



Dominica Response 2023 Bleaching event

The Dominica Approach

Bleaching Timeline 2023

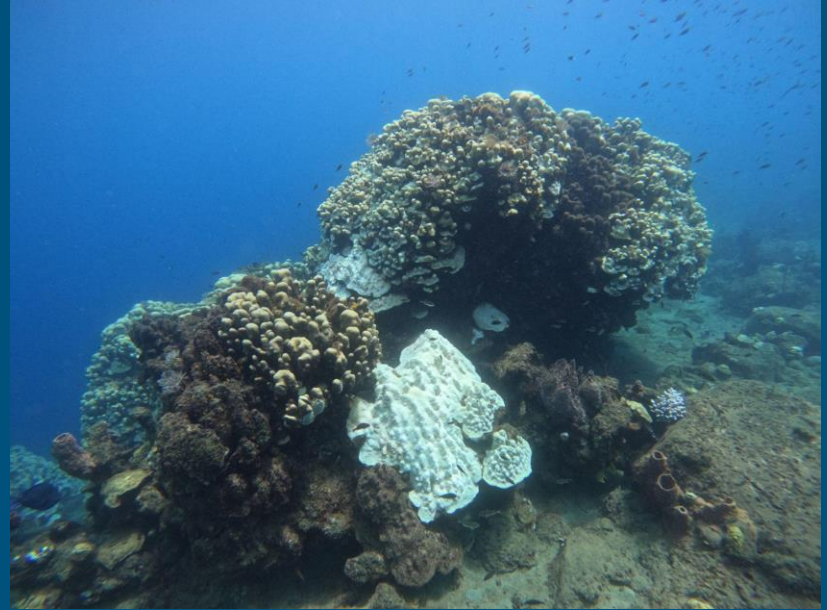
At the time of the 1 st CCT Bleaching presentation on Sept 10, 2023 Dominica water temps were 86f/30c. There were no indications of bleaching.

- September 11th. First Signs of paling CNAT and AGAR
- September 11th. We initiated a phased 4 step intervention program
- September 12th Step 1. Nursery Trees shaded
- September 19th Step 2. Nursery trees pulled to deeper water
- September 21st Step 3 Reef CNATs shaded.
- October Step 4 DCYL Feeding

September 20th water temps of 87.9 f /31c



Rapid Onset Bleaching September 21, 2023



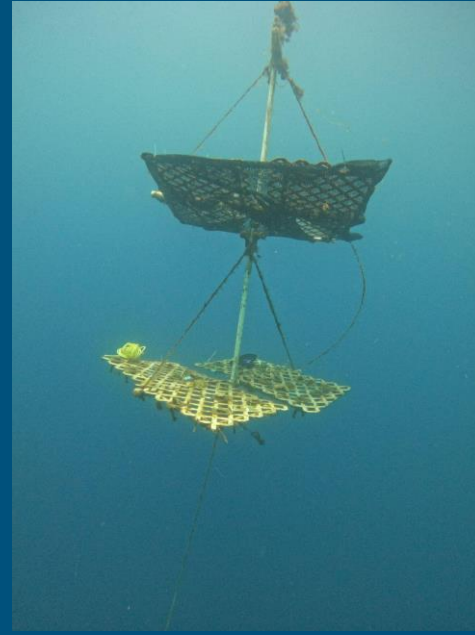
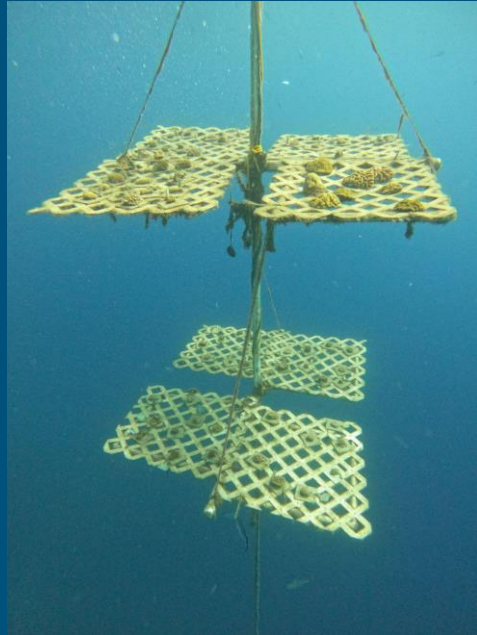
STEP 1. Protect Nursery Colonies



<https://public.tableau.com/app/profile/bingqian/viz/DominicaCoralRescueCenter-CoralRescueOverview/DominicaCoralRescueCenter>

Nursery Tree Shading. September 12th 2024

Tray Tree: Removed upper level colonies to lower level and built shading over upper level. Only 2 Colonies bleached.

