COMES THE SEA

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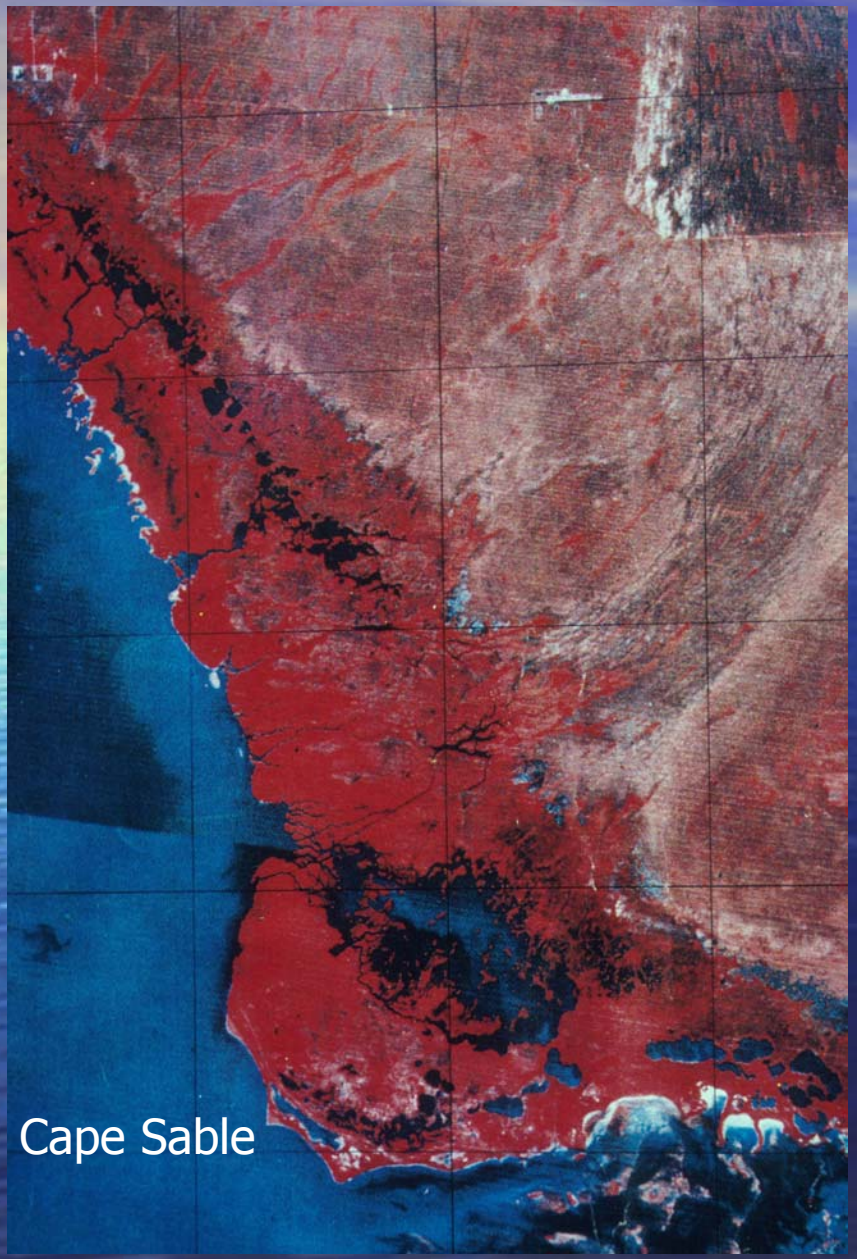
Cape Sable

- In 1917 the marl ridge of Cape Sable was advertised as the finest agriculture soil.
- Roads and houses were built.
- The freshwater marsh behind was drained for grazing and sugar cane.

BULLETIN of CAPE SABLE, FLORIDA

You are always strongly impressed with statements made by persons whose only object is to tell of interesting people, or countries, or places, which have appealed to them with an extraordinary and peculiar attraction, and in which they have no interest for gain, but only the wish to have their knowledge be of assistance to others.

The articles herein are copied from publications of the highest standing in the State and throughout the South.

The "Florida Grower" is the official organ of the Fruit and Vegetable Growers of Florida. They maintain a department of investigation for the purpose of ascertaining true facts before advising inquirers.

The "Manufacturers' Record" is the leading industrial publication in the U. S. south of the Ohio River. Communications must be from reliable sources to receive consideration.

Other sources of information are equally trustworthy.

IF, AFTER READING THESE PAGES YOUR INTEREST IS AWAKENED TO ONE OF THE GREATEST OPPORTUNITIES IN OUR COUNTRY, WE SHOULD BE PLEASED TO HEAR FROM YOU, AND GO INTO THE MATTER MORE FULLY AS TO THE POSSIBILITIES FOR YOURSELF.

KEEP IN MIND THAT CAPE SABLE WILL PRODUCE ANY CROPS GROWN IN THE SOUTH OR IN CUBA. THAT FLORIDA WILL SOME DAY GROW ALL THE CANE NECESSARY TO SUPPLY THE UNITED STATES WITH SUGAR. PERFECTION OF SUGAR CANE SOIL IS ON CAPE SABLE.

Remarkable Rosources of a Section Practically Unknown

By Lindley Heimburger, B. S. in Agriculture, M. ...
iency Engineer, Tampa, Fla.

(Manufacturers Record) August 6t...

The South as a whole, especially we Floridians, do not realize the crisis the nation is experiencing, due to the world-wide shortage of foodstuffs, and especially now that we are an active party in the great war which involves fully 90 per cent. of both the peoples and resources of the entire world.

The true seriousness of this food shortage situation was most forcibly impressed upon me a few weeks ago when I was called to the nation's active hub, New York City, in the capacity of an experienced Southern agricultural engineer, to give testimony as to ways and means of meeting this shortage issue, and especially the possibilities the South today offers in the immediate production of large supplies of foodstuffs.

It is probably true that Florida at the present time is the most misrepresented and least understood State in the Union. Though the first State to be discovered geographically, Florida is the last of the States to receive serious economic development. . . . .

About the middle of April, 1917, the writer, in the capacity of an agricultural engineer, had occasion to investigate lands in the Cape Sable country for some Chicago financiers who were contemplating making investments in that part of Florida.

Though this Cape Sable territory will in the very near future be but two days' distance from New York, due to isolation it is today one of the least known spots in the United States. Though the writer has had over 25 years of exten-

sive agricultu...
perience in F...
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How many ...
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Florida—phys...
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Southern scourges, the hookworm disease. This Cape country is one of the few sections in Florida where soil conditions are of such a physical nature as to make the existence of the hookworm

BULLETIN OF CAPE SABLE, FLORIDA

only 12 per cent to 14 per cent sucrose with a low coefficient of purity. On the other hand cane grown at Cape Sable under intensive farming and good management, using the best hybrid types of seed, should average not less than 17½ per cent to 18½ per cent sucrose with a very high coefficient of purity. In Louisiana it is necessary to cut the cane during the first part of November because of the danger of killing frost, also in Louisiana it is necessary to replant each year. At Cape Sable owing to its immunity to excessive cold the cane can be allowed to thoroughly mature, being cut the middle of February when it shows the highest sucrose content; also it is important to state that in this very mild climate, sugar cane is a true perennial and it is only necessary to plant cane once each 6 or 8 years. The writer saw cane this last summer at Cape Sable growing wild which was at least 20 years old. He cut an individual cane which measured 22 feet in length and saw and measured one taken out of the same wild cane thicket that measured 37 feet long and calipered 2½ inches in diameter at the butt. At present Cape Sable has no railroad facilities but evidently the East Coast Railroad will build a branch from Homestead as soon as the development in this country warrant this expenditure. There are excellent possibilities of water transportation already at Cape Sable, and it is an easy matter to lighter across Florida bay, a distance of 35 miles, to Long Key, the nearest East Coast R. R. shipping point, in 5 hours time. Deep water (25 feet) is to be had a short distance from the beach at one point of the cape.

The Florida Grower

September 28, 1918.

A CORRECTION AND INFORMATION

Lakeland, Fla.—(To the Florida Grower) We note in your issue of August 31 your answer to two inquiries about Cape Sable lands. Will you kindly make the following corrections as to the facts now existing.

The lands formerly owned by the Cape Sable Development Co., Miami, Fla., were bought by us from them on December 17, 1917. Inquiries for these lands sent to this company are forwarded to us. We know of no land owned on Cape Sable by the Cape Sable Farms Co. They have been acting as a selling agency for lands placed in their hands.

In your answer to "Minneapolis, Minn.," you refer to the boat service and the possibility of a hard-surfaced road. Allow us to say that this company has operated a mail boat between Long Key and Cape Sable for several months, making regular trips on Thursdays. Also other trips when necessary for the accommodation of passengers to and from the Cape. And this fall will make at least two regular trips a week and oftener if necessary.

We should appreciate inquiries being referred to us and we will take pleasure in giving them information about Cape Sable.

O. C. LANPHEAR, Secretary,
Cape Sable Improvement Co., Lakeland, Fla.

Note—This tells it all about Cape Sable, and we, personally, are glad to be informed as to the changes and improvements going on in this favored section. We can bespeak for thorough reliability in this information.

The Key West Citizen

June 3, 1918.

CAPE SABLE.

We desire to call attention to the article in this issue on "Unique Cape Sable," written specially for The Citizen by F. Page Wilson, a man who knew the Miami section on the eve of its marvelous development, and who has been practically all over the state sizing up the various sections for farming and fruit-growing. His expressed belief that Cape Sable possesses the largest body of really fine soil in the state, united with the best mainland climate in the United States, should be a matter of the deepest congratulation to thise who have the interests of Monroe county at heart. Whether or not the cape will ever actually eclipse Miami in its wonderful development as a residential and tourist centre, the former has the fundamental assets of a great agricultural producer, and these are what count in the end.—Editor.

UNIQUE CAPE SABLE

(By F. PAGE WILSON.)

The writer was in Dade county two years before the extension of the Florida East Coast Railway gave impetus to a development which has been the marvel of the whole country. He saw the jungle lining the shores of Biscayne Bay give place to the magic city of Miami, the rocky pine-lands of Cocoanut Grove and the back country became dotted with beautiful groves of grapefruit and tropical fruits, the scattered and modest abodes of the early settlers give place to the imposing residences of the fruit-grower and the wealthy winter tourist.

A recent trip to Cape Sable, which is within the boundaries of Key West's own county, convinced him that that district even now shows all the ear-marks of a coming development which shall equal or even eclipse that of our neighboring county. While it is difficult to believe that any other region can produce a rival to that famous Biscayne coastline centering in beautiful Miami, it is not difficult to show that Cape Sable is going to surpass it in some very important respects.

Cape Sable's general landscape is pleasing too; and so is its gentle curving coast-line. Deep water for transportation will not be hard to find. But it is its fundamental resources as an agricultural producer that we are considering now, and this is where an observer becomes frankly enthusiastic.

Anyone who, like the writer, has had extensive experience through the state, seeking the ideal location for sub-tropical products, knows the difficulty of selecting a district of any size presenting in combination all the following requirements:

1 Safe climate.
2 Good soil.
3 Safety from overflow and drought.
4 Good transportation.

One of the glories of our state is its infinite variety. There is good land in practically every county in Florida. But the good land is apt to be spotty, that is, interspersed with or surrounded by soil of a poor or indifferent character. Or the climate, while delightful for a winter holiday, may scarcely be safe enough for some of the products which people come to Florida to grow. Or again, the land, while good enough in itself, may be very hard to clear, or it may require heavy outlay for drainage canals.

Such a happy combination of soil and climate as is called for above is indeed elusive in any country on earth and, frankly, the writer did not expect to find it in south Florida, much as he believes in this great state. But that is precisely where he did find it—at the southernmost tip of the peninsula—at Cape Sable.

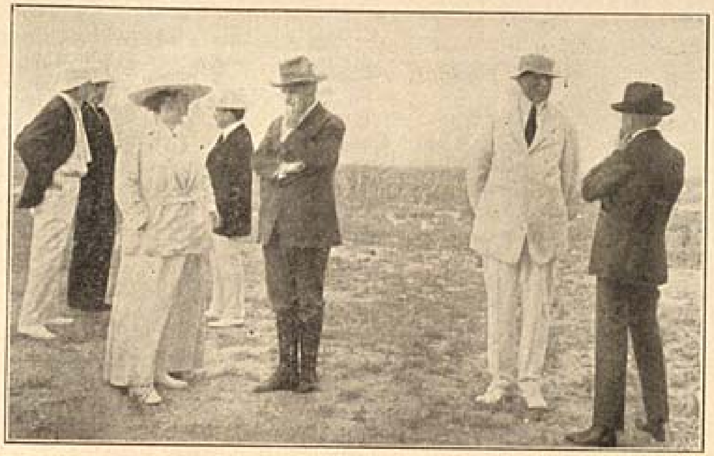
First, as regards the climate. One clue is given in the preceding paragraph. In Miami, a few miles farther north, frost is comparatively rare, but at Cape Sable ,according to the government figures kept for many years, no killing frost has ever been recorded. In February of last year, when the cold wave descended farther south than ever previously recorded, the only damage noticeable was that the tips of some of the tomatoes and sweet potato vines were slightly scorched. Cape Sable is not only the farthest south, but it possesses the additional great advantage of being protected on the north and northwest by a large body of salt water known as Whitewater Bay.

Secondly, the land itself. The writer has no wish to detract from any other section of Florida, but he does claim that Cape Sable is unique in that it presents absolutely the largest body of uniformly good soil in the state. And when he says "good," he means it in the same sense that the Illinois and Alberta prairies are good. These, this far-south land somewhat resembles, except that the cape prairie is interspersed here and there with typical hammock, containing the plant growths—some of them rare and valuable—peculiar to this latitude. The prairie produces a luxuriant wild growth of grasses, including Bermuda (at least, that is what it looks like) and many others much relished by animals. To plow and put into shape for planting —which even now is being done by tractor—costs only about $5 per acre, while the hammock costs more, although the timber as a rule is shallow-rooted and, some of it being valuable, practically pays for the cost of clearing.

