The Coast is a Critical Part of South Florida Ecosystem Restoration

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NOAA's Trusteeships and Responsibilities

- NOAA Fisheries
  - Fish and Wildlife Coordination Act (FWCA) 1934
  - Magnuson-Stevens Fishery Conservation and Management Act (FMCA) for conservation and management of living marine resources and critical habitats- 1976
  - Endangered Species Act (ESA) for the protection of endangered and threatened marine species- 1973
  - The Marine Mammal Protection Act (MMPA) for protection of marine mammals- 1972
- NOAA National Ocean Service
  - Florida Keys National Marine Sanctuary and Protection Act (FKNMSA)-1990
  - National Marine Sanctuaries Act (NMPA)-1972
  - Coastal Zone Management Act (CZMA) -1972

NOAA's Strategic Plan Goals

To achieve its mission, NOAA's focus through 2008 will be on four overarching goals:

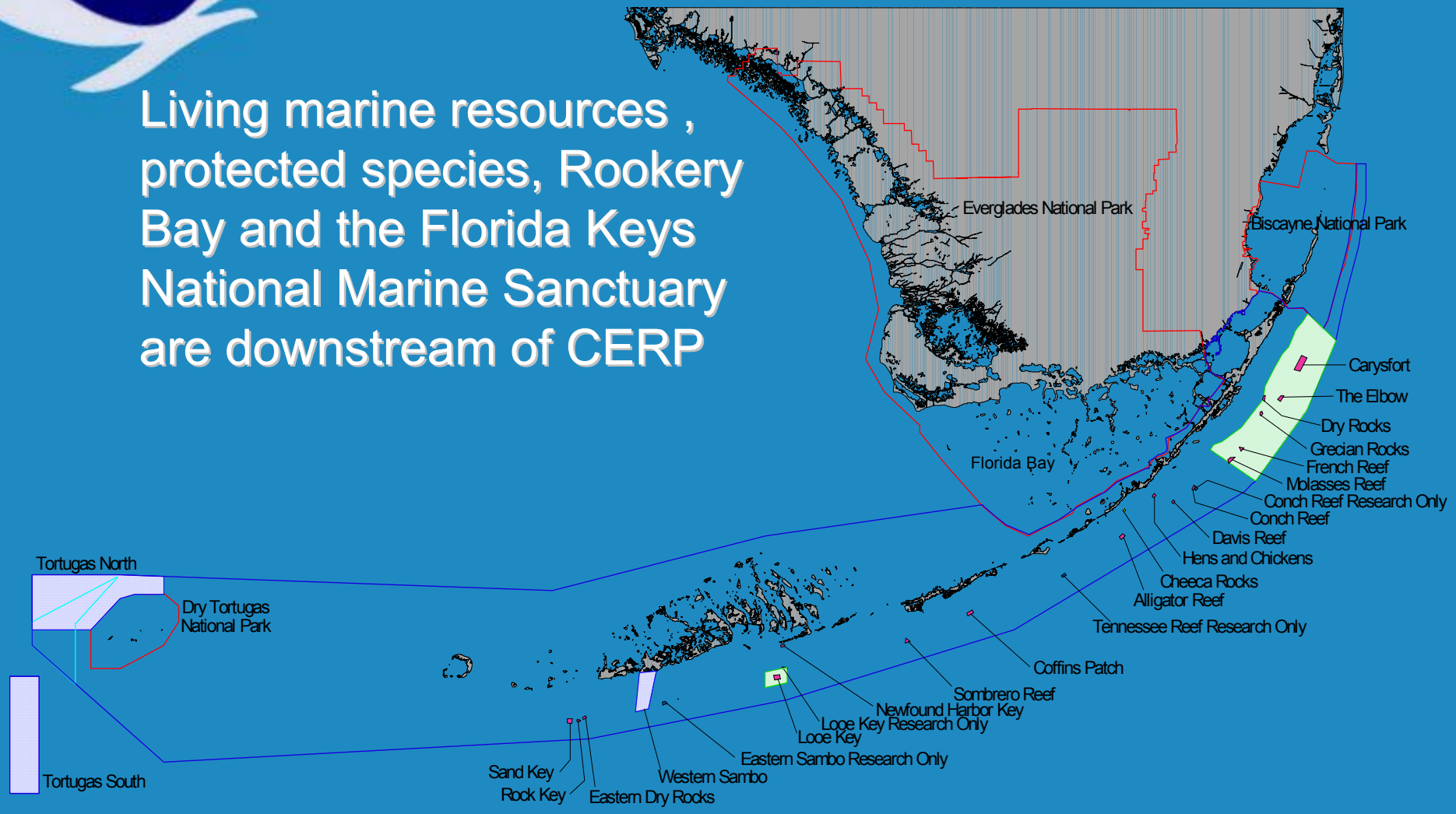
1. Protect, restore, and manage the use of coastal and ocean resources through ecosystem-based management approaches.

