

FLORIDA CLIMATE CHANGE

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CLIMATE CHANGE NOT
GLOBAL WARMING!!!!!!

USE OF PROPER TERMS
WILL DEFUSE POLITICAL
ARGUMENTS

GAUGING PUBLIC OPINION



Gainesville Sun 12 Oct. 2005

YESTERDAY'S RESPONSE

*How concerned are you with
global warming?*

It is not a real problem: 195

It is an inconvenience: 9

**Eventually it will be a big
problem: 125**

**It is a factor in hurricanes
and other problems now:
201**

YESTERDAY'S RESPONSE

What are your thoughts on global warming?

1. It's a serious threat: 352
2. I'm skeptical of its existence: 205
3. It exists, but its out of our control: 141
4. It exists, but we're taking care of it: 13
5. It's a myth: 92

Results are strictly surveys of those who choose to participate and are not valid statistical samples.

YESTERDAY'S RESPONSE

What's your take on global warming?

It's a bunch of hype: 80

It could be a real thing, but

it's too early to tell: 36

Yeah, there's global warming

but it's part of a natural

process: 228

Global warming is happening

and it's time to act: 337

What's global warming?: 12

Results are strictly surveys of those who choose to participate and are not valid statistical samples.

21 January 2007

YESTERDAY'S RESPONSE

Which of the following best describes your view on global warming?

A serious problem that needs to be addressed: 242

A serious problem finally being addressed: 56


Possibly a problem, but we've got some time: 24

Maybe a little problem: 9

There is inconclusive evidence that it's even happening: 173

Results are strictly surveys of those who choose to participate and are not valid statistical samples.

SCALES OF CLIMATE CHANGE

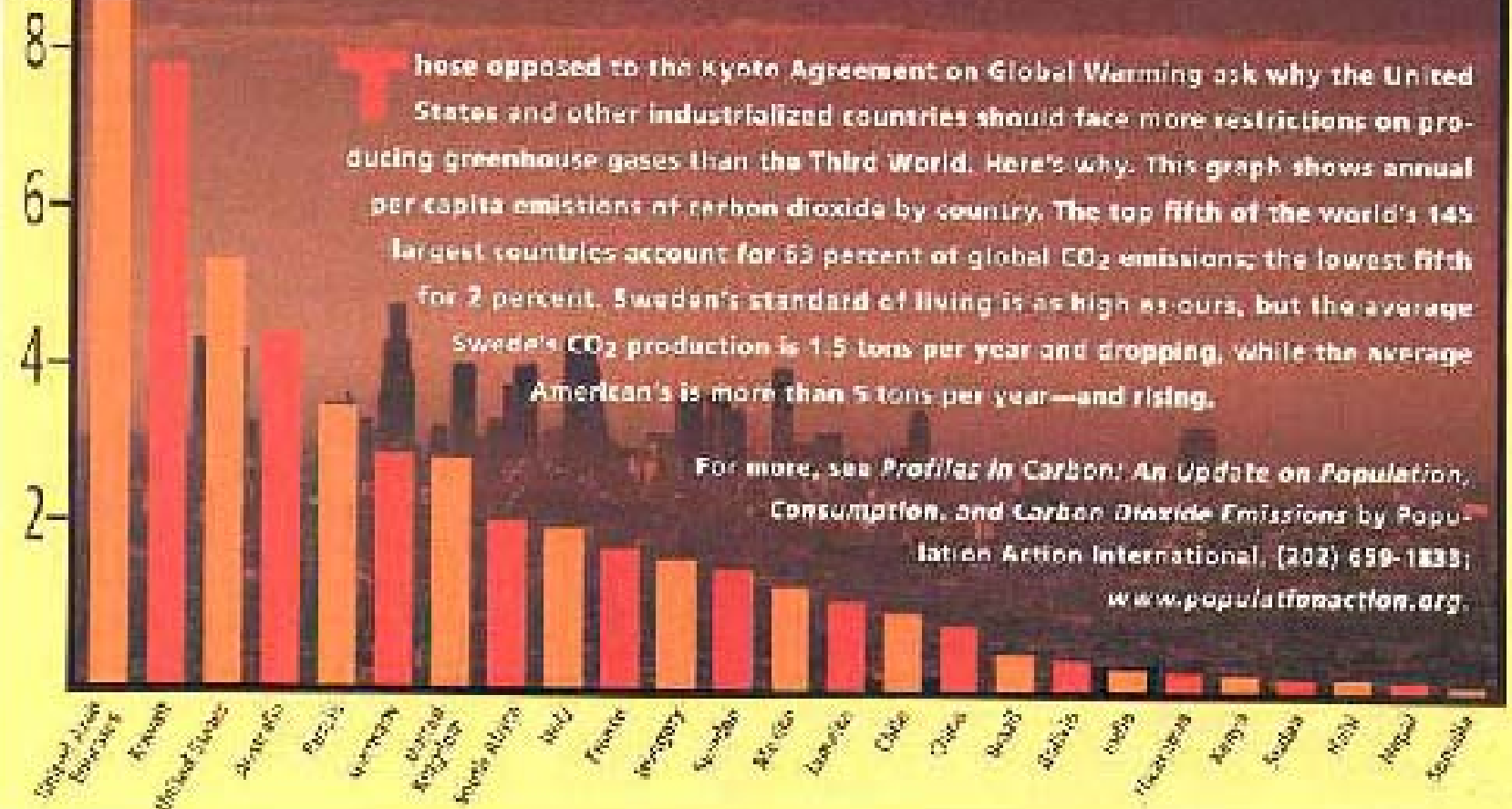
- ◆ Annual
 - ◆ Decadal
 - ◆ Long Term Cycles
 - ◆ Human Induced
- 
- A stylized, low-poly silhouette of a mountain range in shades of brown and tan, located in the bottom right corner of the slide.

GLOBAL CLIMATE CHANGE

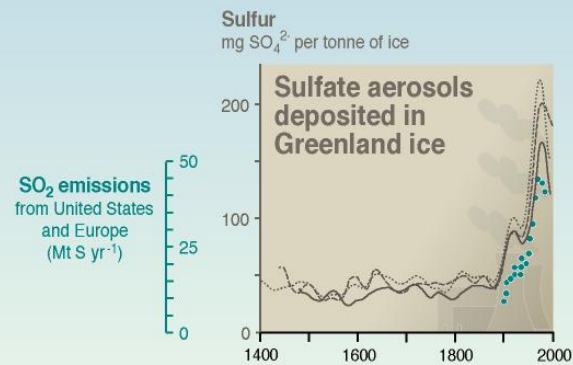
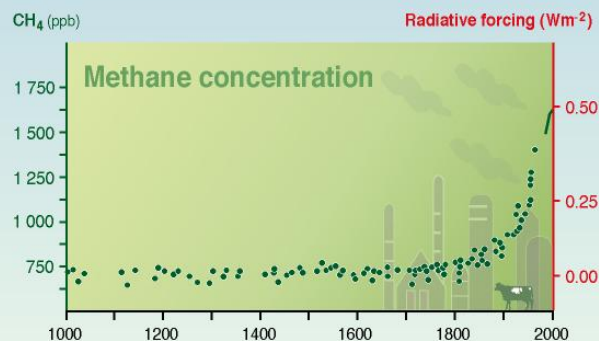
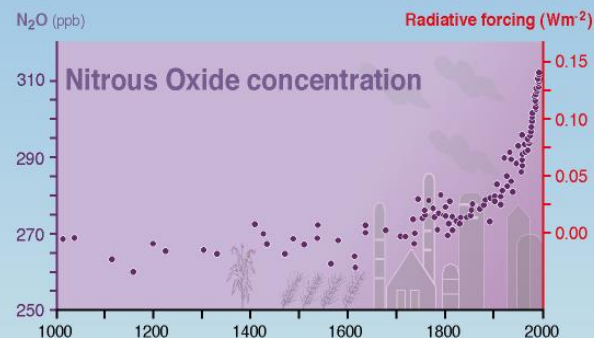
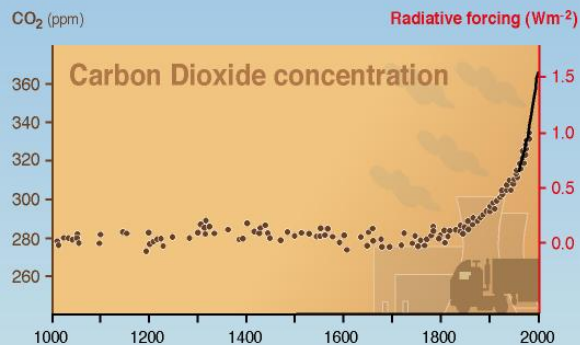


WHO'S WARMING THE GLOBE?