The writer dug holes, several of them, and miles apart throughout this great expanse of fertile territory, and this is what he found in all. First, from five to eight inches of blackish loam. Next, five or six or more inches of friable shell marl of a greyish color and mixed with humus. Then comes marl, which extends down some nine to fifteen feet until it reaches the typical soft coralline rock formation of this section. The hammock is largely similar, except that in addition the surface soil for a depth of four or five inches consists of leaf-mold.

He saw no sand (not even on the beach, which is composed of ground-up shell); no rock; no palmettoes.

Dr. Lindley Heimburger, former Assistant Chemist to the State of Flor-



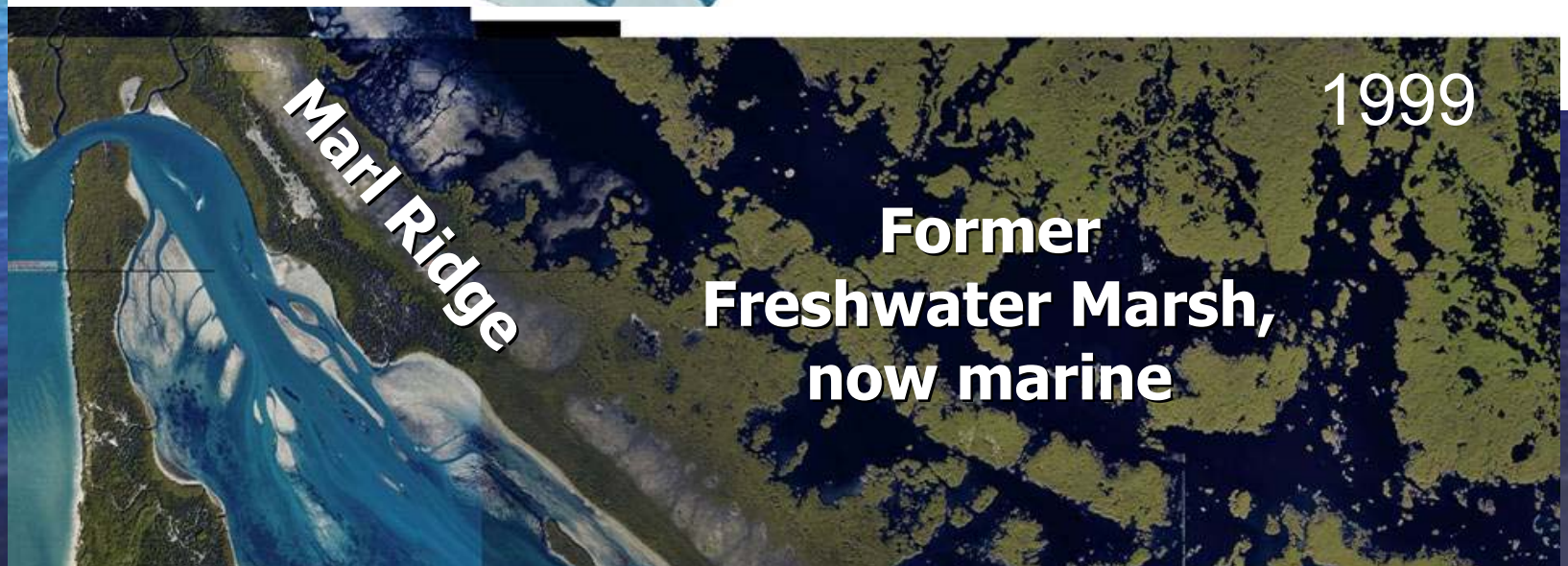
Some Notable People at Cape Sable

Mr. Bright, Mr. Untermeyer, Mr. Comfort, Mr. Smith and Mr. Burguiries discussing the wonderful possibilities there

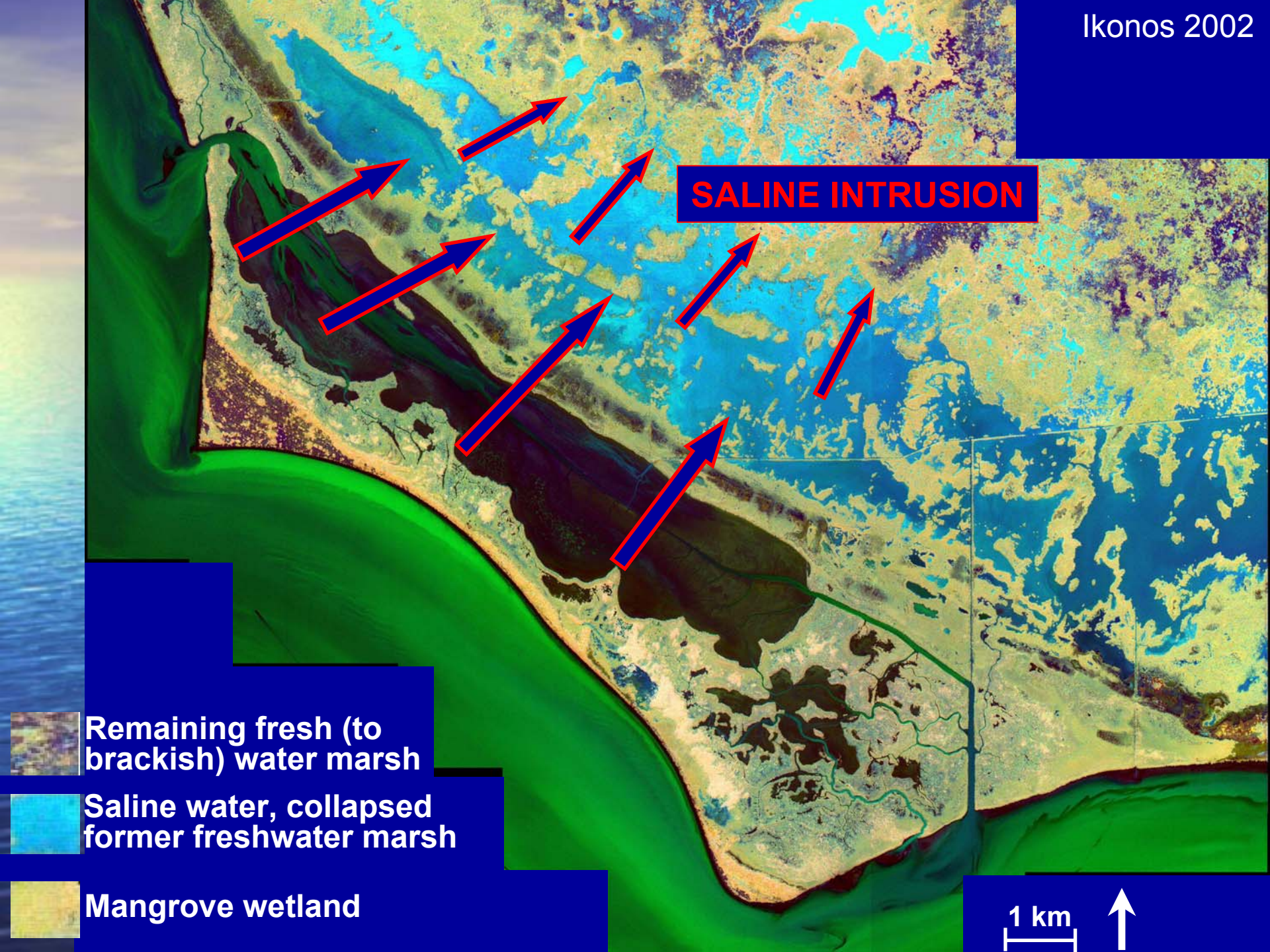
Sugar Cane at Cape Sable--One of the Roberts Brothers Cane Fields

Sirup from this cane is made at Cape Sable and finds ready sale at Miami and Key West

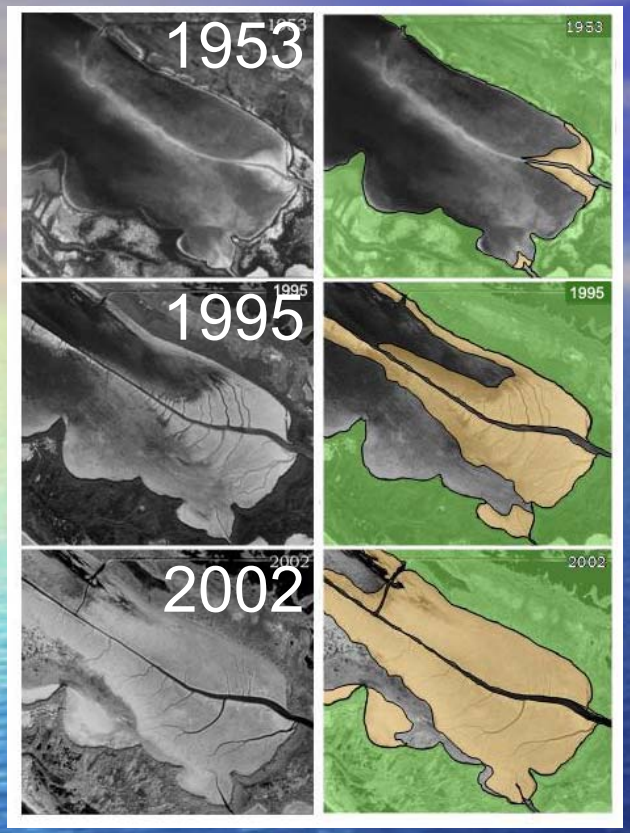
The freshwater marsh is now a shallow marine lagoon

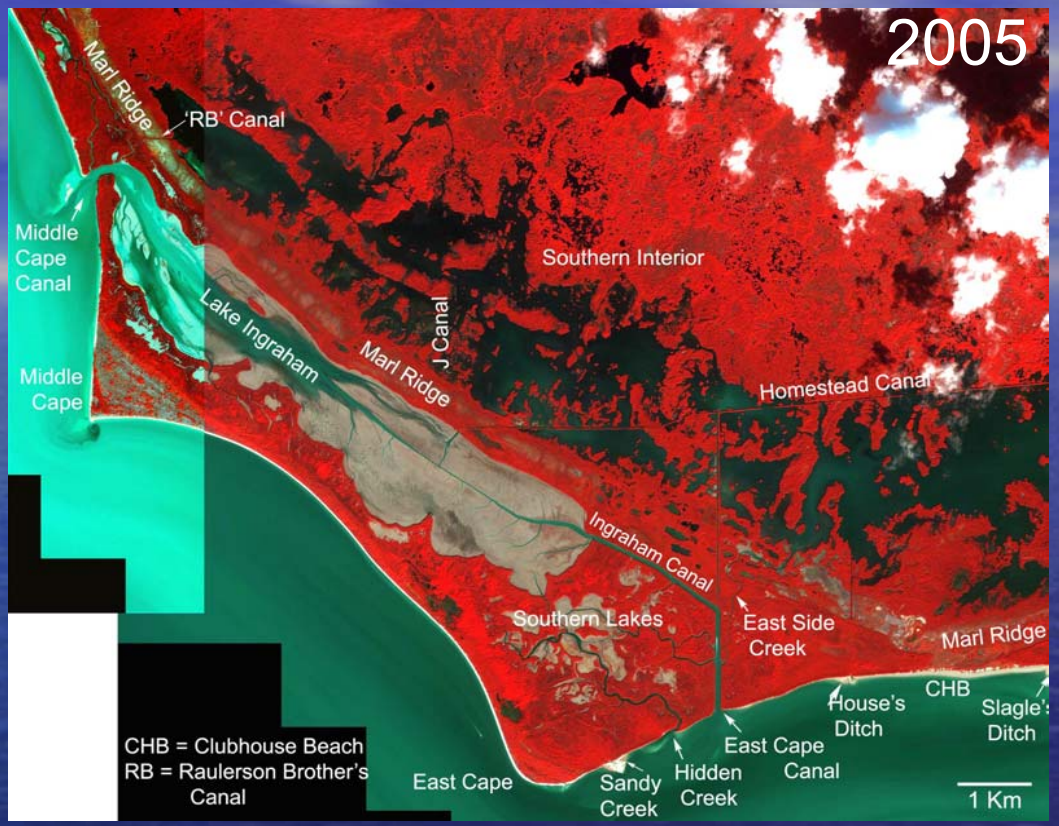


The marl ridge of Cape Sable is now flooded over 80 times a year by high tides flowing across.


