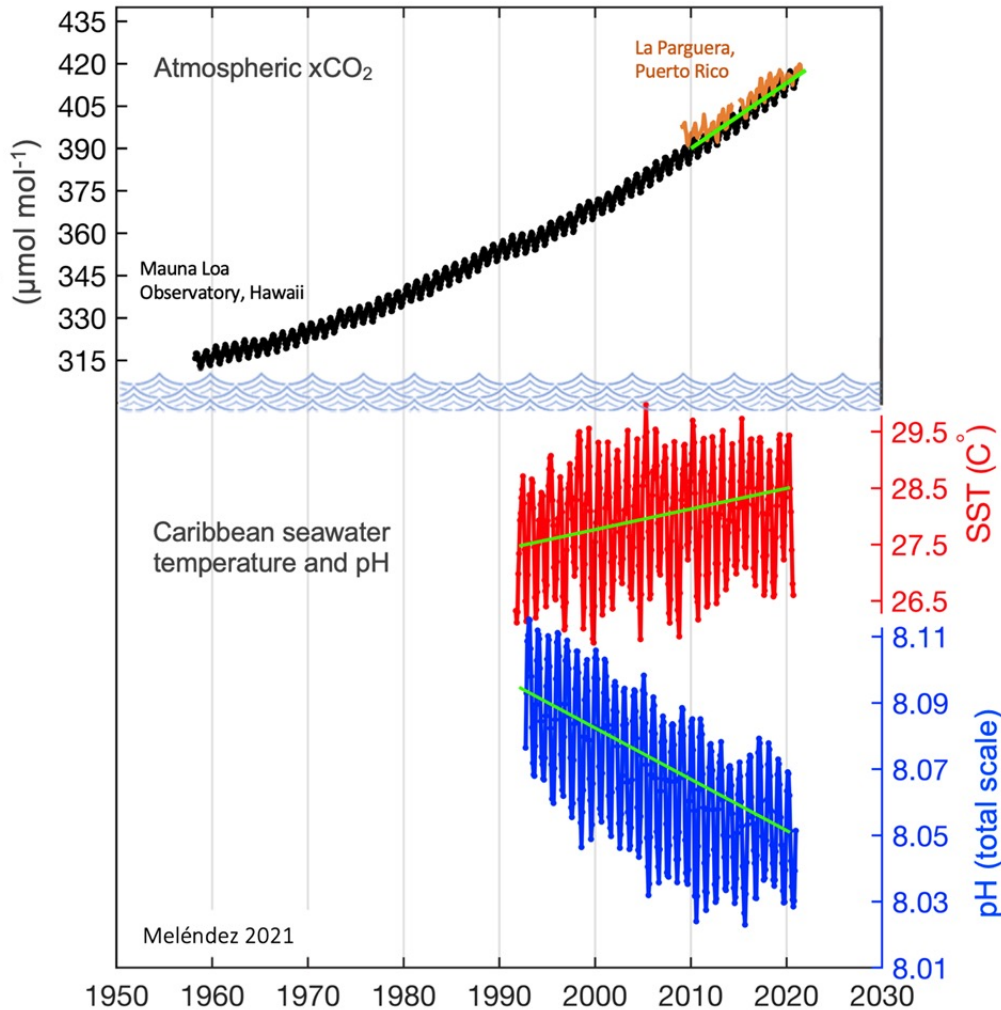




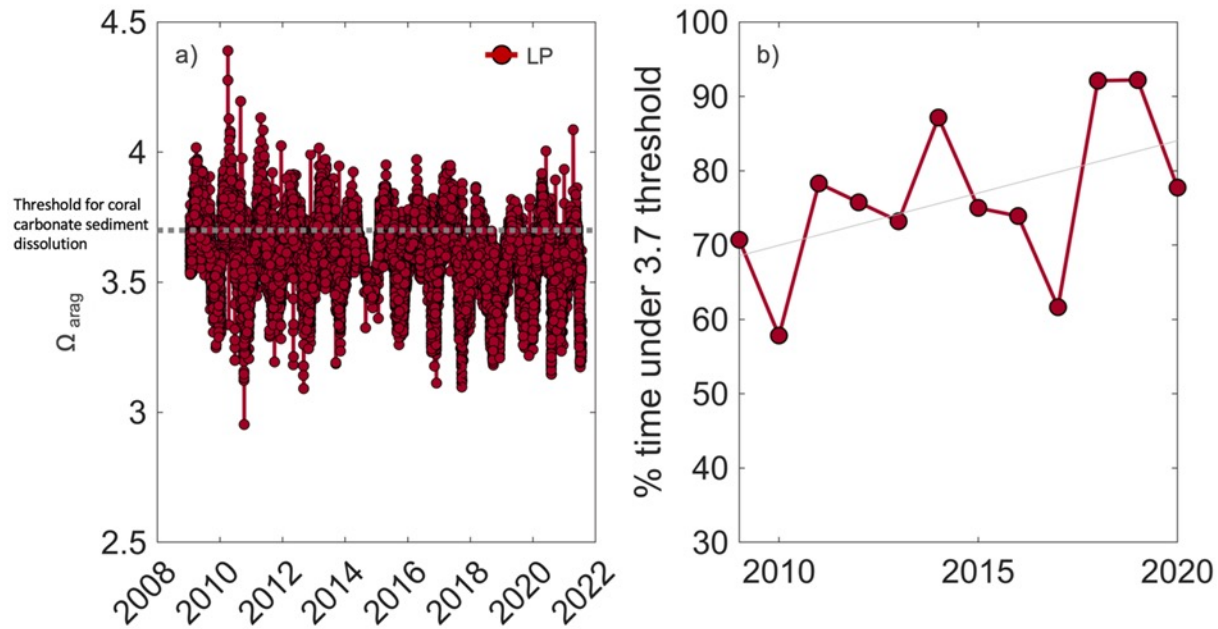
Ocean Acidification and Warming

Dr. Melissa Meléndez – University of Hawai'i at Manoa
Prof. Julio Morell – UPR-Mayaguez and CARICOOS