10000
8000
6000
4000
2000
0



Indicators of the human influence on the atmosphere during the Industrial era

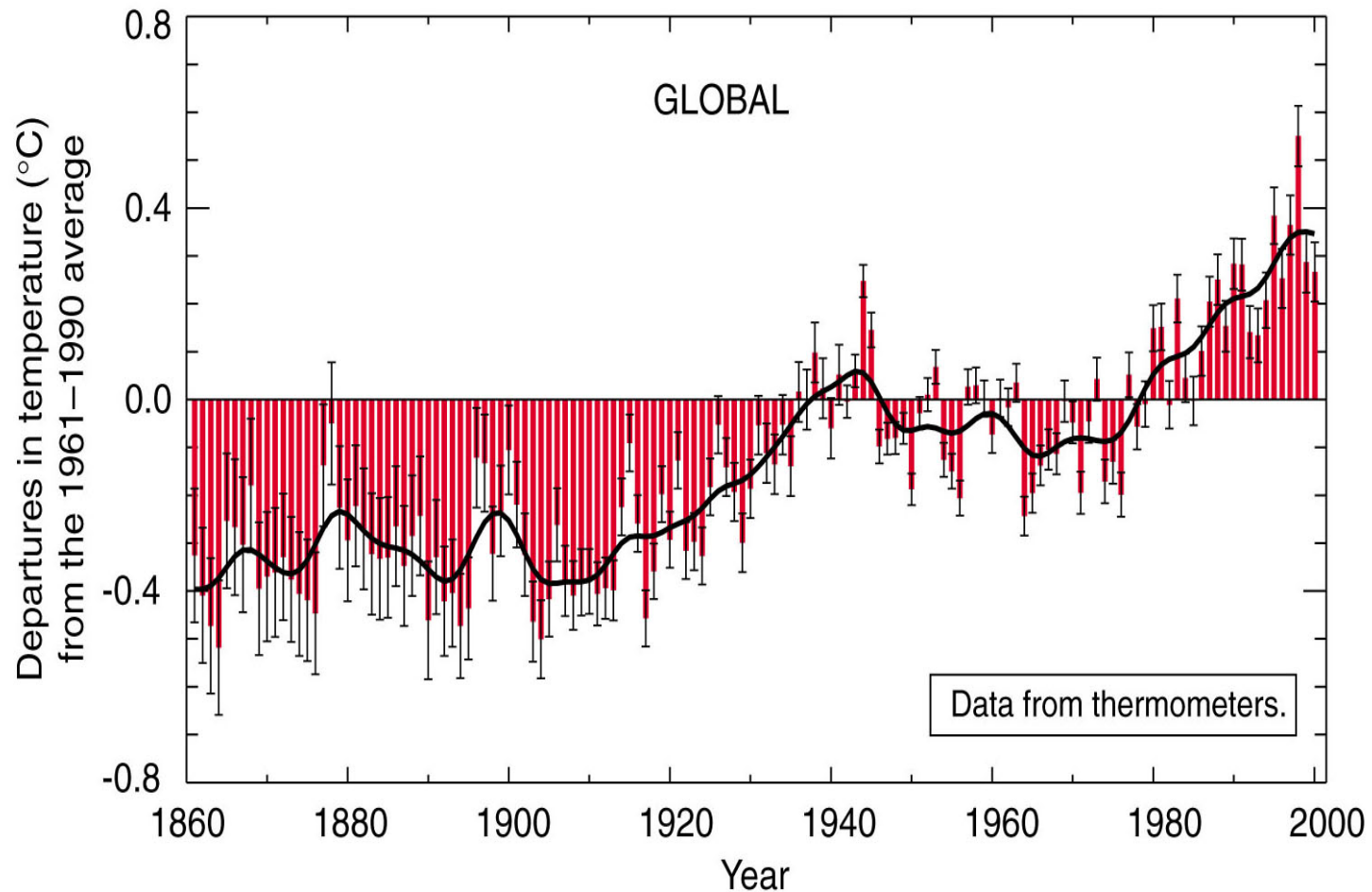


SYR - FIGURE 2-1
WG1 FIGURE SPM-2

Climate Change Is Not Monotonic nor Unidirectional



Climate Change Is Not Unidirectional



2007 forecast to be hottest year yet

Forecasters point to El Nino and global warming

The Associated Press

LONDON — A resurgent El Nino and persistently high levels of greenhouse gases are likely to make 2007 the world's hottest year over recorded, British climate scientists said Thursday.

Britain's Meteorological Office said there was a 60 percent probability that 2007 would break the record set by 1998, which was 1.20 degrees over the long-term average.

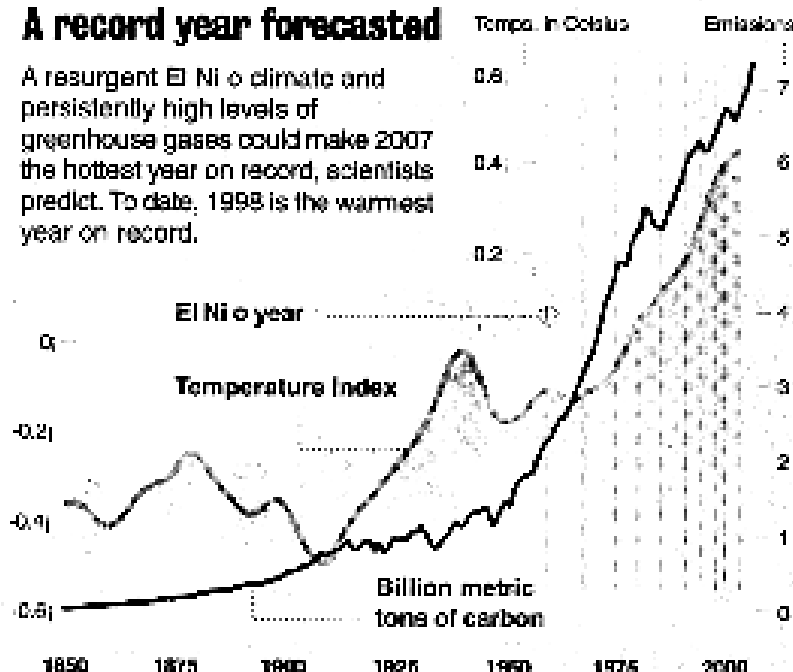
"This new information represents another warning that climate change is happening around the world," the office said.

The reason for the forecast is mostly due to El Nino, a cyclical warming trend now under way in the Pacific Ocean. The event occurs irregularly — the last one happened in 2002 — and typically leads to increased temperatures worldwide.

While this year's El Nino is not as strong as it was in 1997

A record year forecasted

A resurgent El Nino climate and persistently high levels of greenhouse gases could make 2007 the hottest year on record, scientists predict. To date, 1998 is the warmest year on record.



SOURCES: University of East Anglia; National Meteorological Programme (UK); National Oceanic and Atmospheric Administration; Oak Ridge National Laboratory

and 1998, its combination with the steady increase of temperatures due to global warming from human activity may be enough to break the Earth's temperature record, said Phil Jones, the director of the Climatic Research unit at the

University of East Anglia.

"Because of the warming due to greenhouse gases, even a moderate warming event is enough to push the global temperatures over the top," he said.

"El Nino is an independent

variable," he said. "But the underlying trends in the warming of the Earth is almost certainly due to the release of carbon dioxide into the atmosphere."

El Nino can sometimes lead to milder weather, such as in the the northeastern United States or the Atlantic Ocean, which is likely to see fewer hurricanes this year. However, it can also increase the severity of weather-related disasters, such as typhoons in the Philippines or drought in southern Africa and Australia, a country that is already suffering through its longest dry spell on record.

Environmental groups said the report added weight to the movement to control greenhouse gases.

"The evidence that we're doing something very dangerous with the climate is now amassing," said Campaign against Climate Change coordinator Philip Thornhill.

"We need to put the energy and priority (into climate change) that is being put into a war effort," Thornhill said.

