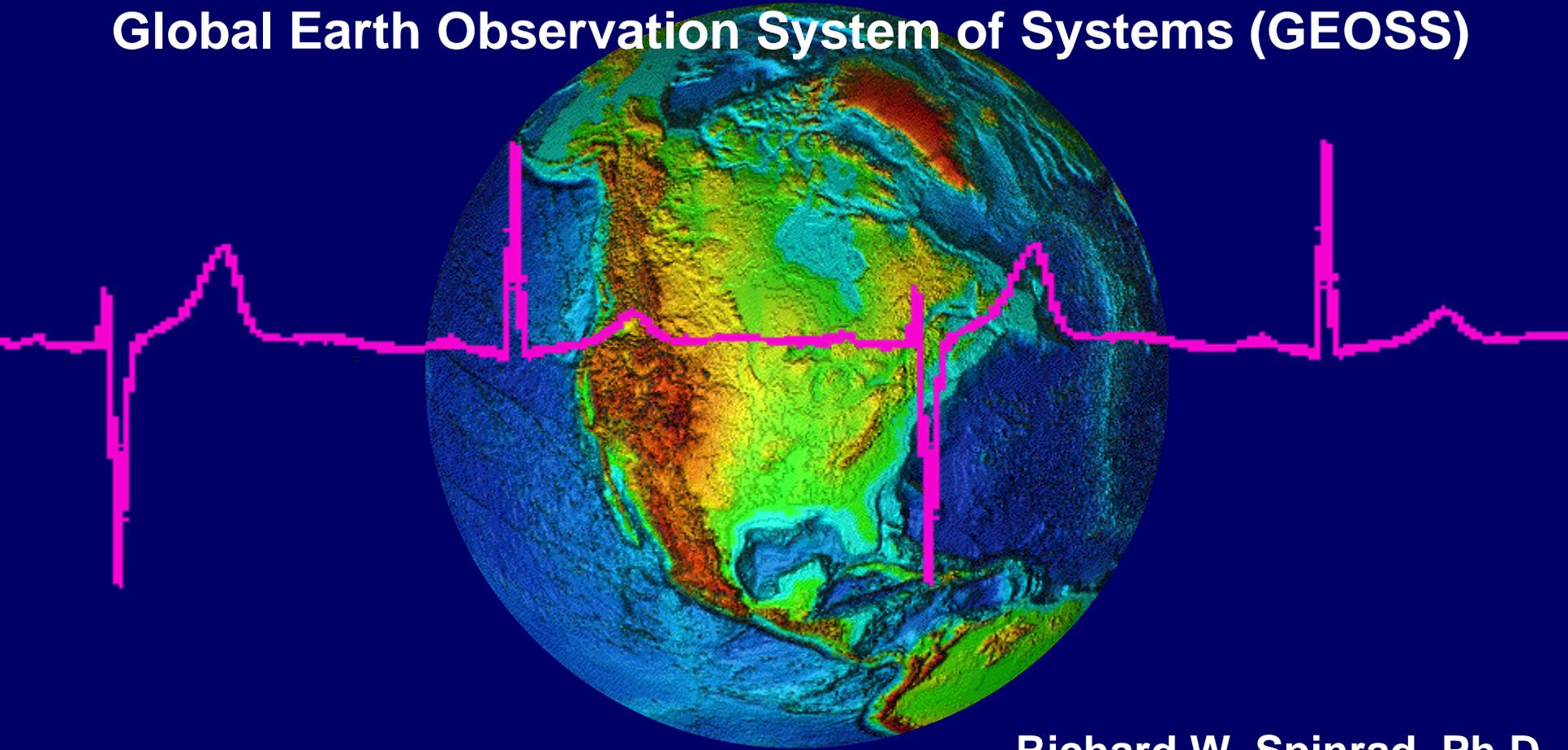


Global Observations – Local Decisions

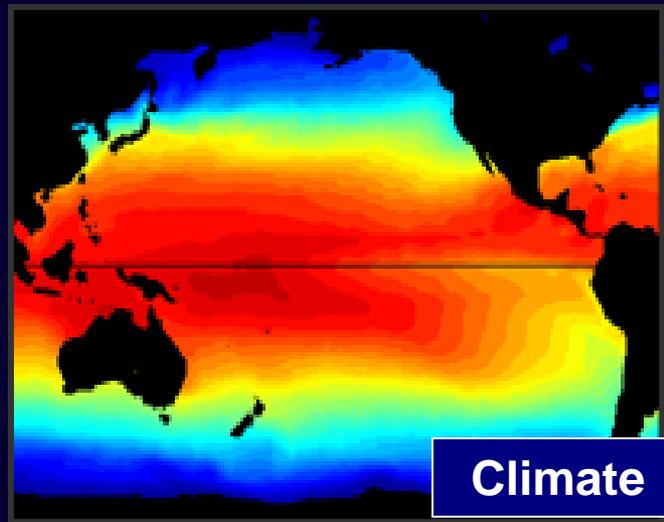
Global Earth Observation System of Systems (GEOSS)

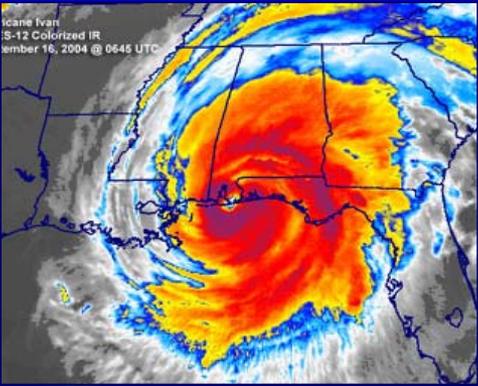
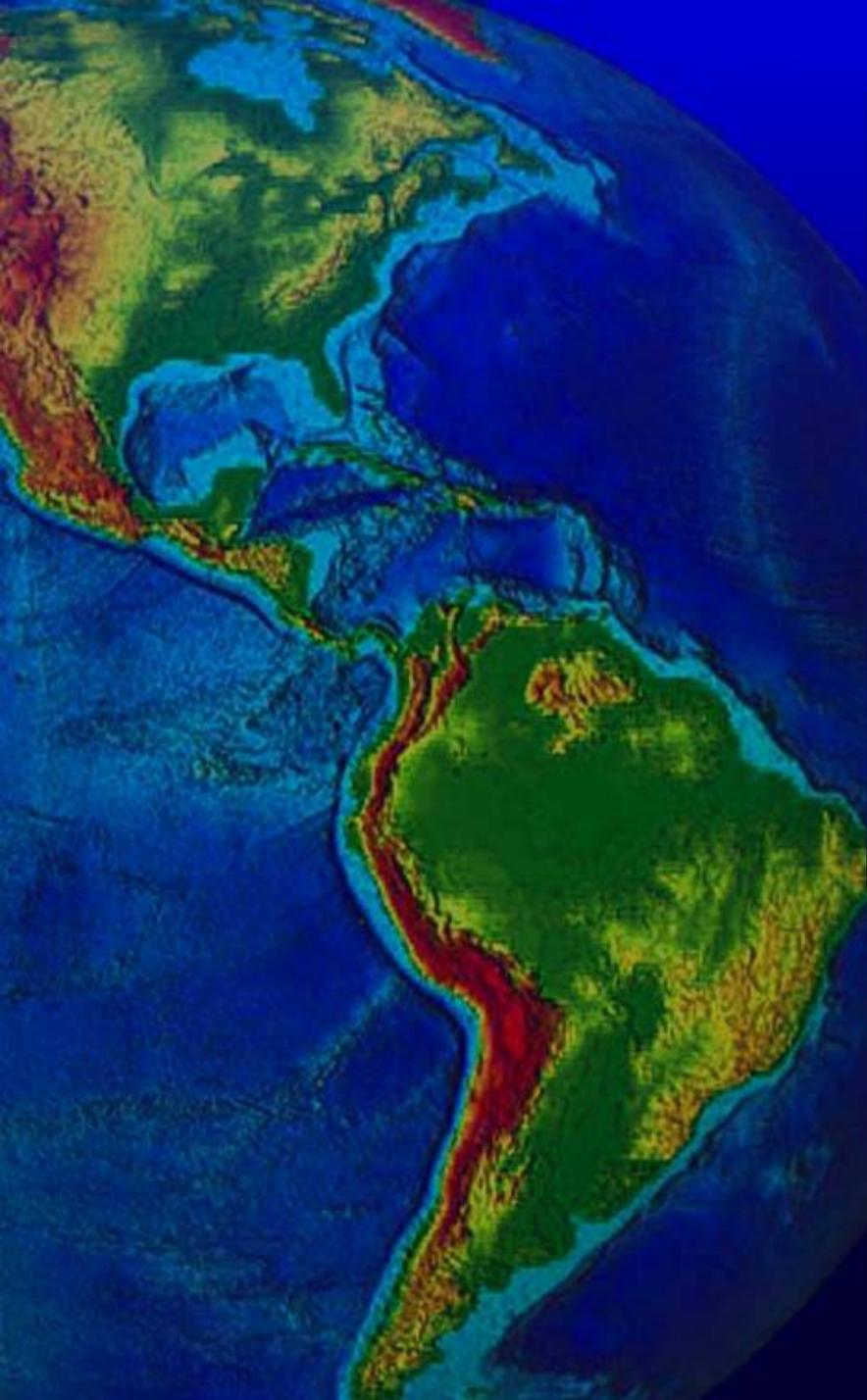