Ikonos 2002
SALINE INTRUSION
Remaining fresh (to brackish) water marsh
Saline water, collapsed former freshwater marsh
Mangrove wetland
1 km

Rapid erosion, redistribution and sedimentation





SEA LEVEL IS RISING

BECAUSE OF GLOBAL WARMING

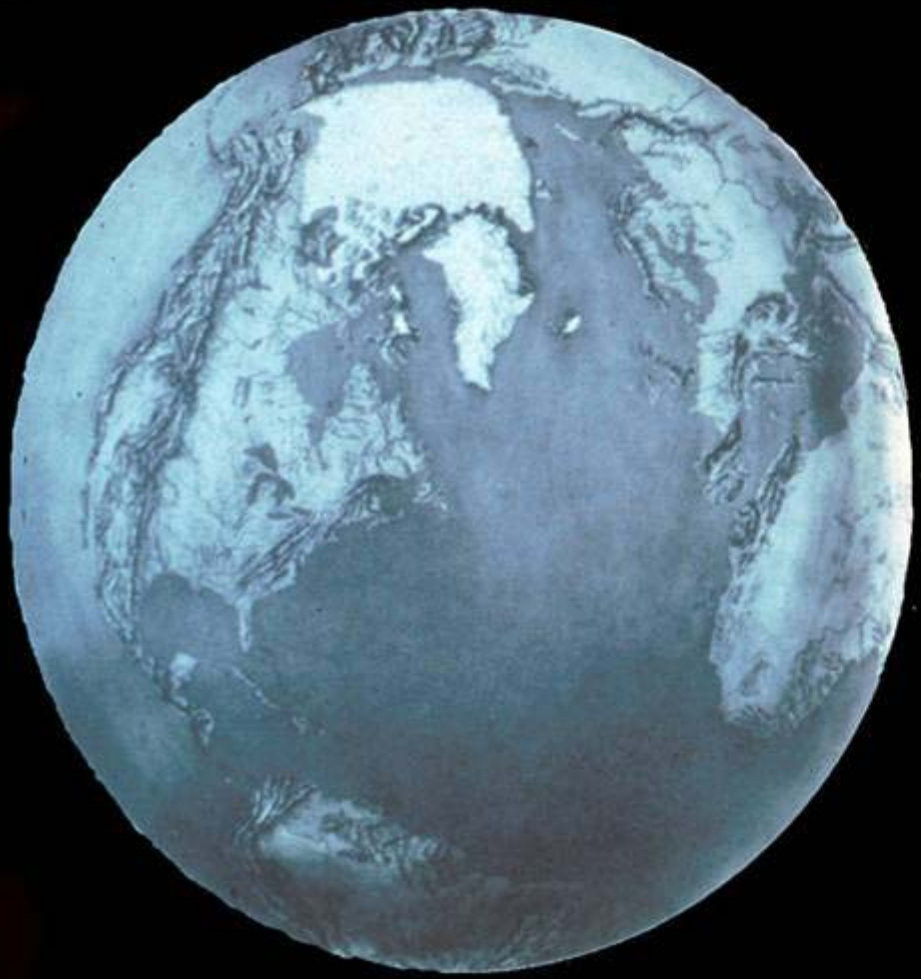
You may not have noticed, but Sea Level is dynamic

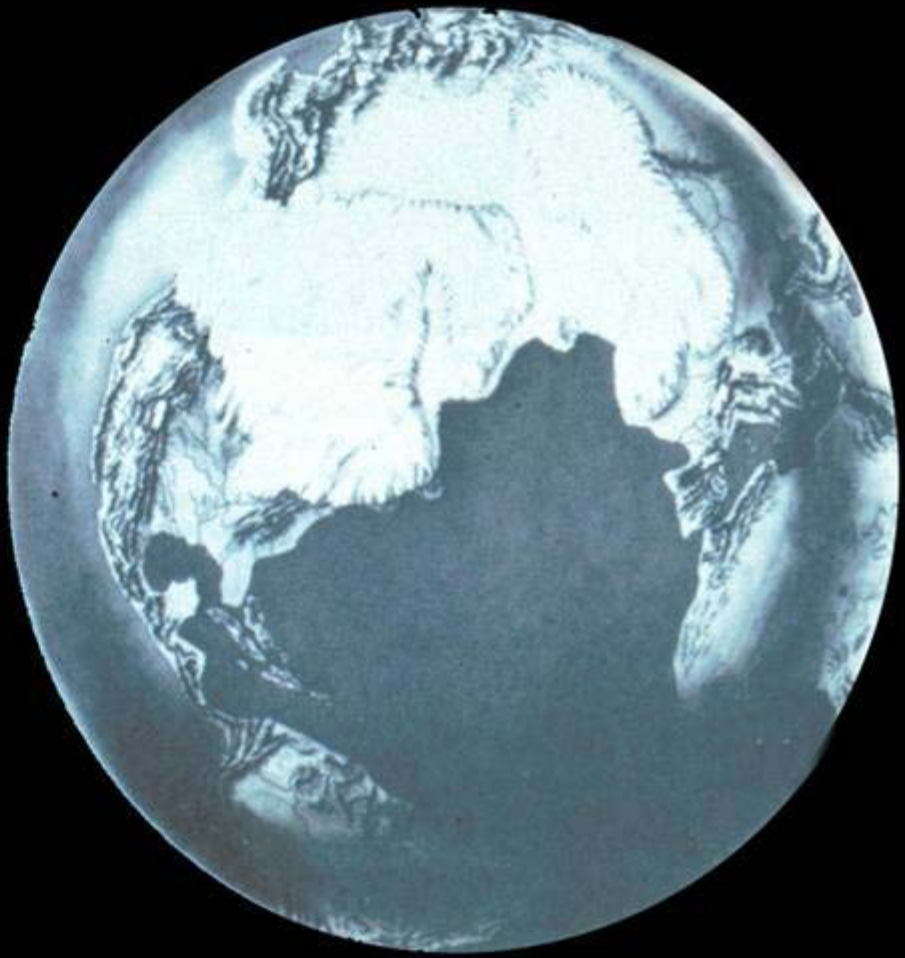
The last interglacial 130,000-120,000 years ago -

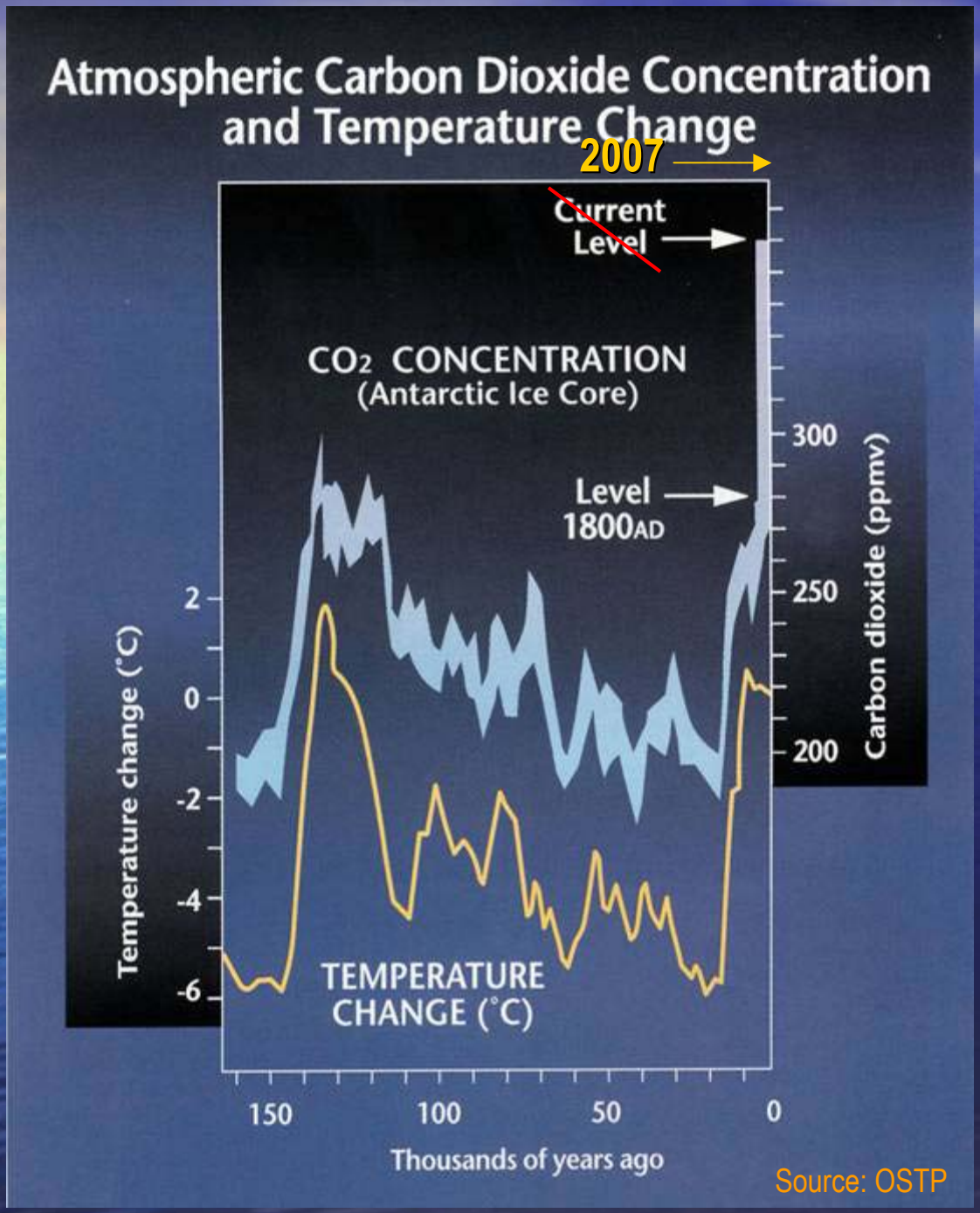
- Sea level was as much as 25 feet higher.
- South Florida was a shallow marine environment.

Interglacial
(today)

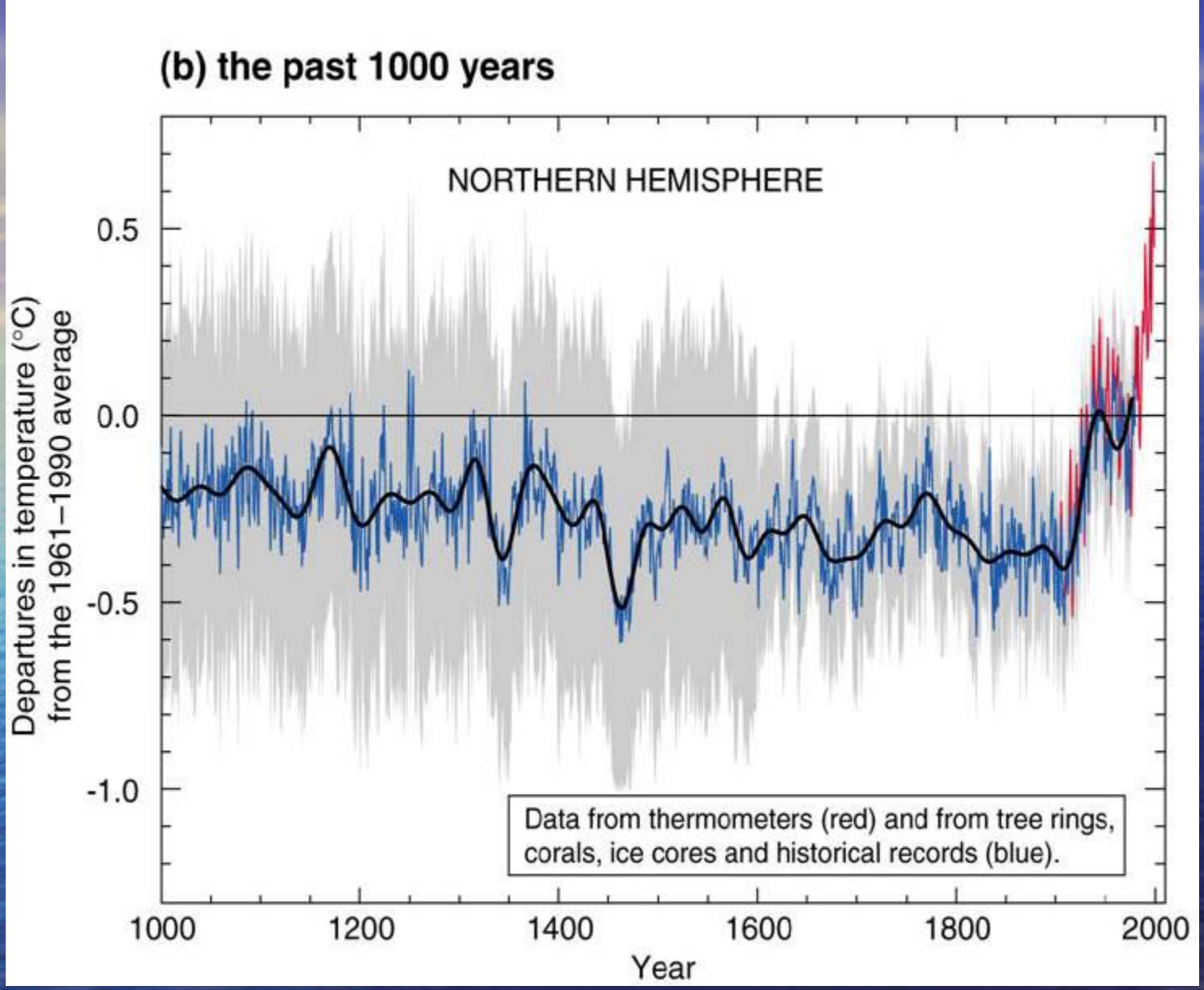
Glacial
18,000 years ago
sea level at -420 feet







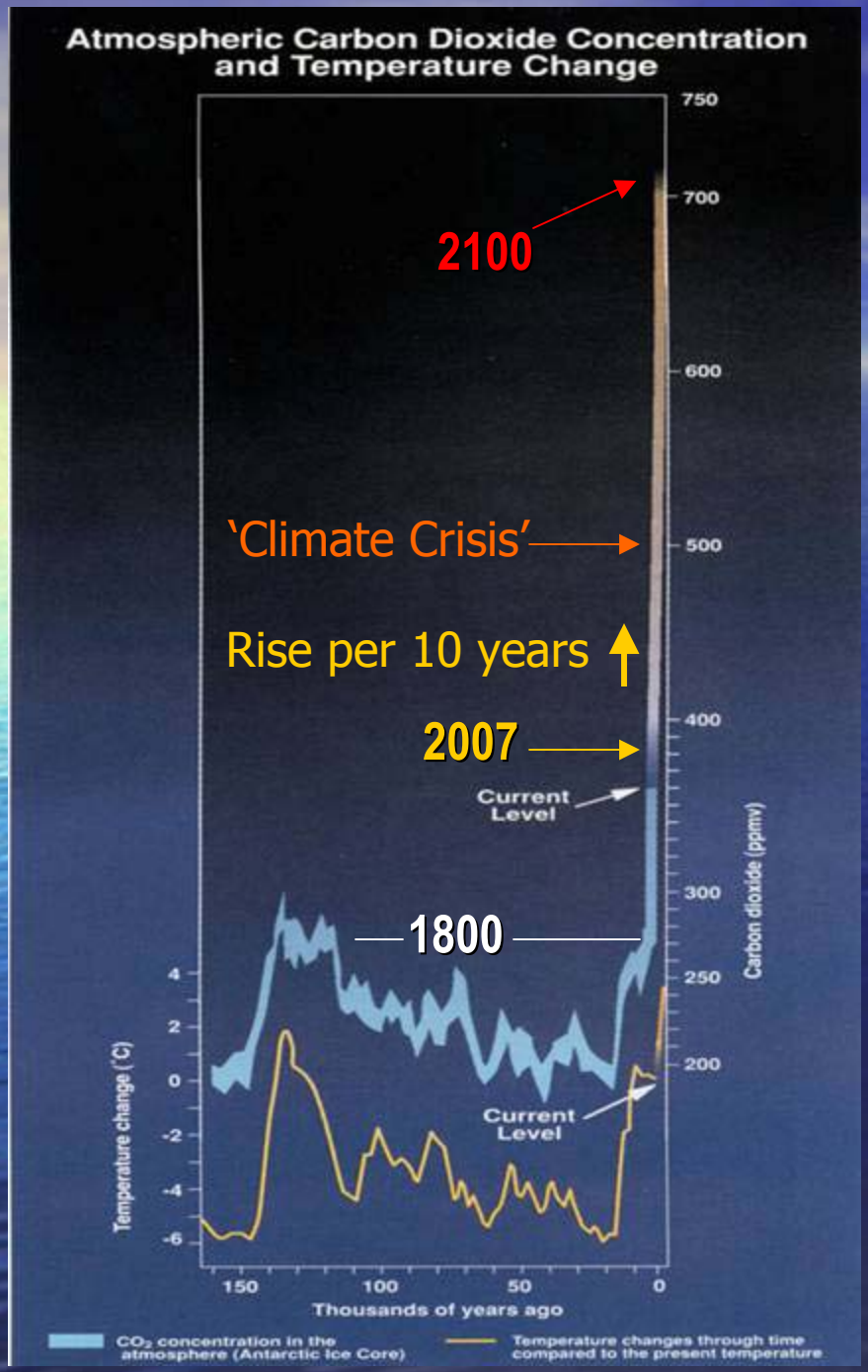
- It has now been demonstrated that CO2 drives temperature.
- CO2 was higher 120,000 years ago when sea level was about 20 feet higher.
- *- that is higher than CO2 levels before the industrial revolution.*



