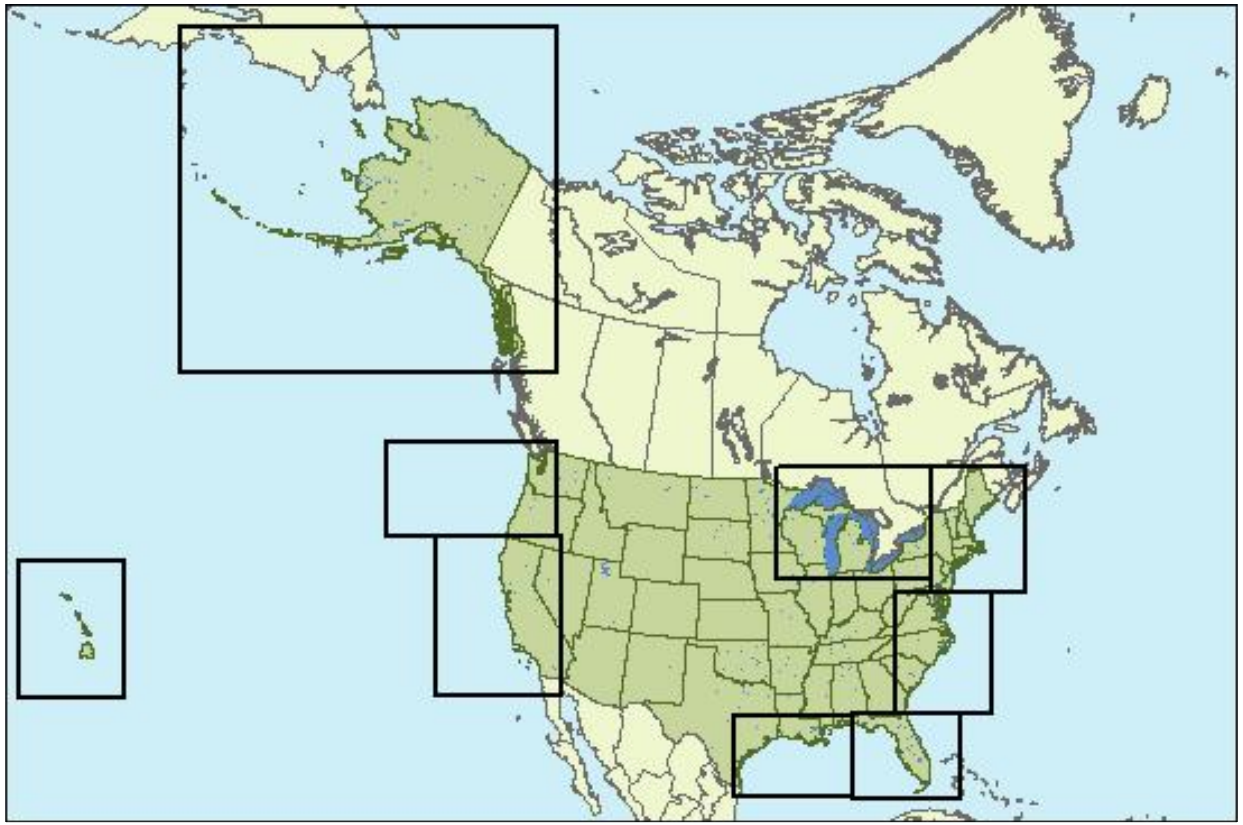

Funded by the National Oceanic and Atmospheric Administration


- Improve the safety & efficiency of marine operations
- Improve homeland security
- Mitigate effects of natural hazards
- Improve predictions of climate change
- Minimize public health risks
- Protect & restore coastal marine ecosystems
- Sustain living marine resources

