

Assessing the Impacts of Sargassum Brown Tide to Nearshore Water Quality and Seagrass Beds in Jobos Bay, Puerto Rico

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The accumulation of beached *Sargassum* spp. each summer in the Caribbean region has led to a variety of impacts to both human and ecological communities. Referred to as Sargassum Brown Tide (Sbt), the enormous mats of Sargassum that arrive to nearshore environments tint the waters a brown, tea-like color as they accumulate and decompose. Impacts from Sbt events on nearshore ecosystems and the tropical island economies that rely on them are only beginning to be understood. Sbt is associated with dramatic changes in water column properties such as decreases in light, dissolved oxygen, and pH, eutrophication, and increased suspended particulate matter. In addition, Sbt events can result in localized fish kills and seagrass die off events. In this study we use the offshore mangrove keys and seagrass beds of Jobos Bay, PR, to assess the impacts of Sbt.

We present the preliminary results of monthly water quality monitoring at control and Sbt impacted sites to evaluate the biochemical impacts of Sbt on nearshore water quality. Combining light measurements (PAR) with water quality data (TSS/VSS, Chlor. a, CDOM, TN, TP) we evaluate the drivers of decreased light following Sbt, and potential impacts to adjacent seagrass beds.