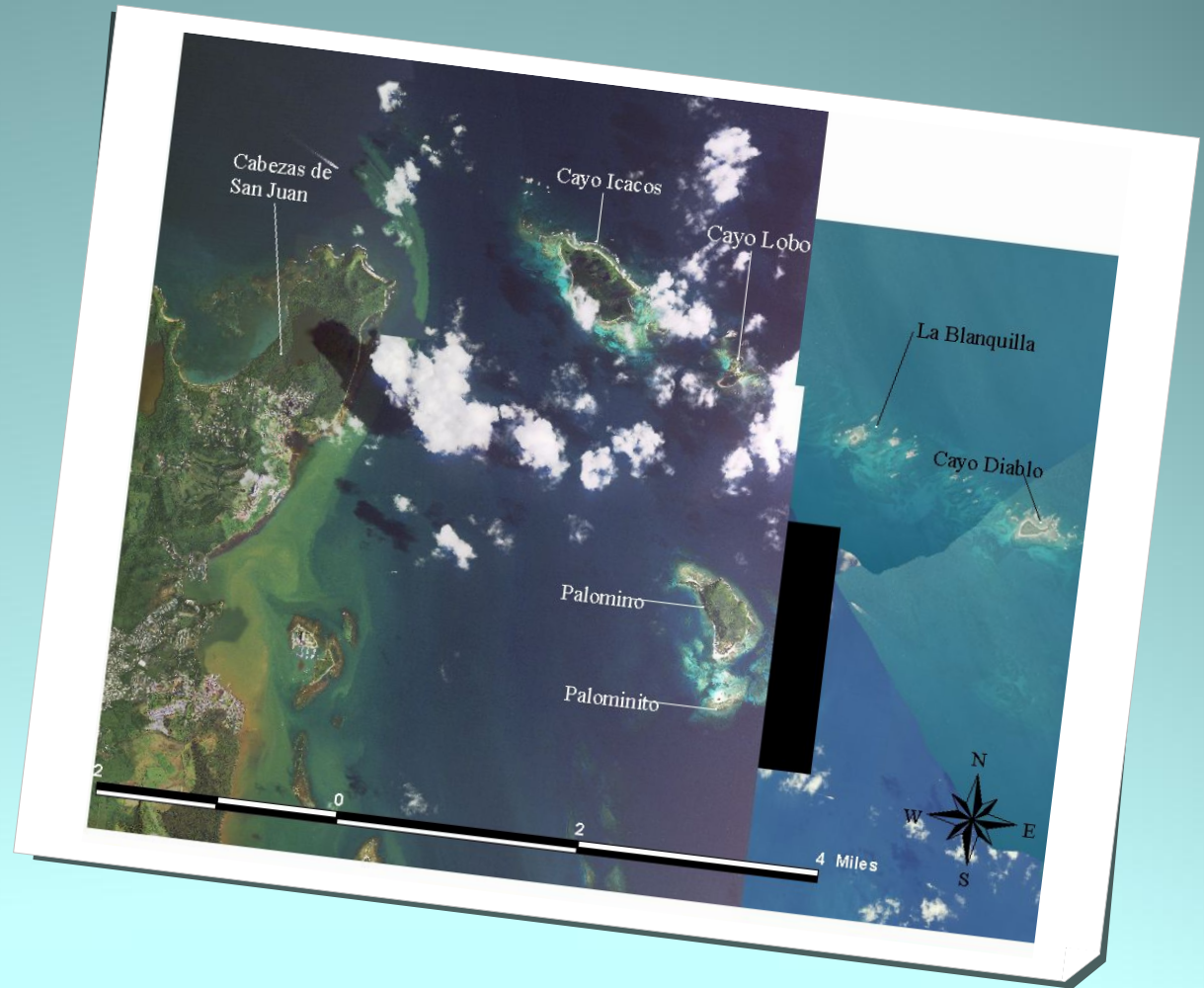


Puerto Rico update for the USCRTF Meeting of American Samoa

Create by Aida Rosario
PR POC

Characterization of Mechanical Damage to Seagrass Beds in La Cordillera Reef Natural Reserve.