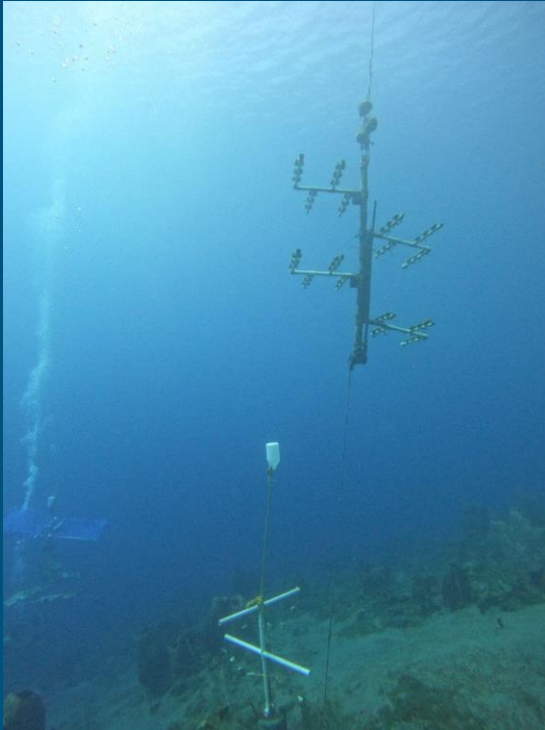


Pillar Tree: Shading for DCYLs



DCYL on the left was shaded early and started to recover in patches but ended up dead. Right DCYL never bleached badly as is fine today.

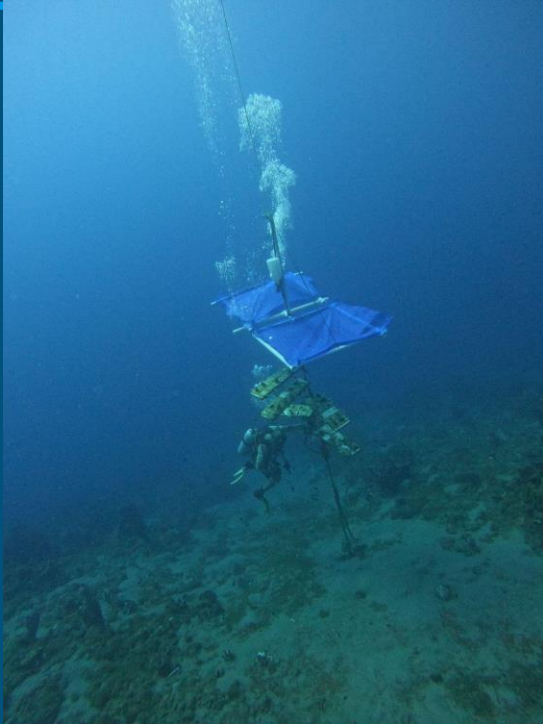
STEP 2 Pulling Trees to deep Water Sept 19 th 2023



- Trees pulled down to between 20m and 24m
- Some were ALSO shaded
- At 32 M Temps were 86f/30c. Not cool enough to allow recovery



Conclusions for Tree Shading and Depth Increase in the Nursery



- Shading Trees early helped to slow bleaching progression
- Shading ALREADY bleached colonies did not allow them to recover during high temps.
- Out of 290 Colonies on Nursery trees we lost 5 colonies
 - 2 x DCYL
 - 1 x MANG
 - 1x AGAR
 - 1 OFAV

STEP 3. In Situ Coral Feeding



Video 1

To compensate for lack of light due to shading and depth we fed DCYLs throughout the bleaching period. None of our nursery colonies that we fed died from bleaching.

The bag was left on for about 10 mins to 15 mins while we did other nursery jobs.

STEP 4. Shading In-situ Colonies September 21 st

We Shaded 25 CNATS until temps cooled in Late October

Custom made for each Colony

All 25 survived

3 have since died from SCTLD



Conclusions from 2024

- Act early. This year as soon as we reach 86f/30c we will shade.
- Our efforts resulted in increased survivability in the Coral Nursery.
- In Situ while all shaded CNATS survived we had no controls and by mid October the oceanic temps started to drop
- We were surprised that there was very little difference in temperatures at depth
- Coral Feeding seemed to help



Longterm Solutions



In Partnership with Oceans Forward, REZDM, The Fisheries Division and the Soufriere Scotts Head Marine Reserve we currently have an Ex situ tank system under construction. We are aiming for full operations in June.