

# **Progress in Mapping the Cabo Rojo Shelf Using SSS**

by

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## **SSS Data Source Located:**

**“Towards an integrated understanding of Holocene fault activity in western Puerto Rico: Constraints from high-resolution seismic and side scan sonar data.”**

Geological Society of America, special paper 385, 2005. 139-160.

**Nancy Grindlay, Lewis Abrams, Luke del Greco**

Center for Marine Science and Department of Earth Sciences,  
University of North Carolina at Wilmington

**Paul Mann**

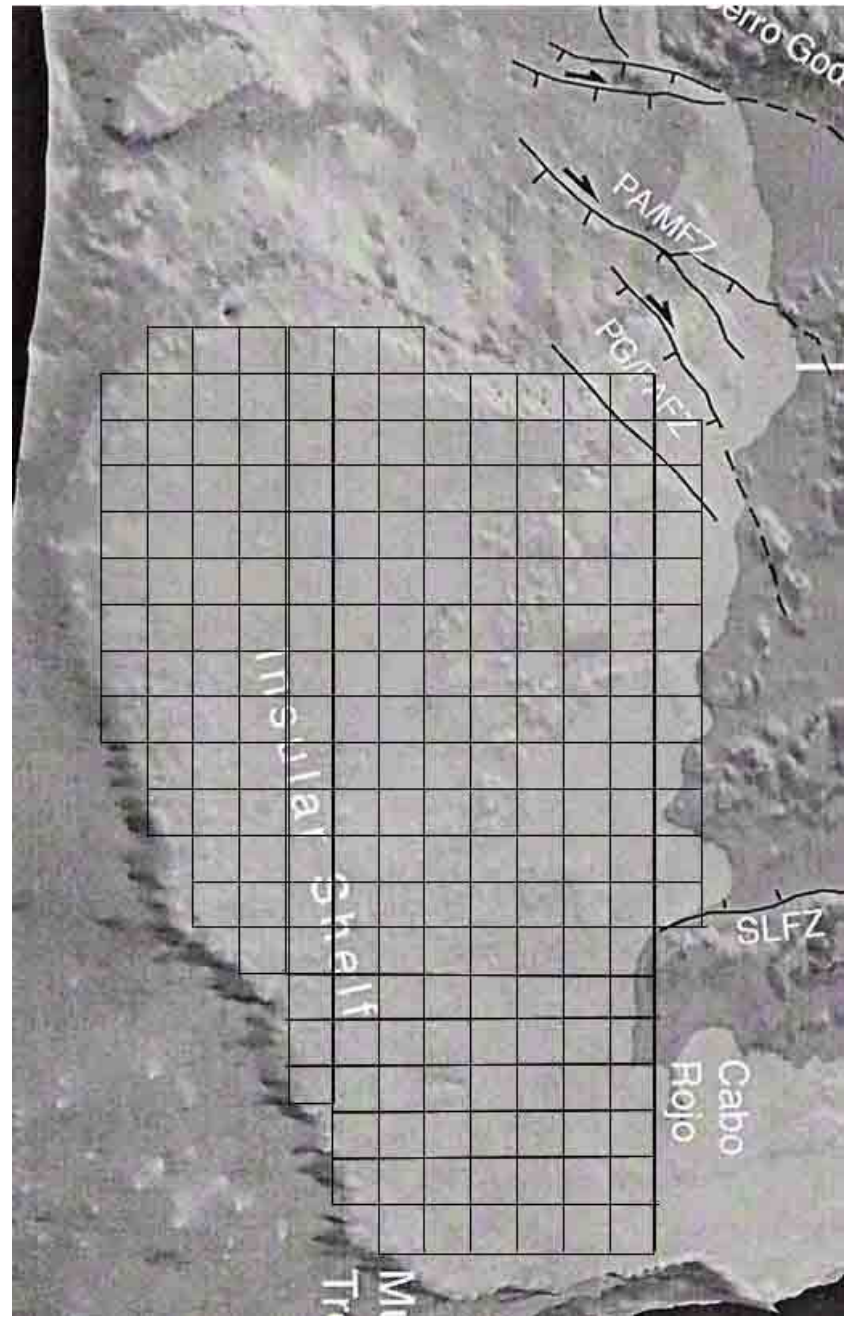
Institute of Geophysics, Jackson School of Geosciences, University of  
Texas at Austin



