frontiers

Supplementary Material

Supplementary Figure 1. Examples of corals with disease documented as "present" (showing signs consistent with SCTLD) at Vessup Point (site #5164) on March 1, 2020. *Pseudodiploria strigosa* (left) and *Siderastrea siderea* (right) exhibiting multiple lesions and rapid tissue loss (Photos by Kayla Budd).

Supplementary Table 1. Sample size and confidence of susceptibility classification. In this study susceptibility is either unknown (data deficient), low (<20% disease prevalence), intermediate (20-40% disease prevalence), or high (>40% disease prevalence) in St. Thomas. Confidence levels in susceptibility rankings determined through this study are based on sample size and disease prevalence.

Species	Sample Size (N) (Epidemic Zone)	Confidence
Acropora cervicornis A CERV	0	N/A
Acropora palmata A PALM	0	N/A
Agaricia agaricites A AGAR	39	High
Agaricia fragilis	1	Low

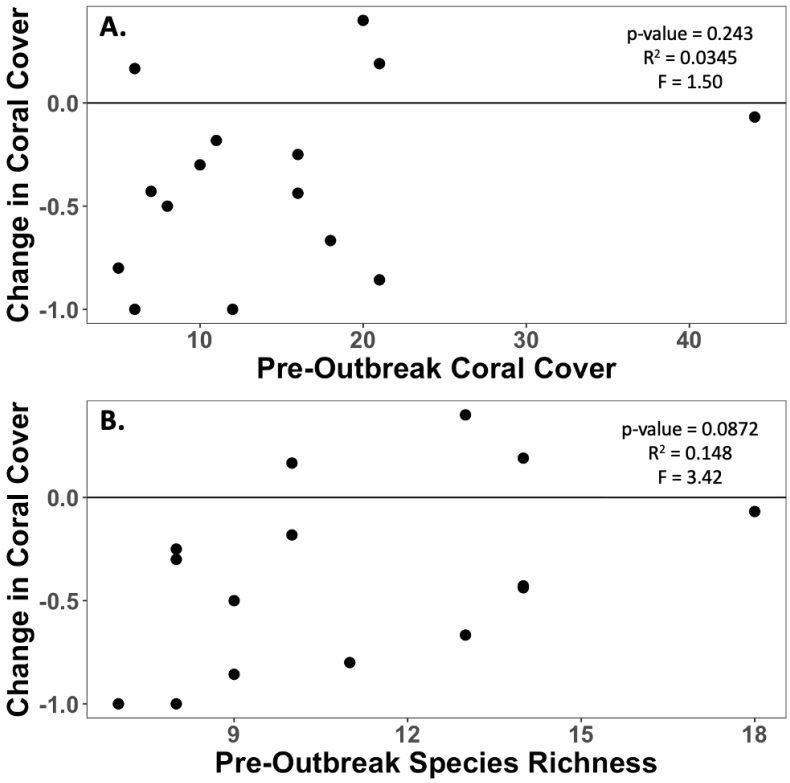
A FRAG		
Agaricia grahame A GRAH	0	N/A
Agaricia humilis A HUMI	9	Low
Agaricia lamarcki A LAMA	2	Low
Agaricia species A SPE	4	
Agaricia tenuifolia A TENU	0	N/A
Colpophyllia natans C NATA	7	High
Dendrogyra cylindrus D CYLI	2	High
Dichocoenia stokesii D STOK	7	Low
Diploria labyrinthiformis D LABY	2	Low
Eusmilia fastigiata E FAST	8	Low
Favia fragum F FRAG	0	N/A
Helioseris cucullata	0	N/A

H CUCU		
Isophyllastrea rigida I RIGI	0	N/A
Isophyllastrea sinuosa I SINU	0	N/A
Madracis aurenterna M AURE	0	N/A
Madracis decactis M DECA	0	N/A
Madracis formosa M FORM	0	N/A
Manicina areolata M AREO	0	N/A
Meandrina jacksoni M JACK	0	N/A
Meandrina meandrites M MEAN	5	N/A
Montastrea cavernosa M CAVE	17	High
Mycetophyllia aliciae M ALIC	0	N/A
Mycetophyllia ferox M FERO	1	Low
Orbicella annularis complex O ANCX	1	