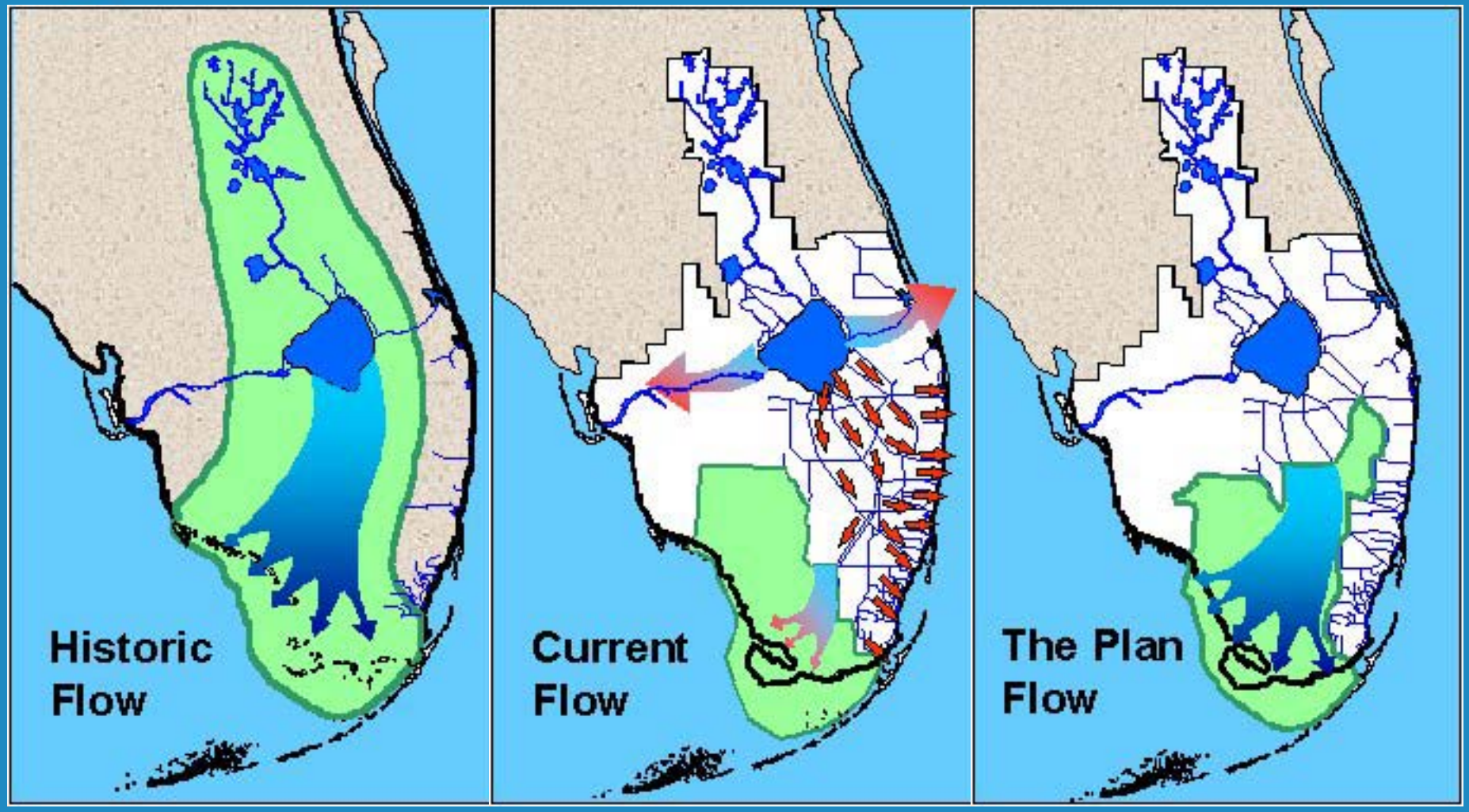
2. Understand climate variability and change to enhance society's ability to plan and respond.