Observed Variations of the Earth's Surface Temperature*

*relative to 1961-1990 average

Source: IPCC TAR 2001



If nothing is done to slow greenhouse gas emissions,

By 2100

CO_2 concentrations will likely be more than 700 ppm

- Global average temperatures projected to increase between 2.5–10.4°F
- Sea level will rise at least 2-3 feet (60-90 cm), probably much more.

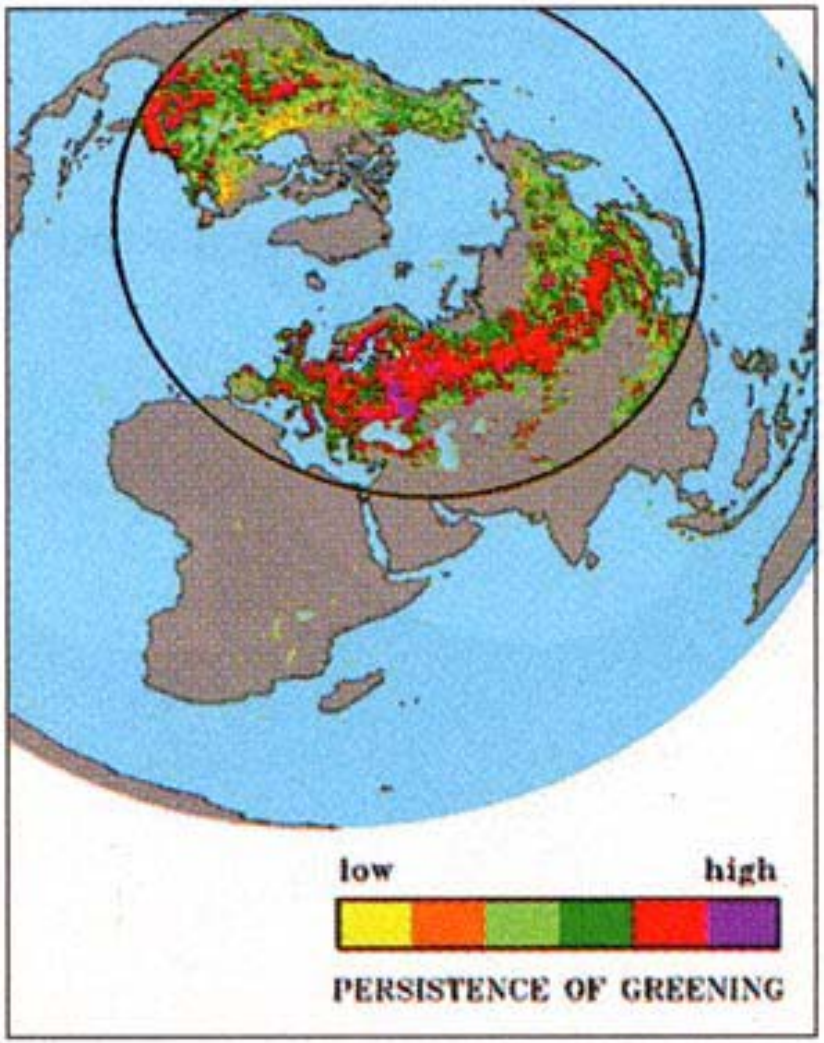
Source: OSTP

HUMAN-INDUCED GLOBAL WARMING IS REAL.

It will come to dominate the focus and economy of life on Earth in your children's lifetime.

WE ARE IN IT FOR THE LONG HAUL – LIKE IT OR NOT

Even the present levels of greenhouse gasses in the atmosphere will be warming our climate for the next few hundred years.

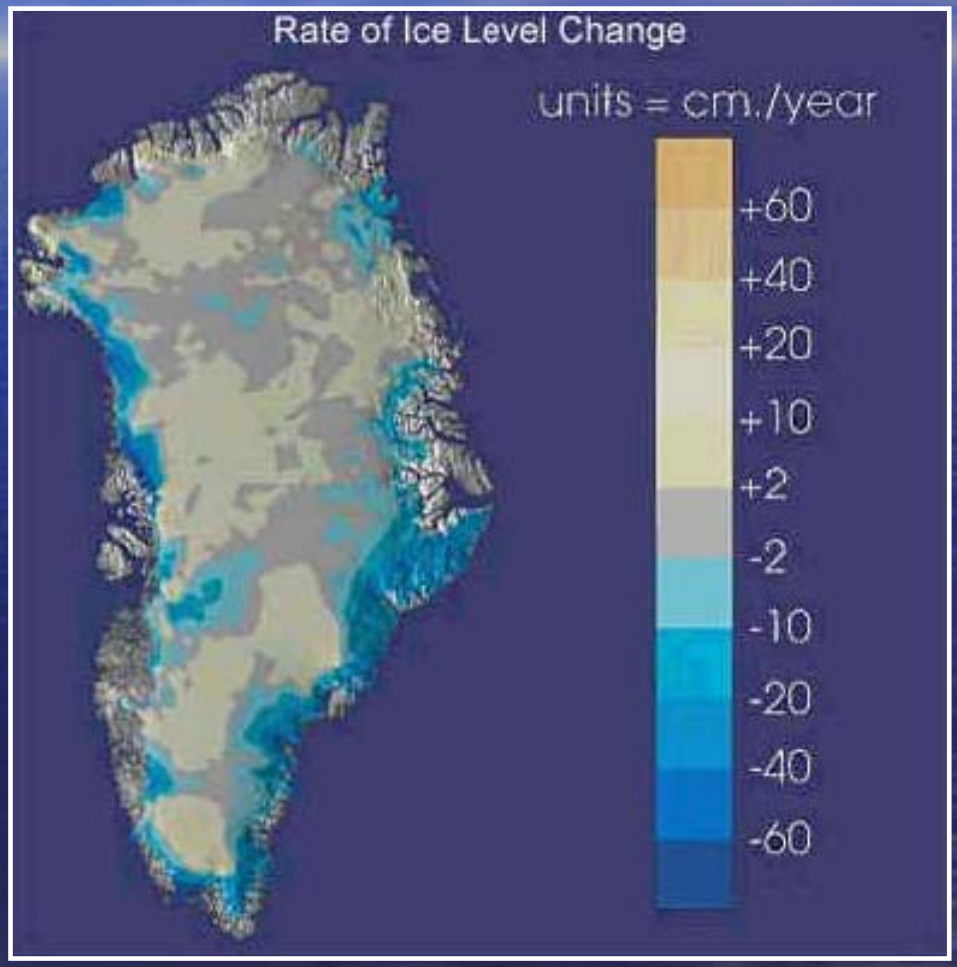


Increased vegetation density in the Northern Hemisphere above 30° latitude.

There has been an annual increase of 10-30 days with green vegetation in the north over the past 30 years.

Glaciers world wide have been retreating at an accelerating rate for the past century

Greenland ice is melting and flowing to the sea at a rate 2 times that of 5 years ago



NASA 2000

The oceans are responding

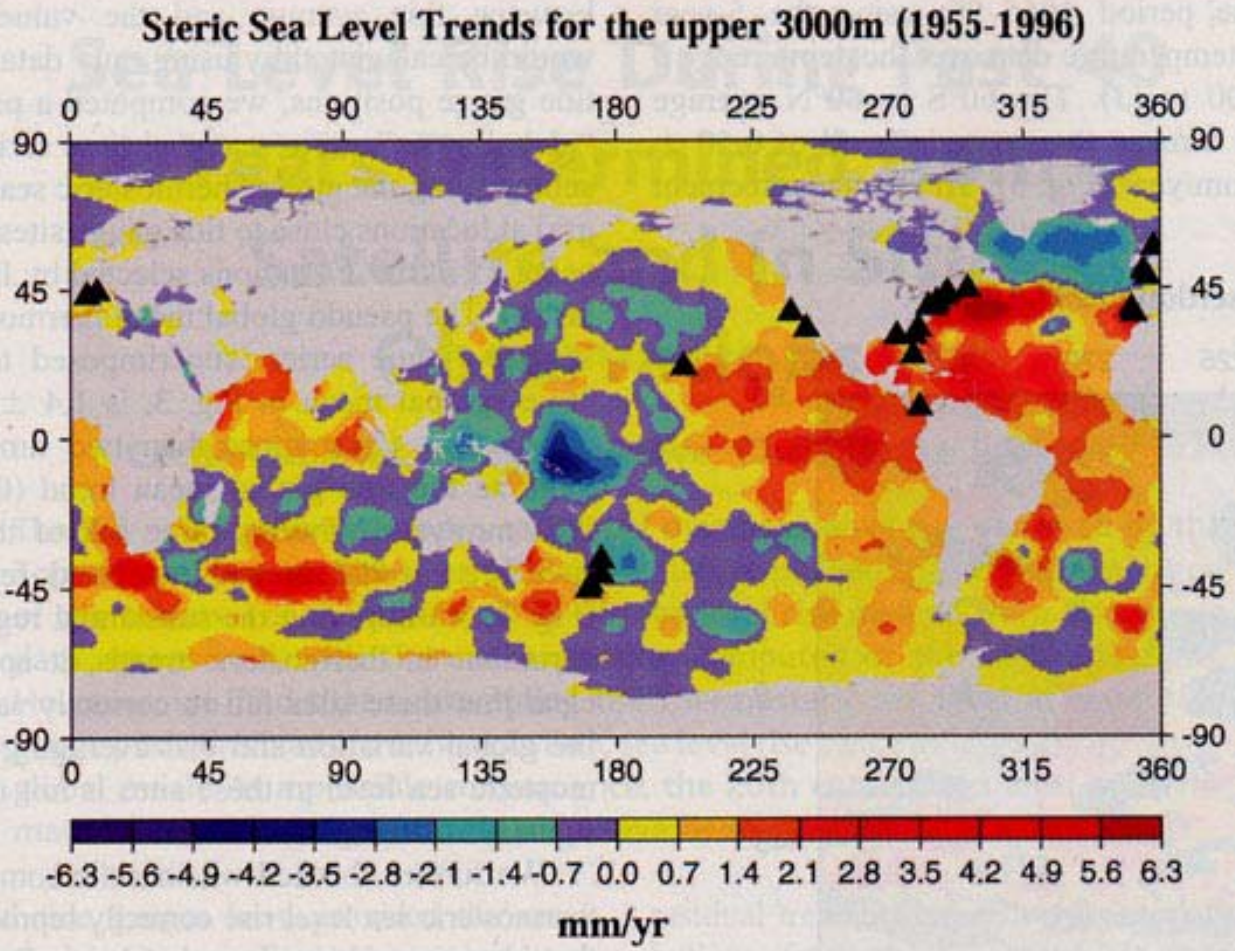
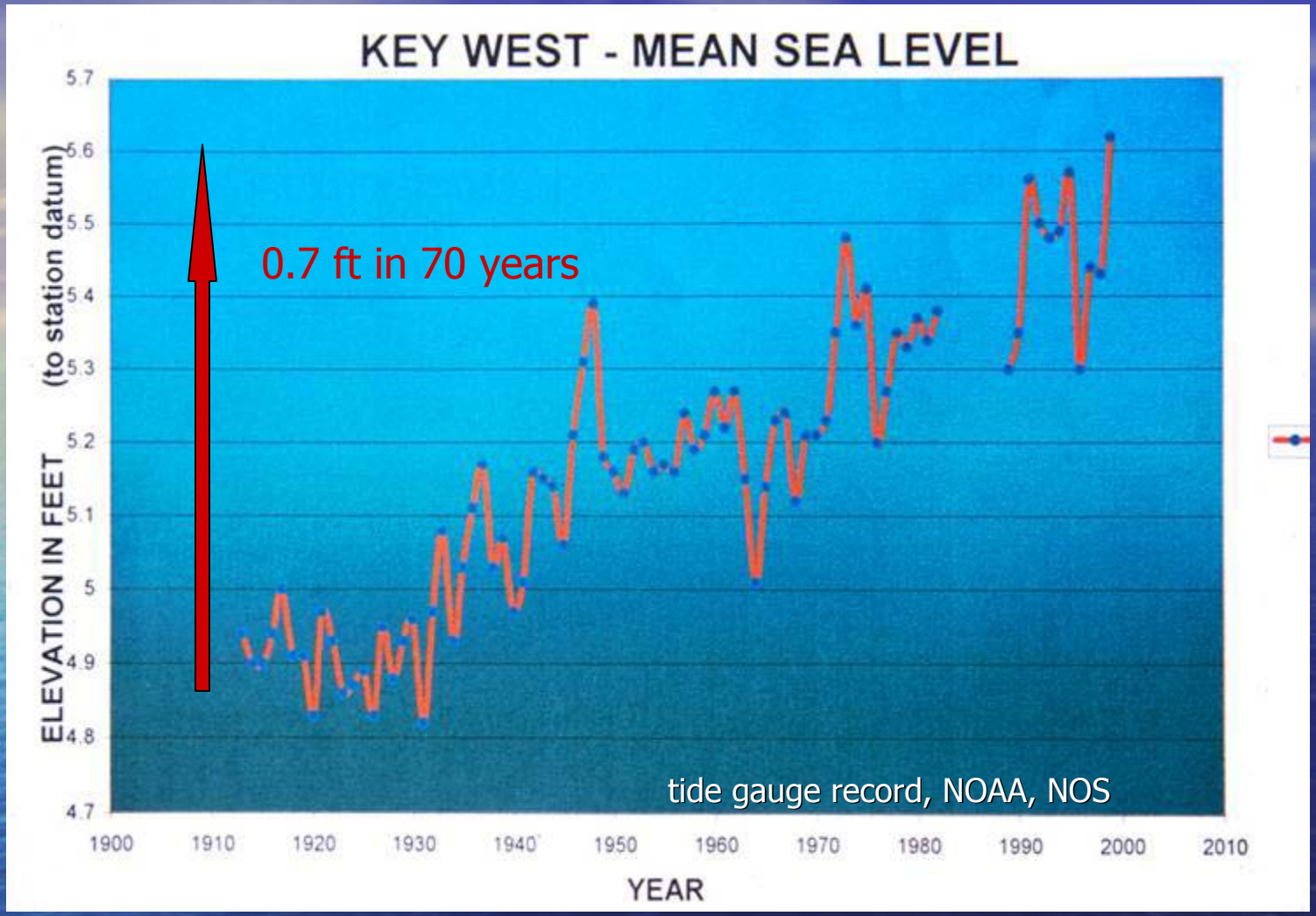


