



Four-year field survey of Black Band Disease and Skeletal Growth Anomalies in encrusting *Montipora* spp. corals around Sesoko Island, Okinawa

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Introduction

- ❖ *Montipora* is a common scleractinian coral in the Indo-Pacific.
- ❖ It is known to be affected by specific disease conditions like BBD and GAs.

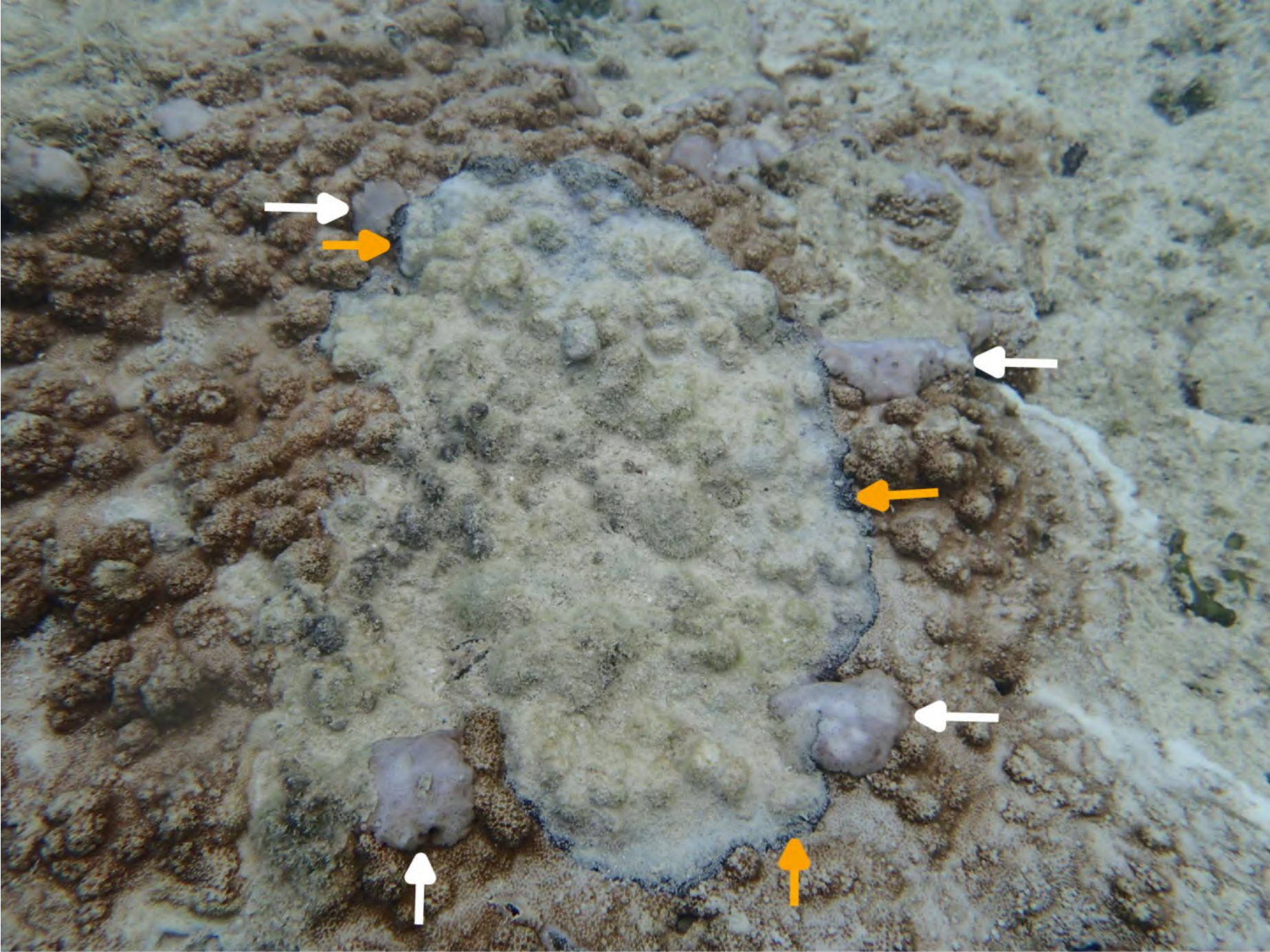


Figure. BBD and GAs In-situ

Results and Discussion

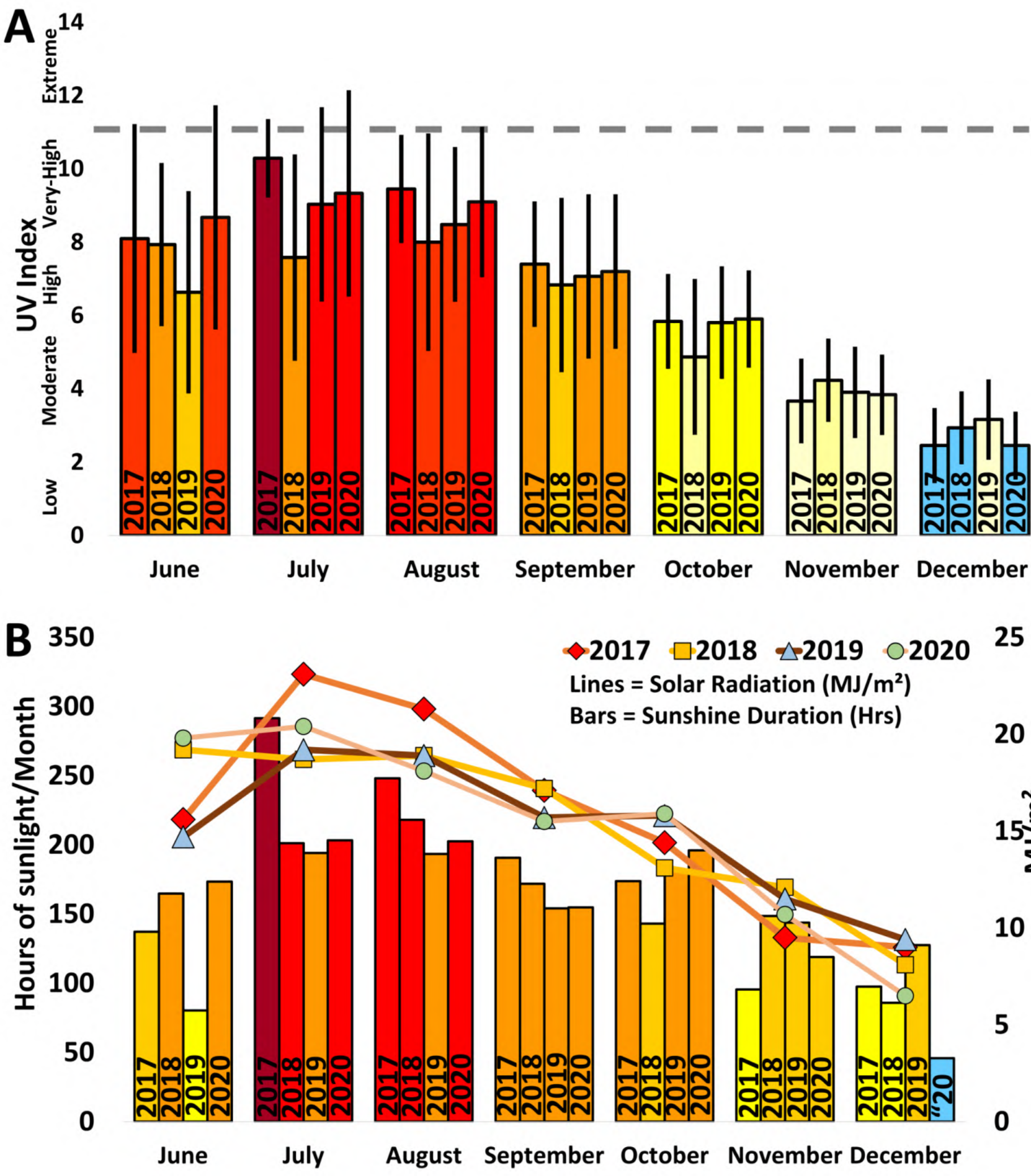


Figure. UV Index, Sunshine Duration and Solar Radiation information acquired from JMA