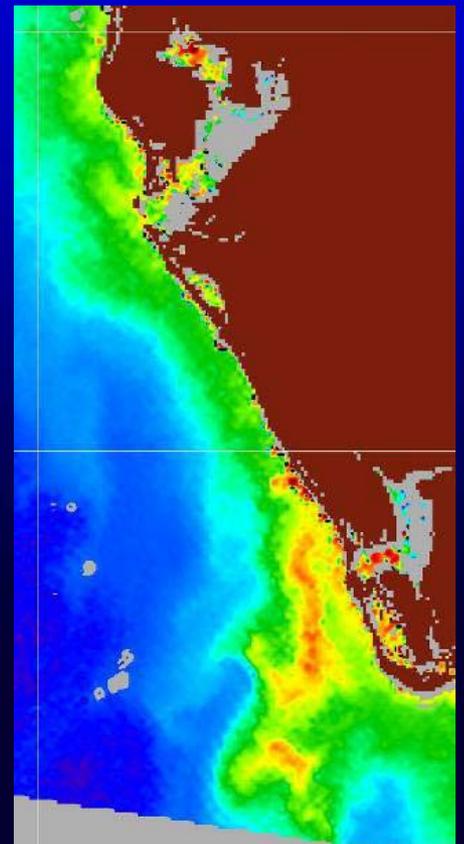
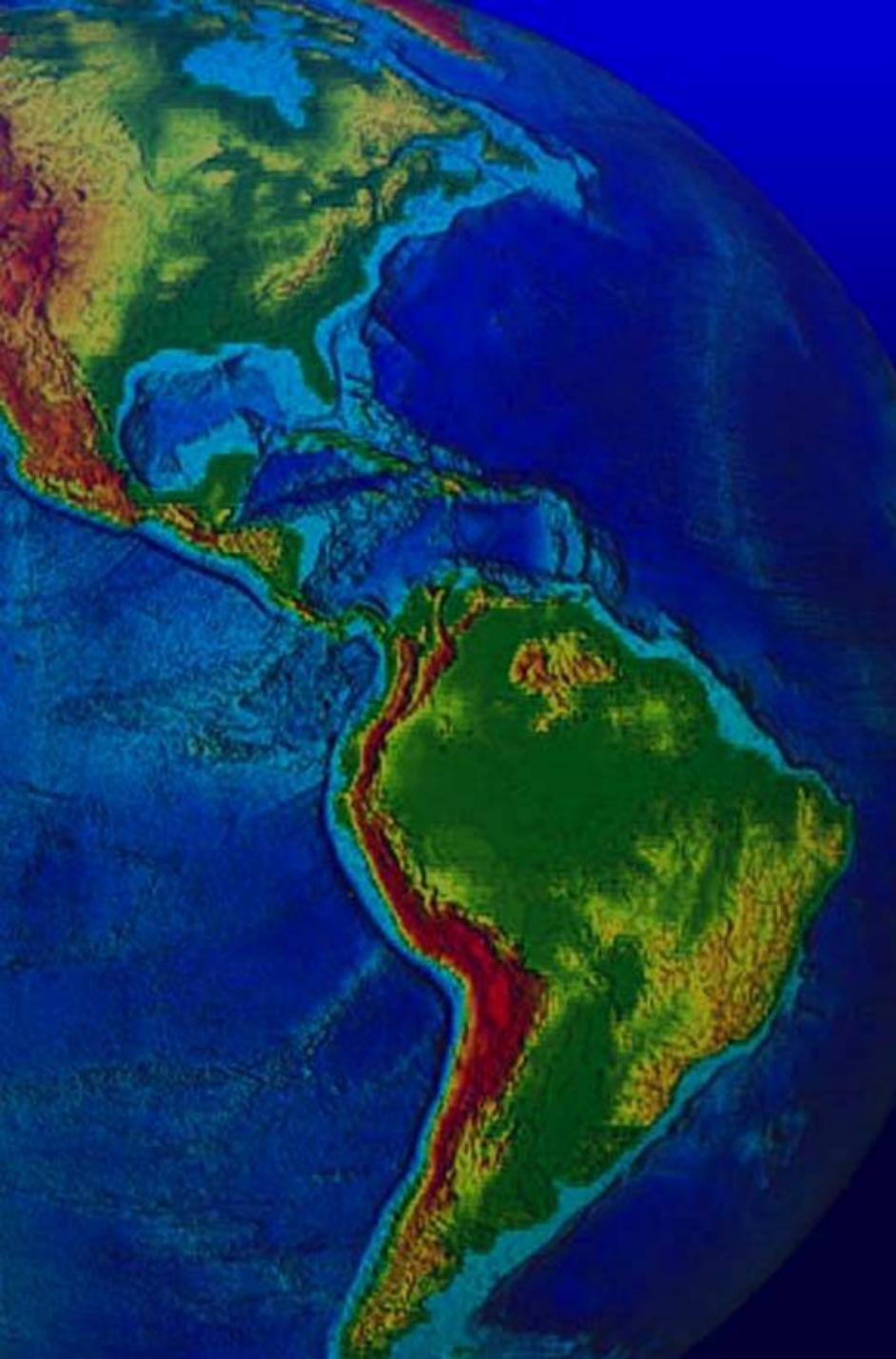
Richard W. Spinrad, Ph.D.

Assistant Administrator for Oceanic & Atmospheric Research
National Oceanic & Atmospheric Administration (NOAA)
Department of Commerce