1. Determine the intensity of boating
2. Provide magnitude and extension of damage by propellers & anchoring activities
3. Create new GIS maps of the area
4. Additional adapted strategy of Sargent et al (1995) to quantify anthropogenic impacts on seagrass beds



Survey Areas

1. Las Cabezas de San Juan
2. Palomino
3. Palominito
4. Lobos
5. Diablo
6. La Blanquilla

Results

- ✓ Extended presence of seagrass beds in all areas
- ✓ There was no significant impact by propellers in the reserve area
- ✓ Major impact to seagrass beds is caused by anchors and bad anchoring techniques and the propeller turbulence.
- ✓ Numerous colonies of acroporid corals were observe in Lobos, Diablo and La Blanquilla

Palomino Area



Impacted Areas

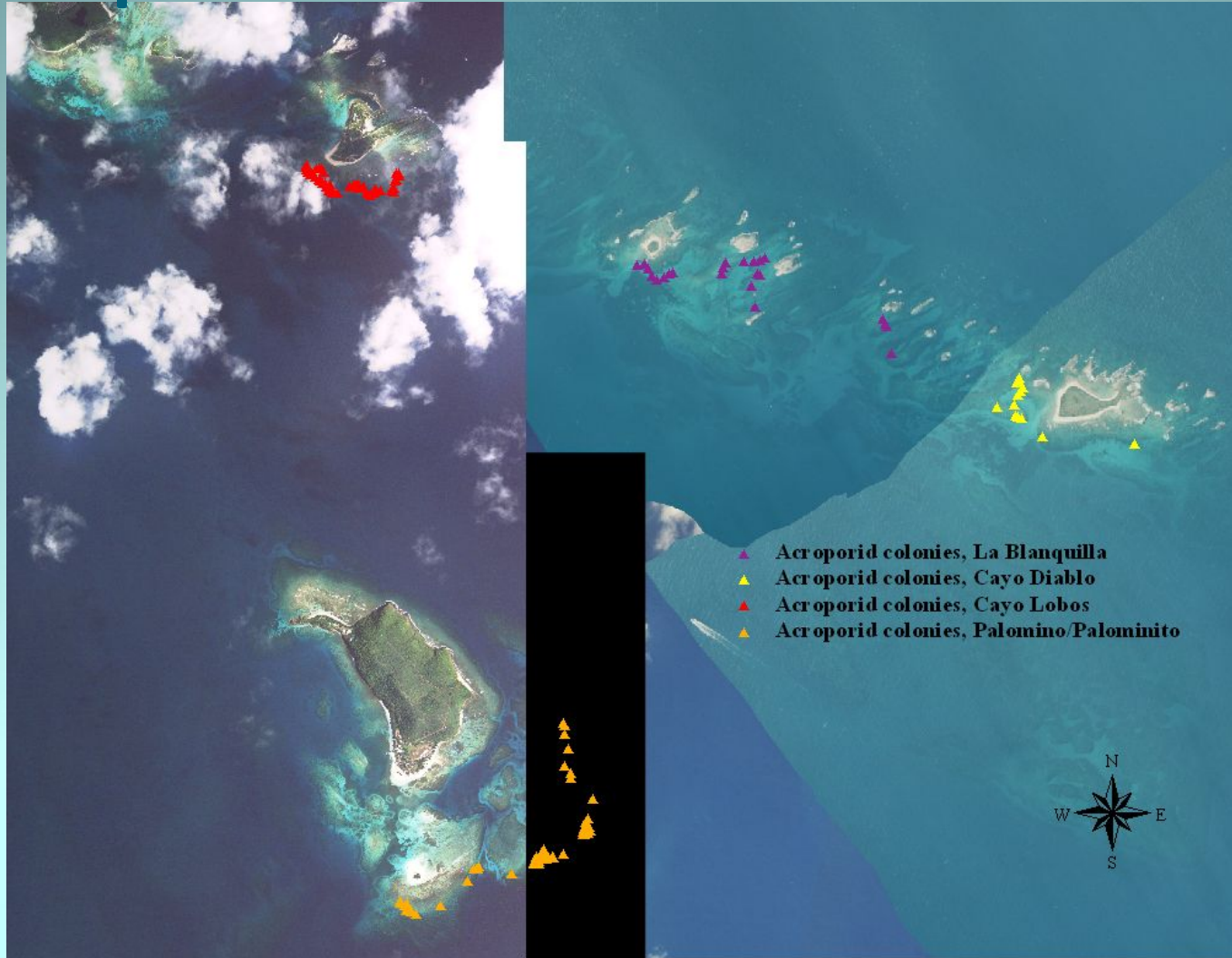
Icacos Island



Las Cabezas



Acroporids observed areas



Acropora spp. In La Blanquilla Area

Acropora cervicornis

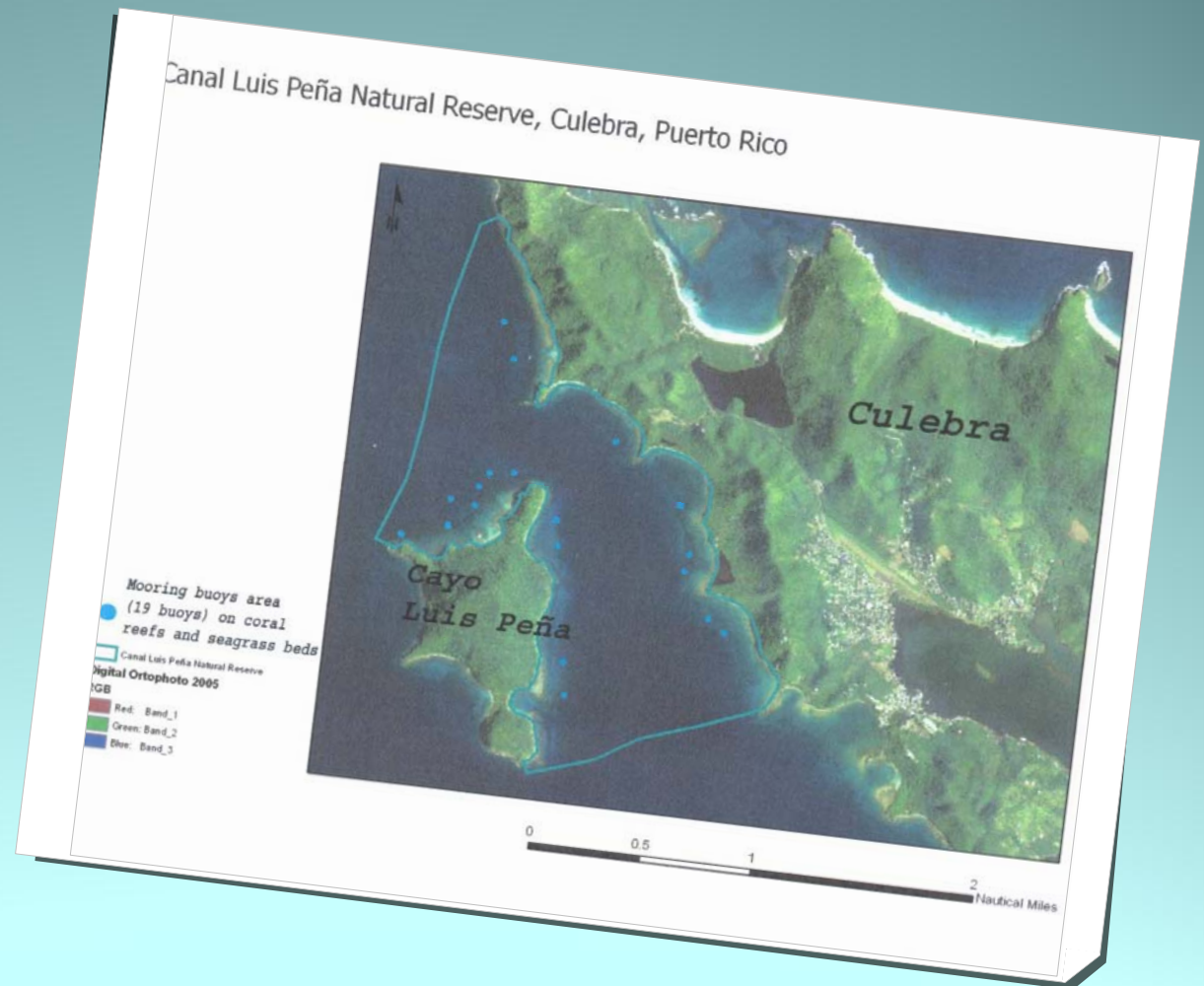


Acropora palmata



Canal Luis Peña Natural Reserve

Twenty mooring buoys were installed within the boundaries of the reserve. This finish a project in which a characterization of the bottom habitat of the reserve was the first phase. And the mooring buoys was part of the recommendations made to protect the coral reef of the reserve.



Land Based Sources of Pollution

Several surveys are ongoing around Puerto Rico at different stages of progress:

1. Culebra Island - Canal Luis Peña reserve work has started on the historical development of the landfill on the eastern boundary of the reserve. On-going
2. Belverede Natural Reserve – West coast of Puerto Rico. inventory of septic tanks and households and secondly to sampled, analyzed and determine the water quality of the coastal water in the coral reef areas. Finish
3. Guánica State Forest and & Caguas – Loiza watershed – outline of mini watershed plan. Starting