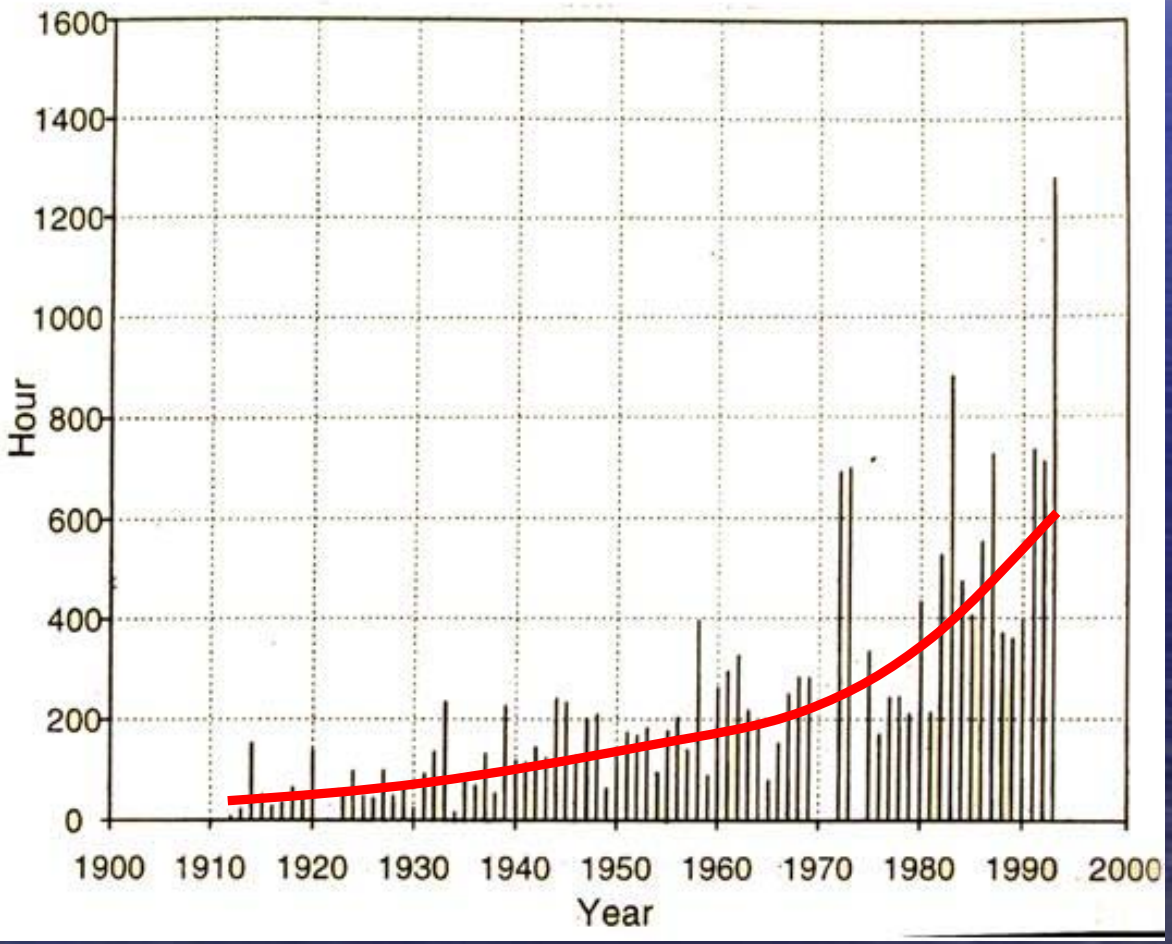
Fig. 4. Map of the geographical distribution of thermosteric sea level trends for 1955–96 computed with temperature data from (3) down to 3000-m depths. Black triangles show the locations of the 25 tide gauges.



Beginning in 1930, the rate of relative sea level rise increased about 8 fold over that of the past 2,000 years. It is presently rising at 30 cm (1′) / 100 years!

Increased frequency of barrier island overwash 1912-1993

Fig. 1. Number of hours of anomalous high water level per year at Atlantic City, N.J., with storm surges greater than 2 standard deviations. The apparent secular increase is due to sea level rise during this century, and indicates the potential of rising sea levels to exacerbate the effect of storms on coastlines.



Zhang, Douglas, Leatherman 1997

This past 70 years of dramatic sea level rise has severely destabilized our coastal environments

All of our coastal environments are now unstable and eroding and shifting landward.

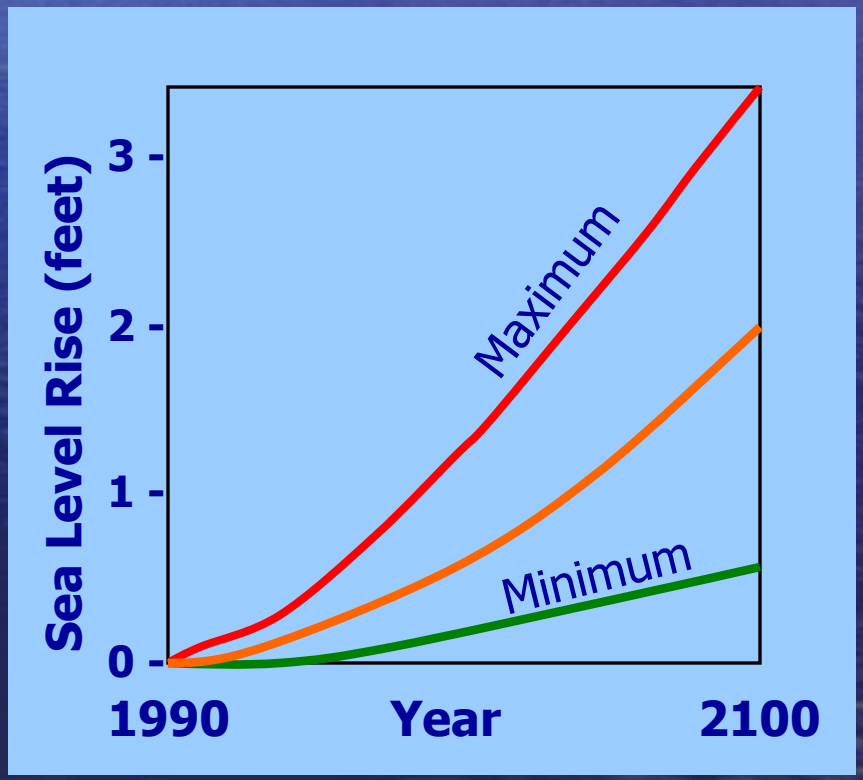
Coastal wetland are shifting into the Everglades or collapsing.

Beaches are eroding as sand is overwashed landward and lost seaward.

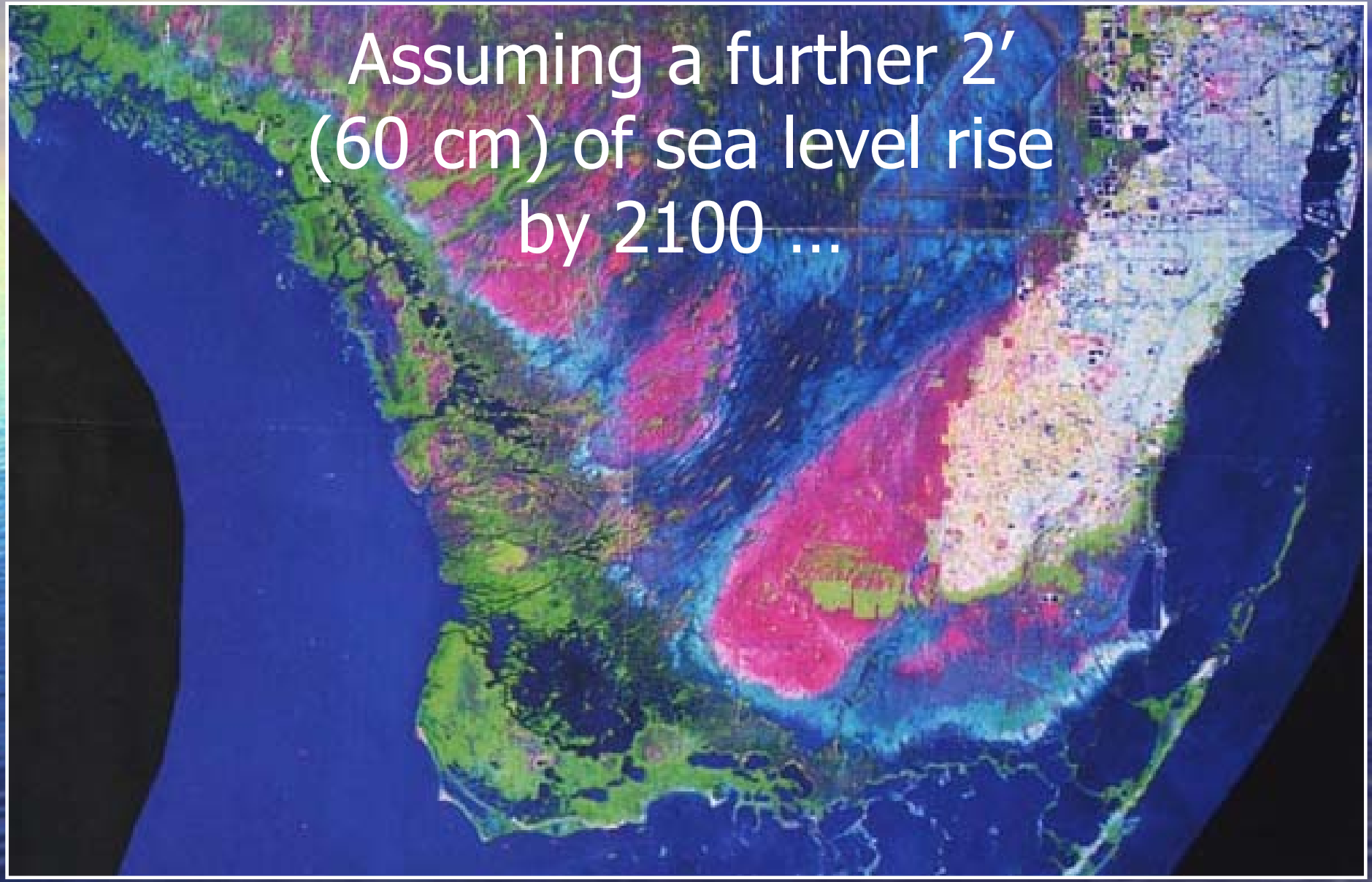
Circulation is changing in our coastal bays and estuaries.

What is forecast for the future?