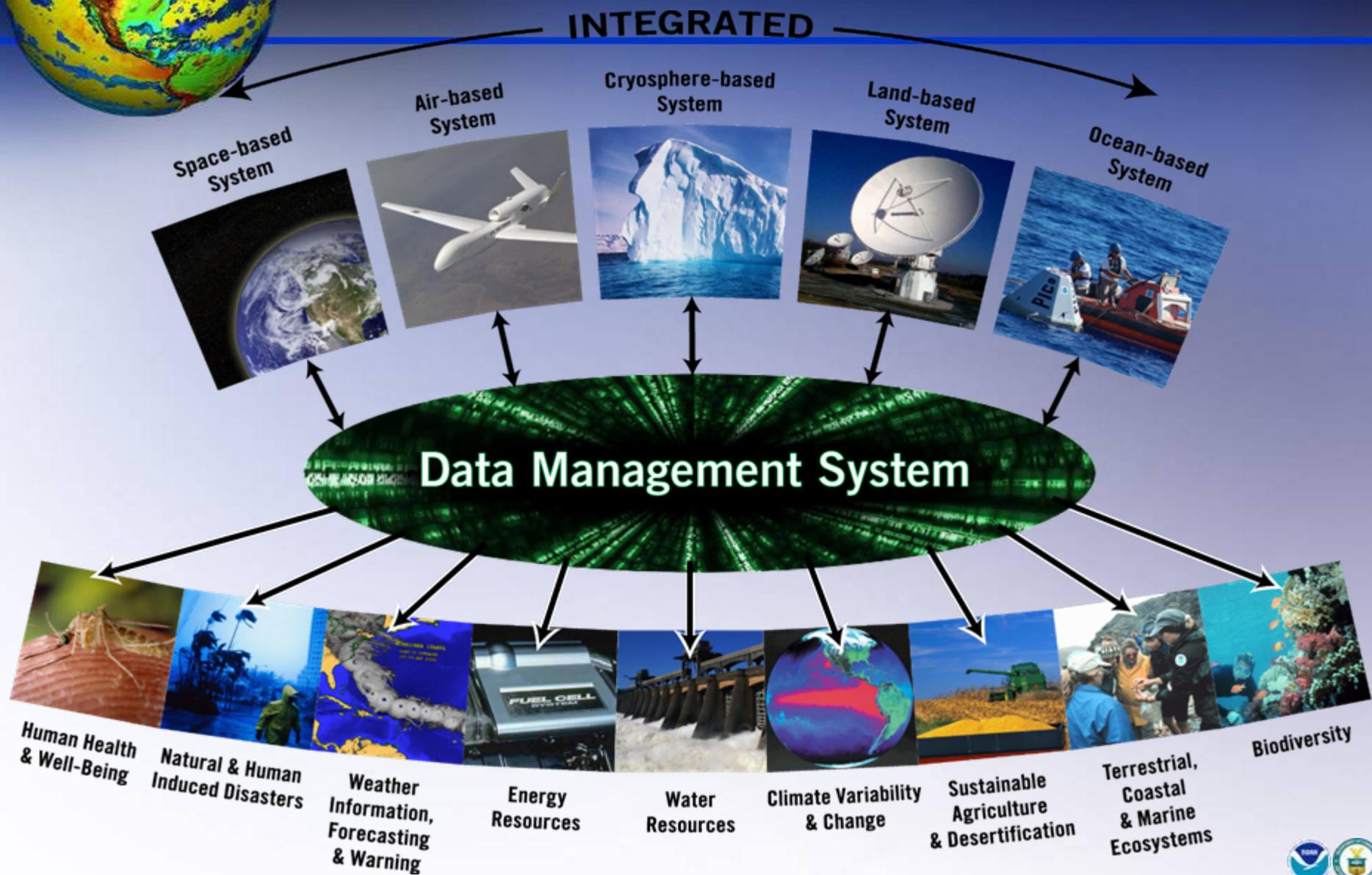
NOAA's Mission Goals

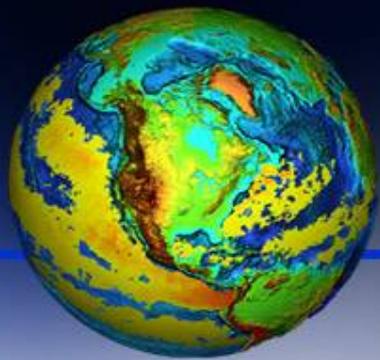






From Observations to Benefits





Where Are We Now?

Putting the Pieces Together

Ocean Action Plan / Ocean Commission



Ocean Action Plan
“Build a Global Earth Observation Network, Including Integrated Oceans Observation”

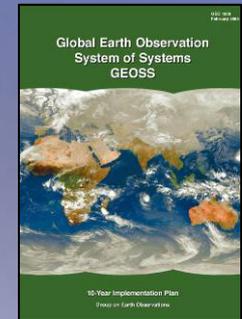
Ocean Research Priorities Plan

U.S. IEOS



U.S. Component

GEOSS

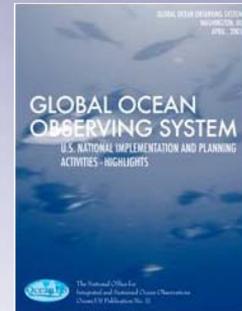


Ocean Component of GEOSS

Ocean Component of U.S. IEOS



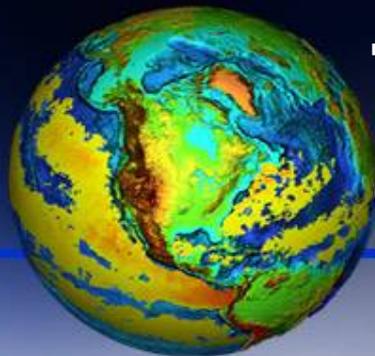
U.S. Component



U.S. IOOS

GOOS





The Right Earth Observations Could Make a Crucial Difference!

USATODAY.com

Money

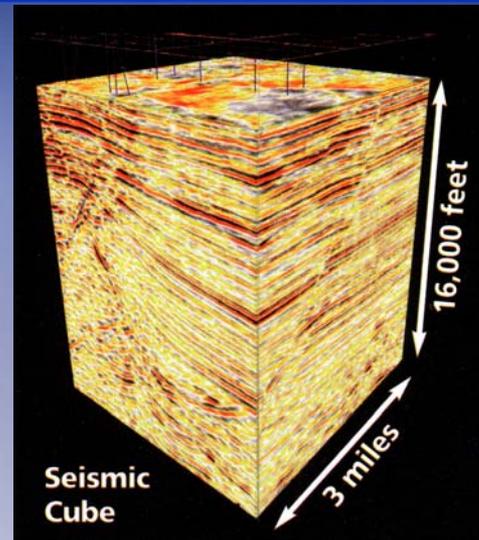
06/19/2001 - Updated 09:29 AM ET

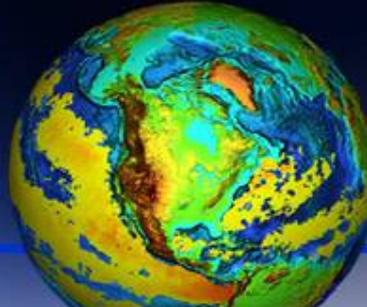
Forecast: 1 degree is worth \$1B in power savings

By Del Jones, USA TODAY

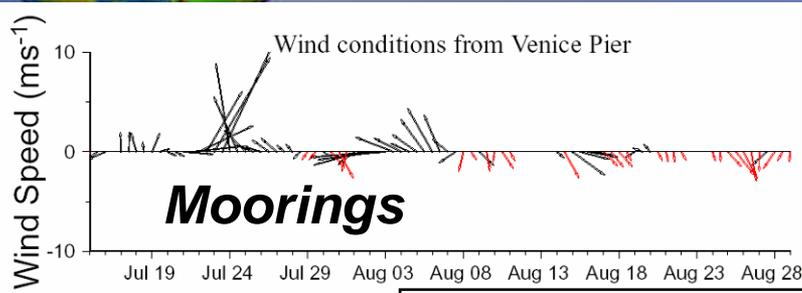
CHATTANOOGA, Tenn. — The annual cost of electricity could decrease by at least \$1 billion if the accuracy of weather forecasts improved 1 degree Fahrenheit.

Californians, facing blackout warnings as temperatures rise into the 90s,





The Right Earth Observations Could Make a Crucial Difference!



Impact evaluation



Bulletins to state & local managers

Experimental Gulf of Mexico Harmful Algal Bloom Bulletin
18 September 2002
National Oceanic and Atmospheric Administration
NOAA Coastal and Estuarine Science Center
1, Lane Harbor, September 7, 2002

Analysis:
Chlorophyll *a* (chl *a*) in the Florida and Bay Area. This should be monitored for persistence. In SW Florida, potential areas of 14 km per hour range. Bay and near Charlotte Harbor. Accidental release of other material are present in the 10,000 sq km area.