3. Serve society's needs for weather and water information.

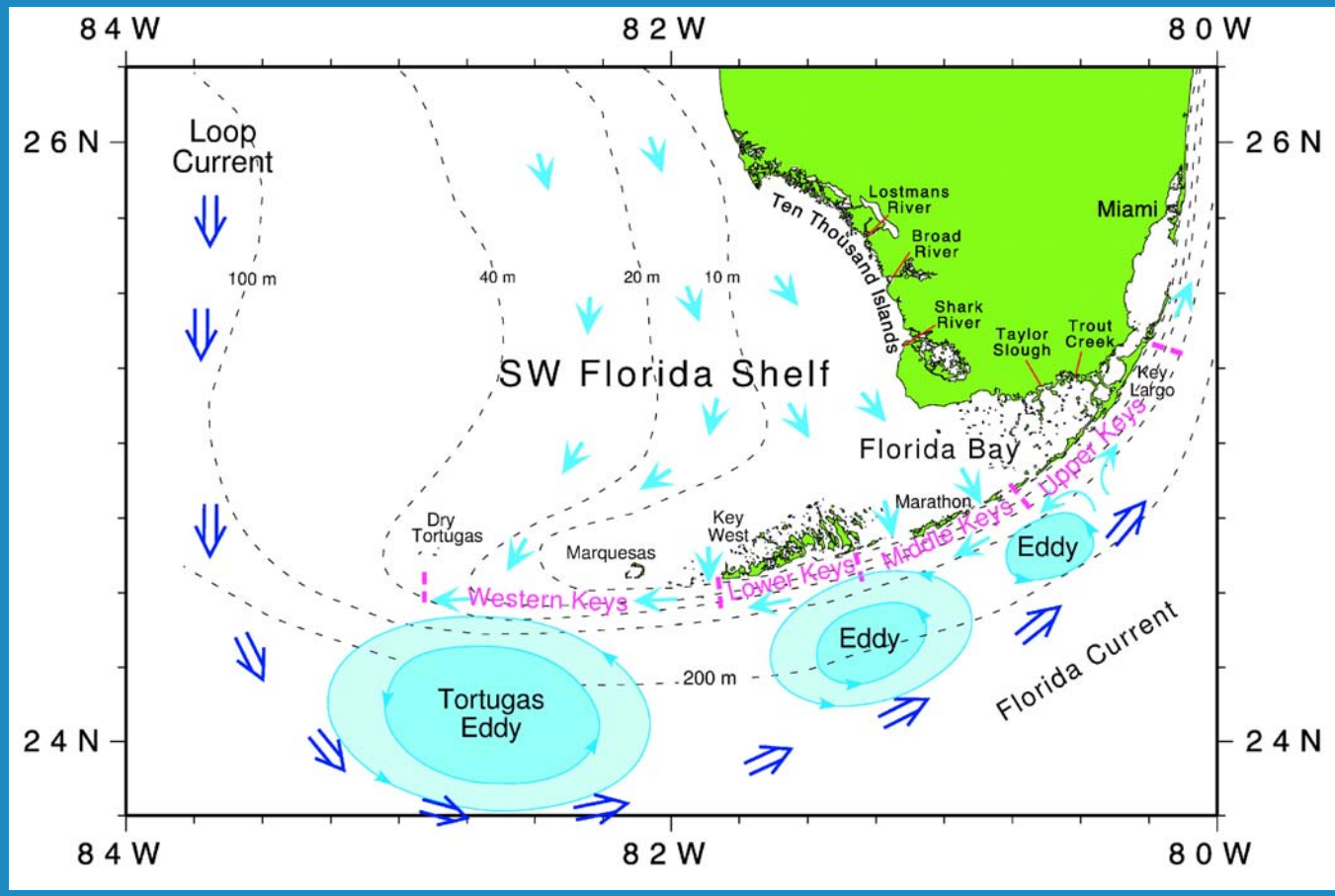
4. Support the Nation's commerce with information for safe and efficient transportation.

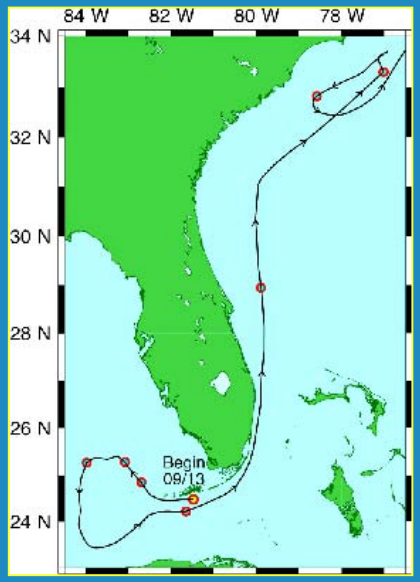
Living marine resources , protected species, Rookery Bay and the Florida Keys National Marine Sanctuary are downstream of CERP