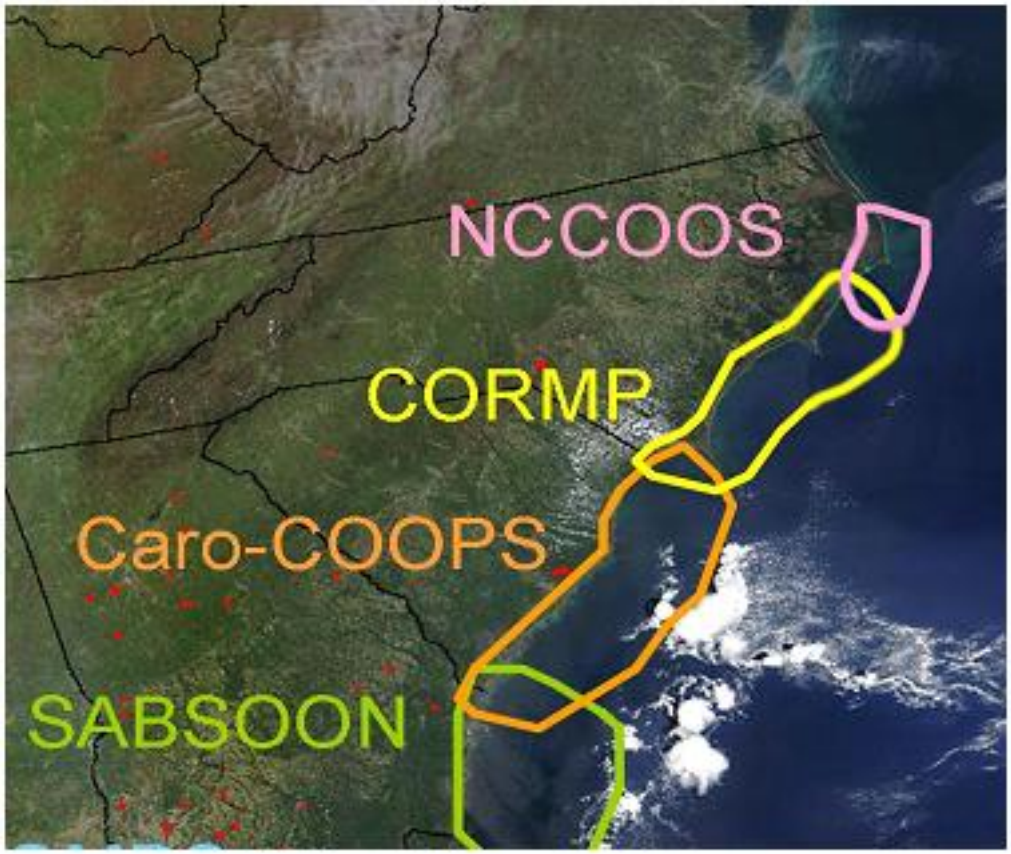
# U.S. Coastal Observing System Regions



http://www.csc.noaa.gov/coos/

# Southeast Observing Systems

- Each observing program is affiliated with a research institution.
- In the Southeast, the South East Coastal Ocean Regional Association (SECOORA) will oversee the ocean observing programs.



CORMP

COASTAL OCEAN RESEARCH AND MONITORING PROGRAM

UNCW

# CORMP:

- NOAA grant funded
- established in 2000 at UNCW
- Conduct year-round coastal research off Southeastern NC
- Interdisciplinary program
- Work collaboratively with USC & NCSU

NOAA UNCW NC STATE UNIVERSITY UNIVERSITY OF SOUTH CAROLINA


# Goals for CORMP

- to become a full-featured coastal ocean observing system (Real-time Data!)
- to provide a science-based framework for wise coastal use
- to engage community groups and provide them with the timeliest, most useful information possible

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# Offshore Observing Network


2 - NDBC Design

- Weather Observations
- Surface & bottom currents
- Turbidity
- Surface and bottom temp
- Salinity
- NDBC buoys will also transmit standard wave data
- All buoys will transmit data via Iridium & GOES satellites