Impact

E

A

B

C

D

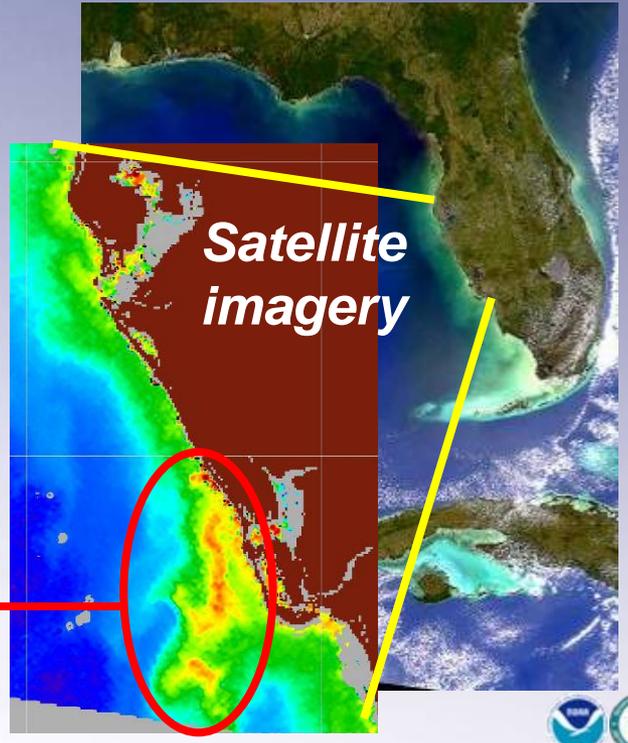
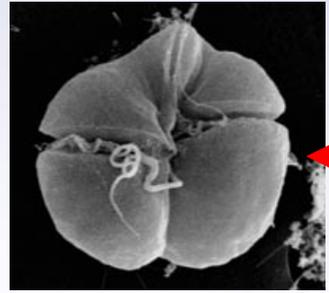
E

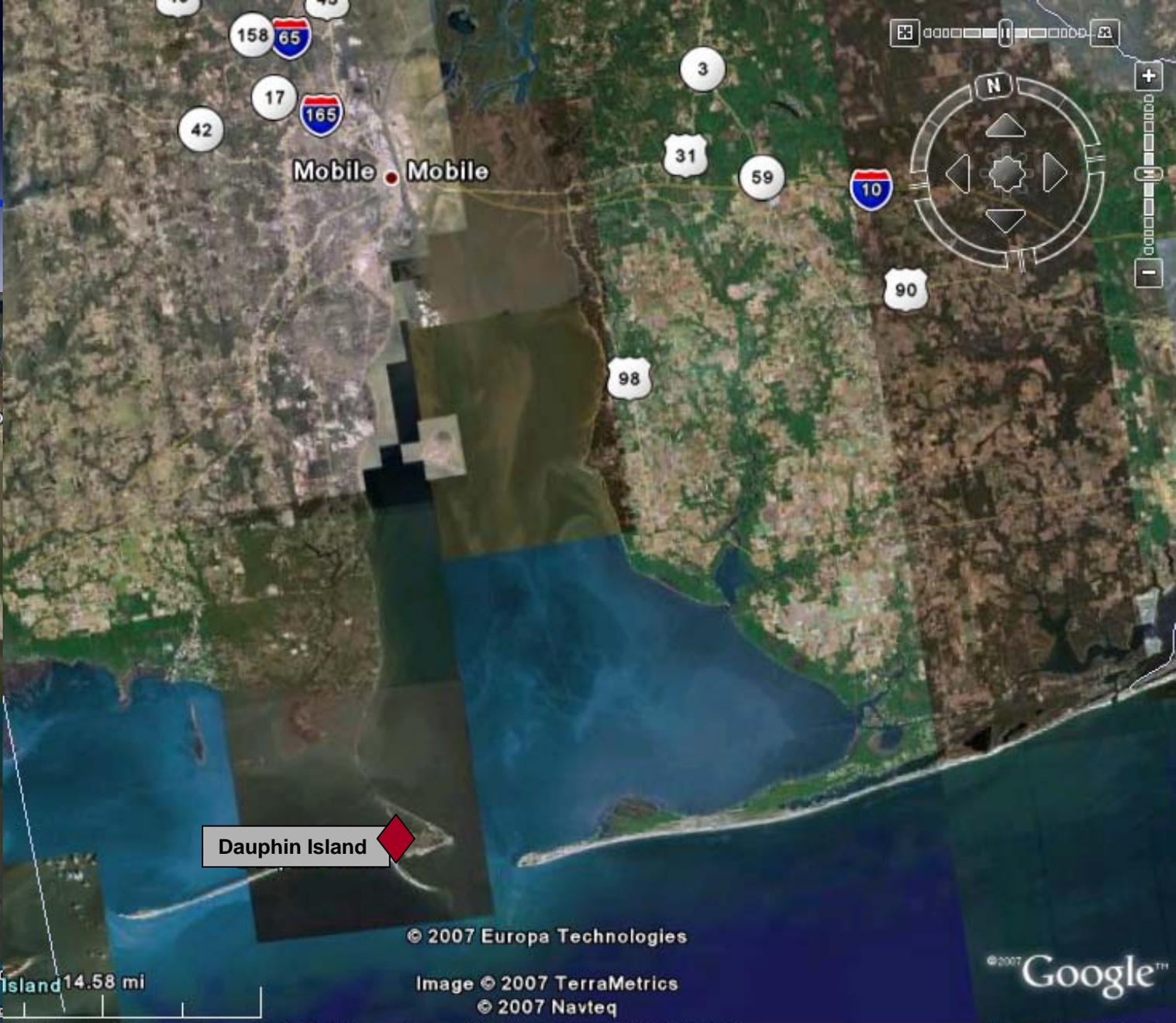
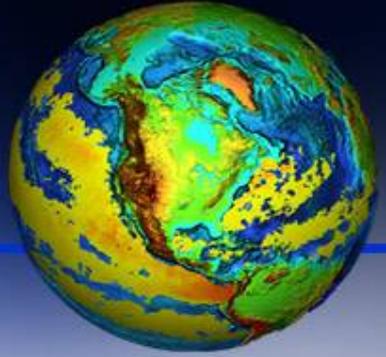
Tropical Storm Florence made landfall late Aug 14 causing high winds along the Florida Panhandle. The extensive transparency is partly responsible for the high chlorophyll.

Detailed description: A bulletin page with a NOAA logo. It contains a map of the Gulf of Mexico (A, B, C), a wind speed graph (D), and a satellite image (E). The text discusses chlorophyll *a* concentrations and the impact of Tropical Storm Florence.

Models

Field samples





Dauphin Island

© 2007 Europa Technologies

Image © 2007 TerraMetrics
© 2007 Navteq

© 2007 Google™





NOAA

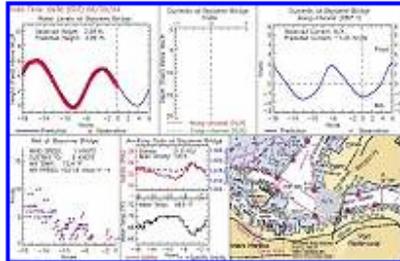
UNITED STATES DEPARTMENT of COMMERCE
NATIONAL OCEANIC and ATMOSPHERIC ADMINISTRATION



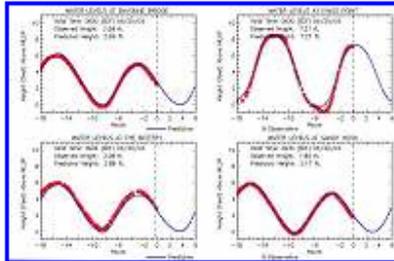
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- Sea Level Trends
- Debris Mapping
- Harmful Algal Blooms
- Air Quality
- Watches & Warnings
- Carbon Tracker

