

SCTLD: Monitoring & Progression



Judy Lang

2020-09-15

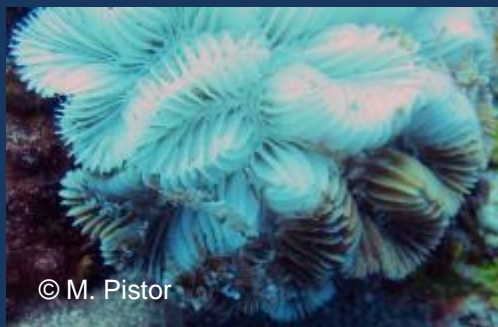
Atlantic and Gulf Rapid Reef Assessment



Thanks for support:
ORE
MPAConnect
Countless generous colleagues



Exposure categories for coral reefs that are, or may be, affected by SCTLD.



Invasion

Outbreak

Endemic

1 - 7 months
(often <3 months)

3 months - 1 year

1 - 4+ years

Disease Prevalence

Low. Acute lesions in species most susceptible

High. Acute lesions in all susceptible species

Low. Least susceptible corals with acute and chronic lesions

Coral Community

All species still present; species most susceptible start dying

Rapid transition to many early susceptible, and then progressively less, susceptible species

Few or no susceptible species remain. Coral cover reduced; proportion of non-susceptible species has increased

SCTLD: Invasion Stage

Any pillar, maze, or perhaps some brain, corals will start to die...



...any massive starlet corals may also be dying—or *they may not!*

SCTLD: Invasion₂/Outbreak may Start

Most brain corals also start to die.



Lettuce corals and smooth flower corals may die—
or may not yet die.



SCTLD: Invasion₃/Outbreak started

Any star and great star corals start to die; if more susceptible corals are present, many will be dying

lobed star coral OANN



© B. Charpentier



great star coral MCAV

© M. Soto



brain coral DLAB

mountainous star coral OFAV

© A. Zimmermann

SCTLD: Confirm Outbreak

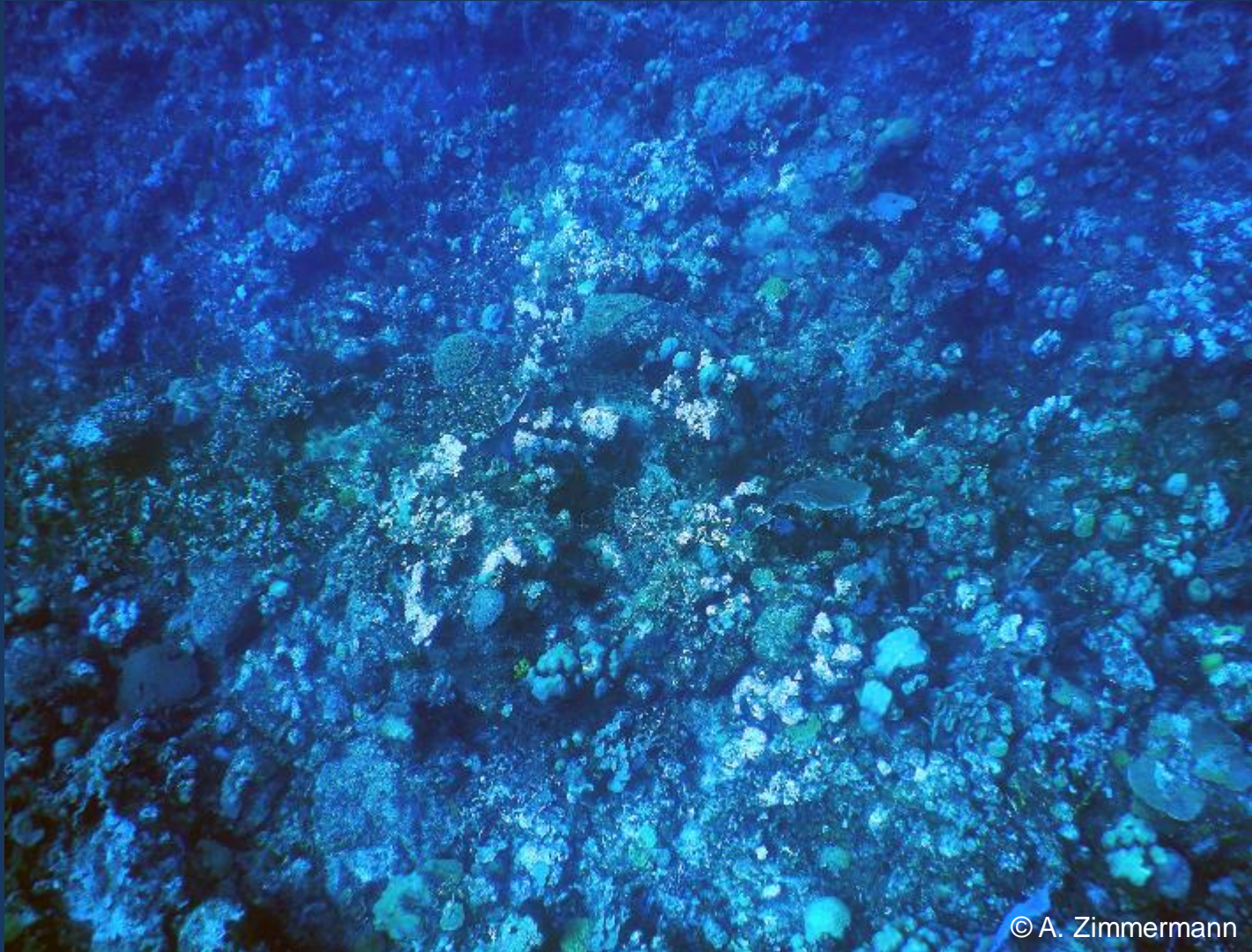
Photo/Video: at close-up to scenery scales (needs camera)