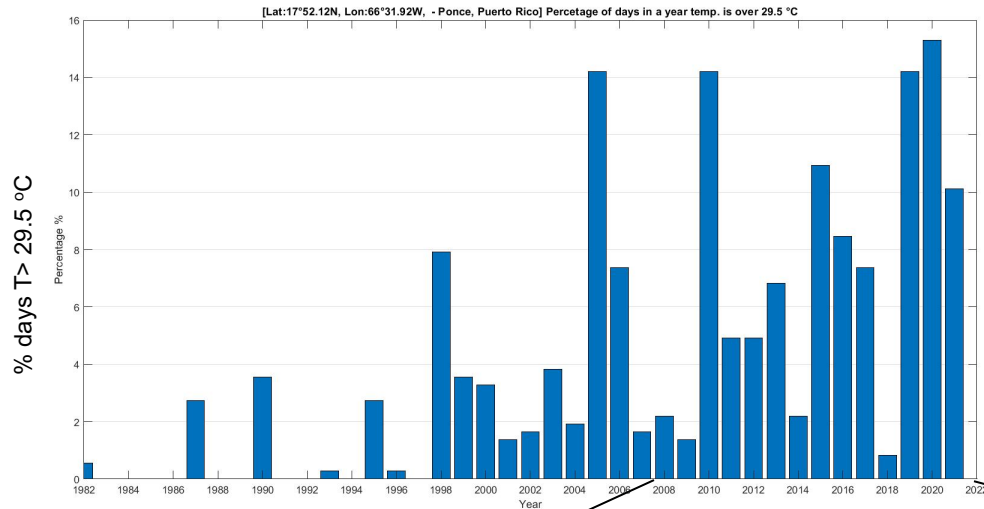
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- Atmospheric CO_2 levels have continued to increase, reaching **415 ppm** in **June 2021**.
- SST: sustained warming trend ($0.26 \pm 0.006^{\circ}\text{C decade}^{-1}$) in regional coastal and ocean waters.
- Since 2009, coastal reef areas in the southwest of Puerto Rico have experienced a **decadal increase of 3% in seawater CO_2 concentration and 2% in acidity**

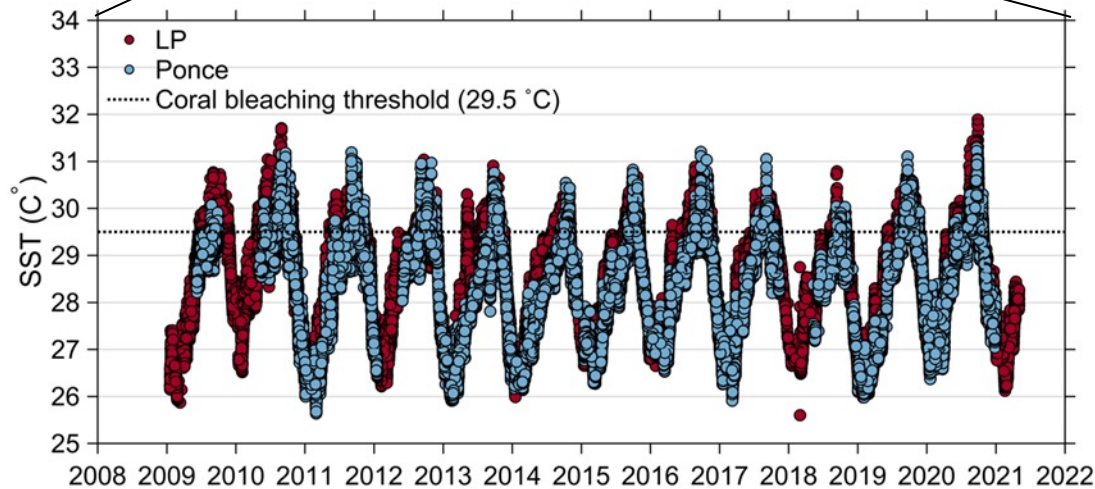


- The concentration of calcium carbonate minerals (e.g. Aragonite) has decreased by about 1.7 % in the last decade making calcification more difficult for marine organisms (e.g., corals) and favoring carbonate dissolution over 90% of the year (weakening marine carbonate structures)
- **Sargassum inundation further decreases Aragonite saturation index to values below 2 !!!**



REMOATELLELY SENSED SST, SOUTH OF PR
Reyn_Smith OI v2

NEAR SURFACE TEMPERATURE:
PONCE & LA PARGUERA MAPCO2 BUOYS





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