Dauphin Island

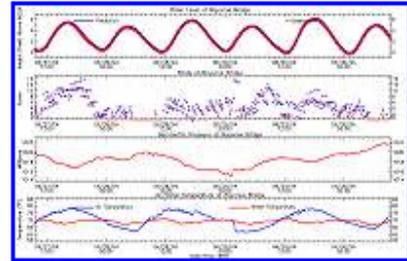
Integrated Earth Observing System



Composite



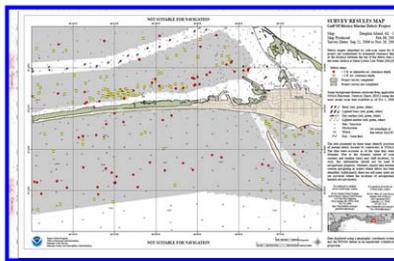
All Water Level



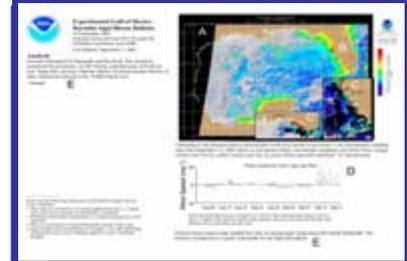
3 Days WL/Met



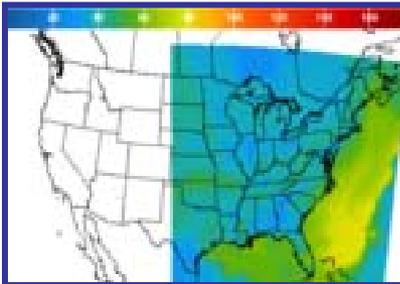
All Met



Debris Mapping



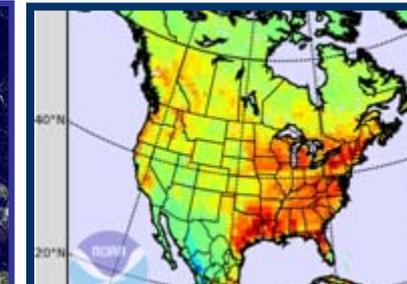
Harmful Algal Bloom



Air Quality

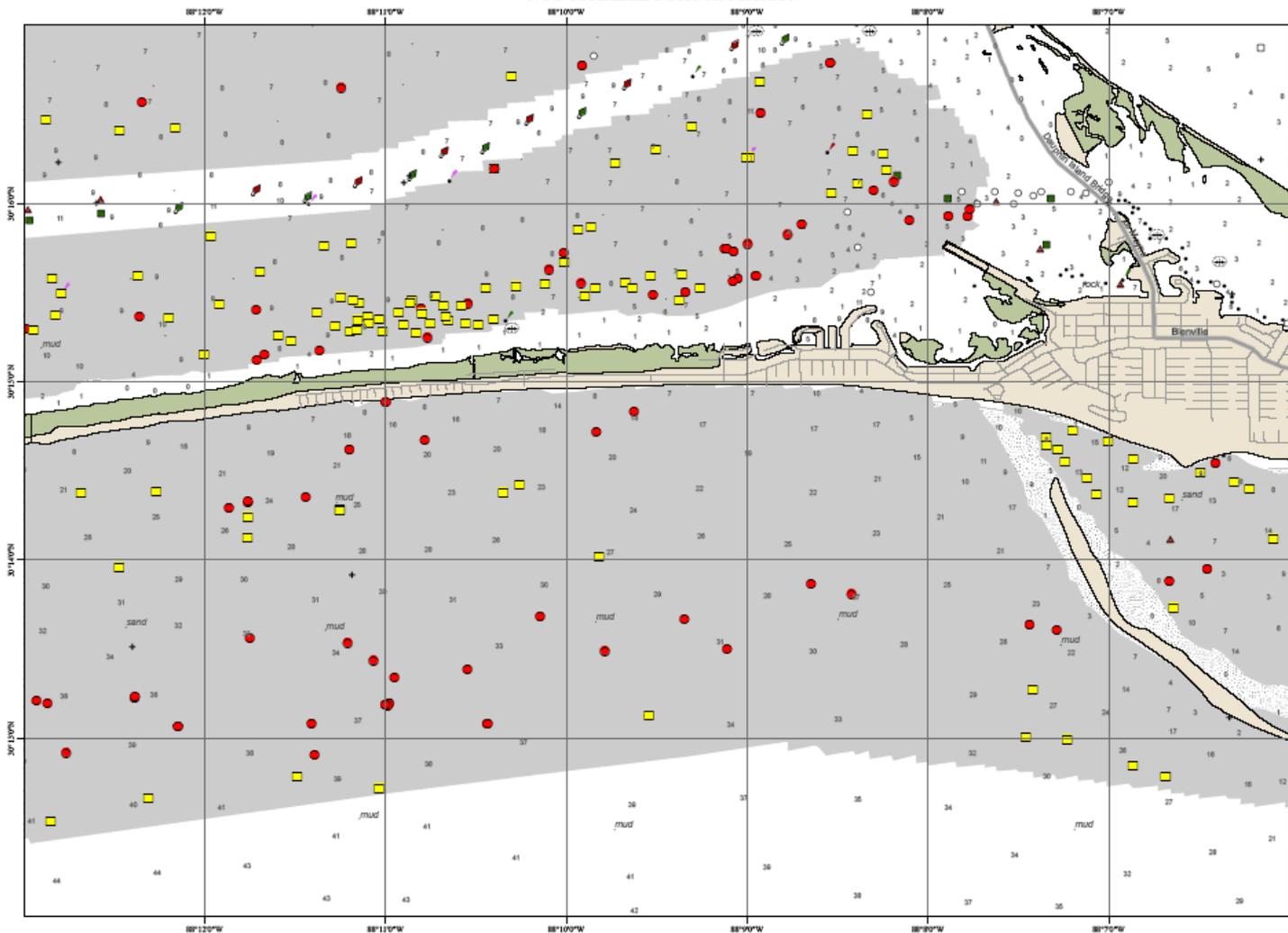


Watches & Warnings



Carbon Tracker

NOT SUITABLE FOR NAVIGATION



SURVEY RESULTS MAP
Gulf Of Mexico Marine Debris Project

Map: Dauphin Island, AL - 17
Map Produced: Feb 08, 2007
Survey Dates: Sep 21, 2006 to Nov 26, 2006

Debris targets identified by side-scan sonar for this project are symbolized by estimated clearance depth, or the distance between the top of the debris item and the water surface at Mean Lower Low Water (MLLW).

Debris items:

- < 5 ft. or unknown est. clearance depth
- > 5 ft. est. clearance depth
- ▨ Project survey completed
- ▩ Project survey not completed

Some background features extracted from applicable NOAA Electronic Nautical Charts (ENC) using the most recent issue date available as of Oct 5, 2006.

- Buoy (red, green, other)
 - Lighted buoy (red, green, other)
 - ▲ Day marker (red, green, other)
 - Lighted marker (red, green, other)
 - Pile / Structure
 - x Obstruction
 - ⊕ Wreck
 - ∩ Fed. / State Bnd.
- All soundings in feet below MLLW.

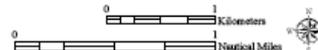
The data presented on these maps identify positions of marine debris located by contractors to NOAA. The data were accurate as of the time they were obtained. Due to the dynamic nature of ocean currents and weather items may shift locations. As such, this information should not be used for navigational purposes. Mariners should take extreme caution navigating in waters where debris has been identified. Additionally, there are still many areas not yet surveyed where the locations of navigational hazards are not known.

For additional or updated survey results maps, contact:
NOAA Marine Debris Program
Gulf of Mexico Marine Debris Project
1315 East West Highway
Silver Spring, MD 20910-3282
301-713-2989
<http://marinedebris.noaa.gov>
gmddebris@noaa.gov

For questions about the use of these maps, contact:
NOAA Office of Coast Survey
Eastern Gulf of Mexico
646 Cajundome Blvd
Lafayette, LA 70506
337-291-2111
<http://charmaker.ned.noaa.gov/>
Tim.Coburn@noaa.gov



Data displayed using a geographic coordinate system and the WGS84 datum in an equidistant cylindrical projection.