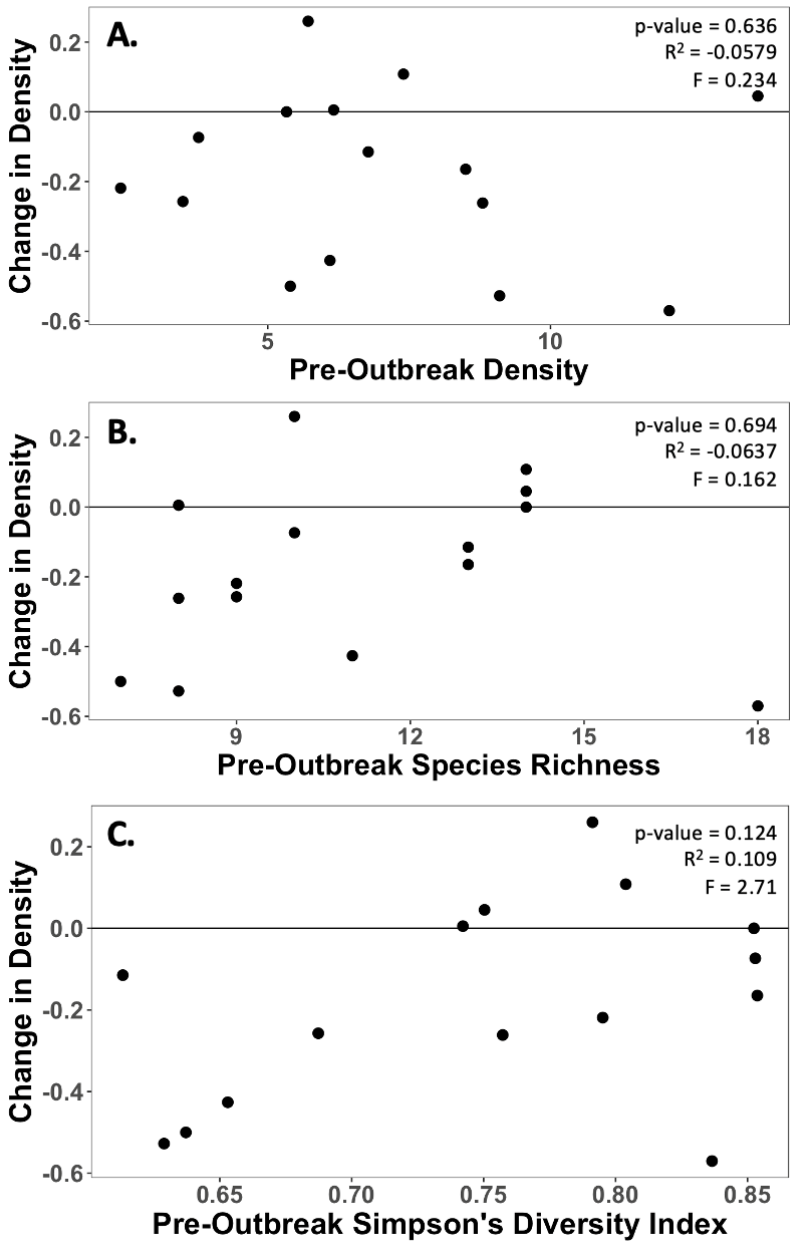
Orbicella annularis O ANNU	11	High
Orbicella faveolata O FAVE	50	High
Orbicella franksi O FRAN	10	Low
Porites astreoides P ASTR	144	High
Porites colonensis P COLO	0	N/A
Porites porites P PORI	62	High
Pseudodiploria clivosa P CLIV	0	N/A
Pseudodiploria strigosa P STRI	9	Low
Siderastrea radians S RADI	32	High
Siderastrea siderea S SIDE	150	High
Solenastrea bournoni S BOUR	0	N/A
Stephanocoenia intersepta S INTE	21	High

Supplementary Table 2. Friedman rank test for rapid tissue loss prevalence on coral reefs in the endemic and epidemic zones.