Report: to AGRRA at www.agrra.org/coral-disease-outbreak and to your local reporting networks.

Photography

High-resolution landscape-scale images that capture details of individual corals when enlarged can provide useful SCTLD data.



SCTLD: Tag* and Track Progression within Susceptible Corals with Repeat Photography



Brain Coral (PSTR), Grand Bahama Island
All photos © G. Halpern

Try to maintain the same
camera lens, orientation
and distance for each coral.

*The tag can be as simple as flagging tape!



SCTLD: Assess Spatial Extent₁

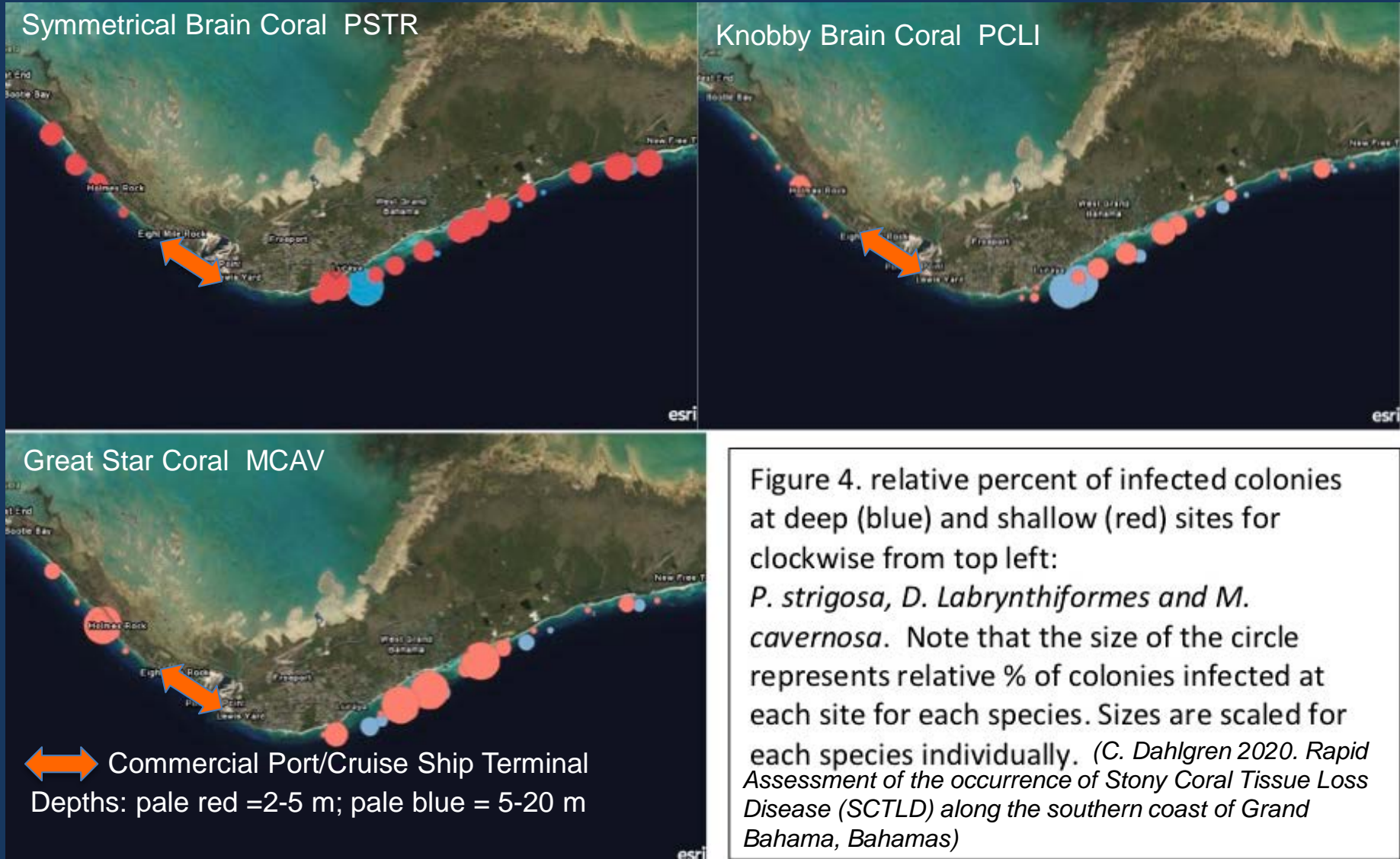
Use available knowledge: ask local divers if corals are dying.