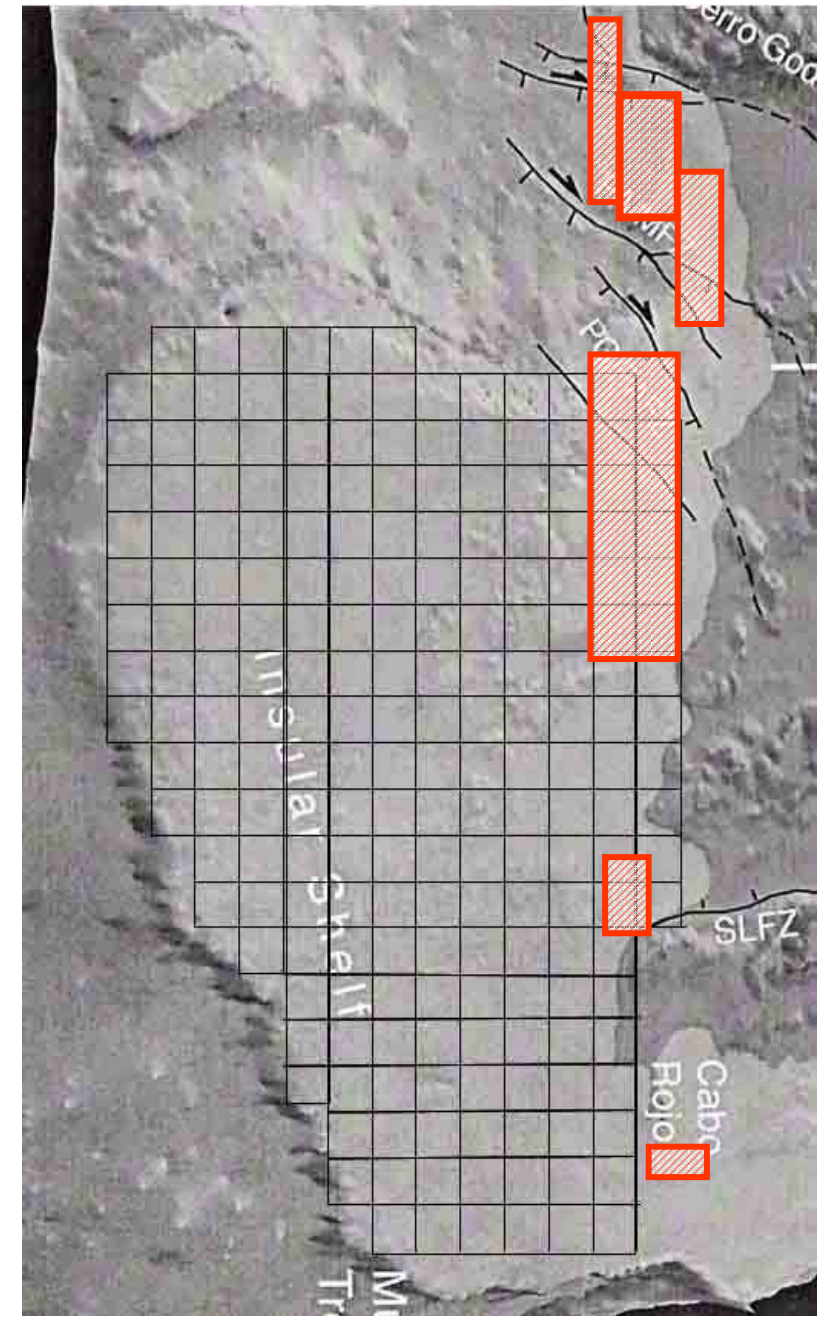
## EXISTING SSS IMAGERY OF THE PR WEST SHELF

- ✓ 10 days of surveys in May, 2000
- ✓ SSS at 300-400 m wide swaths, 100 and 500 kHz
- ✓ Lines 300 m apart and a total of 178 line km of data
- ✓ Sub-bottom profiler at 280 joules and 2 shots/sec
- ✓ Raw data filtered, slant range corrected, bottom corrected and beam-angle corrected.
- ✓ Mosaics at 1 m resolution