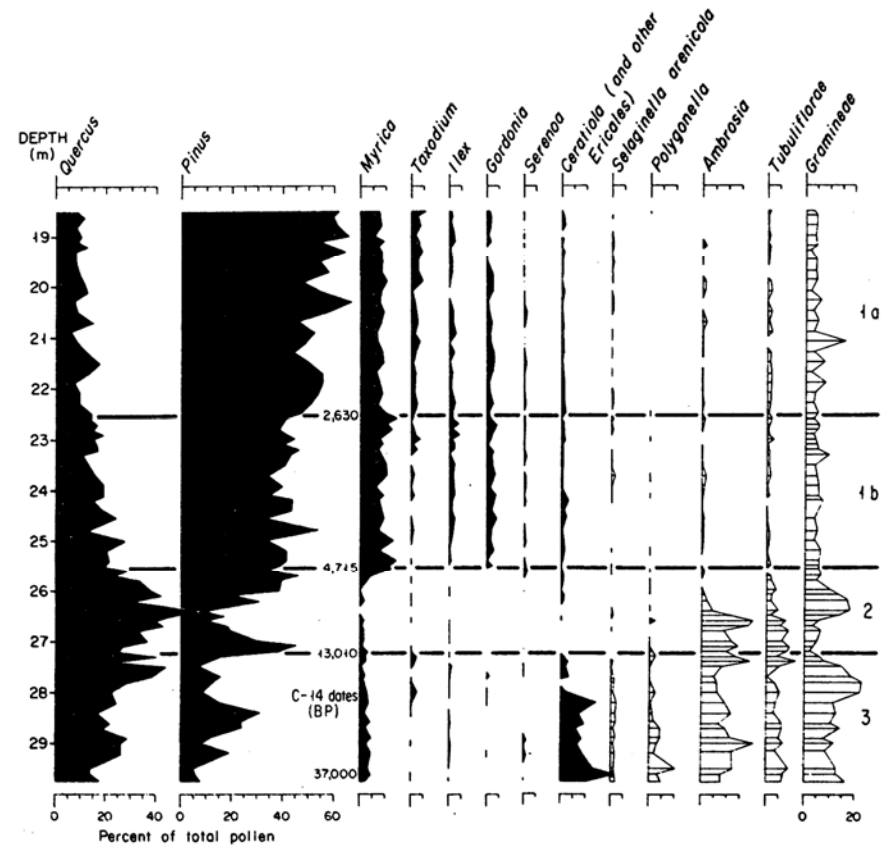
LONG TERM CLIMATE CYCLES



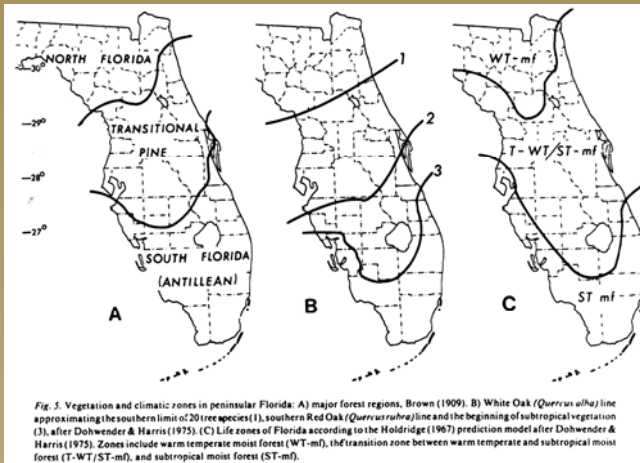
LONG TERM CLIMATE CYCLES

- ◆ OSCILLATES WET/DRY
- ◆ LAKE FILLING 5,000 YEARS AGO (NEWNANS LAKE)
- ◆ SEA LEVEL AFFECTS GROUNDWATER
- ◆ FLORIDA ECOSYSTEMS YOUNG

Lake Annie, Florida



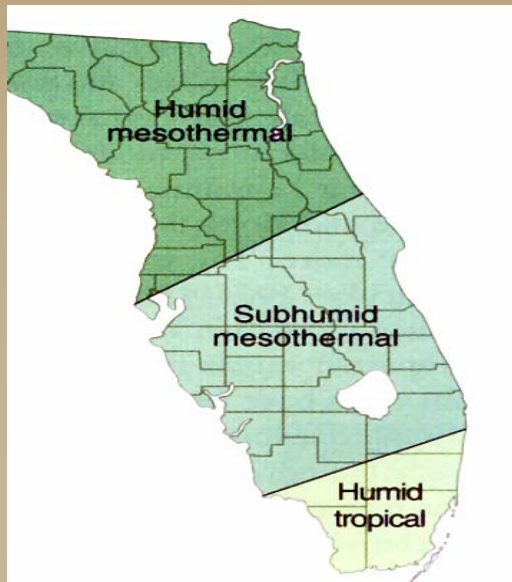
Florida Has Rapid Climate Zone Transitions (<300 km)



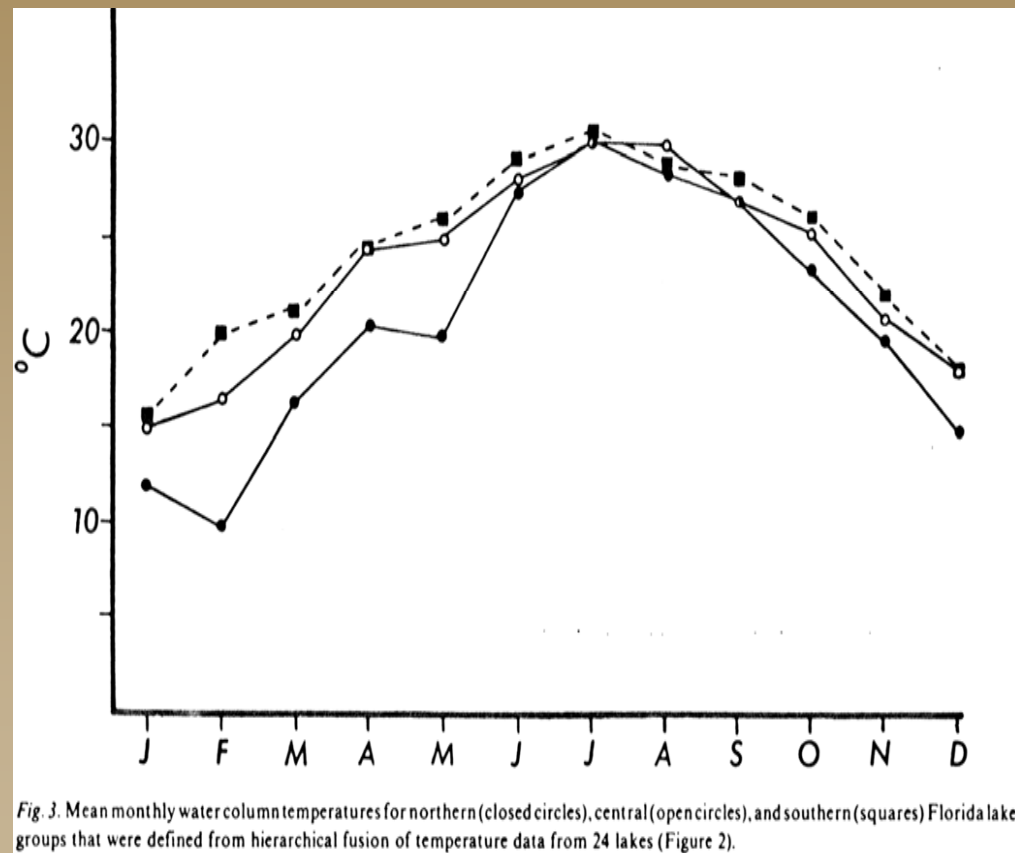
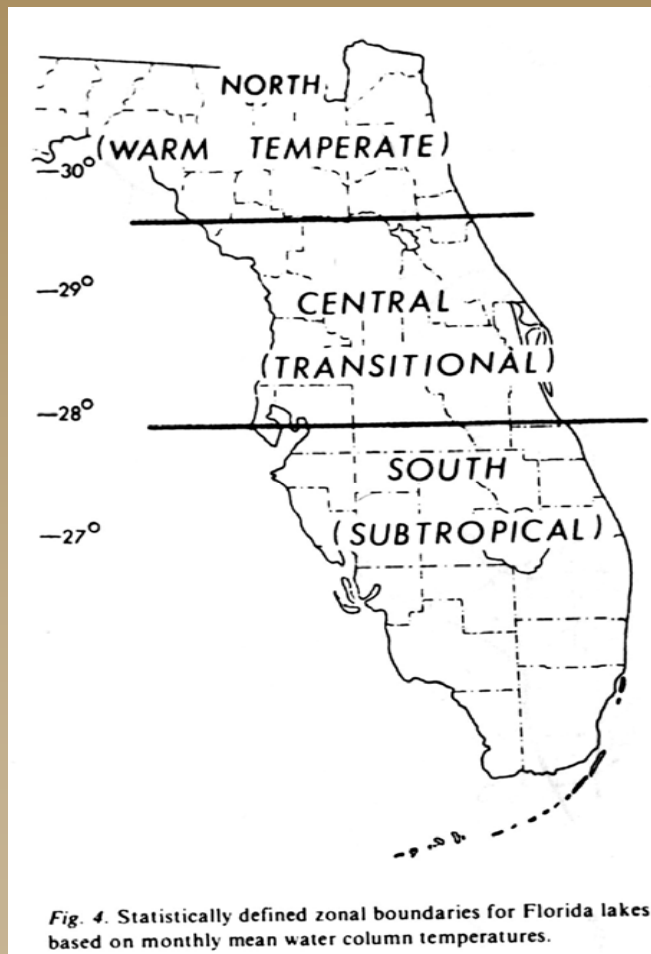
◆ Geographic analogues are few