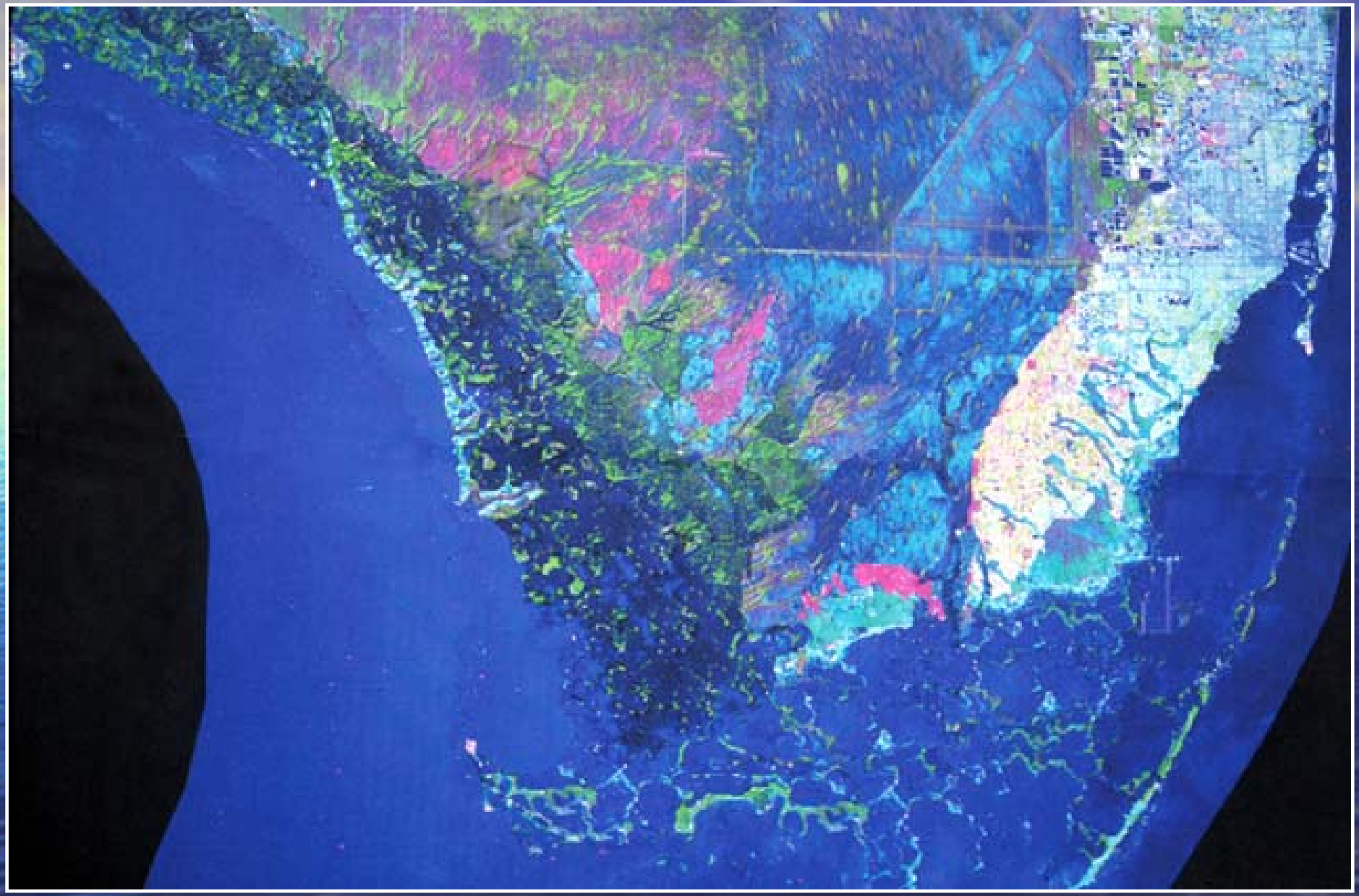
- Because of global warming, at least a 2- to 3-foot further rise of sea level is anticipated by 2100.
- This is in addition to the 1-foot per century rise at present for south Florida