**Proposed Study Area for SSS mapping**



**Existing SSS imagery**

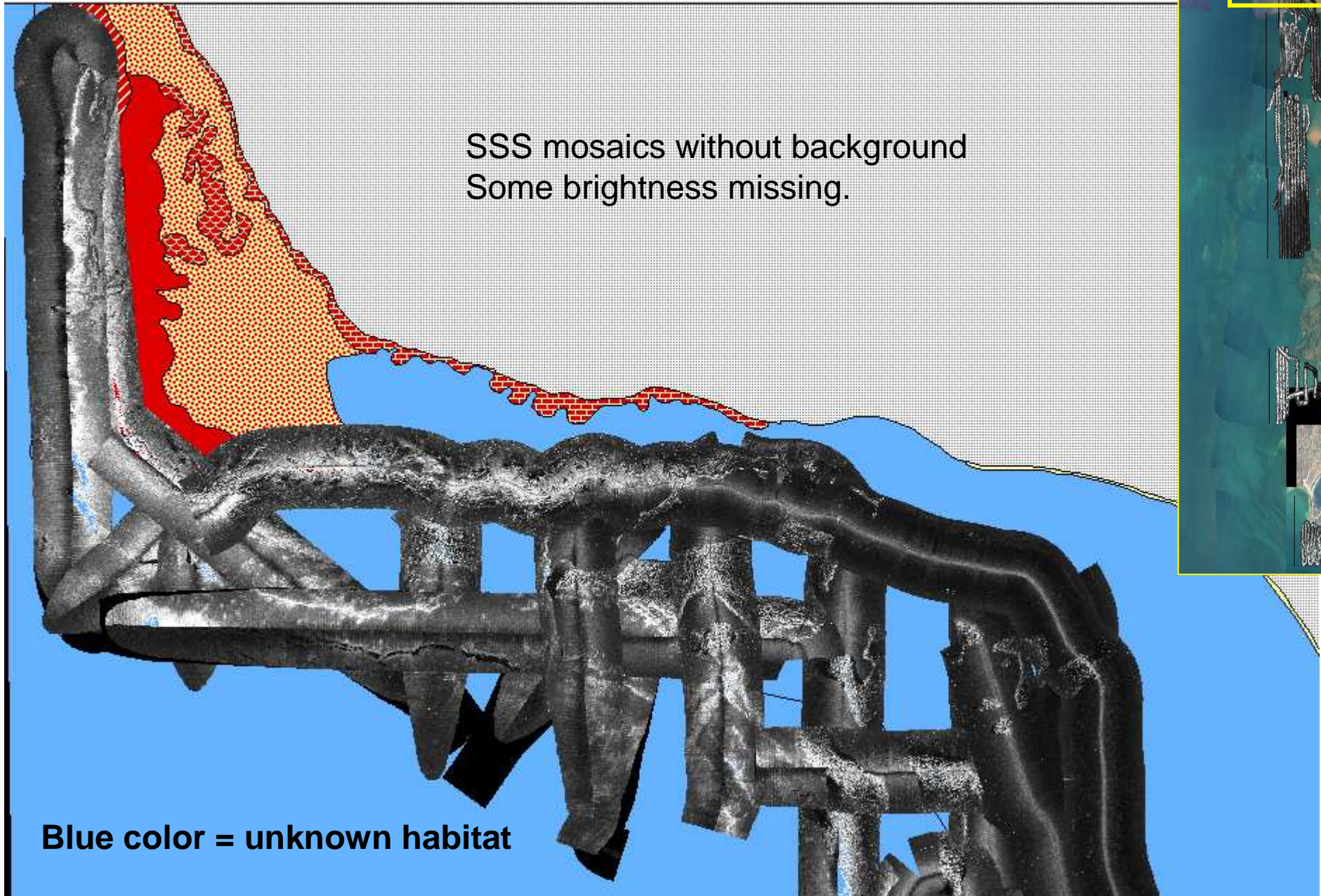


- ✓ Existing SSS imagery of study area as habitat mosaics received.
- ✓ Existing mosaics need reprocessing at higher resolution (from 1 m to 0.25 m and without beam angle correction).