◆ Southern Brazil

◆ Uruguay



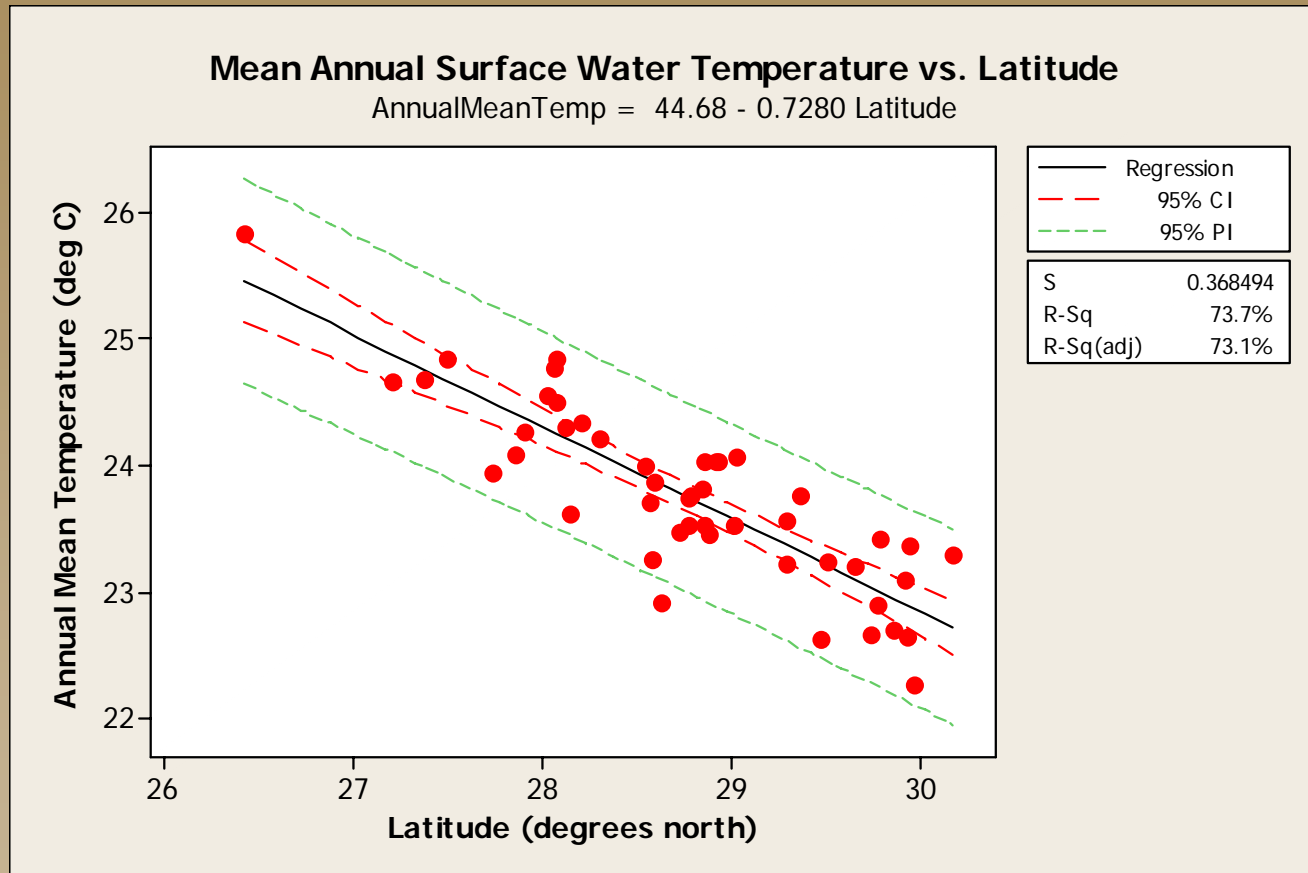
Lake Thermal Regimes 1980



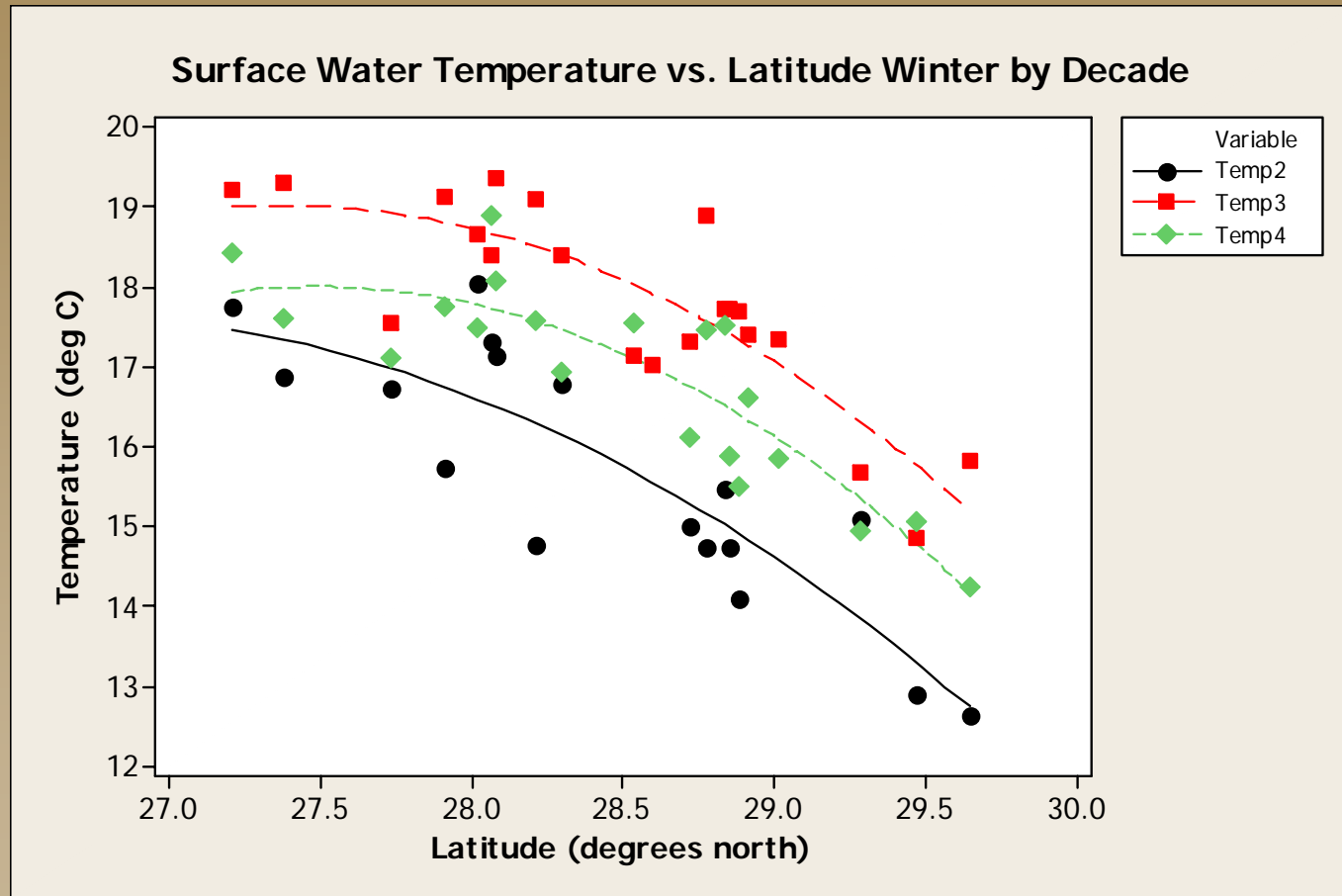
FLORIDA CLIMATE CHANGE DEDUCED FROM LAKE TEMPERATURES



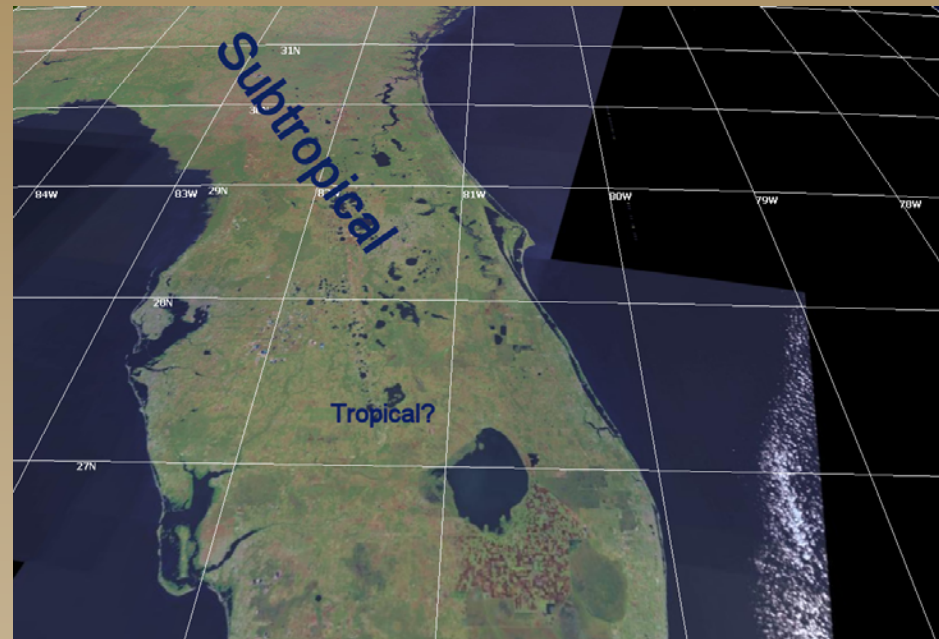
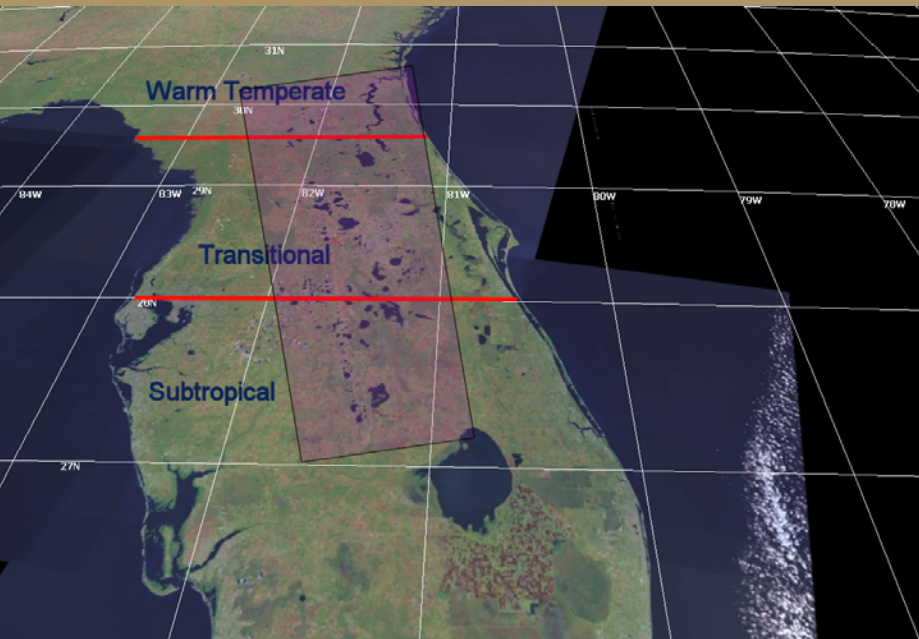
Latitude-Temperature Relationships



Latitude-Temperature Relationships



What If Climate Zones Shift North in Florida?????



PROBLEMS WITH MODELS

- ◆ DIFFICULTY WITH FLORIDA
BECAUSE OF DOMINANCE BY COAST
- ◆ TOO LARGE A SCALE TO PICK UP
THE FINE ZONAL SHIFTS OF
FLORIDA

IMPACTS OF CLIMATE CHANGE IN FLORIDA

- ◆ Ecosystem Structure and Function
 - ◆ Sea Level Rise
 - ◆ Hurricane Frequency/Strength
 - ◆ Hydrology
 - ◆ Economic and Social
- 
- A stylized, low-poly silhouette of a mountain range in shades of brown and tan, located in the bottom right corner of the slide.

IMPACTS TO ECOSYSTEM STRUCTURE AND FUNCTION

- ◆ Exotic Species
 - 925 plants
 - 22 reptiles
 - 19(37) fish
 - 17 mammals
- ◆ Lake, Wetland, River, Estuary Management
 - Hydrilla, Water Hyacinth
 - Melaleuca, Brazilian Pepper
 - Lake Mixing Patterns
- ◆ Fire Frequency

Fire Frequency



PHYSICAL ENVIRONMENT IMPACTS

- ◆ Sea Level
- ◆ Temperature Change
- ◆ Alteration of lake mixing patterns
- ◆ Hydrology
 - Minimum water levels
 - Floods
 - Domestic, Agricultural Water Supply
 - Navigation
 - Ground Water Recharge
- ◆ Dissolved Oxygen
- ◆ Sink Holes (LAKE FORMATION)