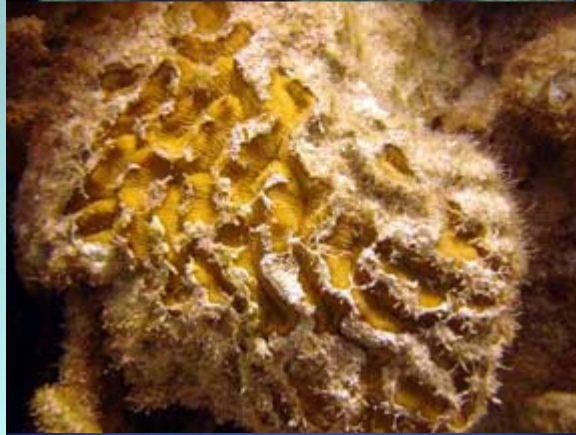
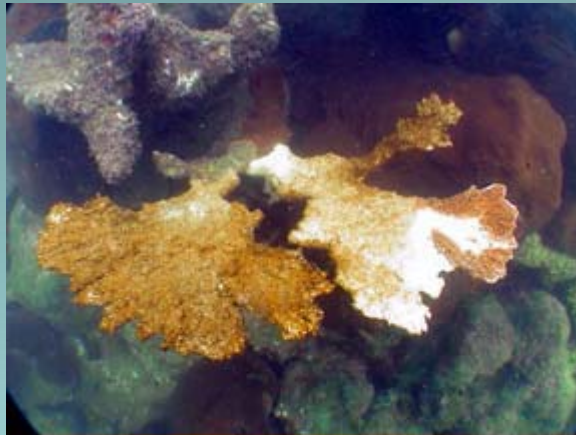
Belvedere Reserve

- ✓ A serious problem of septic tank discharges that reach the bay wetland areas.
- ✓ Suspended sediment comes from land sources runoff, including discharges from the Guanajibo River.
- ✓ Water quality along the western coast of Puerto Rico is significantly influenced by land-derived activities. This results in a permanent state of high inshore water turbidity.
- ✓ Evidence that turbid waters may significantly influence inshore waters, and often affect habitats located up to 10 km offshore .
- ✓ This region receives the direct and consistent impact of fecal contamination from local non-point sources.



Impacts on corals

1. Evidence that coral reefs along a significant portion of the southwestern Puerto Rico shelf are being severely impacted by non-point source sewage pollution, mostly from human origin.
2. Dramatic phase shift in coral reef community structure being dominated by macroalgae.
3. Declining coral reefs by sewage pollution along the western Puerto Rico shelf have resulted in significant declines of entire coral assemblages.
4. Another significant finding is that local MPAs had no significant impact on the status of coral reef benthic communities.
5. It is probable that most inshore coral reefs along the southwestern Puerto Rico shelf have degraded beyond recovery within a human time scale.



First DNER Coral Reef Symposium

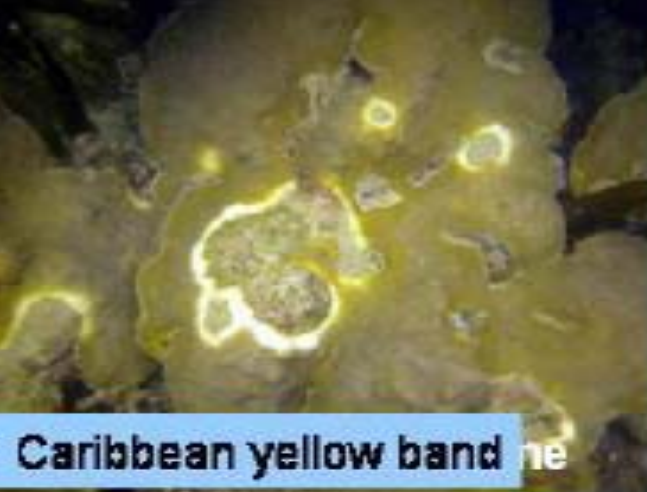
- ✓ Themes included land based sources of pollution, overfishing, outreach and education, coral diseases, management, coral bleaching and restoration
- ✓ Twenty one oral presentations
- ✓ Fifteen posters
- ✓ Most presenters received funds from the DNER Coral Reef Conservation and Management Program, Monitoring Program and from the Caribbean Coral Reef Institute



Status and impact of coral diseases in Puerto Rican coral reefs

- ✓ Asses the temporal and spatial variability in the distribution, number and prevalence of the different diseases and syndromes around Puerto Rico.
- ✓ Asses the potential impact on coral populations and coral communities.
- ✓ A total of 16 infectious diseases and syndromes were found affecting coral communities. 11 in scleratinians coral, 3 in octocorals, 2 in zoanthids, 2 affecting sponges and 1 affecting crustose coralline algae.





Caribbean yellow band



White plague



White band



White Pox



Black band



Dark spots



Ciliates



Hyperplasia



Bleaching