- ✓ Available processing software does not read raw SSS data format received.
- ✓ Need collaboration from data custodians before delineation of benthic habitats.

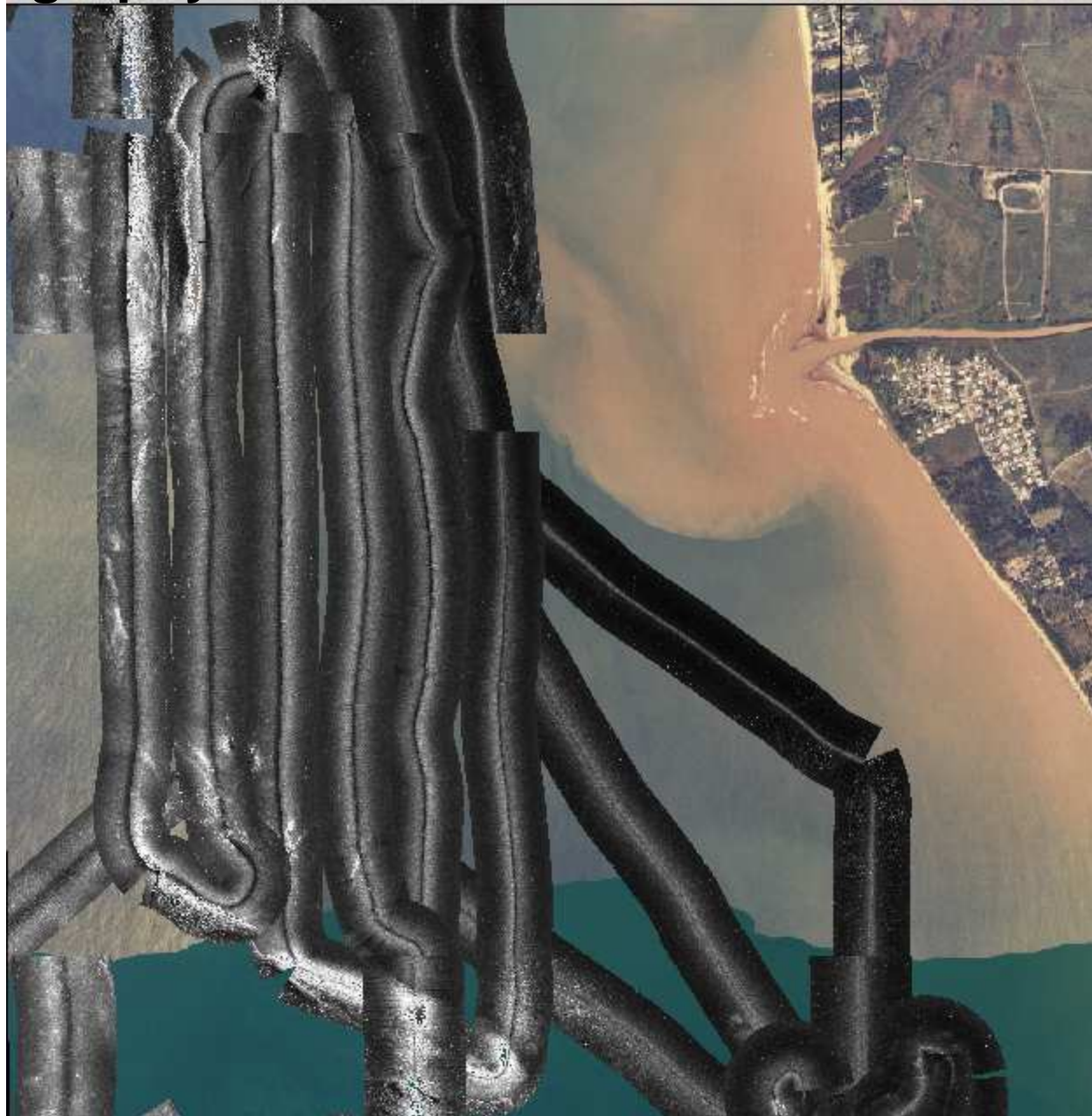
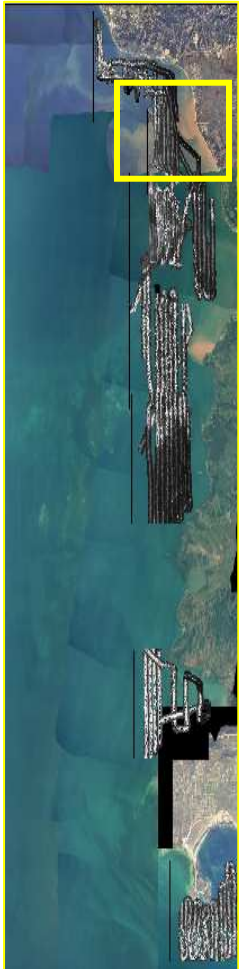
**SSS of Rincon section over aerial photograph mosaic NOAA  
Biogeography Team**