On linear reefs, can conduct spot checks, or manta tows if time allows, at intervals away from discovery site (red below), or away from areas of particular concern.



SCTLD: Assess Spatial Extent₂

On patchy reefs, can conduct spot checks, or rover diver surveys if time allows, away from discovery site or an area of concern (↔).



SCTLD: Assess Spatial Extent₃

Use local knowledge of the locations of :

- particularly susceptible corals, especially if naturally rare and/or iconic;
- most important reef framework builders; and
- MPAs and other areas of value (e.g., as natural breakwaters, for tourism or recreation).

Also use any surveys or reports with species-level coral data (e.g., AGRRA, CARICOMP, GCRMN).

Chose further sites in which to conduct spot checks or, if time allows, roving diver surveys.

Pillar coral (DCYL) with SCTLD on (1) Aug. 4 and (2) Aug. 11, 2020.
Note large increase in white = newly dead areas and in yellowish algal turfs (TA) on the previously dead skeleton in just 7 days.

Photos © by T. Warrender.



If AGRRA data for an area, go to www.agrra.org,
Click on CORAL DISEASE OUTBREAK in the pull-down menu

In CORAL DISEASE OUTBREAK
page, scroll past

Stony coral tissue loss disease
Tracking the Disease and map
Report sightings of SCTLD...



Tracking the Disease

Map of Stony Coral Tissue Loss Disease recorded throughout the Caribbean – The SCTLD Tracking Map is an interactive map that shows where SCTLD has been confirmed in the Caribbean. Sightings are submitted through the Online SCTLD Survey Form which then appears on the map as purple markers while the information is being thoroughly reviewed. Once reviewed, the markers turn green if SCTLD is not present/confirmed or Red if presence of SCTLD is confirmed. Florida data is provided by FWC's Florida Fish & Wildlife Research Institute.

To submit a sighting or survey in the Caribbean, please see the "Report Sightings of SCTLD" section of this page or contact us at info@agrra.org.

Mapa – Enfermedad de pérdida de tejido en corales duros – [versión en español](#)

If your browser fails to download this map, we suggest you try another browser. For Mac users: use Safari with OS 10.14.1; Firefox or Chrome with OS 10.14.2



Report Sightings of SCTLD



Reef researchers, managers and sport divers should continue to be on the lookout for sites with an unusually high percentage of diseased and very recently dead corals. If you see any instances of disease, please submit your findings via the survey form below. **Thanks to everyone who has responded so far.**

If you see any instances of Stony Coral Tissue Loss Disease or suspected disease, please submit your findings and photos via one of the 3 survey forms below. There are 3 types of survey forms to make it easy to submit your data BUT you **only need to fill out ONE of the forms per reef site**. You can enter data by **Scientific Coral Name**, by **Common Coral Group Name** or by **Roving Diver Survey**.

SUBMIT Coral Disease Survey by Scientific Name	SUBMIT Coral Disease Survey by Common Coral Group	SUBMIT Coral Disease Survey – Roving Diver
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If you have any questions related to diseased coral outbreaks please contact info@agrra.org

...Continue scrolling *past*
CARIBBEAN SCTLD DASHBOARD
Stop at **SUSCEPTIBLE CORAL SPECIES**

CARIBBEAN SCTLD DASHBOARD

The Caribbean SCTLD Dashboard below provides summary information on the outbreak of SCTLD in the Caribbean and the regional efforts to respond to the disease. At the MPACConnect regional peer-to-peer learning exchange on SCTLD held in August 2019, Caribbean coral reef managers recommended the development of a regional dashboard to indicate the status of SCTLD and show the spread of the disease in the Caribbean. This dashboard is a direct response to that request. The dashboard was developed by AGRRA, in collaboration with MPACConnect, GCFI, and NOAA and is updated biweekly to monthly.

Press Release – [English language version](#)
Comunicado de Prensa – [versión en Español](#)



Dashboard features include statistics on countries affected and management response activities.

Upper Right Map shows:
– Presence/absence of SCTLD
– Response activities (training, education, monitoring, treatment)

Bottom Left Map shows a time-lapse of how SCTLD has been reported to occur through the region.

Lower Right Graph shows the coral species affected by SCTLD by number of countries reporting diseased corals.