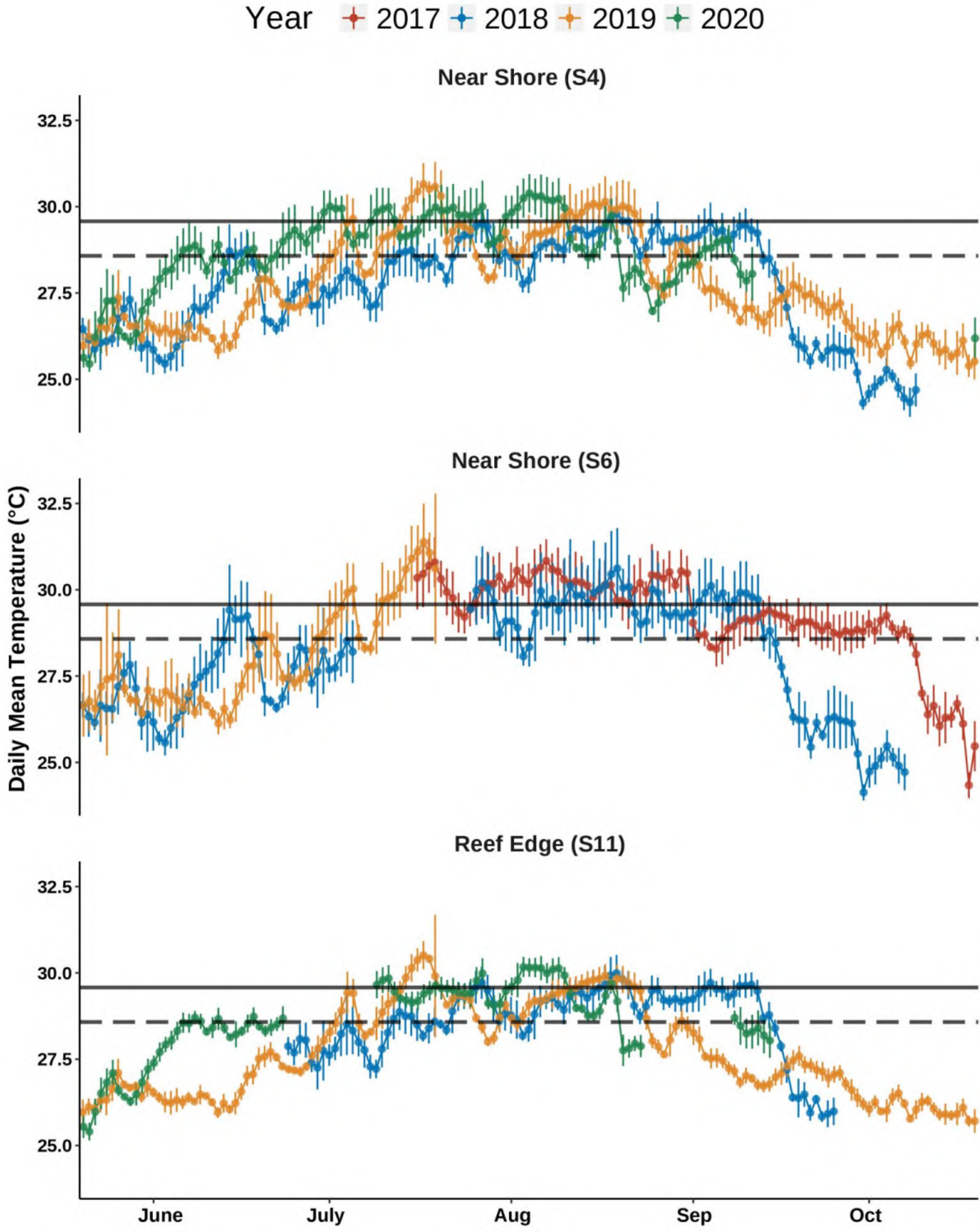


Figure. Sea-Water Temperature

Materials & Method

- ❖ Annual field survey from 2017 ~ 2020 between June ~ October; > 1500 Colonies; Snorkeling.