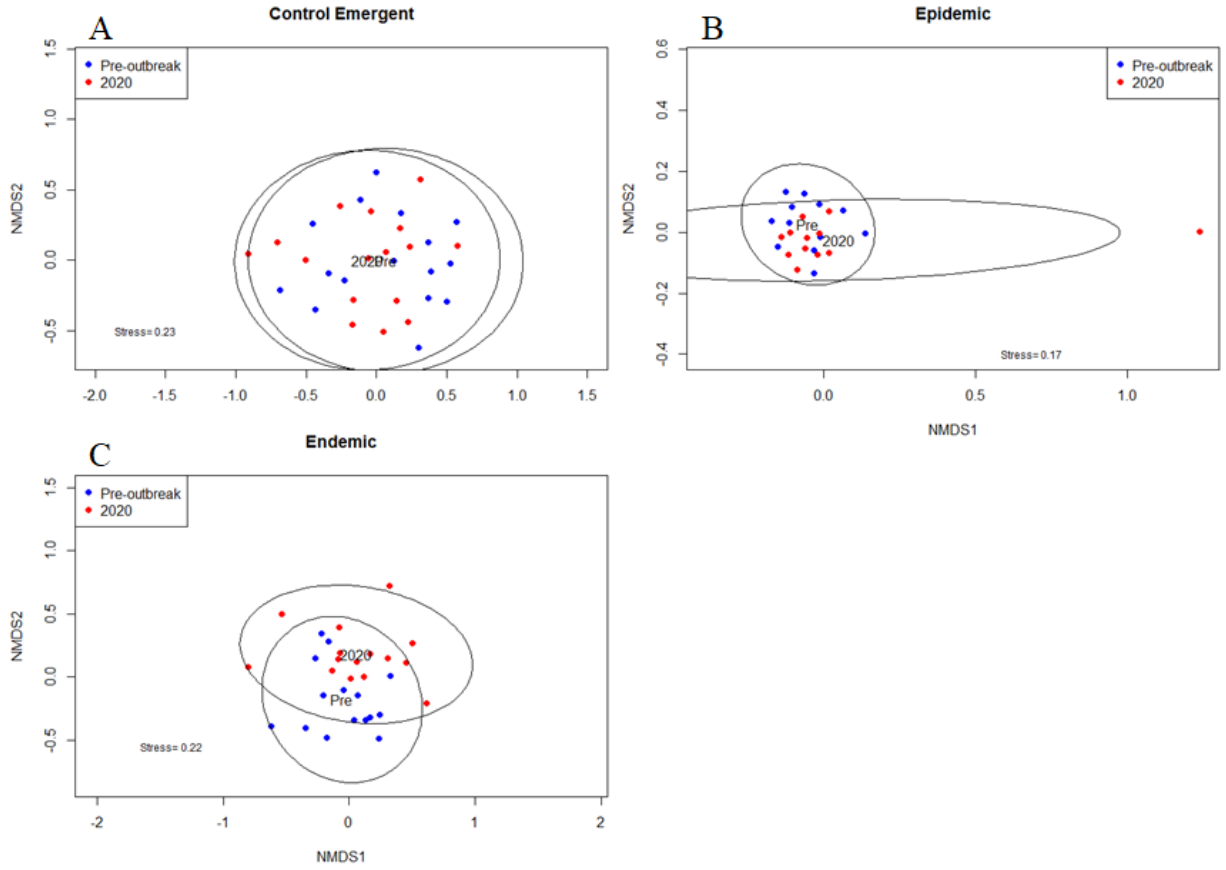
	F- Statistic	P-value
Zone	5.00	0.03*
Species Richness	1.27	0.27
Zone:Species Richness	1.70	0.20



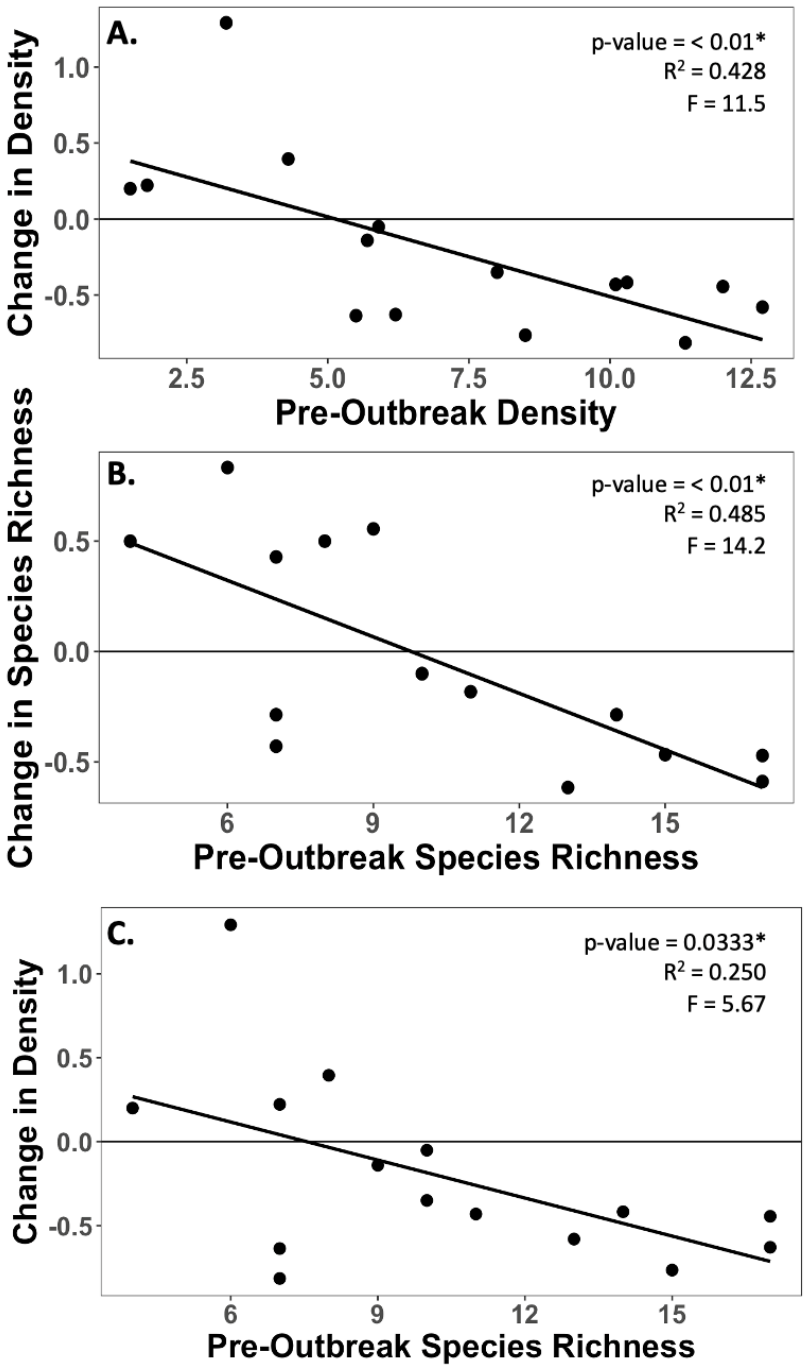
Supplementary Figure 2. Relationships between proportional change in coral cover and pre-outbreak (A) coral cover and (B) species richness on coral reefs in the endemic zone.