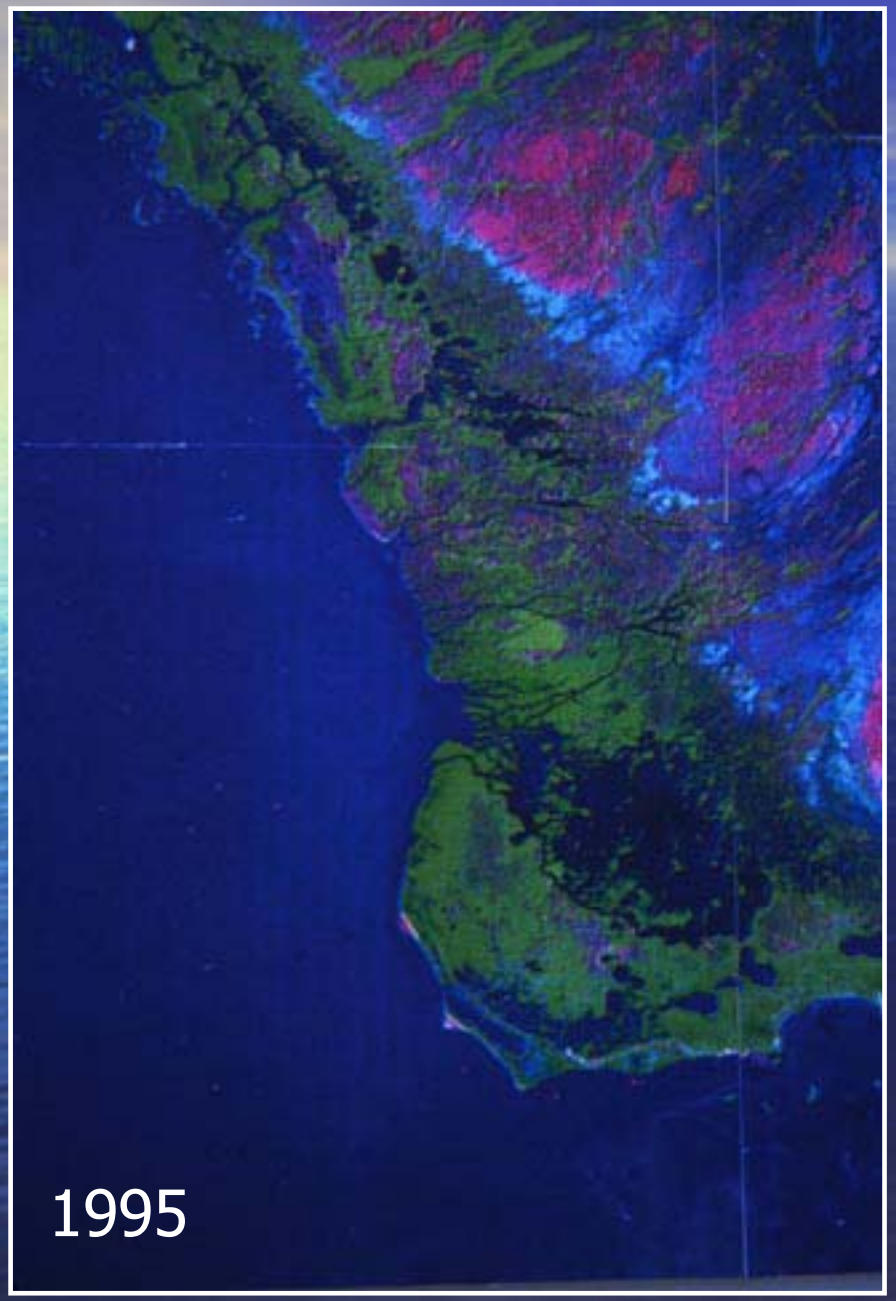


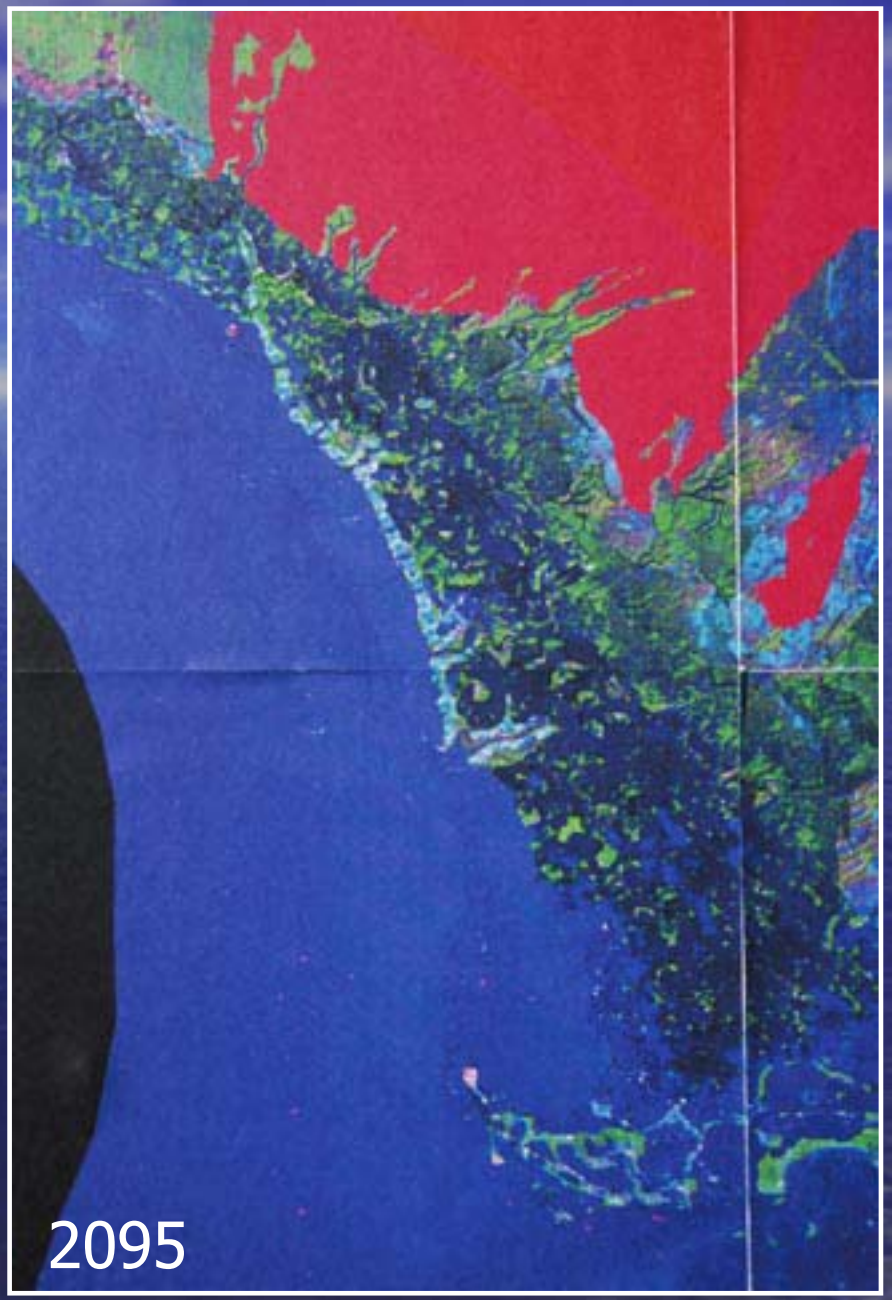
South Florida 1995



South Florida 2100

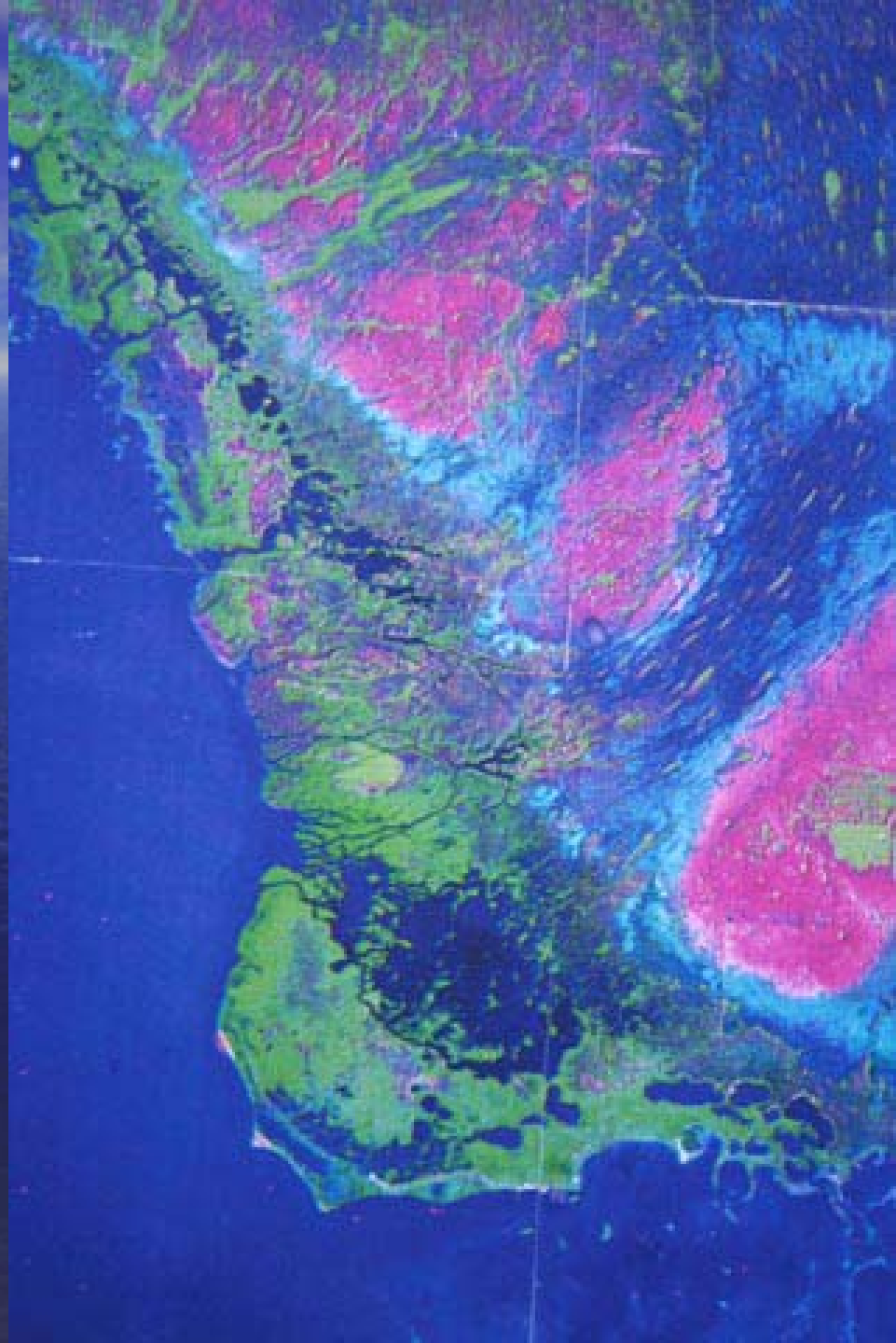



1995

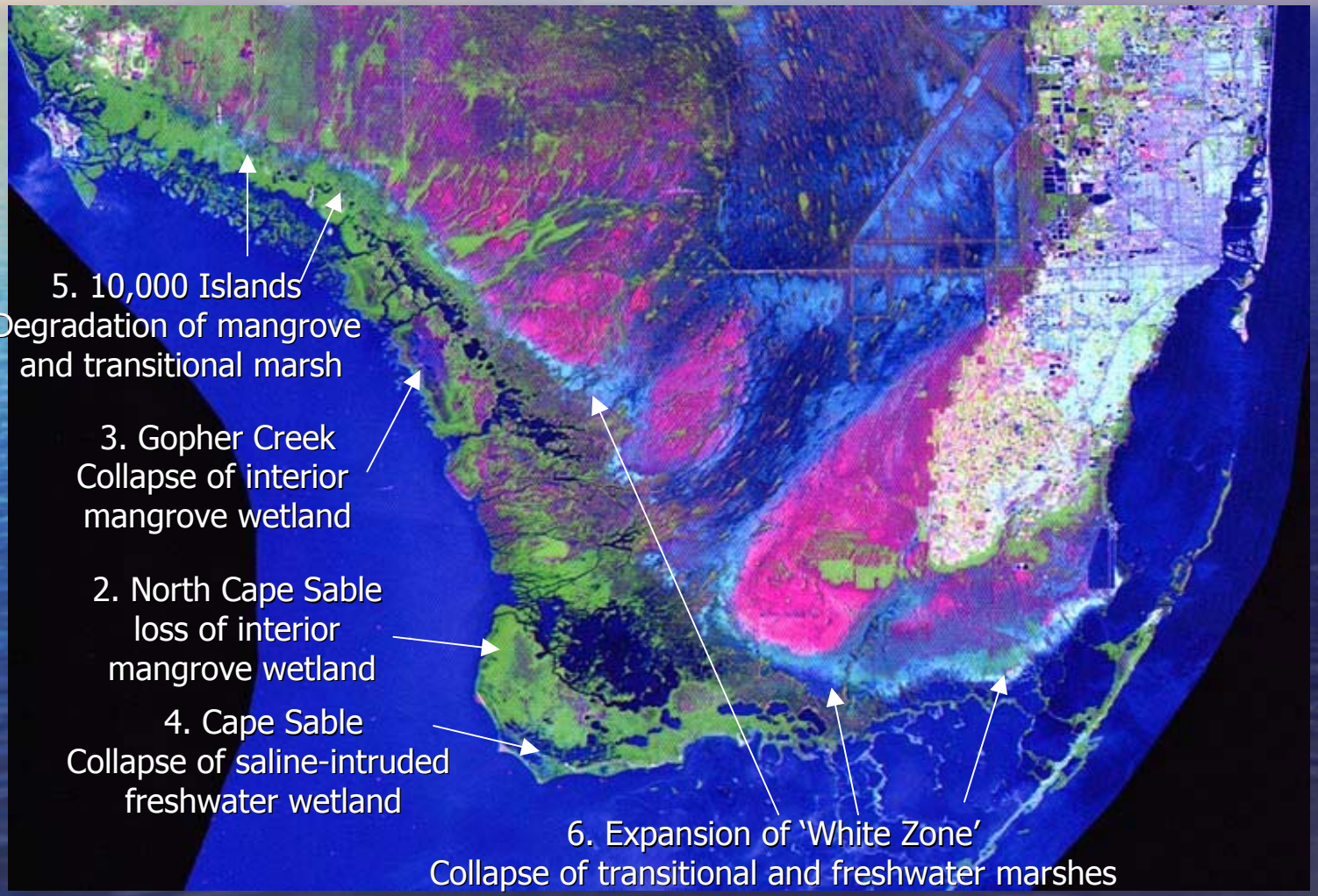

2095

For South Florida THE GLOBAL WARMING FUTURE IS ALREADY HERE

Because of the rise of sea level over the past 70 years, dramatic coastal changes that are already taking place in south Florida.

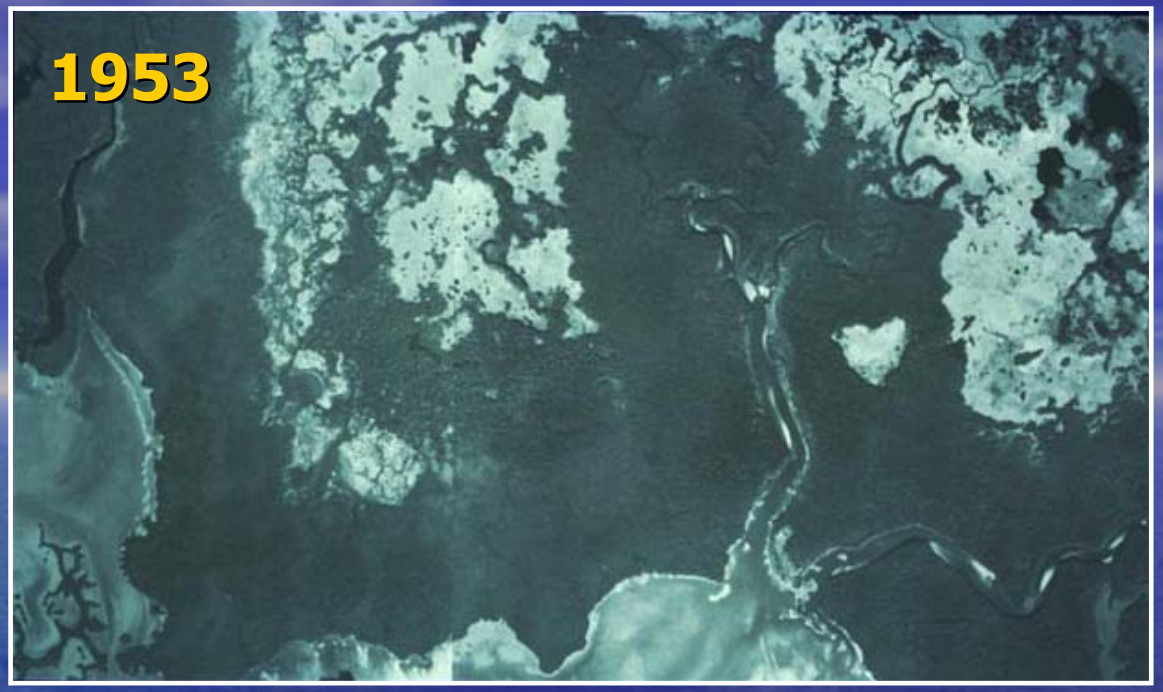


Rapid loss of saline and freshwater wetlands is also occurring within south Florida's coastal complex in response to sea level rise.



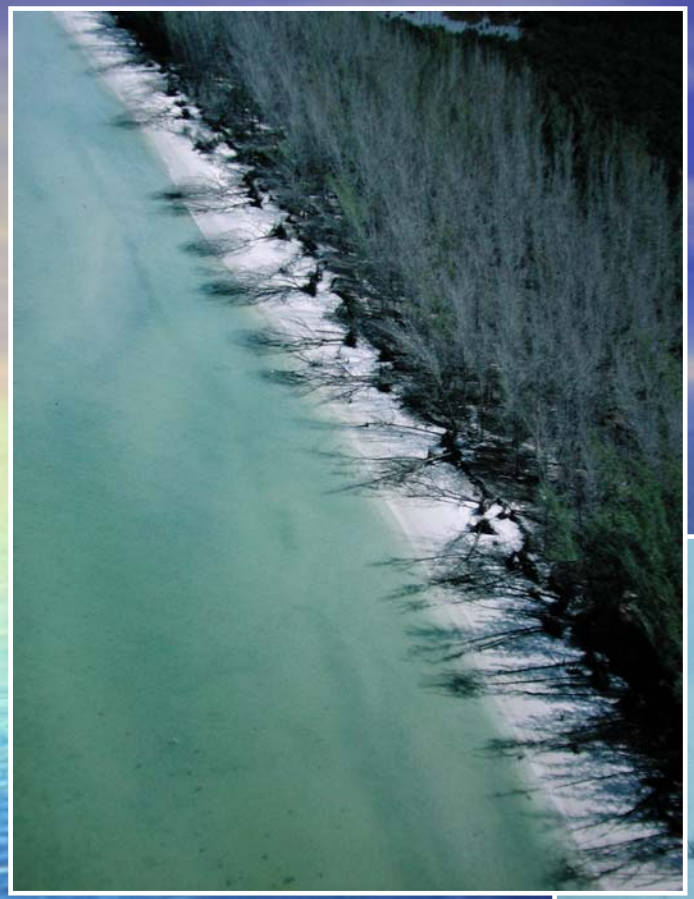

1928


1973


1953


1990

Similarly, on the 10,000 Islands coast, the outer margin is erosional.



Keewaydin Island, Florida

and with this evolution
is coming a landscape-scale release
and recycling
of sediment, organics and nutrients

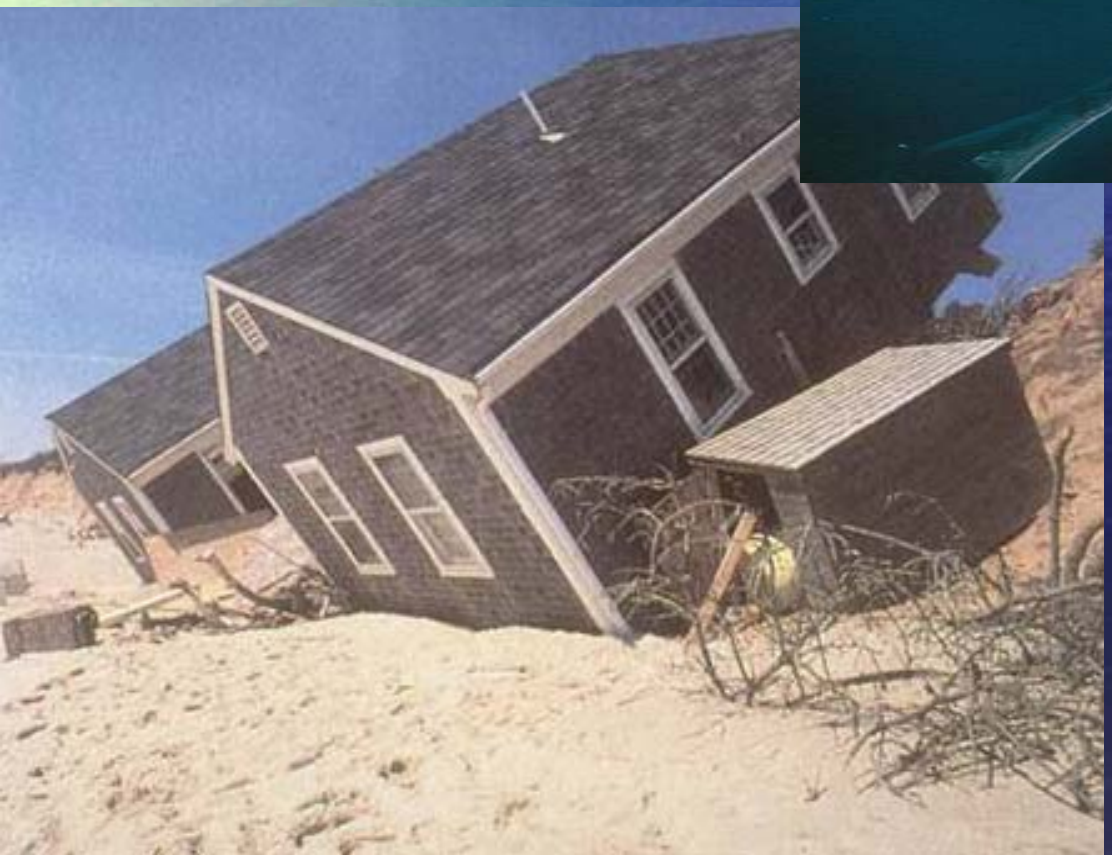
The sands and muds are being pumped inward, filling interior bays.

Rising sea level is a time of high nutrients and turbidity

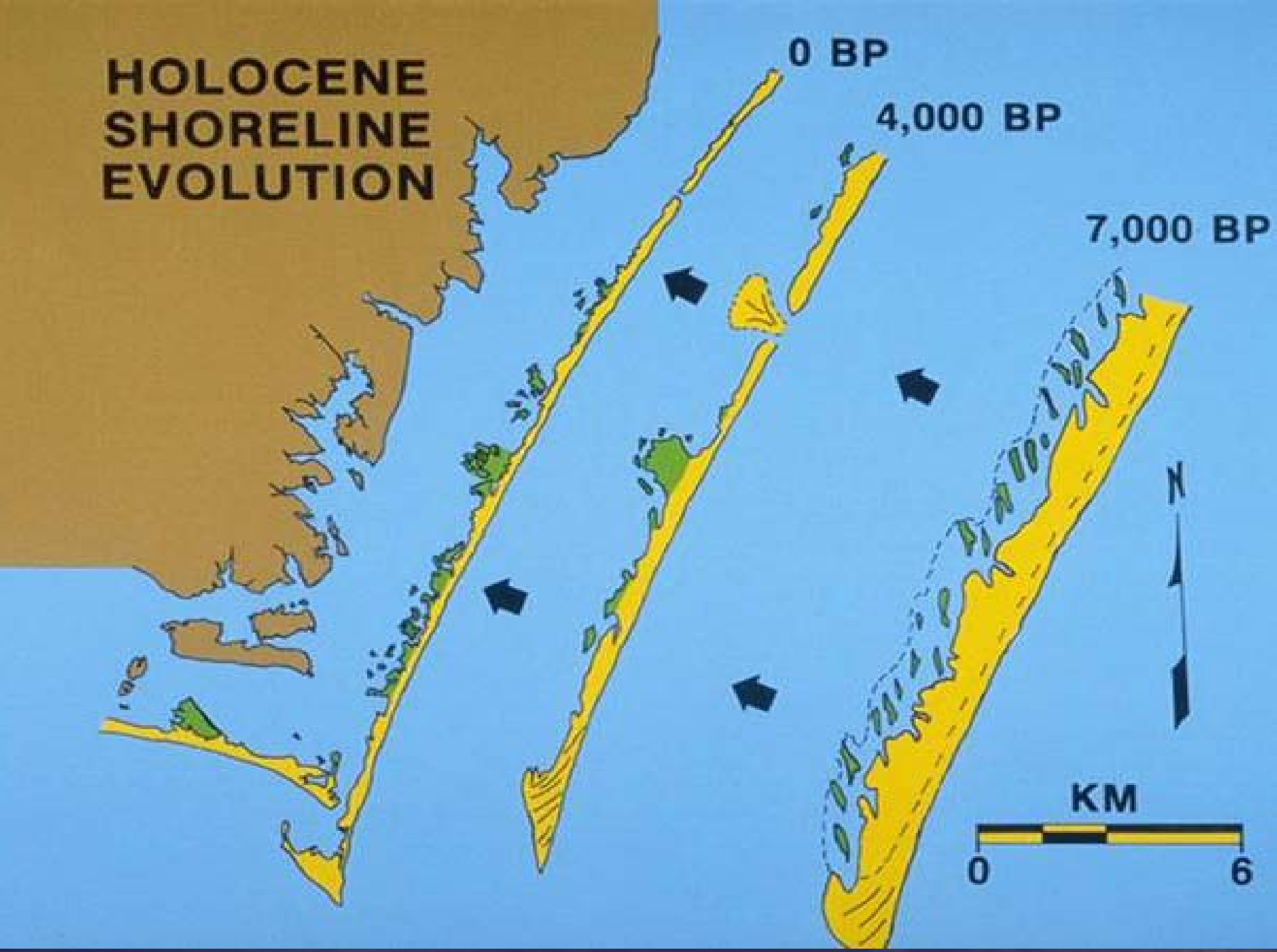
The Beach - What happens with rising sea level?