NOAA

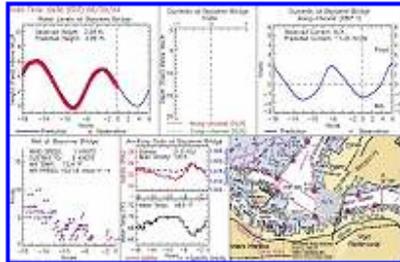
UNITED STATES DEPARTMENT of COMMERCE
NATIONAL OCEANIC and ATMOSPHERIC ADMINISTRATION



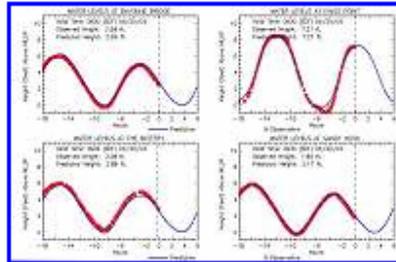
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- Carbon Tracker

Dauphin Island

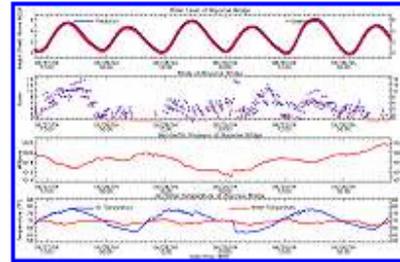
Integrated Earth Observing System



Composite



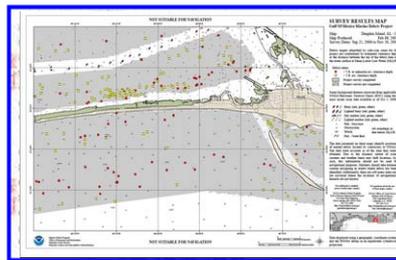
All Water Level



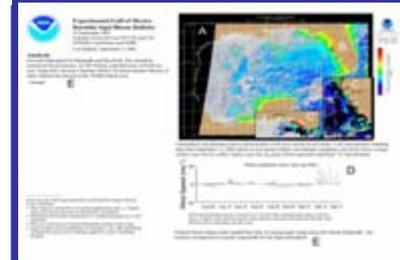
3 Days WL/Met



All Met



Debris Mapping



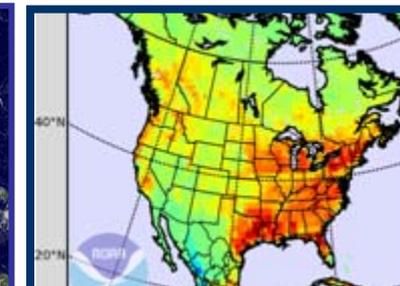
Harmful Algal Bloom



Air Quality



Watches & Warnings



Carbon Tracker



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This site is operated by the NOAA [CoastWatch](#) Program.

For further information please visit the sites of the NOAA [National Center for Coastal Ocean Science](#) and the NOAA [Coastal Services Center](#). Wind data was provided by the [National Data Buoy Center](#). Analysis performed by the NOAA [Center for Operational Oceanographic Products and Services](#). SeaWiFS data were purchased by NOAA and used with permission of OrbImage.

Quick Links

[NOAA National Center for Coastal Ocean Science](#)

[NOAA Center for Operational Oceanographic Products and Services](#)

[NOAA CoastWatch](#)

Harmful Algal Bloom bulletins are generated for the Gulf of Mexico by the National Oceanic and Atmospheric Administration (NOAA) National Ocean Service and the National Environmental Satellite Data and Information Service to provide notification of bloom conditions to state and local coastal managers in the Gulf of Mexico. Bulletins include information on wind conditions, chlorophyll levels, and potential or actual bloom events.

NOAA HAB Bulletins

(most recent first)

Series Number	Date of Issue	Geographic Location
2007-25	03/26/2007	Southwest Florida , Florida East Coast
2007-24	03/22/2007	Southwest Florida , Florida East Coast
2007-23	03/19/2007	Southwest Florida , Florida East Coast
2007-22	03/15/2007	Southwest Florida , Florida East Coast
2007-011	03/13/2007	Texas
2007-21	03/12/2007	Southwest Florida , Florida East Coast
2007-20	03/08/2007	Southwest Florida , Florida East Coast
2007-19	03/08/2007	Southwest Florida , Florida East Coast
2007-010	03/06/2007	Texas
2007-009	03/06/2007	Texas
2007-18	03/05/2007	Southwest Florida , Florida East Coast



NOAA

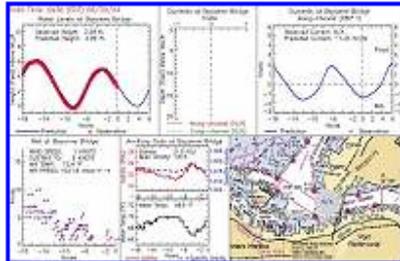
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NATIONAL OCEANIC and ATMOSPHERIC ADMINISTRATION



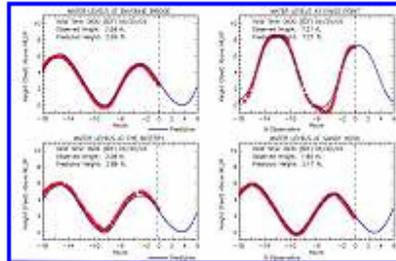
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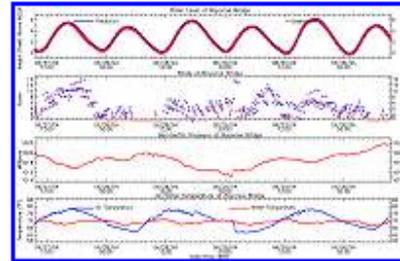
Integrated Earth Observing System