# SSS of Rincon section over a coral habitat map from NOAA Biogeography Team

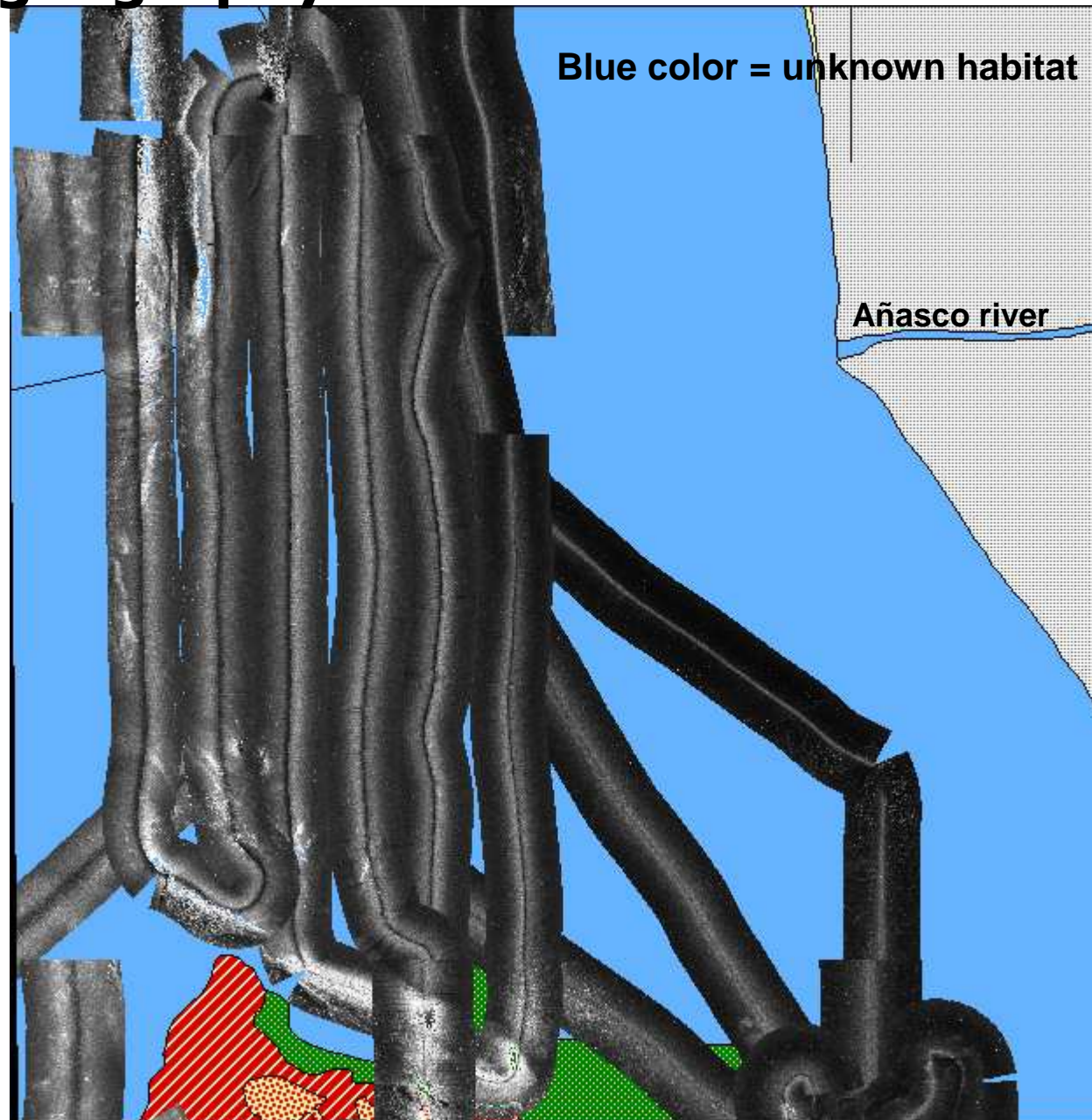


# SSS of Añasco section over aerial photograph mosaic from NOAA Biogeography Team