- Some sand moves landward by storm overwash.
- Some sand moves seaward during storms and remains there.

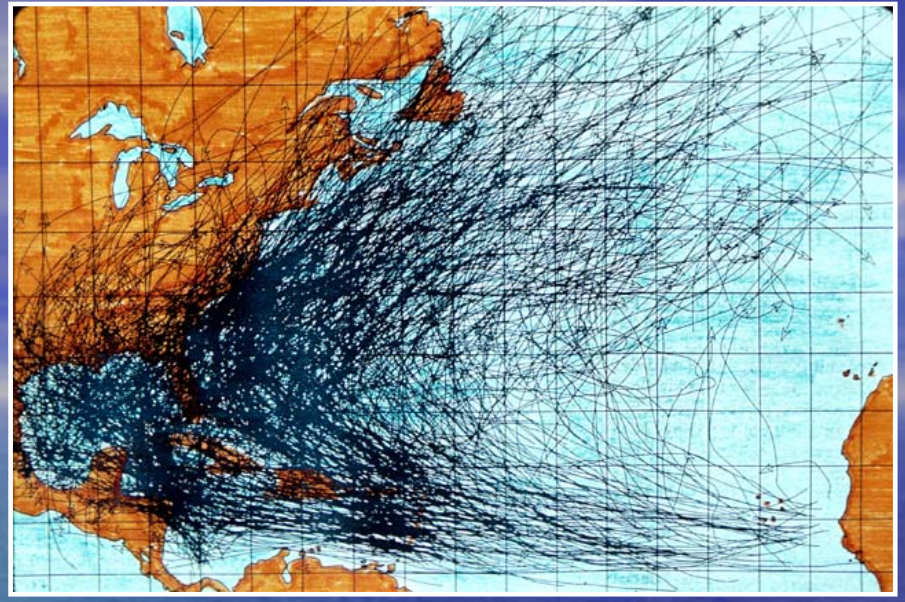
For every foot of sea level rise,



the shore will shift landward 500-2,000’.


HOLOCENE
SHORELINE
EVOLUTION
0 BP
4,000 BP
7,000 BP
N
KM
0
6

So, barrier islands are ephemeral



This rapid relative rise in sea level has destabilized our coastal system

- and is making hurricanes more effective in causing overwash, erosion, damage, and initiating landscape evolution

Because of our overzealous coastal development in a time of rapidly rising sea level

- we will have increased economic risks from increased shore erosion and devastation from hurricanes.

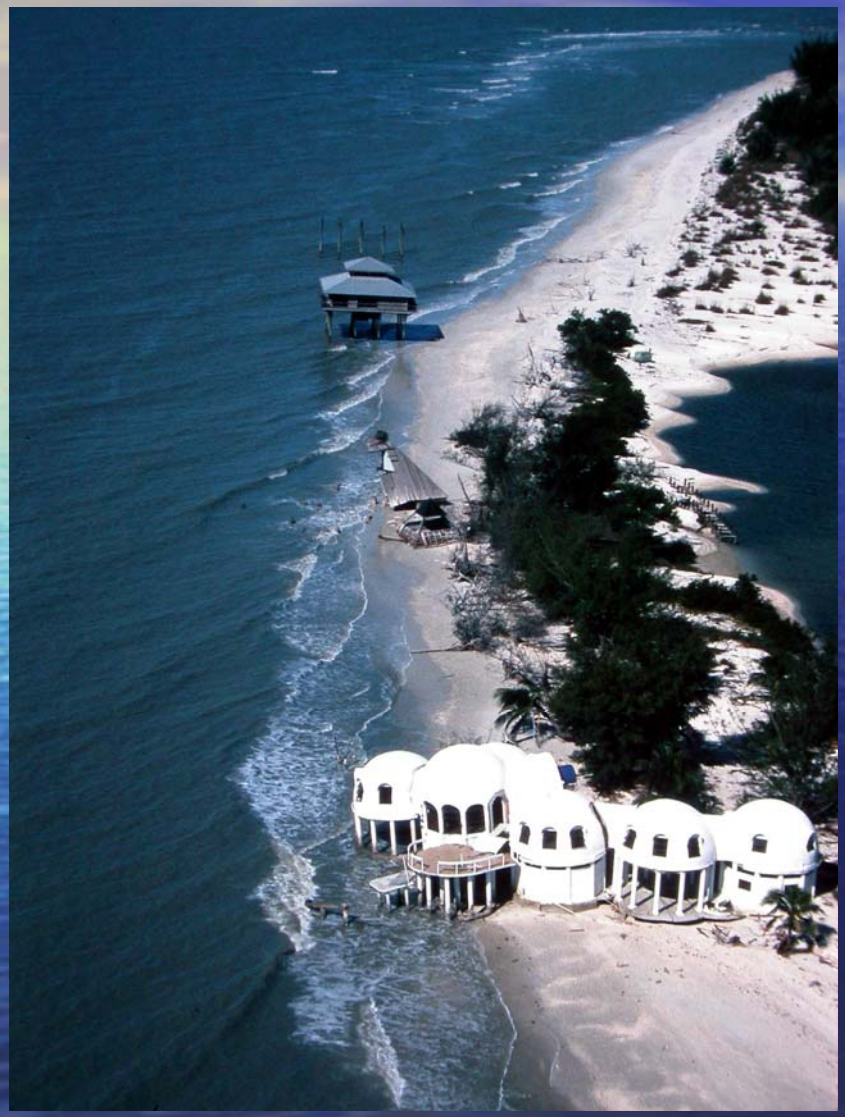
I highly recommend that you spend a (non-gambling) weekend along the Mississippi Coast

to see what a hurricane surge does to a developed coastline.

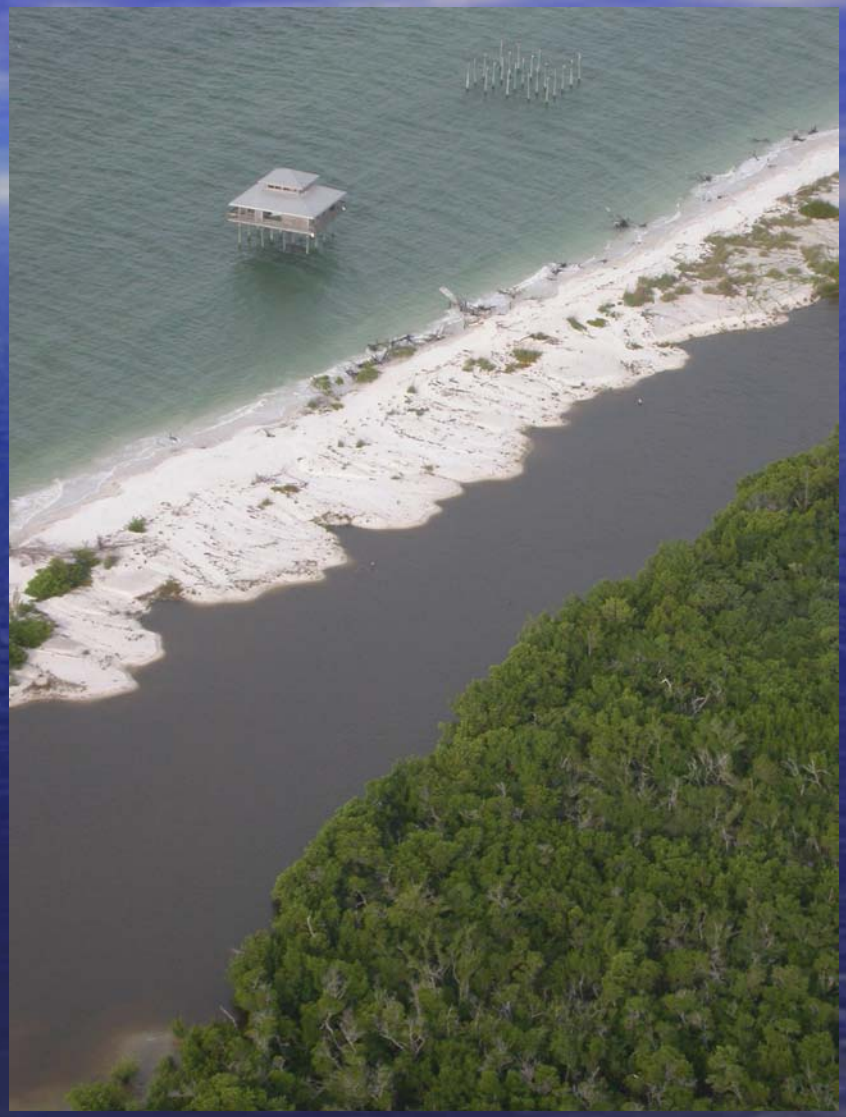
With rising sea level ,Hurricanes are more devastating !

Mississippi – 4 months after Hurricane Katrina

The economics of washing out to sea



Cape Romano, Florida 1998



Cape Romano, Florida 2003

SUMMARY

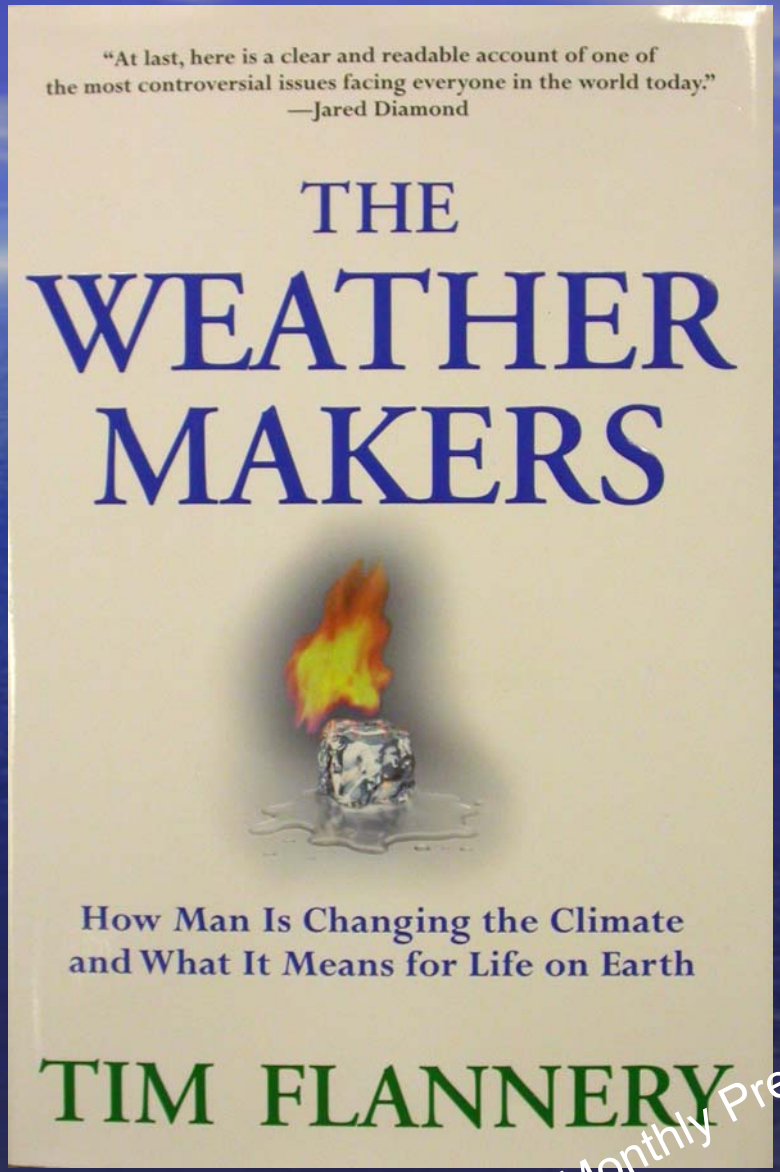
It is time

- to begin responsible coastal management

and

- to begin making the hard legslative decisions necessary for adaption to rising sea level.

realclimate.org



Atlantic Monthly Press, 2005

We all have the responsibility to learn more.

Summary of Concerns for South Florida

- Barrier island flooding, erosion (migration) and dissection; greater hurricane impact
- Changing inlet dynamics and new inlets
- Increased siltation, turbidity and nutrients in coastal waters
- More marine character to bays
- Coastal wetland loss and migration
- Salt water intrusion in surface and ground waters
- Raising base level (reduced drainage potential / increased flooding)
- Pollution release from low-lying sites

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