[Interactive Caribbean SCTLD Dashboard – English](#)

[Panel interactivo SCTLD del Caribe – Español](#)

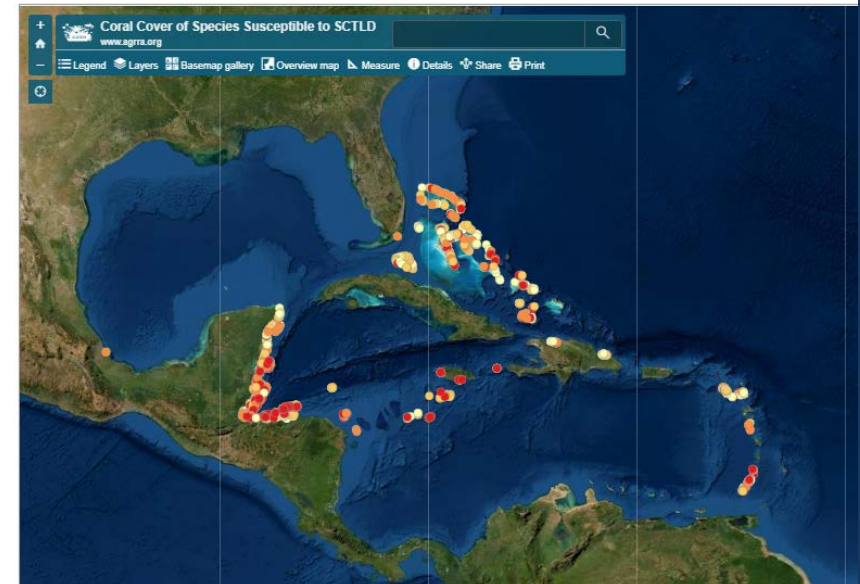


SUSCEPTIBLE CORAL SPECIES

Many different coral species are susceptible to the stony coral tissue loss disease. This interactive map allows the user to view the coral cover (recorded in AGRRA benthic surveys) of these susceptible species in different groupings/layers including:

- Percent Coral Cover of 20 susceptible spp
- ORBI spp: *Orbicella* species
- 8 SCTLD spp: 8 of the most common SCTLD susceptible species (*Colpophyllia natans*, *Dendrogyra cylindrus*, *Dichocoenia stokesii*, *Diploria labyrinthiformis*, *Eusmilla fastigiata*, *Meandrina meandrites*, *Pseudodiploria clivosa*, *Pseudodiploria strigosa*)
- AGAR spp: *Agaricia* species
- SSID: *Siderastrea siderea*
- DCYL: *Dendrogyra cylindrus*

[Mapa de especies susceptibles – versión en español](#)