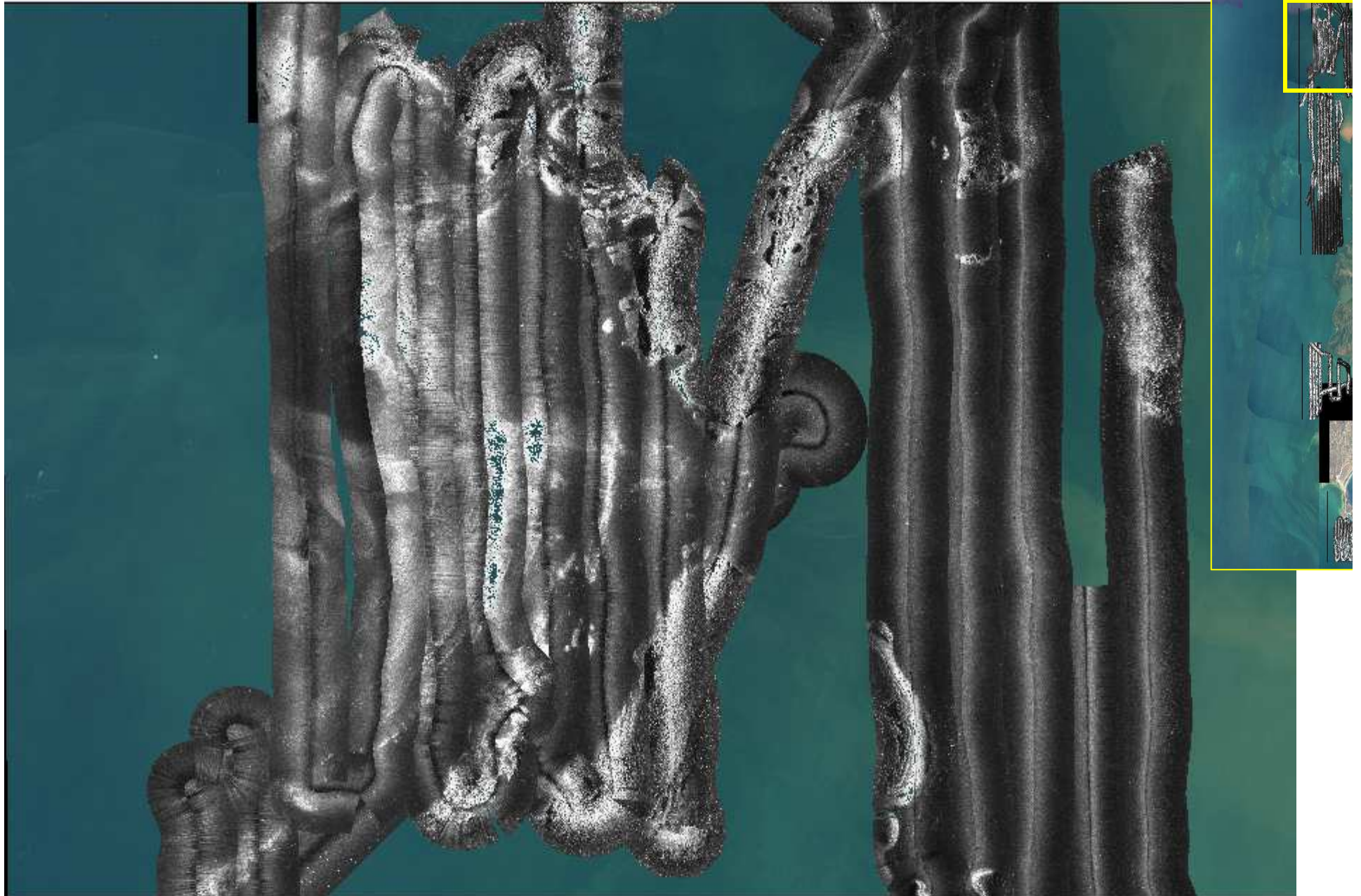




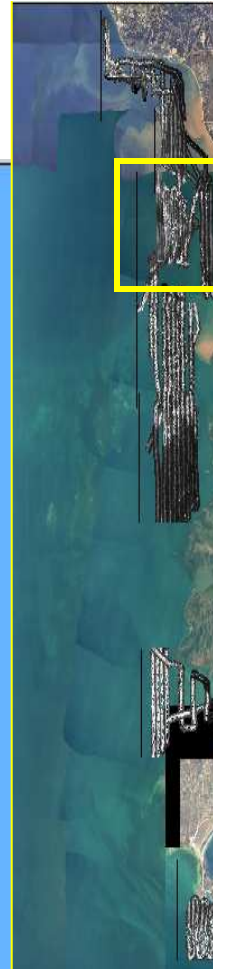
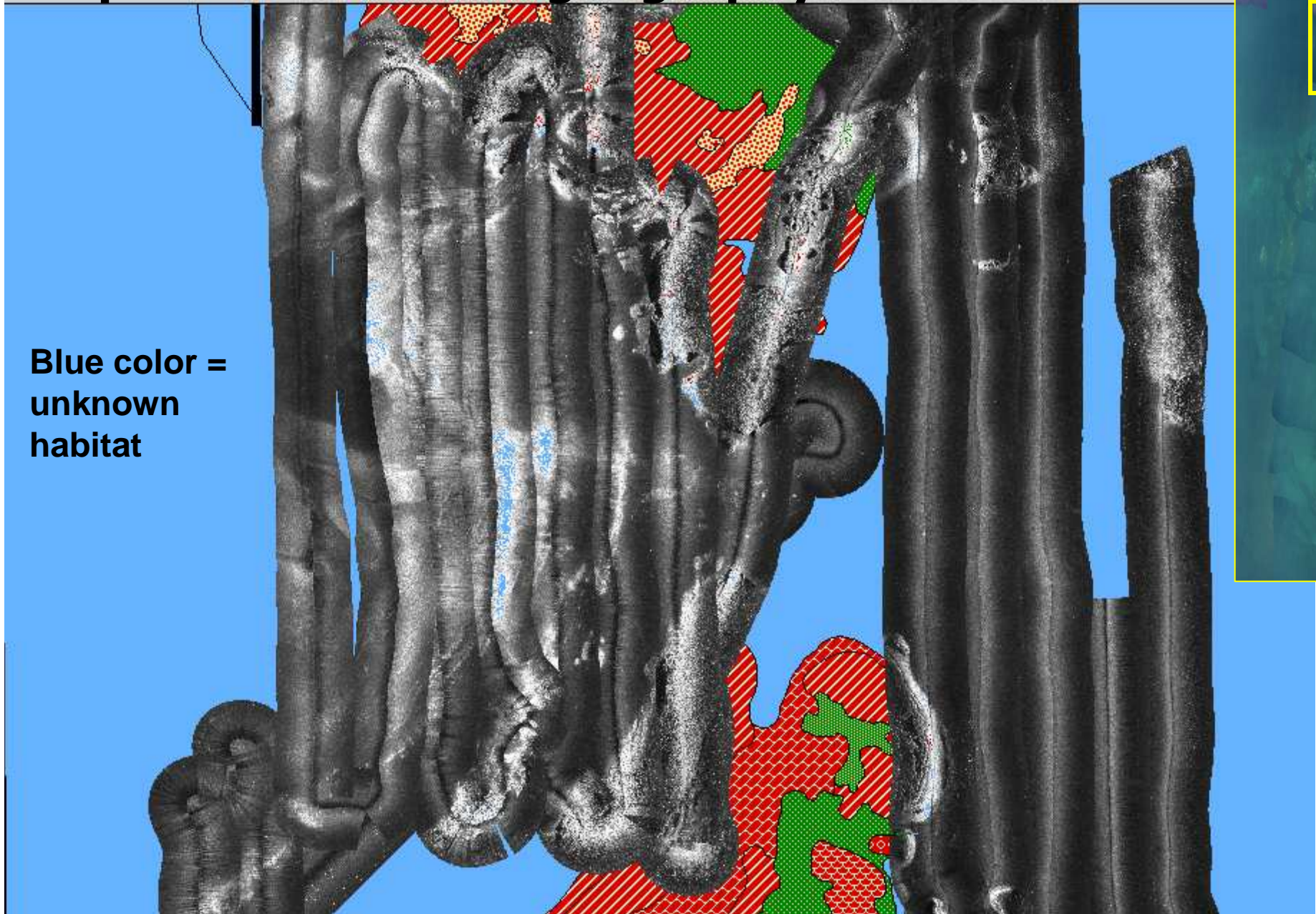
# SSS of Añasco section over a habitat map from NOAA Biogeography Team