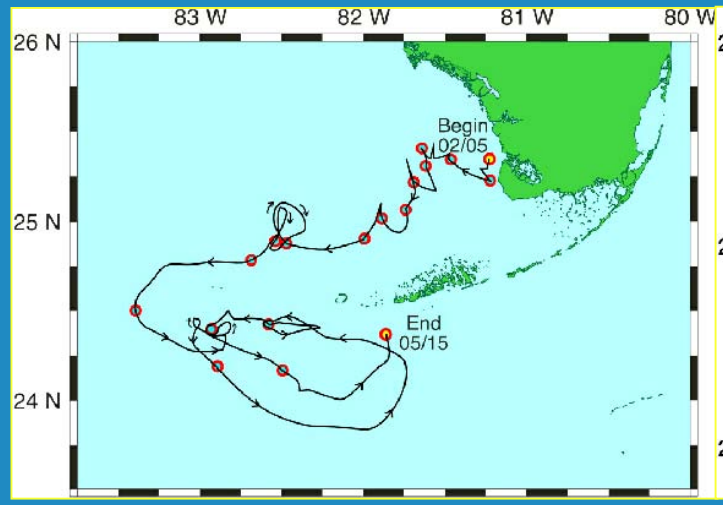


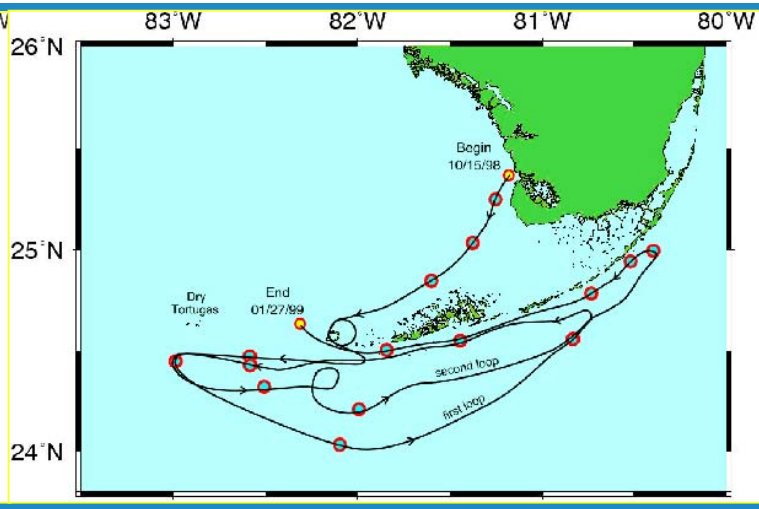

Historic Flow
Current Flow
The Plan Flow

Physical processes closely couple the entire S FL ecosystem.









Schematic circulation and satellite-tracked surface drifters

South Florida Ecosystem Restoration must include the Coastal Ecosystem. It is among the most threatened and the most valuable systems in South Florida.

Getting the Water Right is essential to Restoring the Coastal Ecosystem

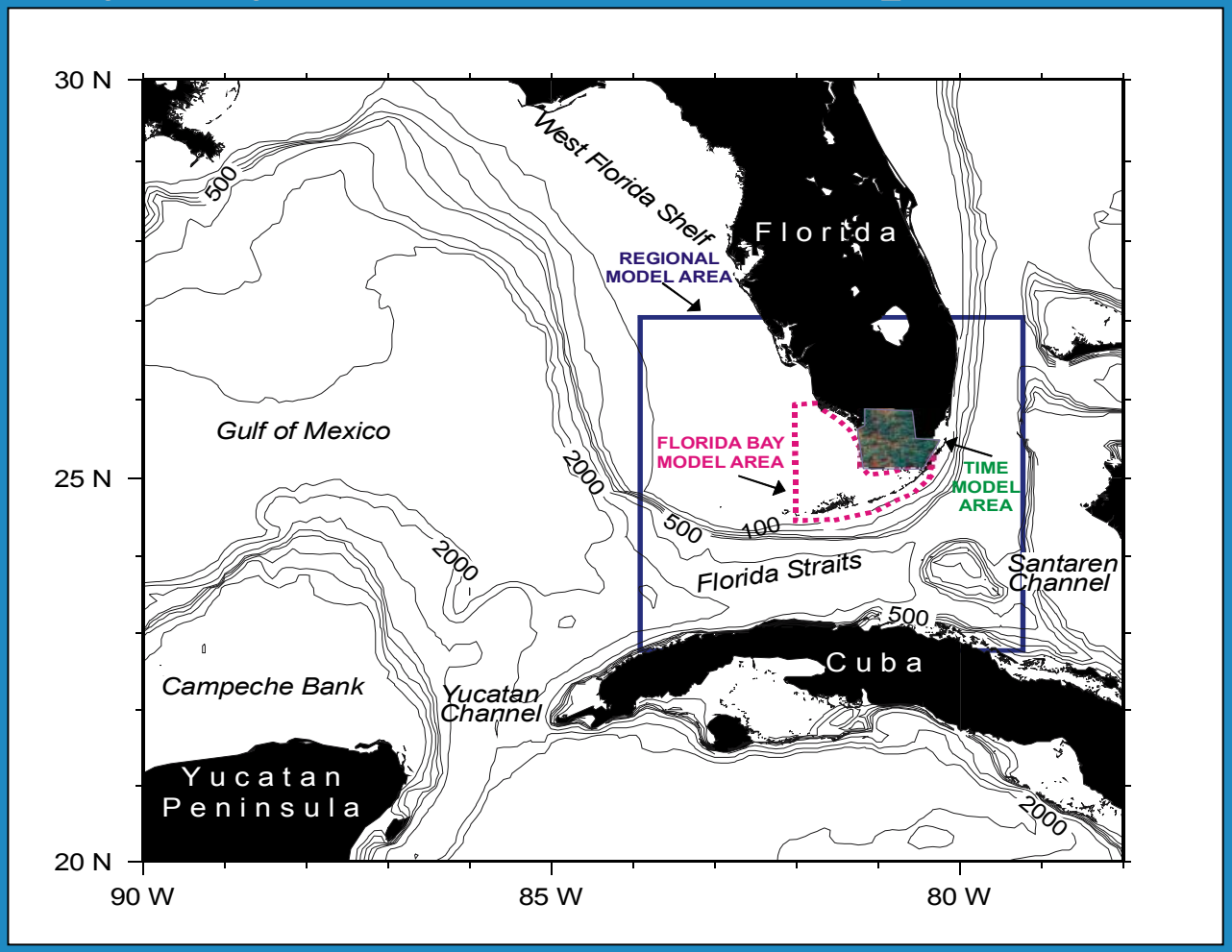
- Predicting changes and/or effects of restoration upon this system requires models
- Such models must be supported by comprehensive data and observations
- The NOAA SFP is covering many of these needs

BUT

In the Coastal Ecosystem neither Modeling nor Monitoring can be accomplished by a single agency

The Florida Bay/Florida Keys Feasibility Study Physical Model Workplan

The process addressing the critical modeling deficiency highlighted by GAO provides an example