Composite



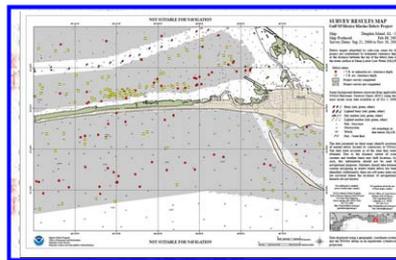
All Water Level



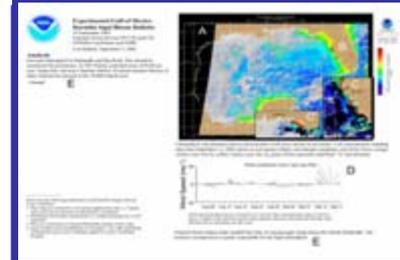
3 Days WL/Met



All Met



Debris Mapping



Harmful Algal Bloom



Air Quality



Watches & Warnings



Carbon Tracker

Air Quality Forecast Guidance - Alabama

Print |
 Key |
 Help |
 Zoom Out |

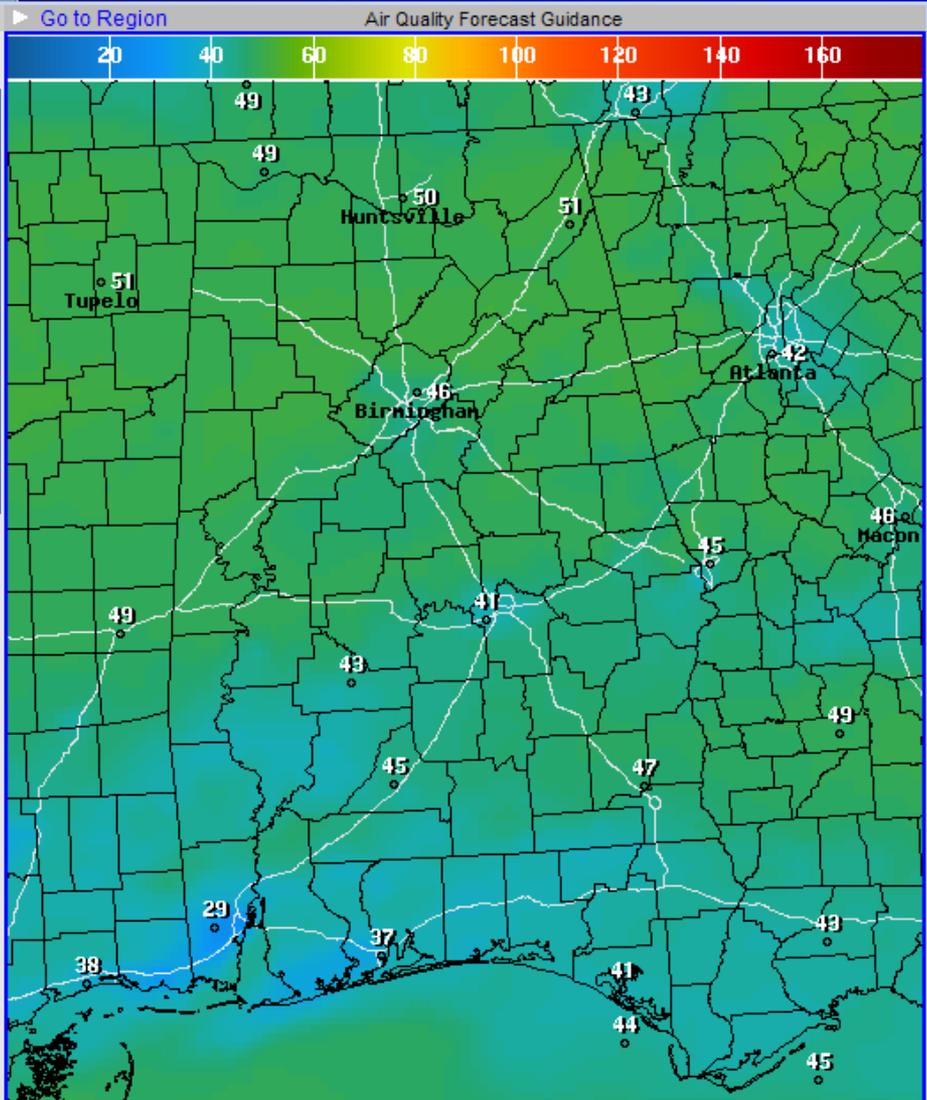
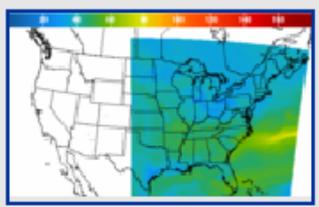
[Daily View](#) |
 [Loops](#) |
 [Point Data](#)

[Page Help](#) |
 [Go to Region](#) |
 Air Quality Forecast Guidance
 Mouse over or click on the table below to change the guidance image.

▶ Today								+12Hrs				
Valid Hour (EDT):	-- AM --				-- PM --							
	8	9	10	11	12	1	2	3	4	5	6	7
1Hr Average Ozone Concentration	-	-	-	-	-	-	-	-	-	-	-	-
8Hr Average Ozone Concentration	-	-	-	-	-	-	-	-	-	-	-	-
1Hr Average Surface Smoke	-	-	-	-	-	-	-	-	-	-	-	-
1Hr Average Vertical Smoke Integration	-	-	-	-	-	-	-	-	-	-	-	-

Table MouseOver Effect On

[Overview](#)



1Hr Avg Ozone Concentration (PPB) Ending Mon Apr 09 2007 1PM EDT



NOAA

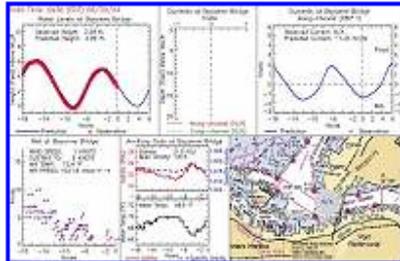
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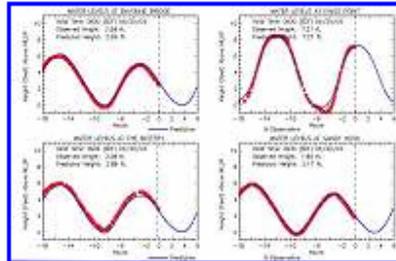
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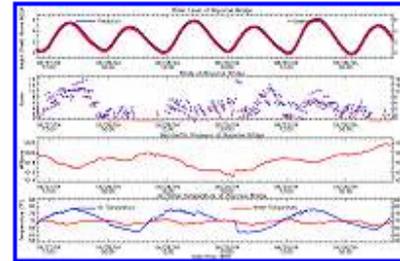
Integrated Earth Observing System



Composite



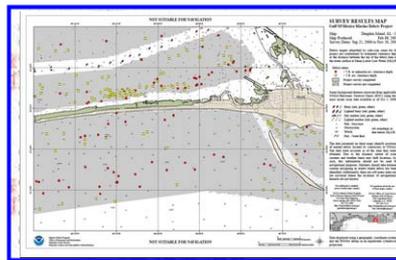
All Water Level



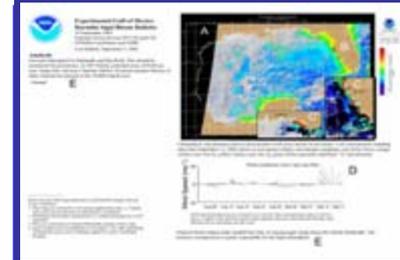
3 Days WL/Met



All Met



Debris Mapping



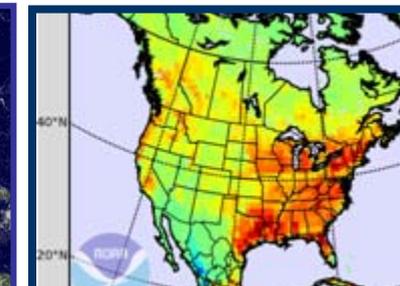
Harmful Algal Bloom



Air Quality



Watches & Warnings



Carbon Tracker



Aerial Photos



Shortly after Hurricane Rita made landfall along the Gulf Coast NOAA began aerial photography flights of the affected areas.

Preliminary Storm Reports

(Issued by local Weather Forecast Offices)

- WFO Miami FL
- WFO Tampa FL
- WFO Key West FL
- WFO Brownsville TX

Hurricane Updates

- Hurricane Advisories by email
- RSS Feeds
- Common Alerting Protocol (CAP) Format



NOAA Employees and Contractor Info

Hurricane Rita Information

Hurricane Rita Track

Click to enlarge



Archive of Advisories

• **Sea Surface Temperature Data**

Learn about the hazards of hurricanes and what you can do to help protect yourself, your family, and your property.

These links will take you from this Federal web site to the websites of state Emergency Management Agencies.

Alabama

Satellite Images



Multi-Dimensional Imagery from polar orbiting and geostationary satellites operated by the National Oceanic and Atmospheric Administration-NOAA.

Advisory Archive

- Public Hurricane Advisories,
- Forecast Advisories,
- Discussions, Strike Probabilities

Hurricane Map Archive

Additional Links

- National Hurricane Center Hurricane Tracking Chart (PDF)
- Frequently Asked Questions About Hurricanes
- Are You Ready for a Hurricane?
- Tropical Cyclone Flooding: A Deadly Inland Danger (PDF)

En Español

- Perspectivas De Las Condiciones Del Tiempo En El Tropicó
- ¿Está preparado para un huracán?