# SSS of Mayagüez section over aerial photograph mosaic from NOAA Biogeography Team



# SSS of Mayagüez section over a coral habitat map from NOAA Biogeography Team



**SSS of Guanajibo section over aerial photograph mosaic from NOAA Biogeography Team**

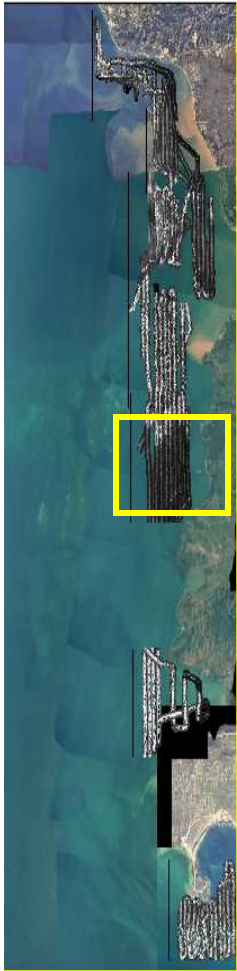


# SSS of Guanajibo section over a habitat map from NOAA Biogeography Team

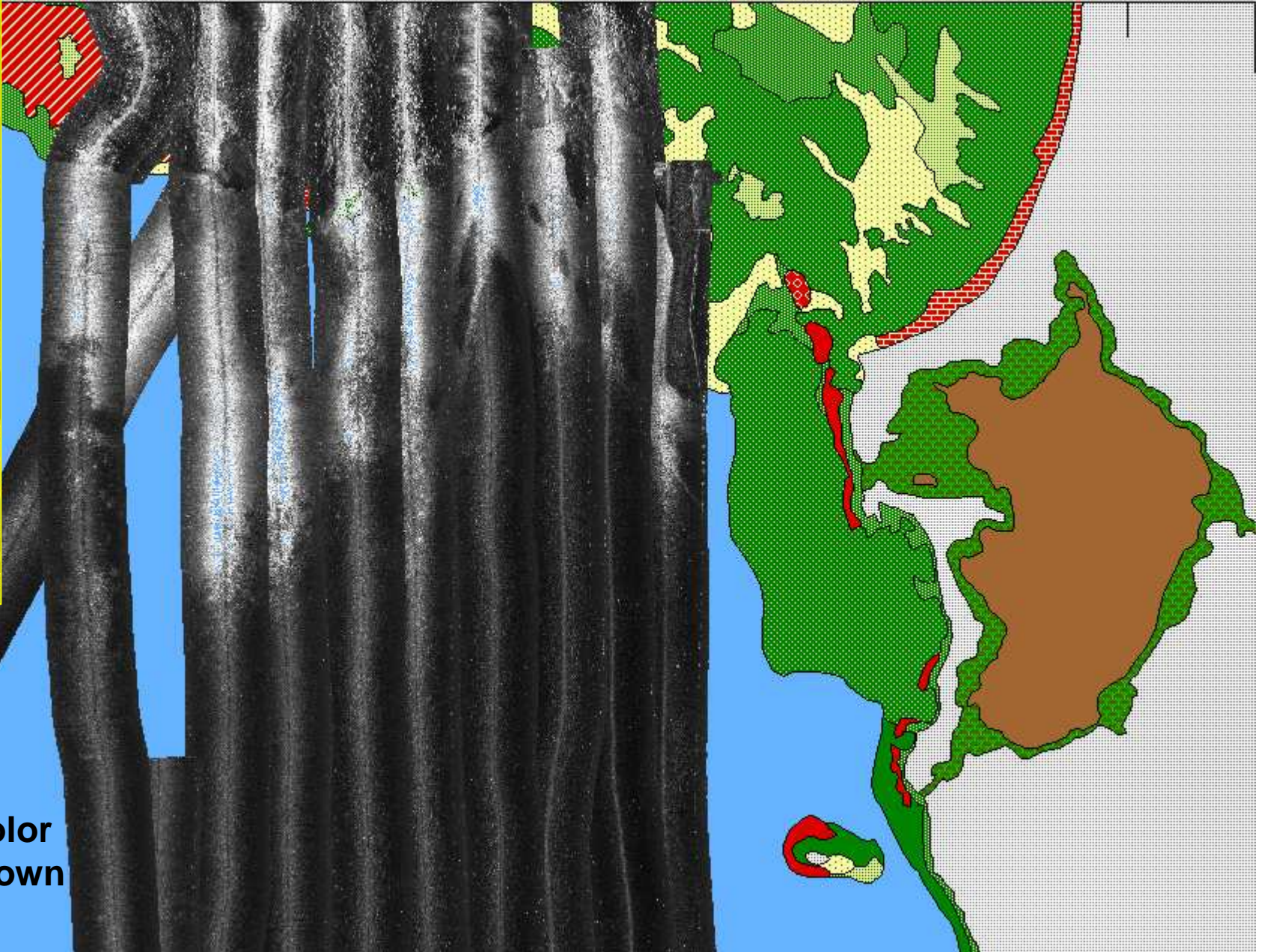
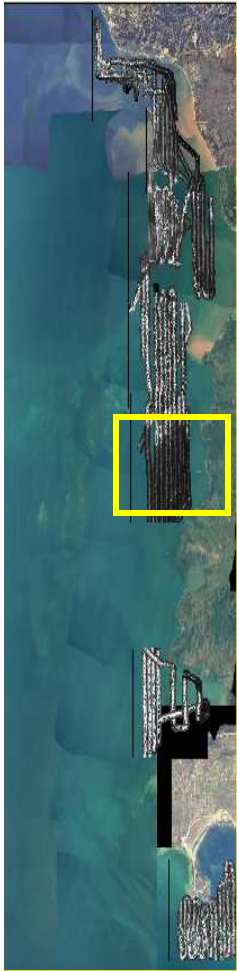


