S. Natans VIII, S. fluitans III)*	□ *S.natans I*	□ *S. Natans VIII* □ *S. fluitans III*
Comments:		

Table 1 Sargassum Data Collection Form

3. Conclusion

Whilst there are some sargassum parameters can be monitored anecdotally, in person and *in situ* monitoring of *Sargassum* is preferred. Even if all elements of the reporting form cannot be completed, some basic data can be very helpful for coastal managers. In person monitoring can be supplemented with various technologies such as simple mobile data technology and Unmanned Aerial Vehicles (UAVs) to improve the accuracy and timeliness of reporting. Not only will technology improve the accuracy of data collected but it will also facilitate the monitoring of additional parameters which are important in beach management such as the number of plastics trapped in *Sargassum*.