NOAA

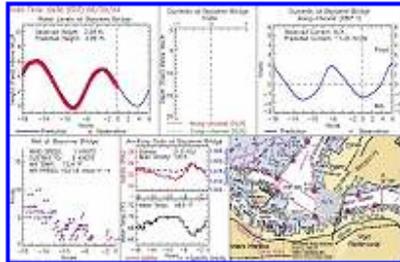
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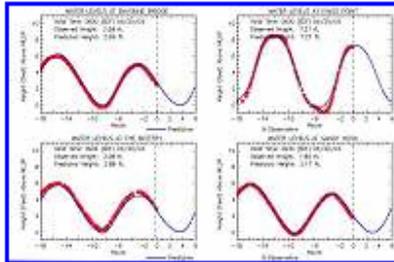
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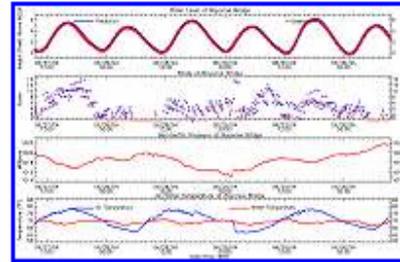
Integrated Earth Observing System



Composite



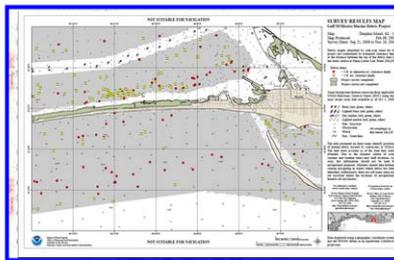
All Water Level



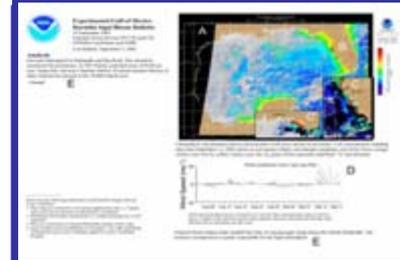
3 Days WL/Met



All Met



Debris Mapping



Harmful Algal Bloom



Air Quality

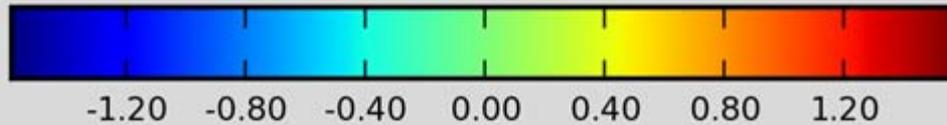
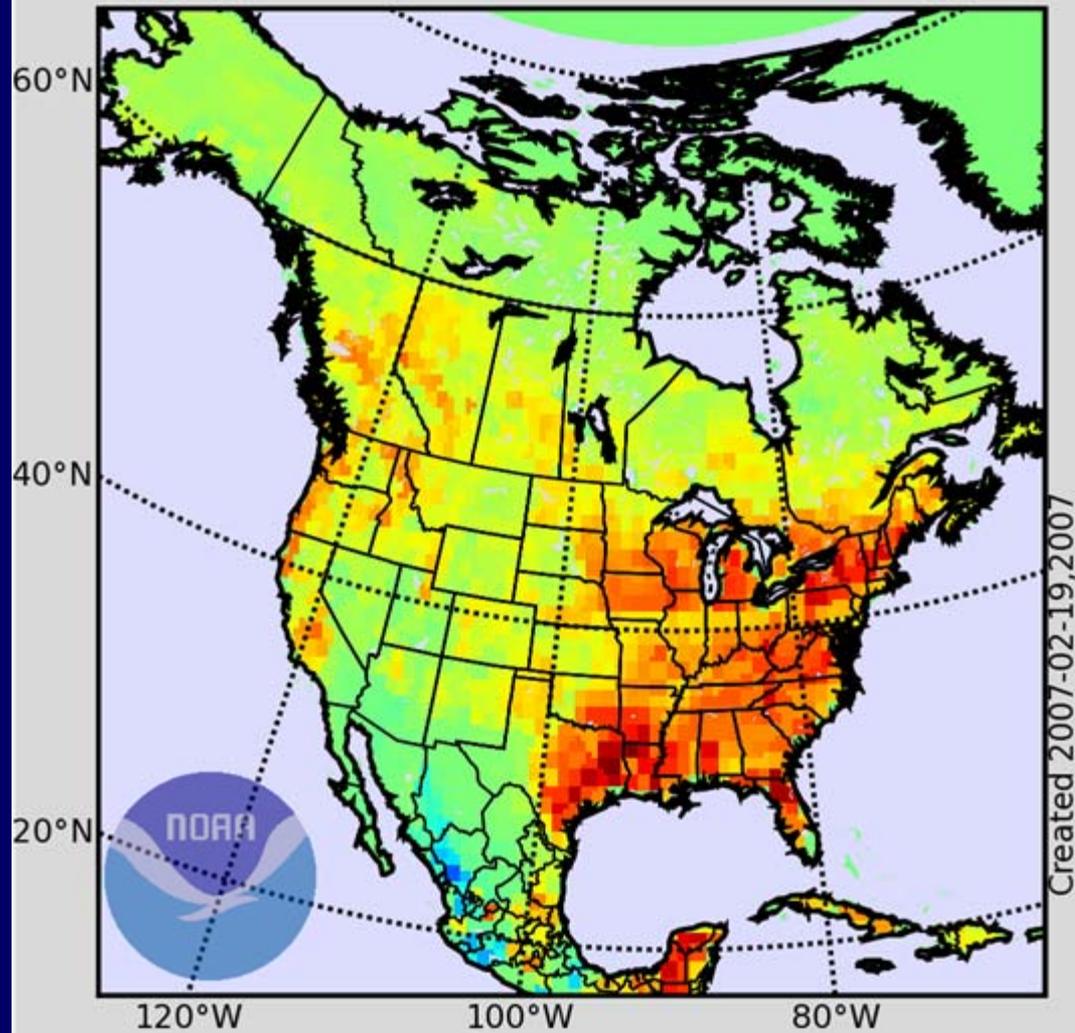


Watches & Warnings



Carbon Tracker

weekly mean flux [$\mu\text{mol}/\text{m}^2/\text{s}$]
for 2000-01-01 +7 days





NOAA

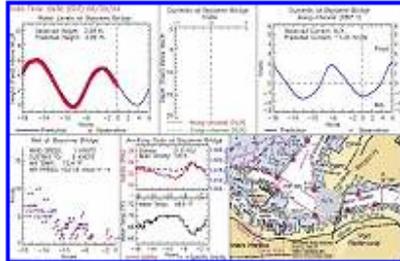
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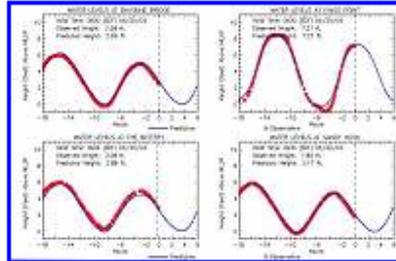
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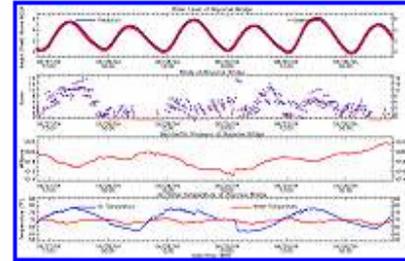
Integrated Earth Observing System



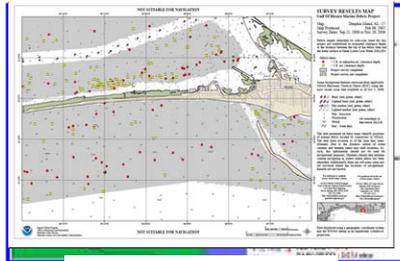
Composite



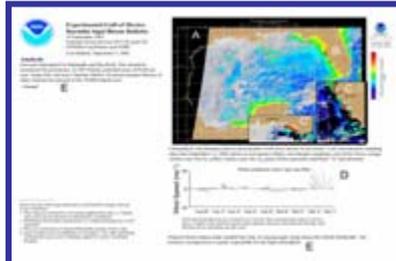
All Water Level



3 Days WL/Met



Debris Mapping



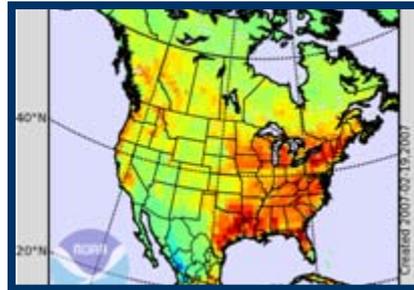
Harmful Algal Bloom



Air Quality



Watches & Warnings



Carbon Tracker



Other Products?



***The goal is to access
the right information,
in the right format, at
the right time, for the
right people, to make
the right decisions.***

Other Questions to Consider



- **What investments would you like to see in global earth observations?**
- **How can we use existing on-the-ground partnerships, like Sea Grant, to get products out?**