Blue color =  
unknown  
habitat

**SSS of Joyuda section over aerial photograph mosaic from NOAA Biogeography Team**

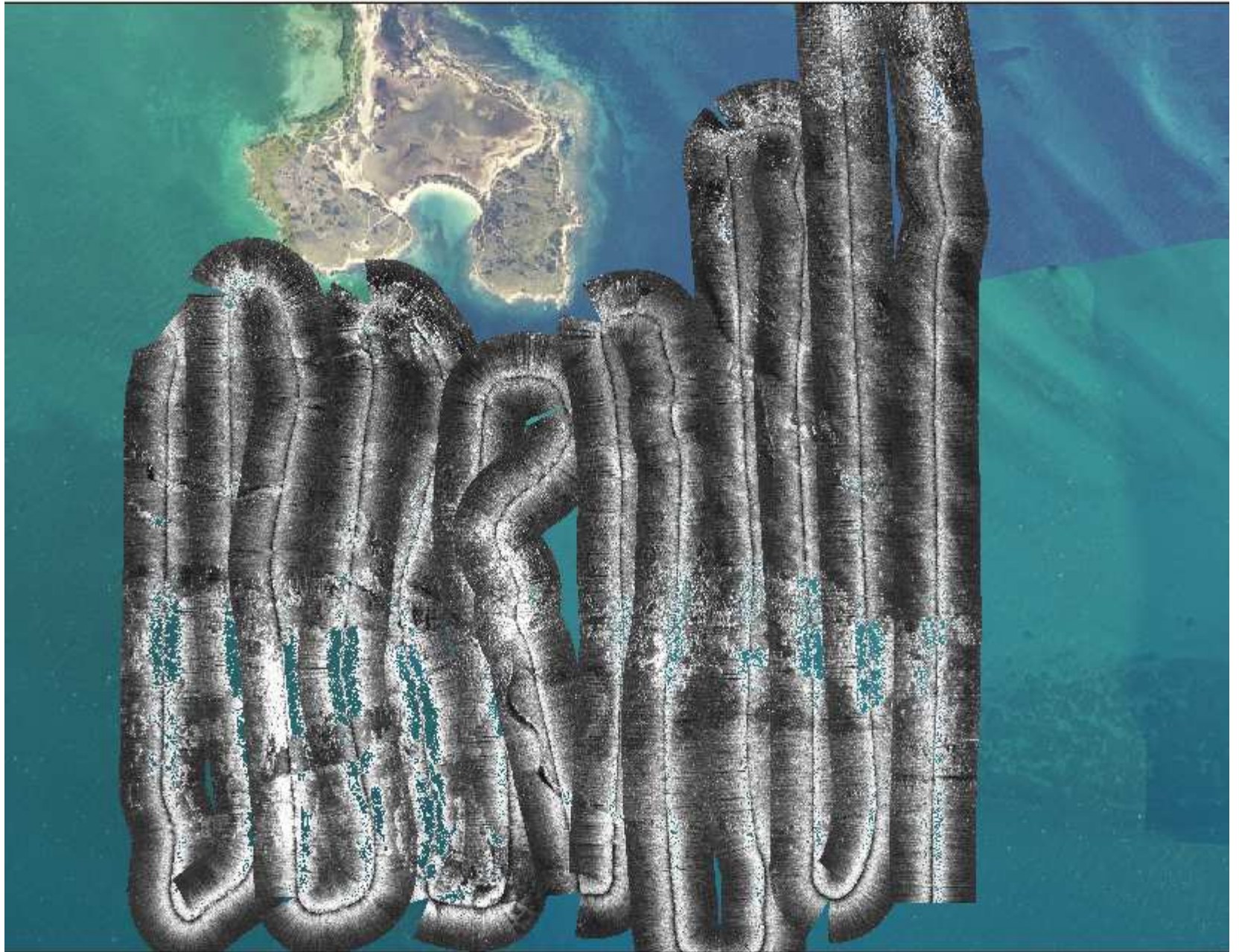


# SSS of Joyuda section over aerial photograph mosaic from NOAA Biogeography Team



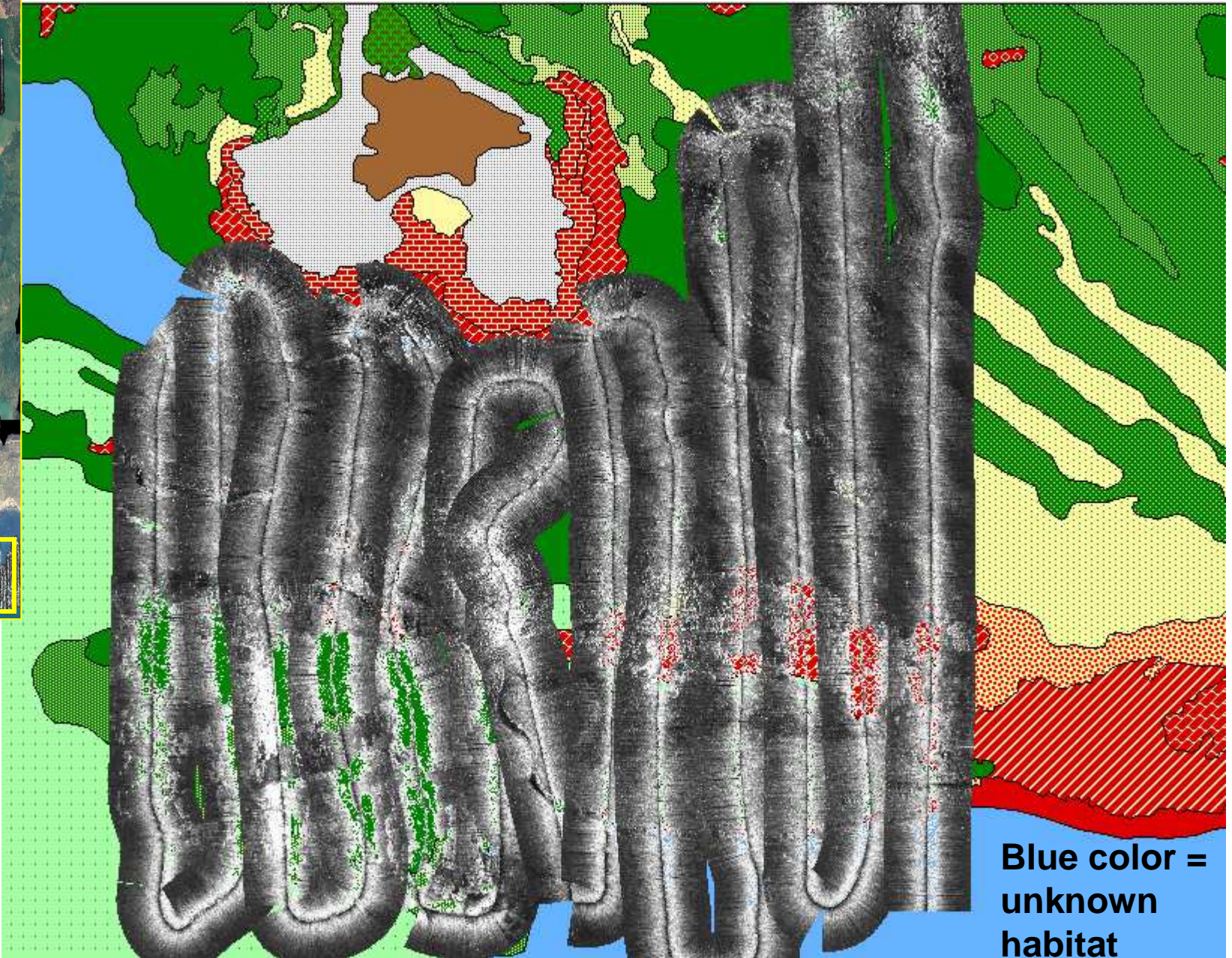
Blue color  
= unknown  
habitat

**SSS of Cabo Rojo section over aerial photograph mosaic from NOAA Biogeography Team**





# SSS of Cabo Rojo section over habitat map from NOAA Biogeography Team



Blue color =  
unknown  
habitat

# SSS area coverage vs. aerial photograph habitat map - NOAA

Site	SSS coverage ha	Mapped area ha	Coral ha	SAV ha	Unknown ha
Rincón	696	49	49		647
Añasco	741	33		33	708
Mayagüez	2006	396	281	115	1631
Guanajibo	2896	1288	154	1134	1608
Boquerón	1032	171	6	165	862
Cabo Rojo	1195	1021	125	896	173

# Survey Vessel



# SSS Equipment

- Estimates from two companies that lease SSS have been obtained
- An additional system has been located within NOAA and availability is being discussed

# Revised Schedule

- Begin SSS data collection for September, 2006
- Intent is to complete data collection by December, 2006
- Habitat map availability planned for one year after imagery is collected (inclusive).