Figure. Study Area

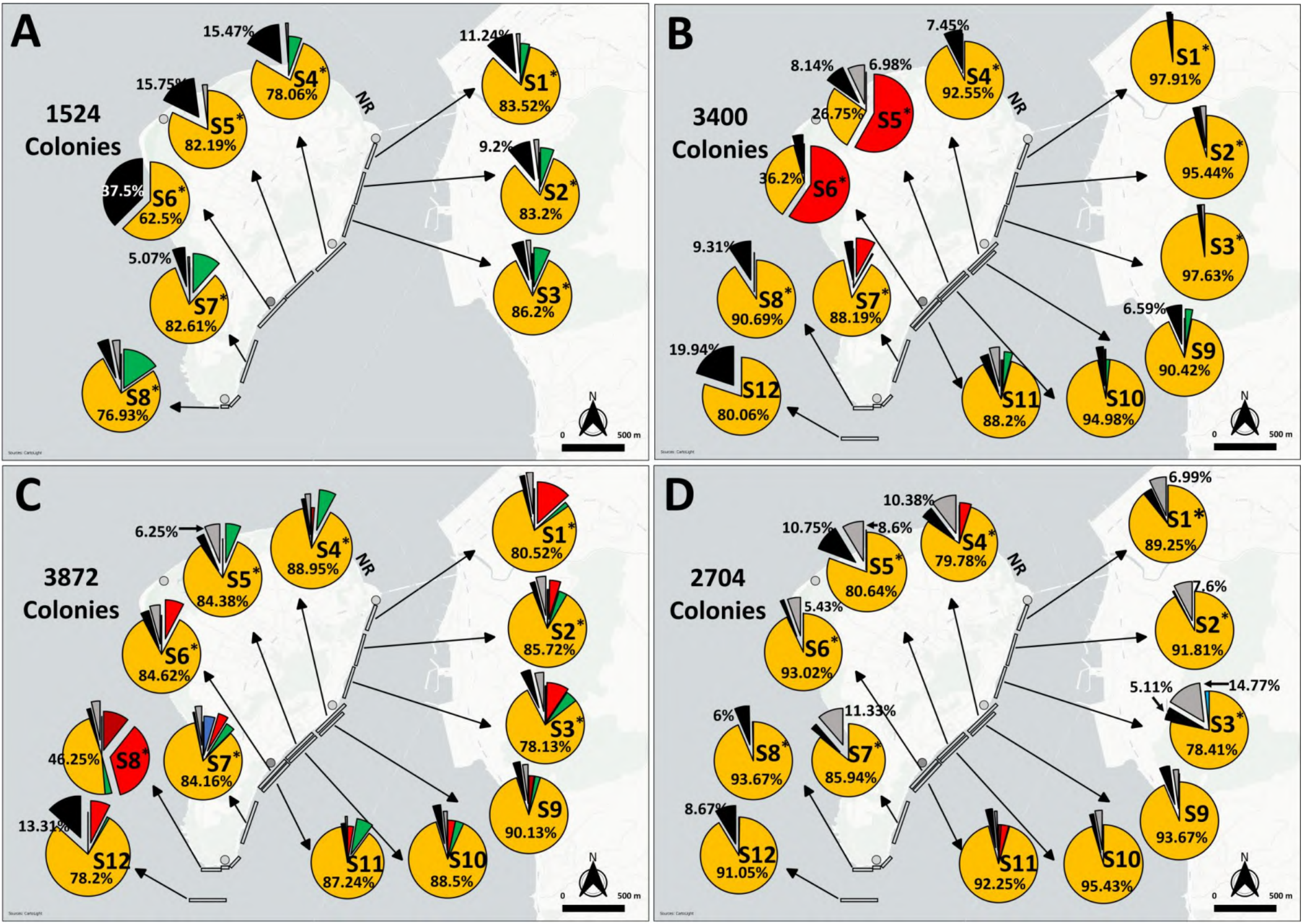


Figure. Disease prevalence from 2017 to 2020. Black: BBD; Grey: GAs

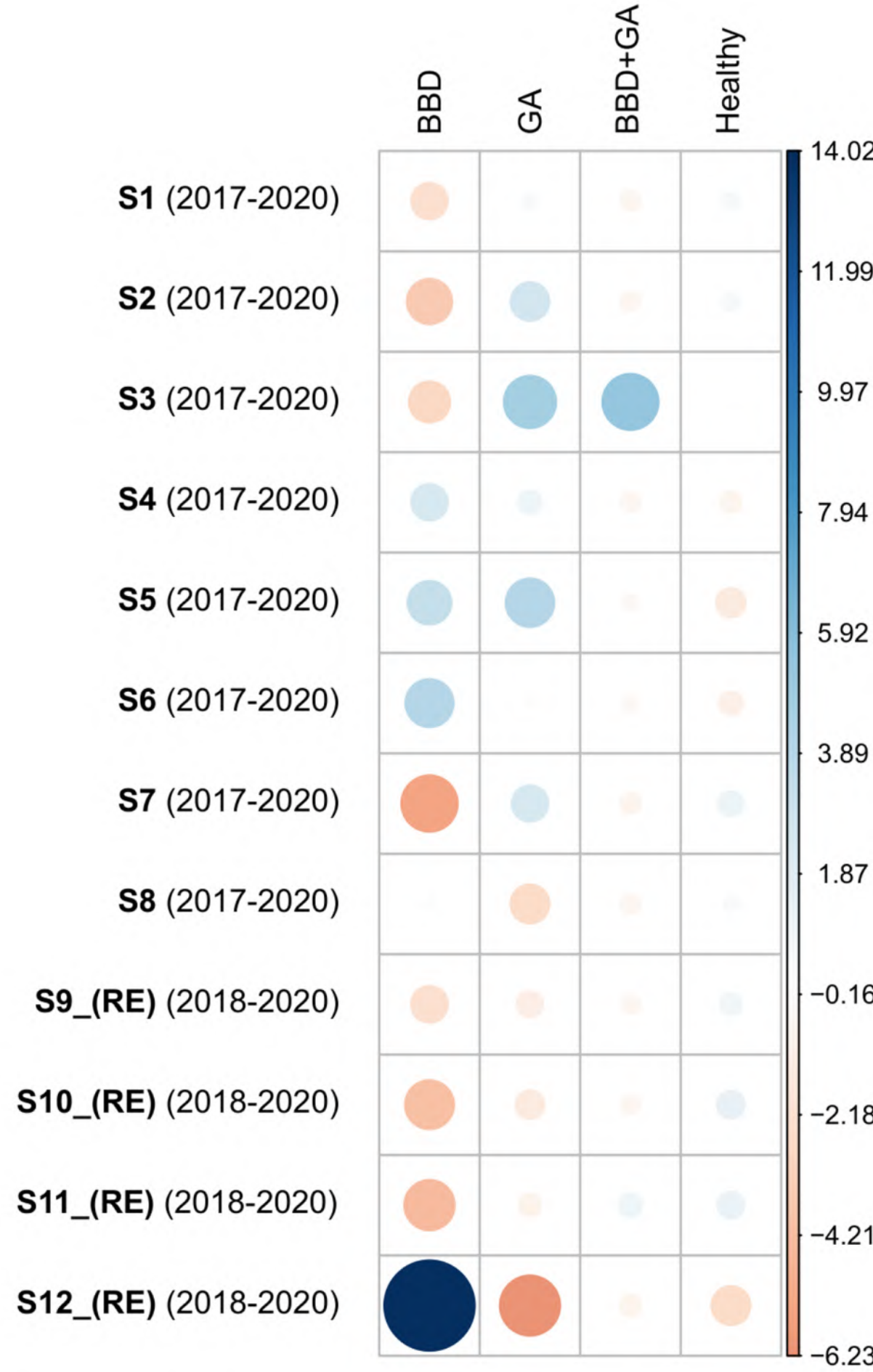


Figure. Chi-Sq of BBD and GAs at various sites along with co-morbidity