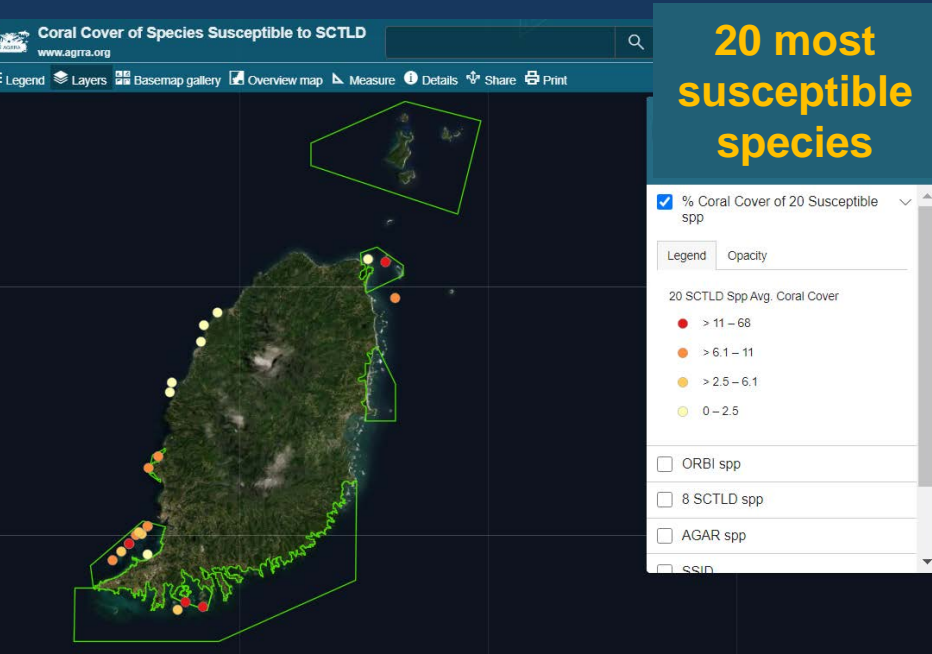


SCTLD Susceptibility Map

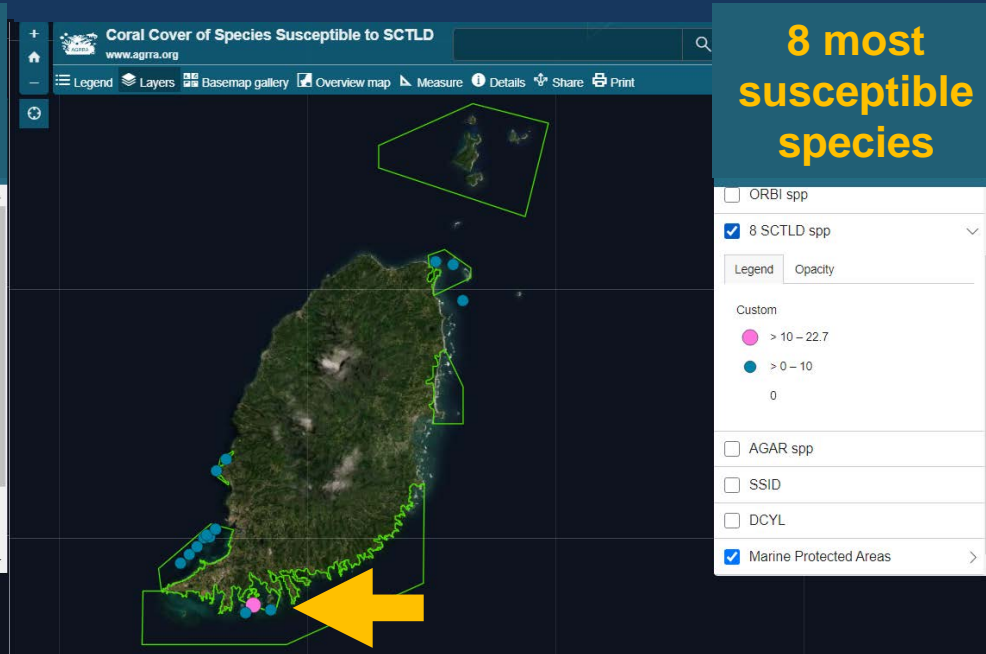
Based on AGRRR data, where available
Percent cover of corals most susceptible to SCTLD
Helps locate areas at risk to SCTLD to survey or areas to prioritize intervention