2 - NC State Design

# Buoy Deployments


## ILM2 & ILM3 deployed June 6, 2005

# Buoy Deployments

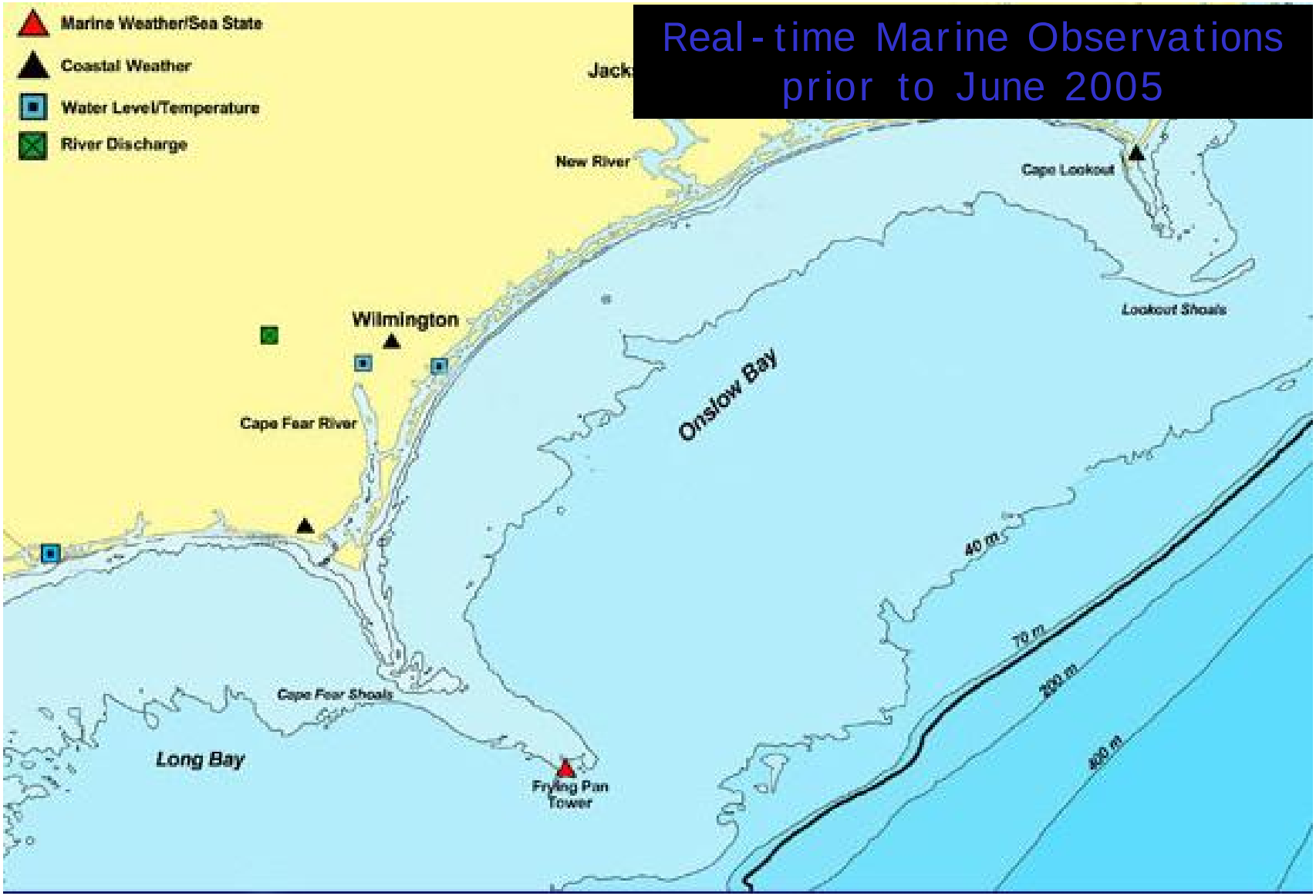

LEJ2 deployed
Aug 1, 2005

# Pier-Based Observing Network

- Instruments are deployed and hard-wired to local fishing piers.
- Transmit real-time marine weather and oceanographic data.
  - waves (height, direction, frequency)
  - currents
  - bottom temperature
  - salinity
  - water level (tide)