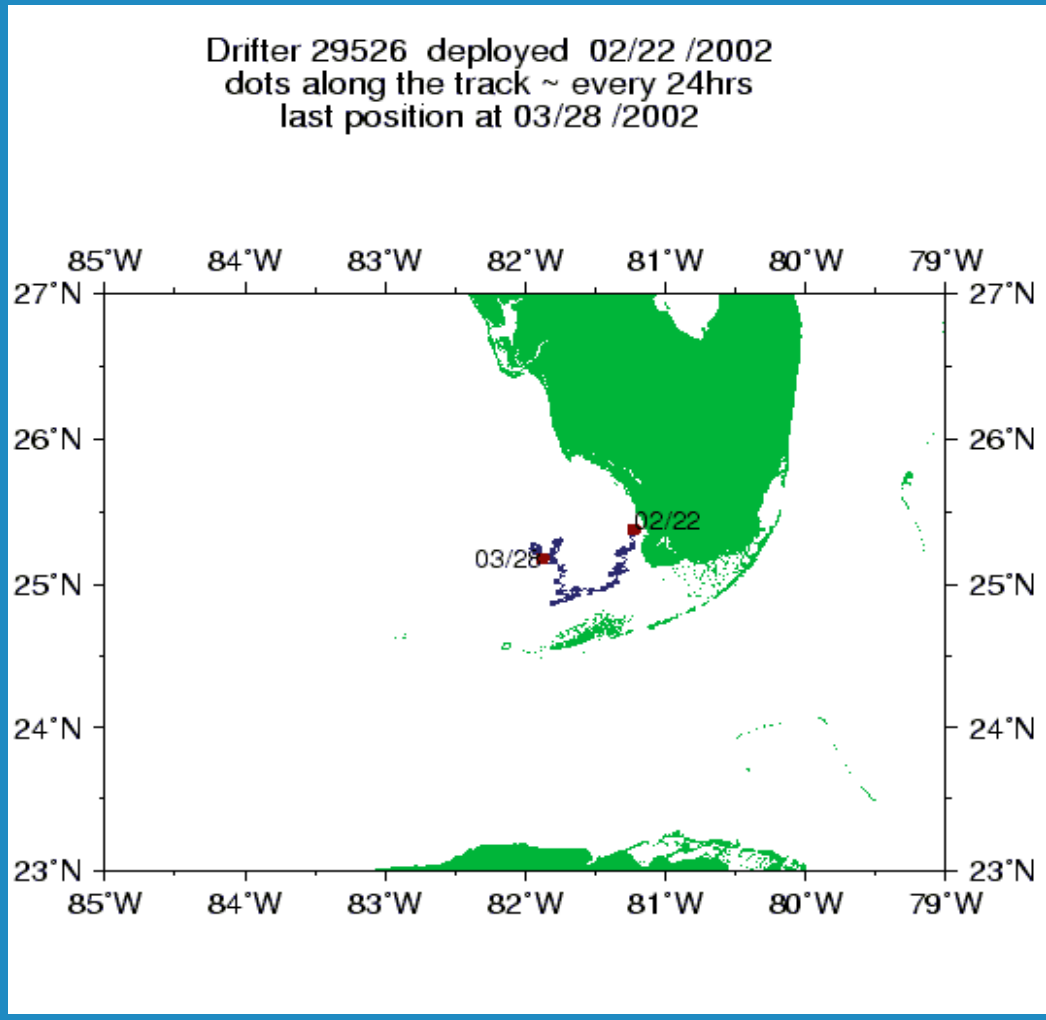


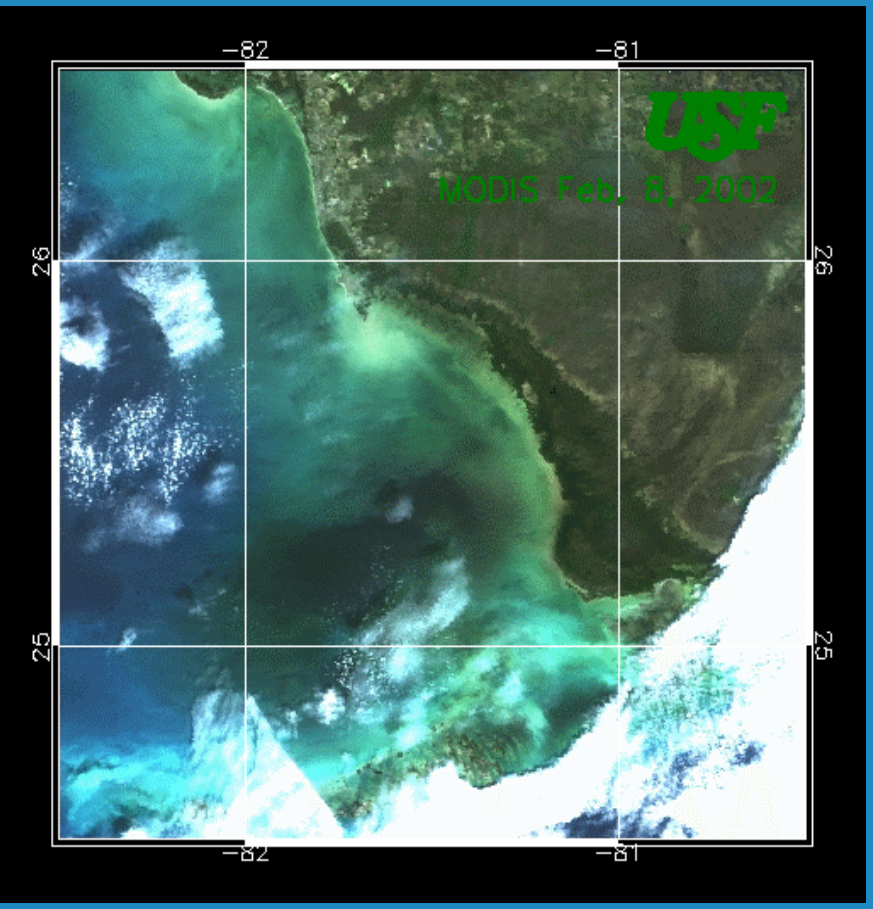
Regional Model - NOAA
Inner Bay Model - SFWMD
Coastal Hydrological Model- USGS