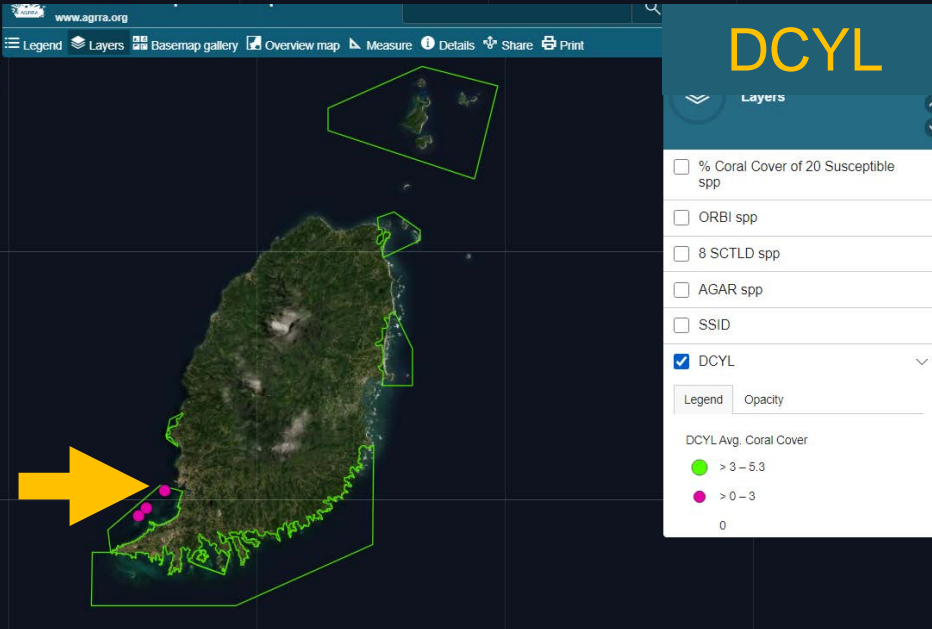
Grenada



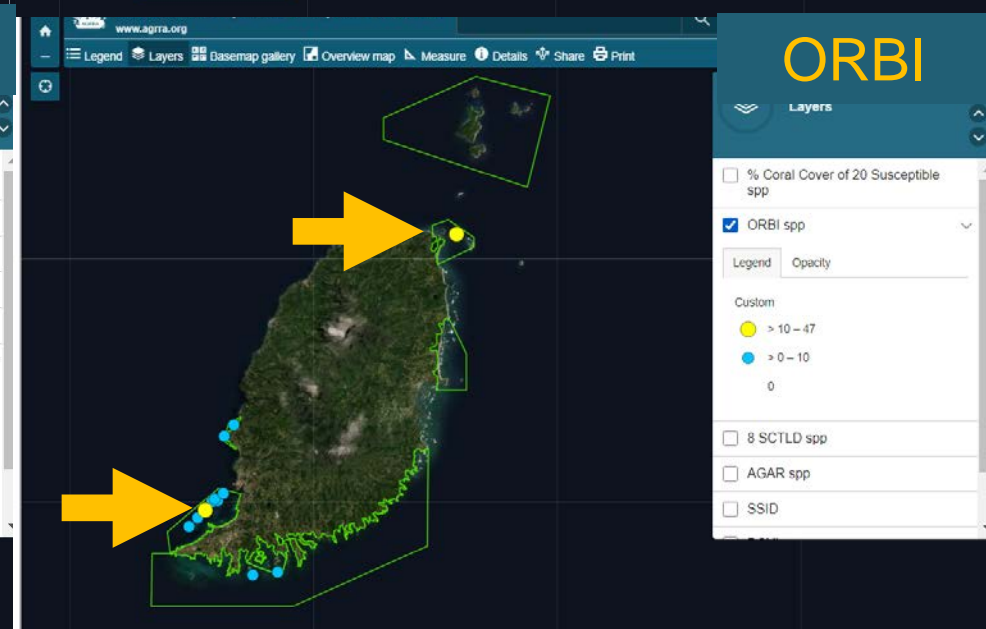
20 most susceptible species



8 most susceptible species

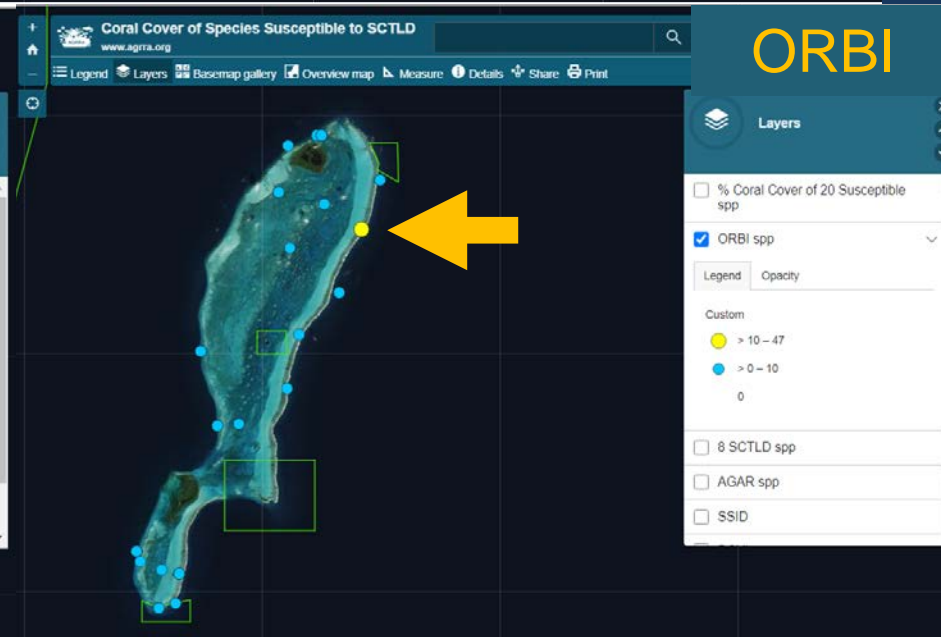
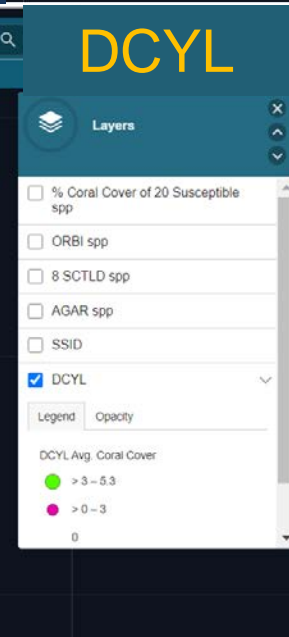
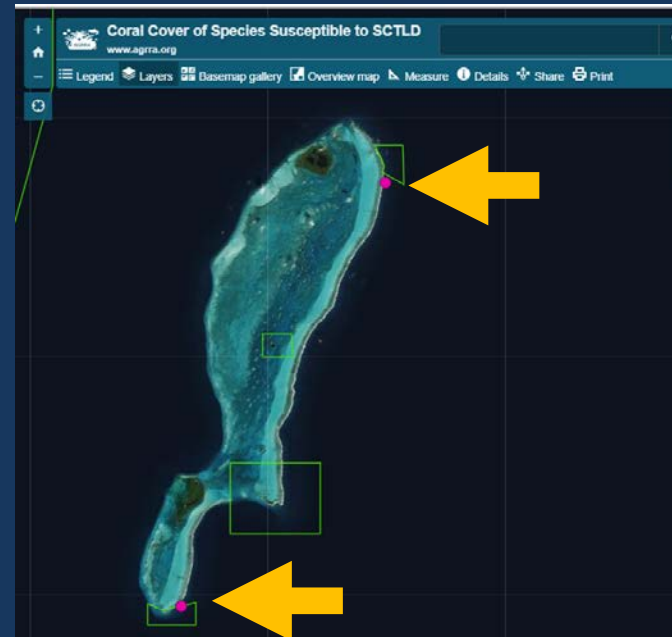