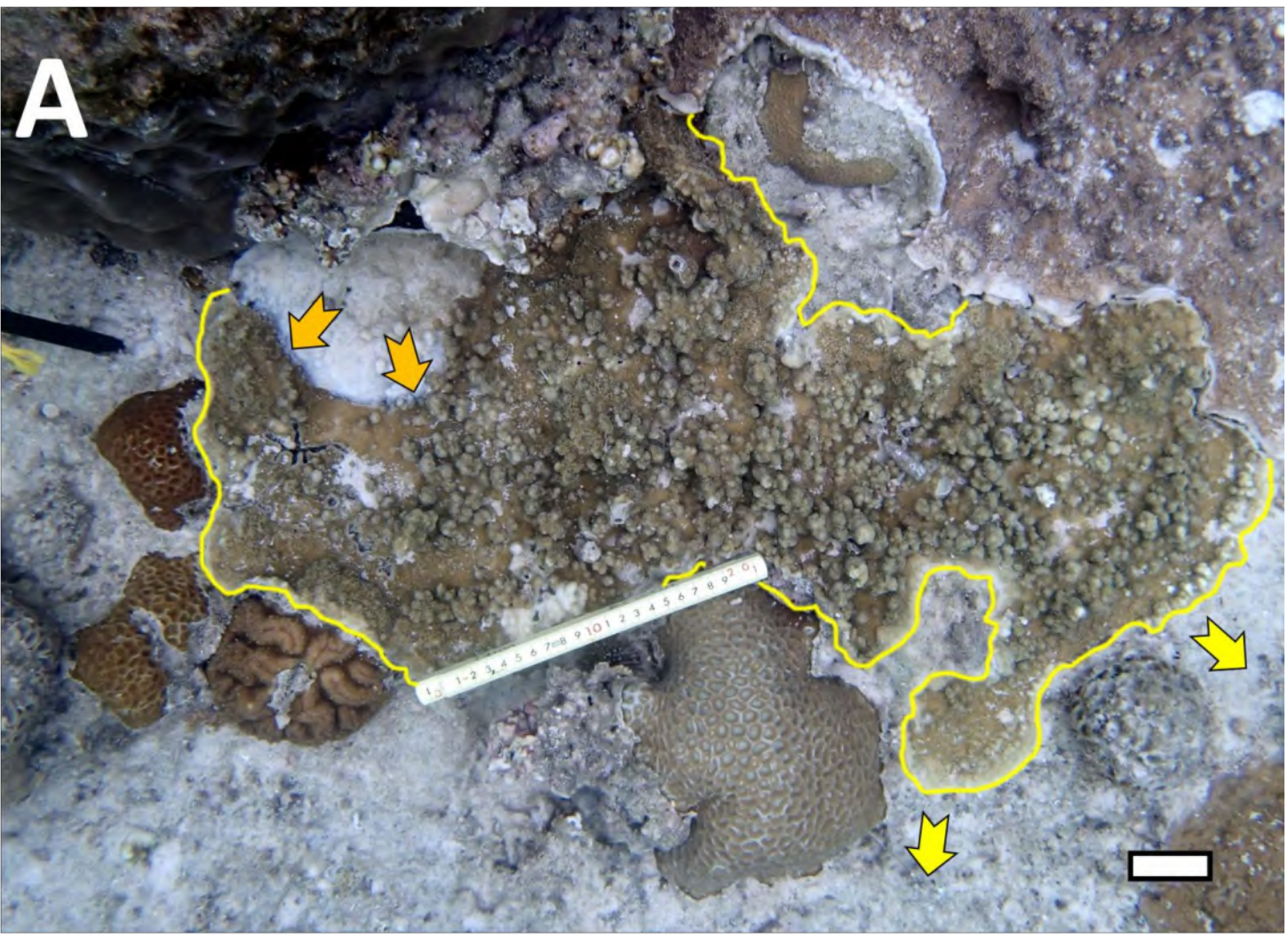


Figure. Host *Montipora* escaping disease related mortality

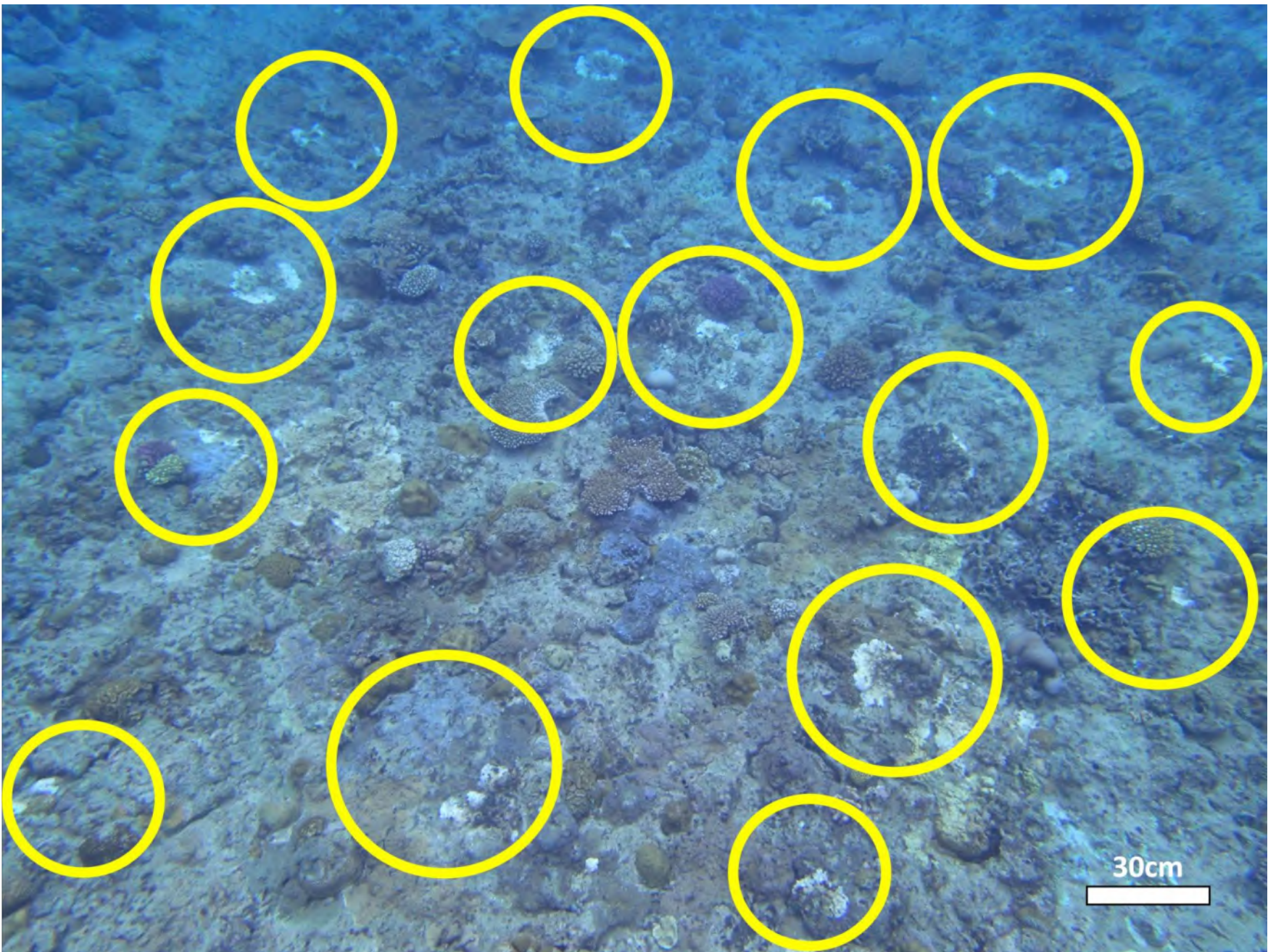


Figure. High prevalence of BBD

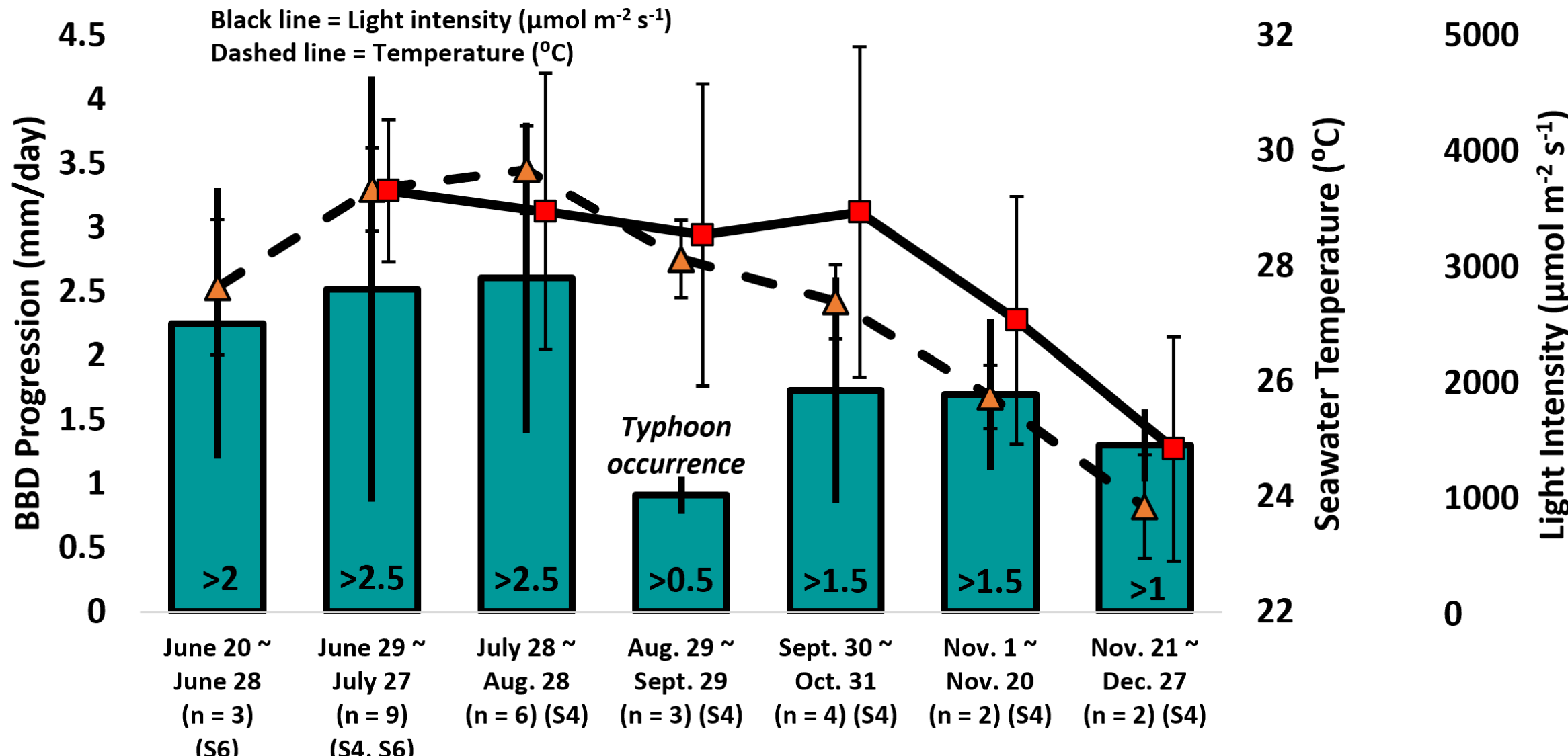


Figure. Progression of BBD

Conclusion and Future Direction

- ❖ BBD prevalence was highest in 2017, and GAs increased from 2017 to 2020
- ❖ BBD progression was significantly co-related to water temperature.
- ❖ Year-round monitoring to assess coral health and disease related mortality remains crucial.
- ❖ Other laboratory-based techniques to understand disease behavior and host condition might provide essential insights.
- ❖ Expansion of study area, to understand the latitudinal movement of disease towards sub-tropical and temperate areas remains necessary.

Reference

Das RR*, Wada H, Masucci GD, Singh T, Tavakoli-Kolour P, Wada N, Tang SL, Yamashiro H, Reimer JD*. (2022). *Diversity*, 14, 32.

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