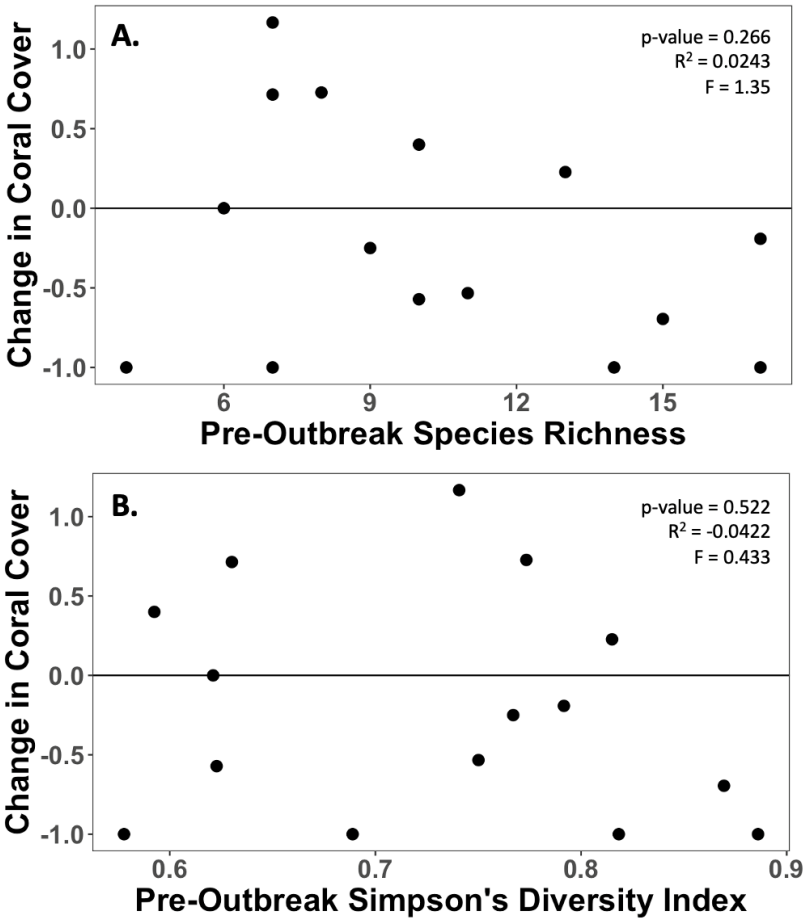
Supplementary Figure 3. Relationships between the proportional change in coral density and pre-outbreak (A) coral density, (B) species richness, and (C) Simpson's Diversity Index on coral reefs in the endemic zone.



Supplemental Figure 4. Non-metric multidimensional scaling (nMDS) analyses of community structure comparing pre-outbreak with 2020 in (A) control and emergent zone (B) epidemic zone, and (C) endemic zone. Centroids are labeled with text ("Pre" and "2020").



Supplementary Figure 5. Impacts of disturbances not related to SCTLD. Relationships between pre-outbreak (A) Density (corals/m^2) and (B) species richness, and its respective proportional change and (C) species richness and proportional change in density in the control and emergent zones.



Supplementary Figure 6. Relationships between the proportional change in coral cover and pre-outbreak (A) species richness (B) and Simpson's Diversity Index in the control and emergent zones.

Supplementary Table 3. Maximum Degree Heating Weeks (DHW). Maximum DHW for each year recorded by NOAA Coral Reef Watch (2020) for St. Thomas, USVI.

Year	Max DHW
2017	1.094
2018	0
2019	8.888
2020	3.261