ECONOMIC AND SOCIAL IMPACTS

- ◆ Agriculture (Citrus, Vegetables)
- ◆ Tourism
- ◆ Insurance Rates

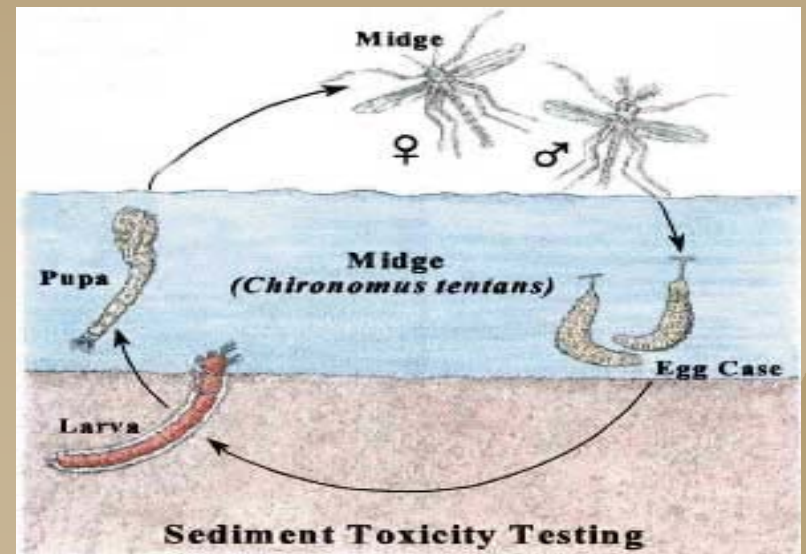
Citrus Zone



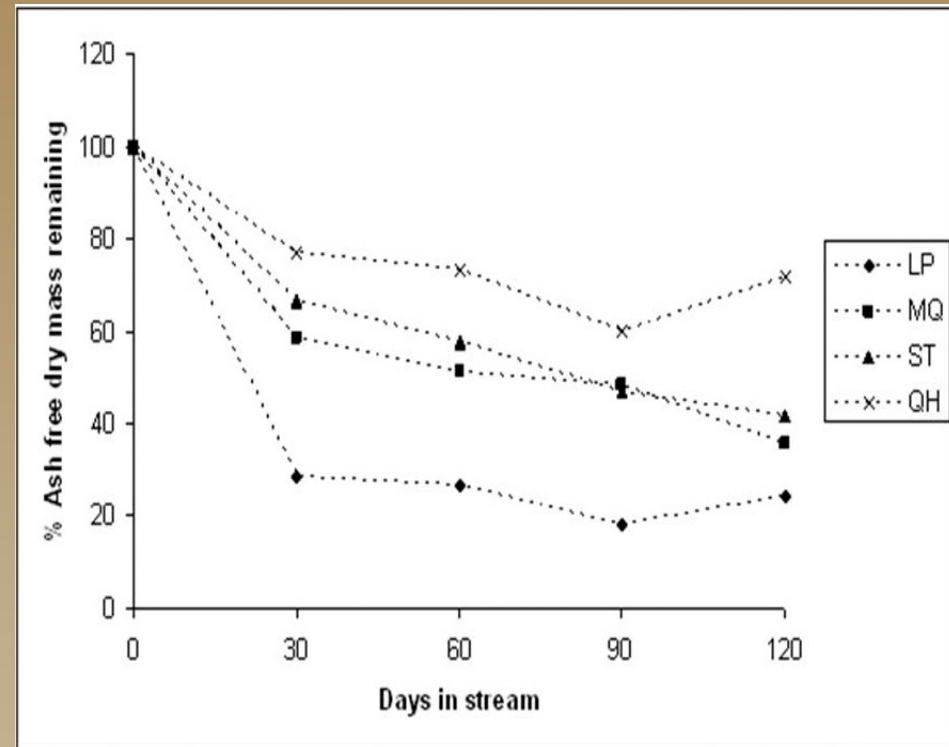
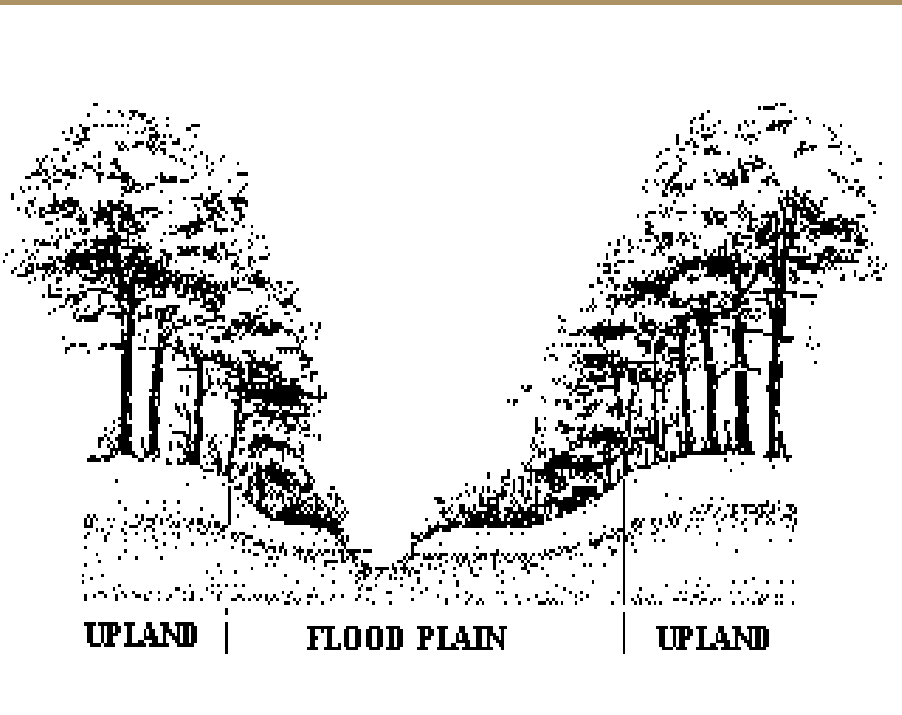
Impacts on Ecosystem Structure and Function