DCYL



ORBI

Lighthouse Reef Atoll, Belize



To contribute a survey, in CORAL DISEASE OUTBREAK page scroll past
Stony coral tissue loss disease
Tracking the Disease
Stop at **Report Sightings of SCTL**

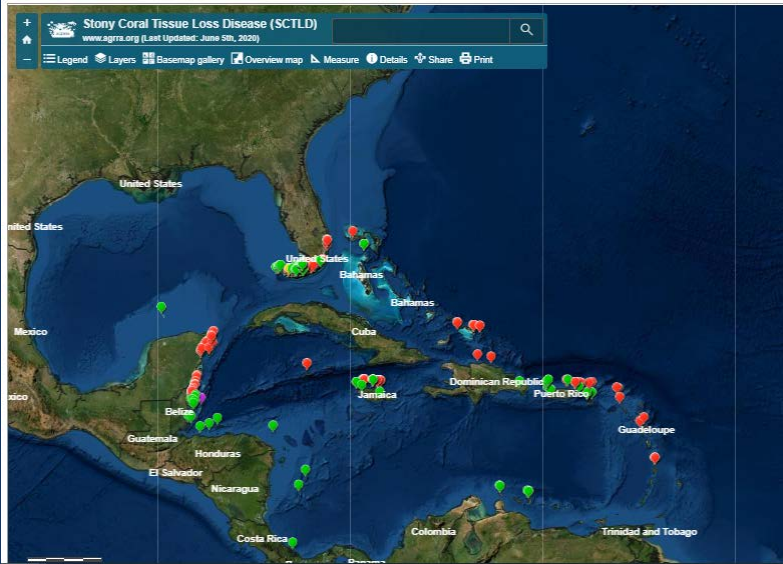
Tracking the Disease

Map of Stony Coral Tissue Loss Disease recorded throughout the Caribbean – The SCTL Tracking Map is an interactive map that shows where SCTL has been confirmed in the Caribbean. Sightings are submitted through the Online SCTL Survey Form which then appears on the map as purple markers while the information is being thoroughly reviewed. Once reviewed, the markers turn green if SCTL is not present/confirmed or Red if presence of SCTL is confirmed. Florida data is provided by FWC's Florida Fish & Wildlife Research Institute.

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Mapa – Enfermedad de pérdida de tejido en corales duros – [versión en español](#)

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Report Sightings of SCTL



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SUBMIT
Coral Disease Survey by Scientific
Name

SUBMIT
Coral Disease Survey by Common
Coral Group

SUBMIT
Coral Disease Survey – Roving
Diver

If you have any questions related to diseased coral outbreaks please contact info@agrra.org

New features will allow entry of quantitative data for roving diver and other visual surveys. *Prevalence of SCTL and/or bleaching can then be calculated by the common or scientific names of the species surveyed. Temporal trends could be captured with repeat surveys at the same site.*

Submit reports on coral reef health

Report Your Findings



Reef researchers, managers and sport divers should continue to be on the lookout for sites with an unusually high percentage of diseased and very recently dead corals. If you see any instances of disease, please submit your findings via the survey form below. **Thanks to everyone who has responded so far.**

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SUBMIT
Coral Disease Survey by Scientific
Name

SUBMIT
Coral Disease Survey by Common
Coral Group

SUBMIT
Coral Disease Survey – Roving
Diver

New
Coral Health Survey

www.agrra.org/coral-disease-outbreak

1. Submit reports and photos on diseased or bleached corals.
2. Experts from Caribbean Cooperation Team work with you to review and confirm presence or absence.
3. Your report is displayed on the Caribbean SCTLDBleach Map.
4. Your report helps guide response and management actions.
5. *What's New?*
 - One easy to fill out survey form
 - Combined Disease & Bleach reports
 - Other features

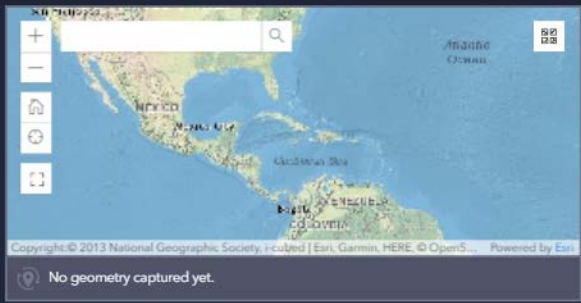
Step 1. Observer Information

Name*
First and Last Name

Email*
How can we get in touch with you?