Understanding the Causes of Ecosystem Change Requires Commitment to Sustained Observations

"Need Long-Term Monitoring"

Satellite Drifter

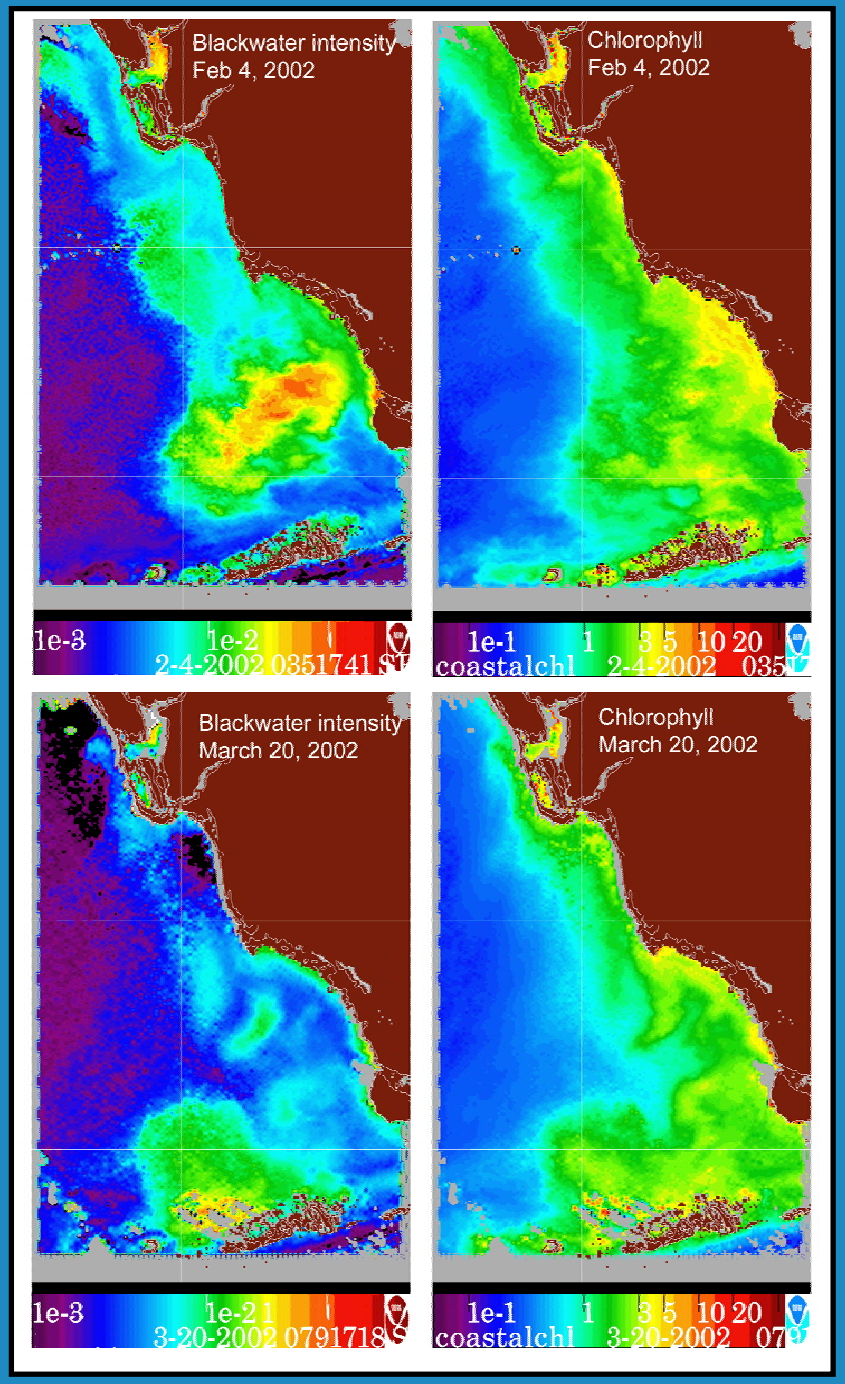




True color image

Feb 2002 Blackwater Event

Blackwater imagery 4 February: large area on SW Shelf



High concentration of phytoplankton

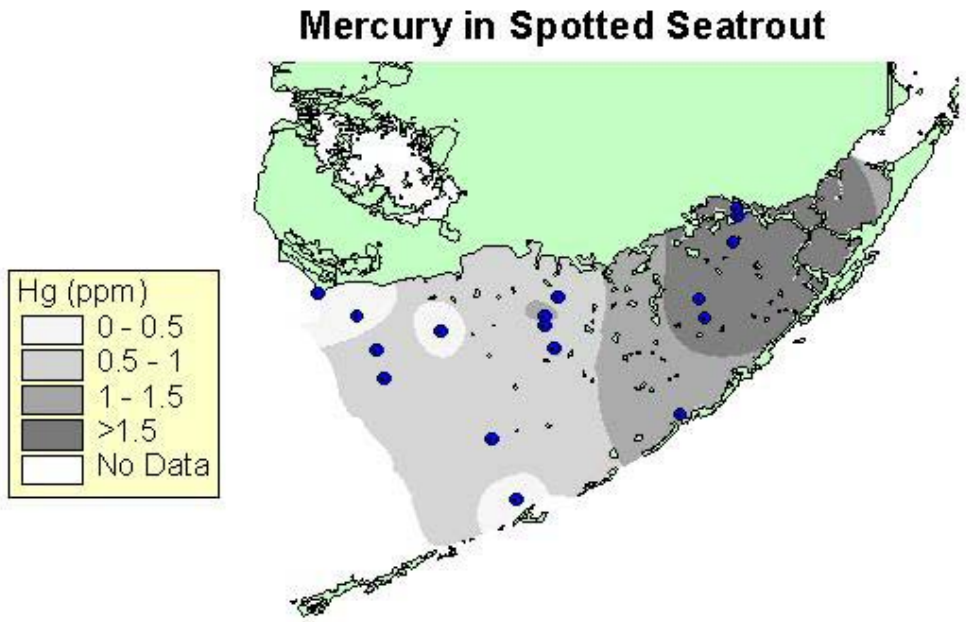
Blackwater imagery 20 March: remnant at Lower Keys

Phytoplankton concentrated along Lower Keys and 10,000 Islands coast

