

Island mangroves & salt marsh

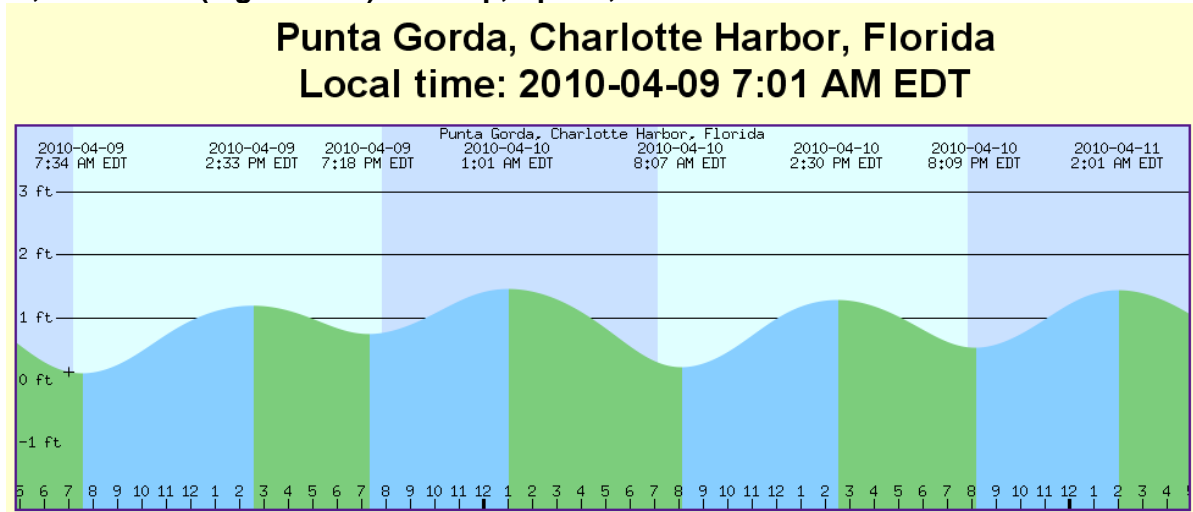


Shoreline mangroves & salt marsh



Discuss the dominant abiotic factor in both island and shoreline systems above, and speculate on the differences that cause salterns along the shoreline but not on small islands.

BSC1051C, Saltmarsh (high marsh) field trip, April 9, 2010



What is the tidal range around the harbor? _____. What is the tide doing during our visit?

What is the mechanism of saltern formation?

What effect to upland roads have on saltern formation?

What effect do upland drainage ditches and tidal mosquito ditches have on the high marsh?

Why does the north half of Florida have salt marshes along both coasts, but south Florida has swamps?

Creatures we might see

algae and cyanobacteria (nitrification/denitrification)

marsh plants *Bartia maritima*, *Salicornia virginica*, *Sporobolus*, *Distichlis*, *Monanthocloa*, Matrimony Vine (*Lycium carolinianum*) black and white mangroves, Buttonwood

snails: *Cerithidea scalariformis*, *Melampus bidentatus*, *Melanopus coffeus*, *Neritina reclinata*, *Detracia floridana*.

crabs: fiddler crabs, blue crabs, grapsid crab

reptiles: rattlesnakes

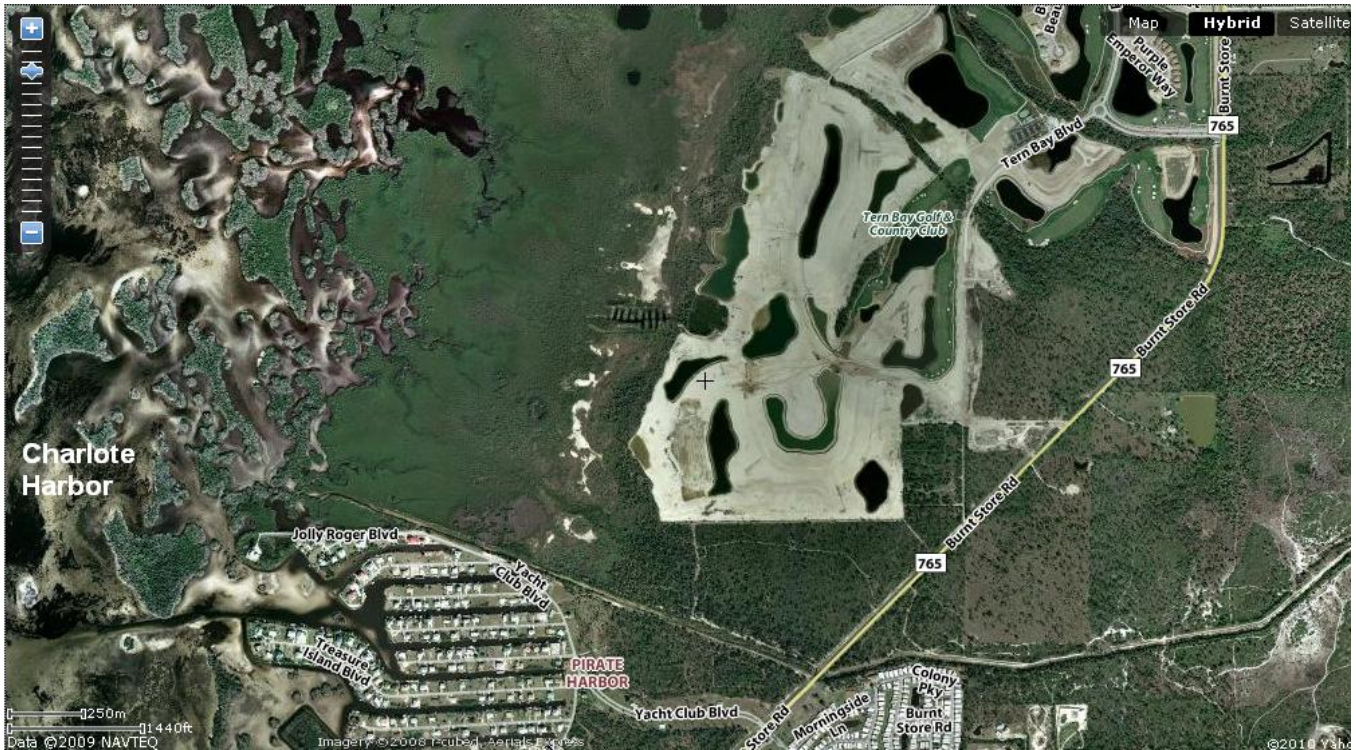
birds: Ibis, herons, roseatt spoonbills

mammals: raccoons, rabbits

No species reports this time. See Assignment at bottom of last page.

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How would you go about restoring *sheet flow* to a salt marsh-mangrove system deprived of upland flows of freshwater by roads (dams) and drainage canals as shown below?



How would you restore the natural tidal and sheet flow hydrology to mangroves and salt marsh drained by mosquito ditches?



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South Gulf Cove, a *spreader ditch* solution.



How would you restore mangrove forests killed by the hurricane (pic below)?

Background: Normally hurricanes simply blow all the leaves off the mangroves, and in a few months the mangroves leaf out and are fine. But Hurricane Charlie was a CAT-5 (156-250 mph winds). Somehow these winds killed the trees to the roots. Even most freezes only kill the above ground portions of the mangroves, and the roots regenerate the trees in a few years. To successfully restore the forest you first try and determine how the hurricane killed both the above and below ground portions of the mangroves.



Assignment

Address 5, 6 and 7 in Comprehensive Learning Outcomes, see page 10-11 in Syllabus.