Date/Time*
When did the survey occur?

Location*
1. Zoom to the area of your observation or
2. Type in the coordinates (decimal degrees) into the search bar, **LONGITUDE FIRST, then latitude** (e.g. -72.10616 18.6844). Then click the search icon or press Enter on your keyboard. Once in the proper place, move on to the next question. Your location will be logged when you submit the entire form. If you have issues with finding your coordinates or have any conversion issues, please manually zoom as close to your location on the map as you can and email us at gis@agrra.org.



Step 2. Site information

Reef Name
If known, enter the site or reef name where the survey took place.

Marine Protected Area
Does your site fall within a marine protected area? If yes, please provide name of MPA.

Within an MPA

Not within an MPA

Not Sure

Marine Protected Area Name

Reef Type
If known, on what reef type did you perform your survey (e.g., reef crest, patch reef, fore reef, other)?

Average Depth (m)
If known, the approximate average depth of the observations?

Water Temperature (°C)
If known, the approximate water temperature during the observation?

Step 3. Coral health data

Observation Data*
Select the type of observation data you are able to supply. They are listed in order of decreasing specificity.

Coral count by species name or code

Presence/absence by species name or code

Presence/absence by coral shape

What protocol did you follow?
(e.g. time surveys, roving diver, none)

Describe Observed Disease/Bleaching
Please provide details on SCTLD or other high levels of disease/mortality/bleaching observed such as the type of disease, patterns of tissue mortality or speed of disease progression.

Photo of Observation
Please share any photo evidence you may have of possible coral disease/bleaching (up to 5 photos). These photos will be viewable on the Coral Disease Watch webmap once approved.

Press here to choose image file. (<10MB)

Submit

What's
New?

Add photos
& Submit
Your report



Step 3a. Observations *Counts or presence/absence*

Observation Data*

Select the type of observation data you are able to supply, decreasing specificity.



Coral count by species name or code



Presence/absence by species name or code



Presence/absence by coral shape

Select one option

Step 3b. Select species you saw

Species Monitored*

Select the species that were considered

Drop down menu

4 selected

Cladocora arbuscula: CARB (Tube Coral)

Colpophyllia natans: CNAT (Boulder Brain)

Dendrogyra cylindrus: DCYL (Pillar)

Dichocoenia stokesii f. stellaris: DSTE ()

Step 3c. Were your corals healthy?

APAL

AGAR

CNAT

Healthy

1/2³ 0

Click arrow for drop down menu

We will post suggestions for useful survey equipment, data cards, swimming instructions, survey times and sample sizes.

Healthy

SCTLD Only

SCTLD + Any Bleached

Fully Bleached Only

Partially Bleached Only

Pale Only

Recently Fully Dead

Other Disease

← ← ←
Closer look –
Step 3c. Were your corals healthy?

For each species enter the number of corals that are:

- Healthy
- SCTLD Only
- SCTLD and Any Bleach
- Fully Bleached Only
- Partly Bleached Only
- Pale Only
- Recently Fully Dead
- Other Diseases



Enfermedad de pérdida de tejido en corales duros (EPTCD)

Leyenda

Capas

Leyenda Capas Galería de mapa base Mapa de vista general Medir Detalles Compartir

Leyenda

Limites de la enfermedad de coral - Capa FWC (Florida)

- EPTCD Ausente
- EPTCD Posiblemente presente
- EPTCD Presente

Monitoreo a través de censos rápidos (Caribe)

- Encuestas EPTCD por nombre científico del coral (Caribe)
- Encuestas EPTCD por nombre común del coral (Caribe)
- USVI - monitoreo EPTDC por protocolo buzo explorador
- Índice de Puertos Globales
- Áreas Marinas Protegidas
- Países

Presencia de EPTCD

- Nuevo reporte - bajo revisión
- EPTCD ausente, otras enfermedades posibles
- EPTCD Posiblemente presente
- EPTCD Presente

Capas

- Monitoreo a través de censos rápidos (Caribe)
- Encuestas EPTCD por nombre científico del coral (Caribe)
- Encuestas EPTCD por nombre común del coral (Caribe)
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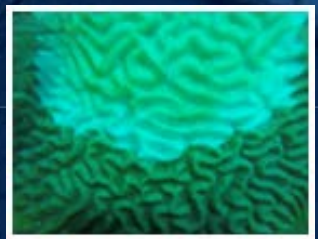


(1 de 2)

Monitoreo a través de censos rápidos

Nombre	Kirah Forman
Fecha del monitoreo	23 Mar. 2020
Depth of Survey	>10m
Tipo de arrecife	Fore Reef

Acercar a



Many thanks also to Patricia Kramer for her efforts to continually improve the range of AGRR's online offerings, in both English and Spanish,

&

for noticing that I had reversed slides 14 and 22 (shown here) when adding them to my MPA Connect webinar presentation for September 15, 2020.

These two images are now correctly located in this pdf.