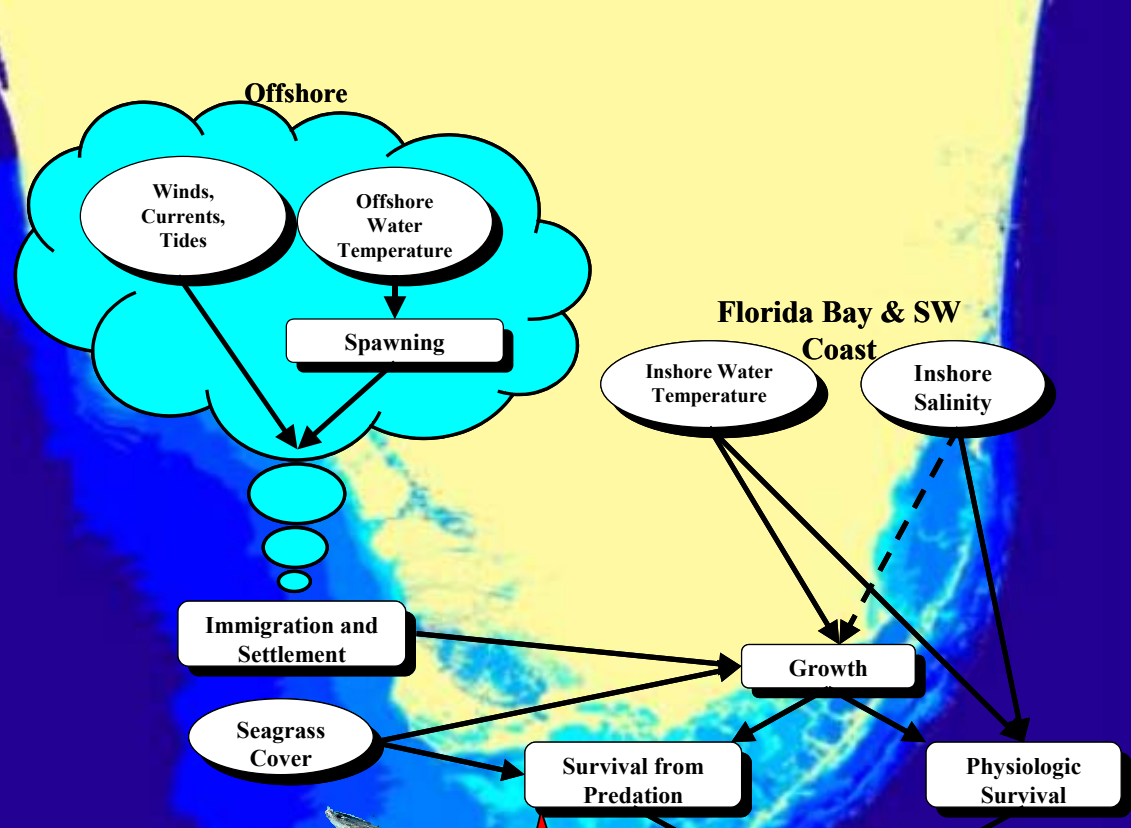
Issues of NOAA Concern

- **Water Quality**
  - Nitrogen Stimulated Eutrophication
  - Mercury Concentrations in fish
  - Endosulfan (pesticides)
  - Changes within the FKNMS
- **Living Marine Resources**
  - Pink shrimp recruitment and freshwater inflow
  - Populations of reef fishes, spiny lobster, queen conch etc…
- **Critical Habitats**
  - Seagrass Beds
  - Coral Reefs
- **Public Misconceptions**
  - Florida Bay's Murky Past

