Quick analysis of currently available data
Chlorophyll (ug/L)

- Tidal fresh
- Mixing
- Saltwater
- average/total

Chlorophyll (ug/L)
Macroalgae HAB SAV

Number of estuaries:

- Problem
- No prob
- Problem
- No prob
- Gain
- No change
- Loss

Tidal fresh
Mixing
Saltwater
Expected future nutrient loads

Number of estuaries

- Increase
- No Change
- Decrease

Series 1
Overall Eutrophic Condition

Primary symptoms:
average of values for Chl a and macroalgae; average = 0.51

Secondary symptoms:
highest or worst impact is selected using a precautionary approach; average = 0.50
Primary symptom expression vs. chlorophyll

Chlorophyll conc (seawater) vs. Primary symptoms

Series 1
Primary symptom expression vs. DO

Dissolved oxygen (mg/L)

Primary symptom expression

Series 1
Overall Eutrophic Condition

Draft 2004
Overall Eutrophic Condition

1999

Draft 2004
North Atlantic

Key features:
1. Mountainous
2. Meso-macro tidal, well-flushed
3. Low freshwater input
4. Rocky shoreline and extensive mudflats
5. Cool temperature

Major nutrient inputs:
1. Urban
2. Septic
3. Agriculture (potatoes, cranberries)
4. Atmospheric deposition
5. Upwelling

Indicator variables:
1. Chlorophyll a (moderate levels for the majority of estuaries)
2. Dissolved oxygen (no major problems)
3. Seagrass
4. Harmful algal blooms (red tide)
5. Macroalgae
6. Clams, menhaden/bluefish, lobsters
Mid-Atlantic: Drowned river valley

Mid-Atlantic coast estuaries
22 estuaries
Drowned river valleys
(e.g. Chesapeake Bay, Delaware Bay, Long Island Sound, Buzzard's Bay, Narragansett Bay)

Key features:
1. Deep channels
2. Steepless channels
3. Marshes
4. River
5. Large watersheds
6. Large areas of mangrove
7. Temperature (°F/°C)

Major nutrient inputs:
- Urban run off
- Stormwater run off
- Atmospheric deposition
- Animal/animal farming

Indicator variables:
1. Chlorophyll a
2. Dissolved oxygen
3. Bacteria (pathogenic)
4. Mangrove
5. Harmful algae blooms
6. Crabs, eels

Coastal ocean conditions

INTEGRATION & APPLICATION NETWORK
Mid Atlantic: Coastal lagoon

Coastal lagoons
(e.g., Great South Bay, Barnegat Bay, New Jersey and Delaware Inland Bays, Maryland and Virginia Coastal Bays)

Key features:
1. Long lagoon
2. Tidal mudflats
3. Low elevation
4. Eutrophic
5. Water plants
6. Wind

Major nutrient inputs:
1. Septic
2. Agribusiness
3. Combined waste
4. Runoff
5. Atmospheric deposition

Indicator variables:
1. Chl-a
2. Dissolved oxygen
3. Secchi depth
4. Nutrients
5. Fish and bird biomass
6. Coral reef

Coastal ocean conditions

0.9 - 1.5 m
Main change: created new diagram for Florida's Atlantic coast

New key features: groundwater/stormwater

New inputs: agriculture, animal farming, silviculture, golf courses, suburban

New indicators: oysters and fisheries
Florida diagram: mangroves, coral reefs, deep injection wells, development, macroalgae