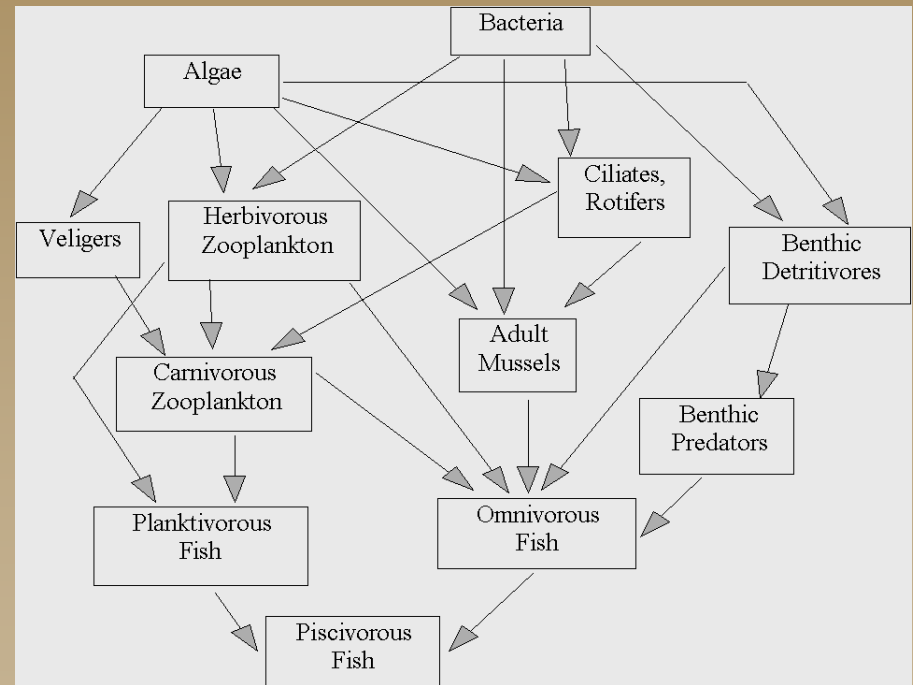
Wetlands and Migratory Birds



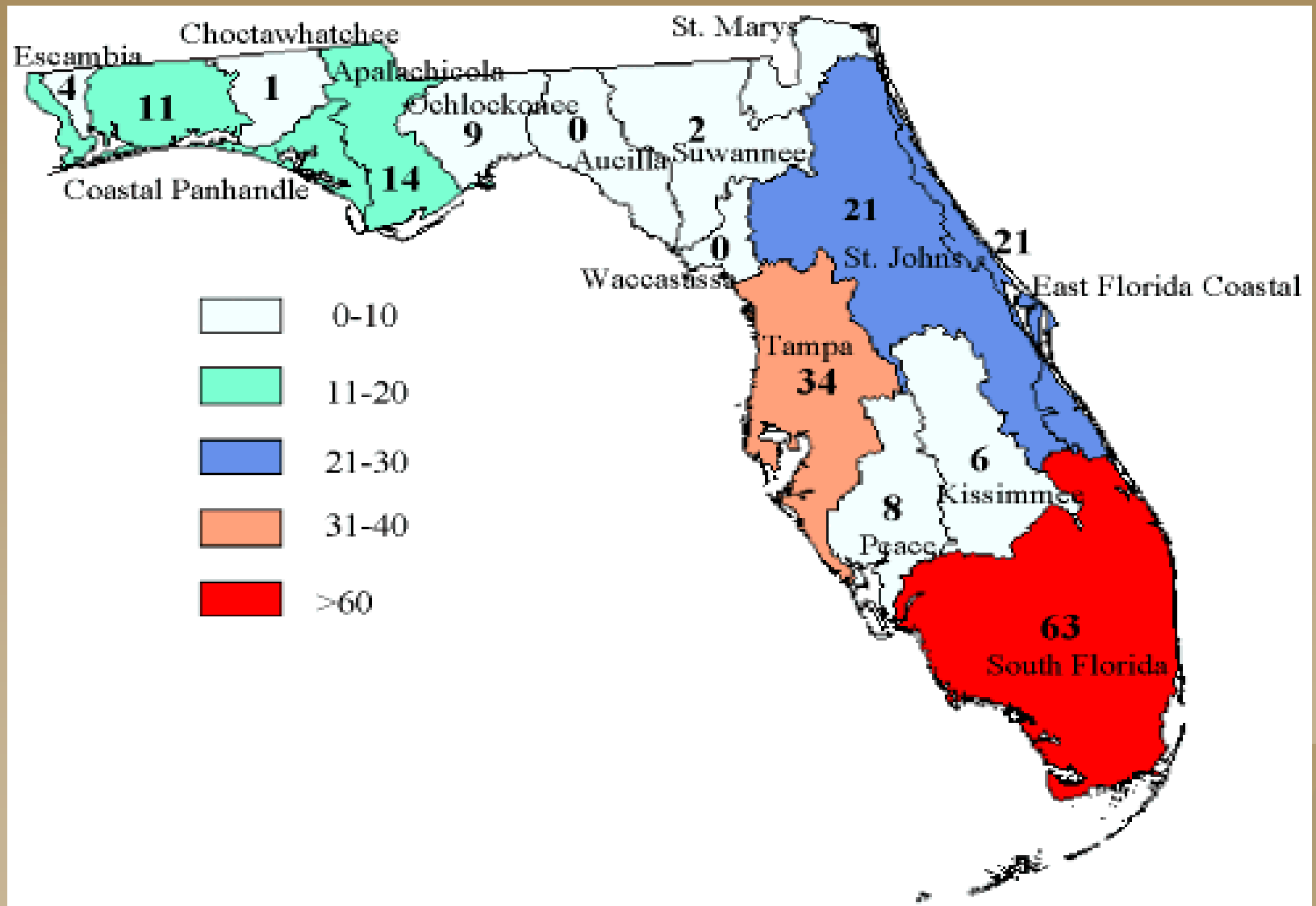
Exotic Plants in Stream Riparian Zones



Altered Lake Foodwebs

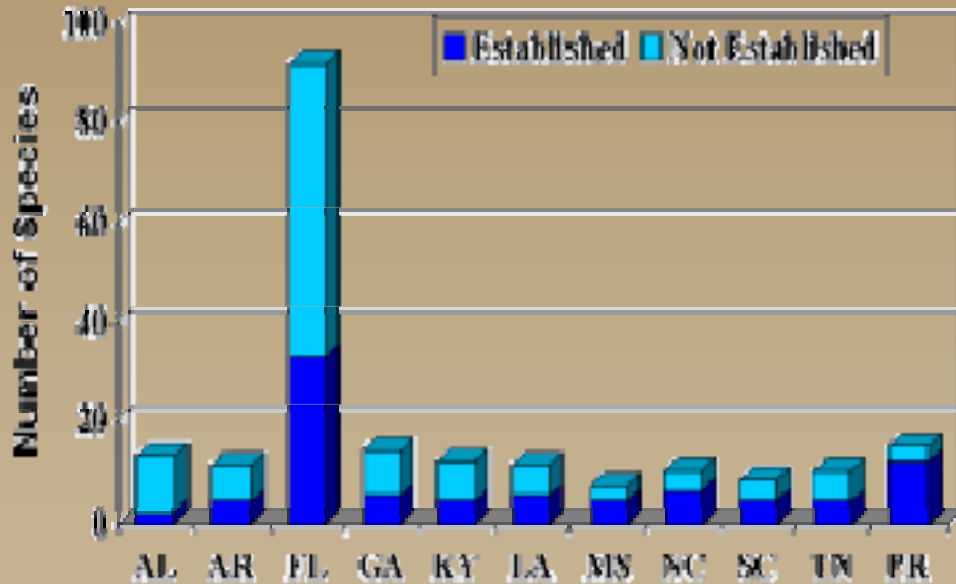


Distribution of Exotic Fish in Florida



Exotic Freshwater Fish

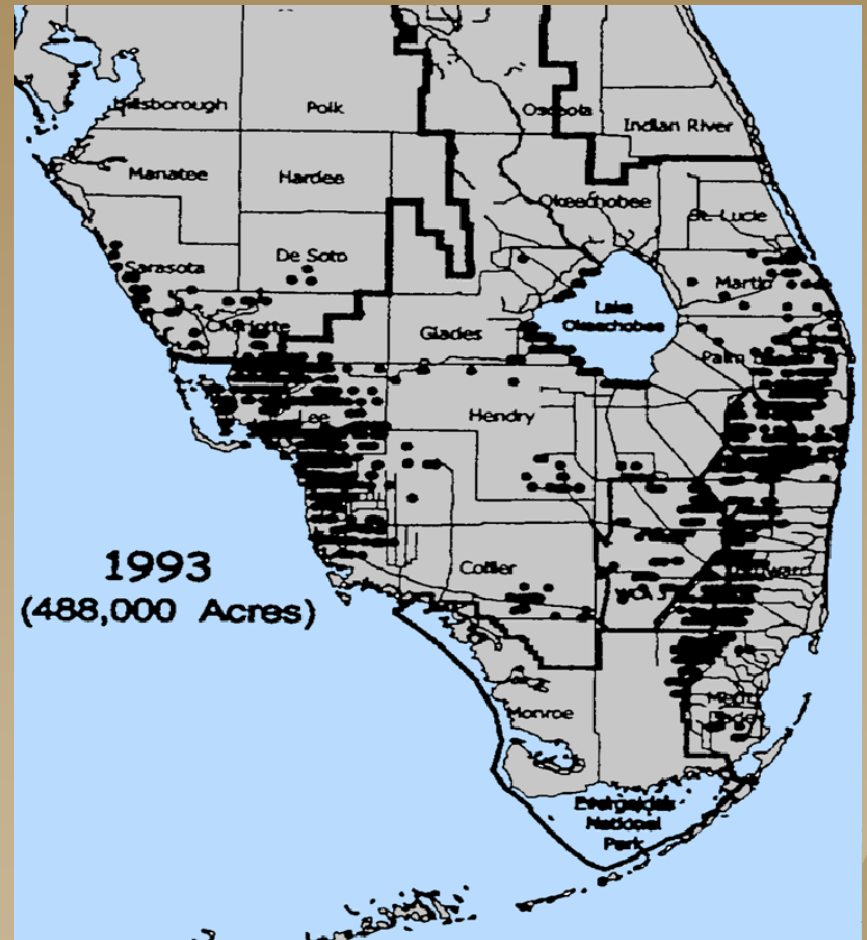
Exotic Fish Introductions



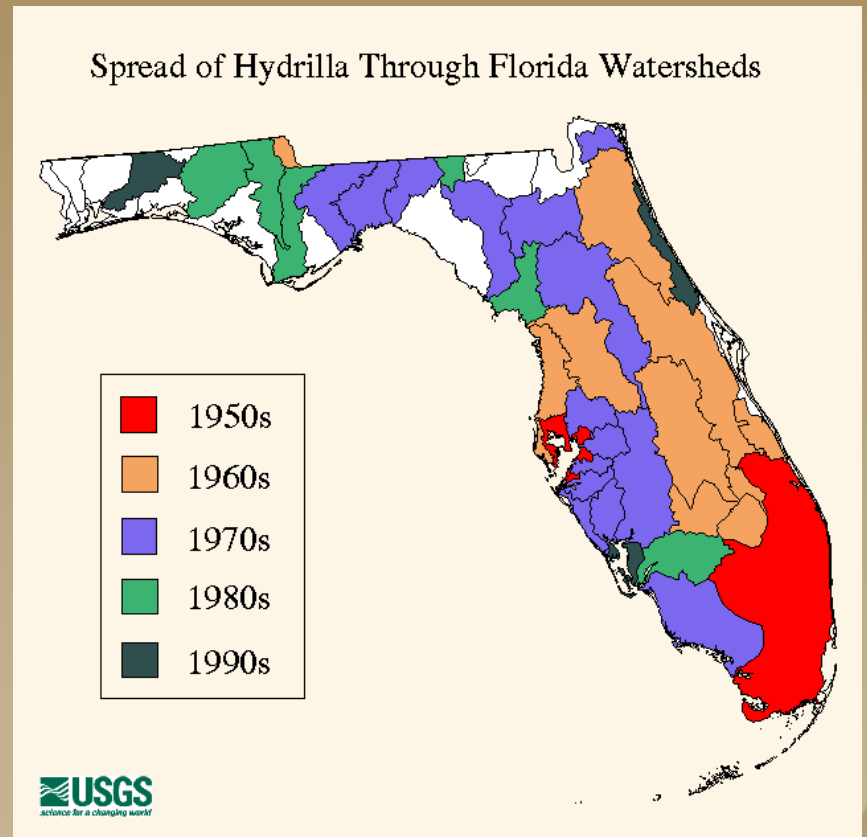
Exotic Terrestrial Plants



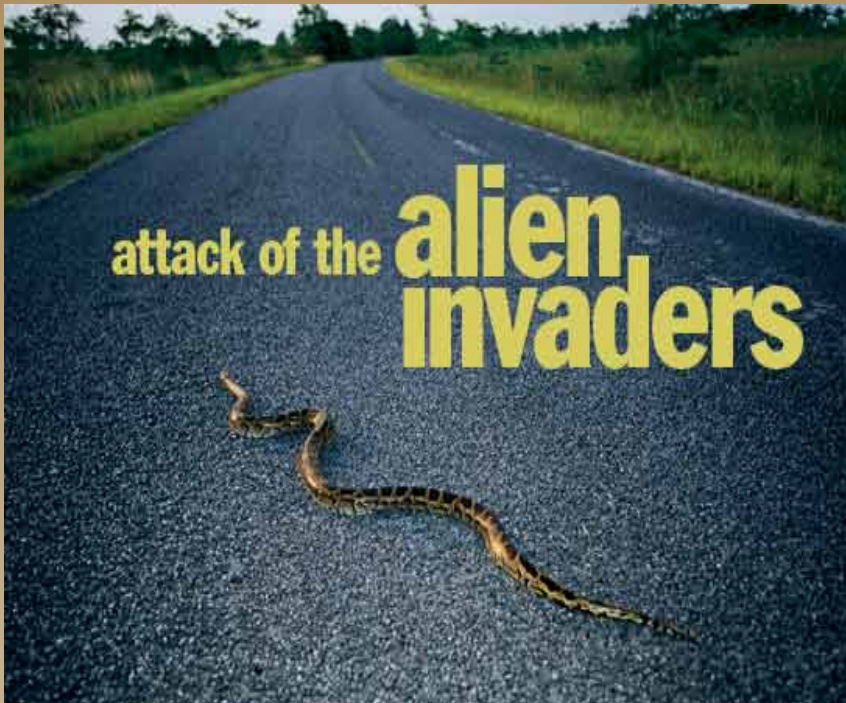
Melaleuca



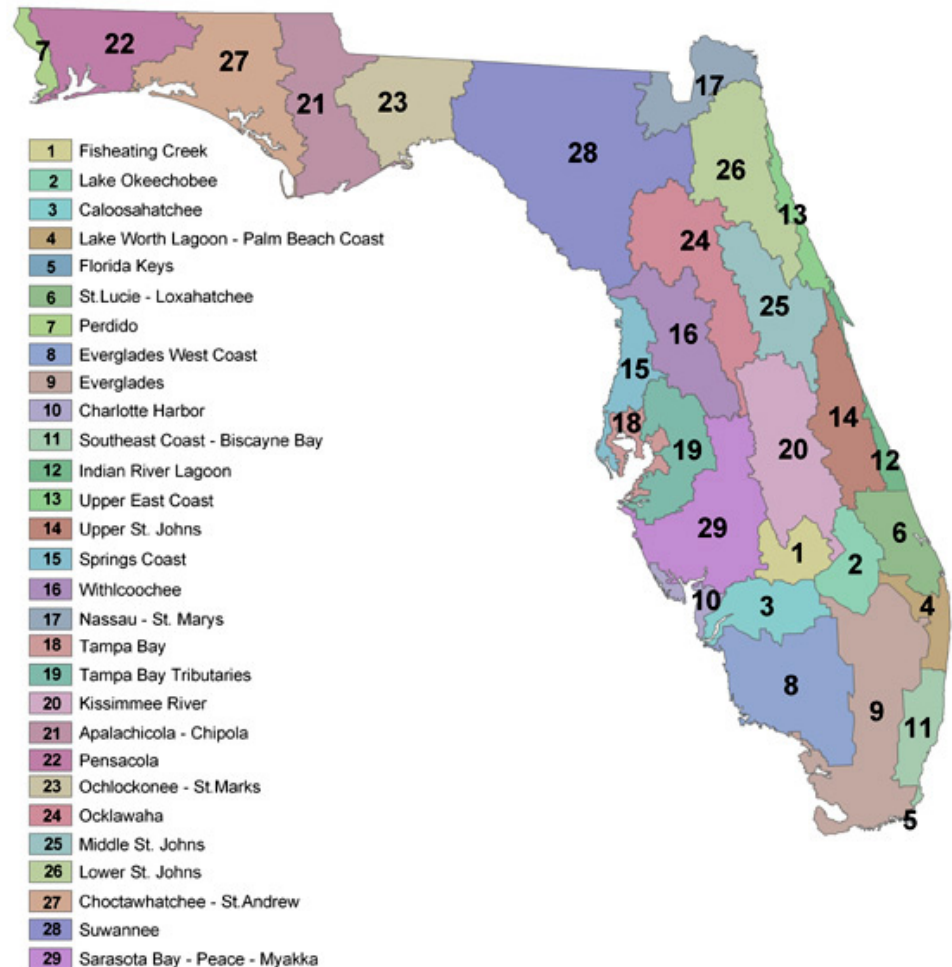
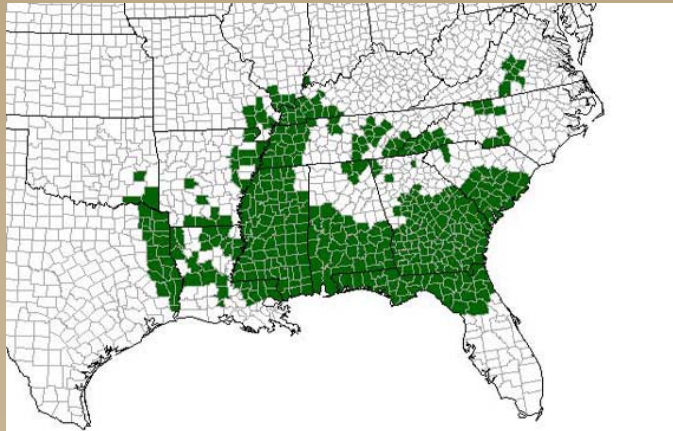
Exotic Freshwater Macrophytes




Exotic Reptiles




Amphibian Loss and N-S Corridors



Three Global Issues in Past Thirty Years

- ◆ Lake Eutrophication and Search for the Limiting Nutrient (N or P?)
 - ◆ Acid Rain
 - ◆ Climate Change
- 
- A stylized, low-poly mountain range graphic in shades of brown and tan, located in the bottom right corner of the slide.

What Do They Have In Common?

- ◆ Battle Royale Among Scientists, Private Sector and Government
 - ◆ Ground Swell of Grassroot Public Support Tipped the Scale to Resolution
 - ◆ Time and Money Were Wasted in the Interim
- 

Government Responds to Environment Via Public Input

EDITORIALS/LETTERS Thursday, January 25, 2007

ACCORDING TO JAKE



Public Addresses An Issue When They See or Anticipate Personal Impact



No Single Approach for Climate Change in Florida

Must Consider Responses
of Each Climate Zone


Are There Lag Times Between Action and Reaction

Do Responses to
Increasing and Decreasing
Human Inputs Differ?

Analogs for Florida Climate Change Response

- ◆ Southern Brazil-Uruguay
- ◆ Central China

Ecohydrology is Critical For Florida

- ◆ How Little Water Do Florida Ecosystems Require?
 - ◆ When is the Water Needed?
 - ◆ How Much Water is Needed?
 - ◆ How Long Annually is the Water Needed?
 - ◆ What Quality of Water is Needed?
- 

McMickey

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Coca-Cola
Coke



7 January 2017

YESTERDAY'S RESPONSE

What do you think of Florida's weather-related political issues?

Love it: 317

Miss the chill: 327

I like it, but I'm worried
about global warming: 219

ACCORDING TO JAKE



International Herald Tribune 9-10 July 2005