Water Quality

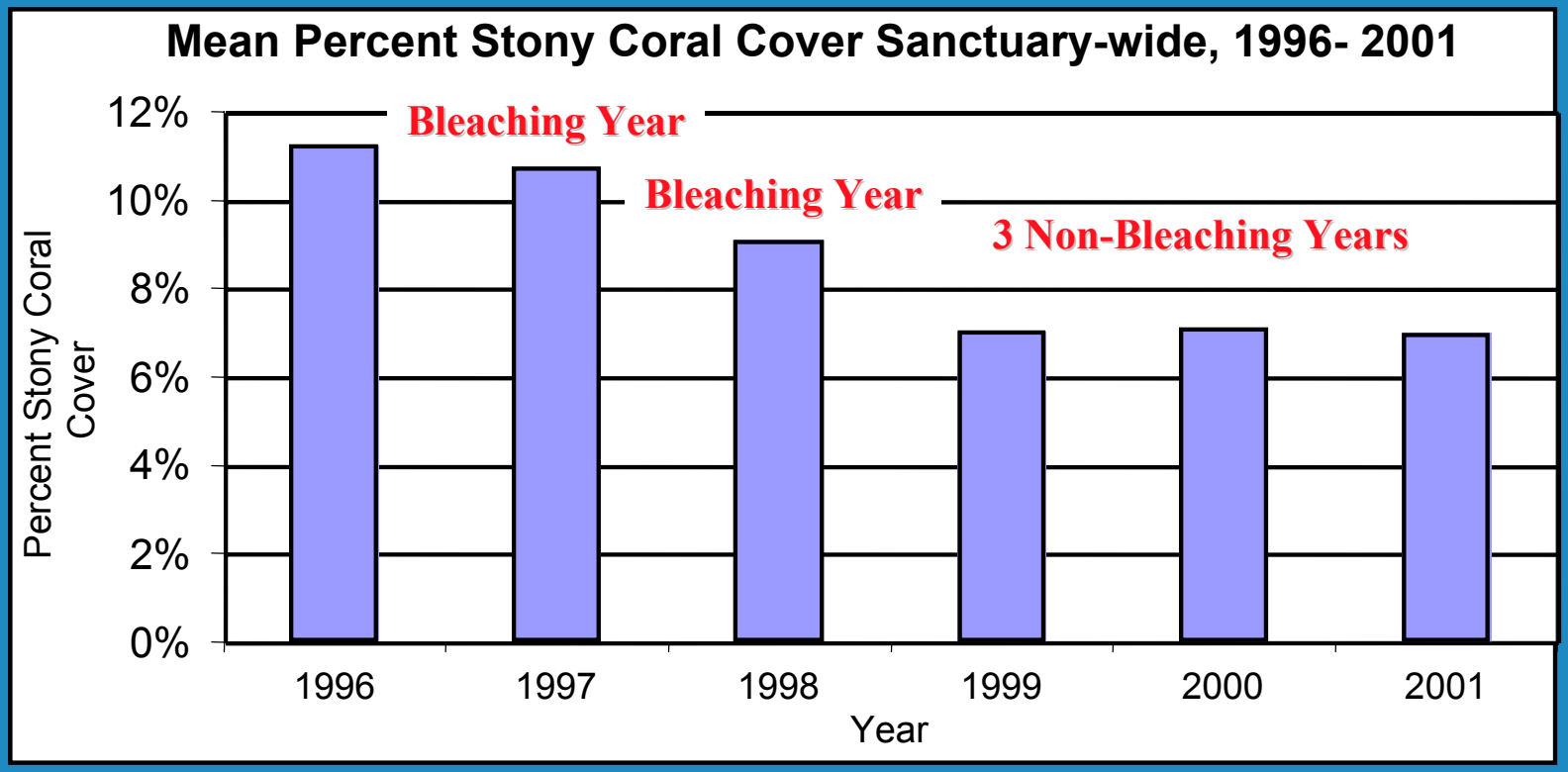


Pink shrimp spawn offshore near the Dry Tortugas and migrate onto nursery grounds in Florida Bay and nearby mangrove estuaries. When they grow up, they leave the nursery grounds for Tortugas spawning grounds.



Living Marine Resources

Critical Habitats



Public Misconceptions

RECOMMENDATIONS

Integrated Comprehensive Coastal Monitoring is required to track SF Restoration

Integrated Coastal Modeling is required to achieve SF Restoration

Critical Marine Species and Habitats must be used by CERP as Goals and Performance Measures

More Outreach and Education is needed to reduce public misconceptions