COASTAL OCEAN RESEARCH AND MONITORING PROGRAM

# Real-time Marine Observations prior to June 2005



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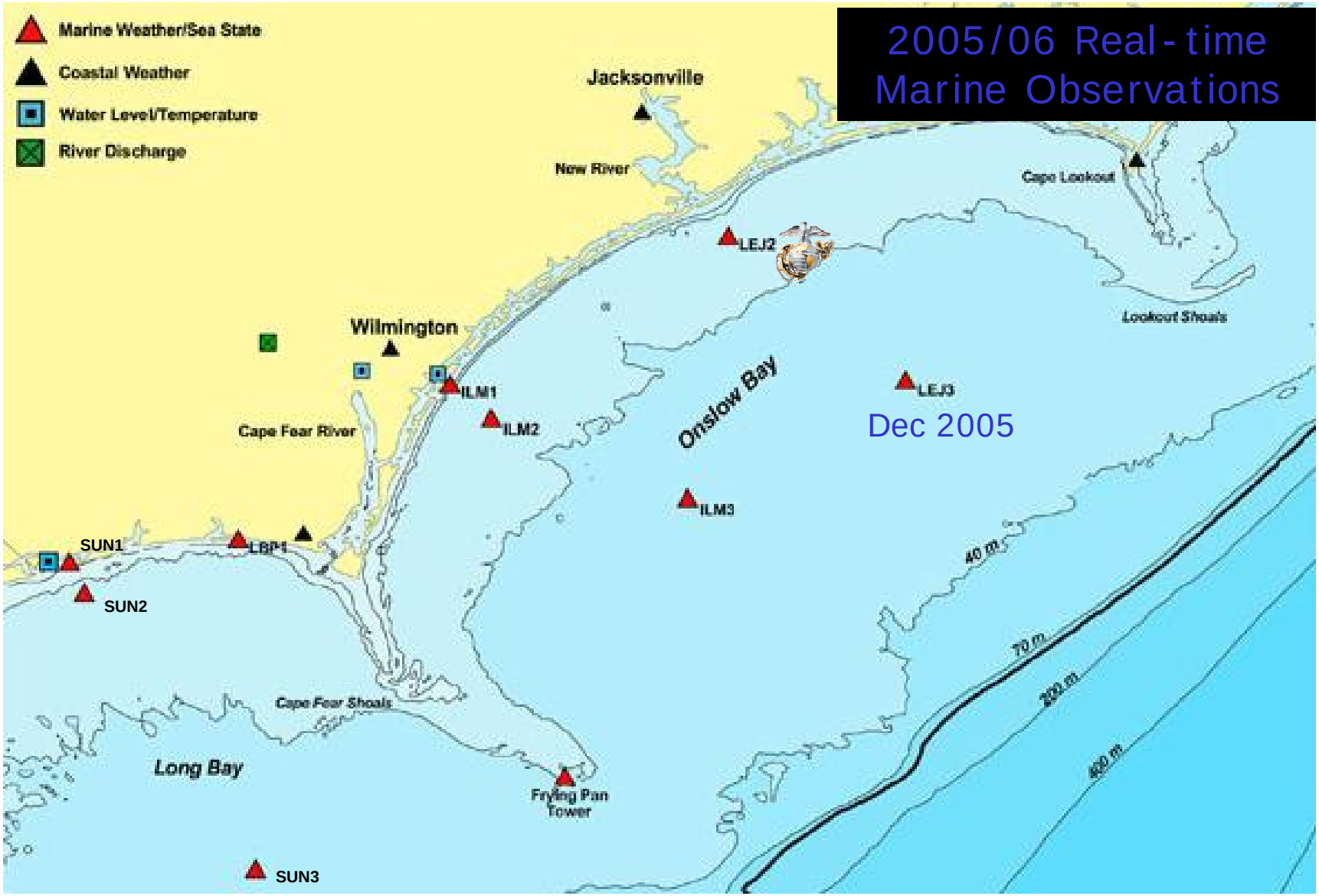

Address http://www.cormp.org/

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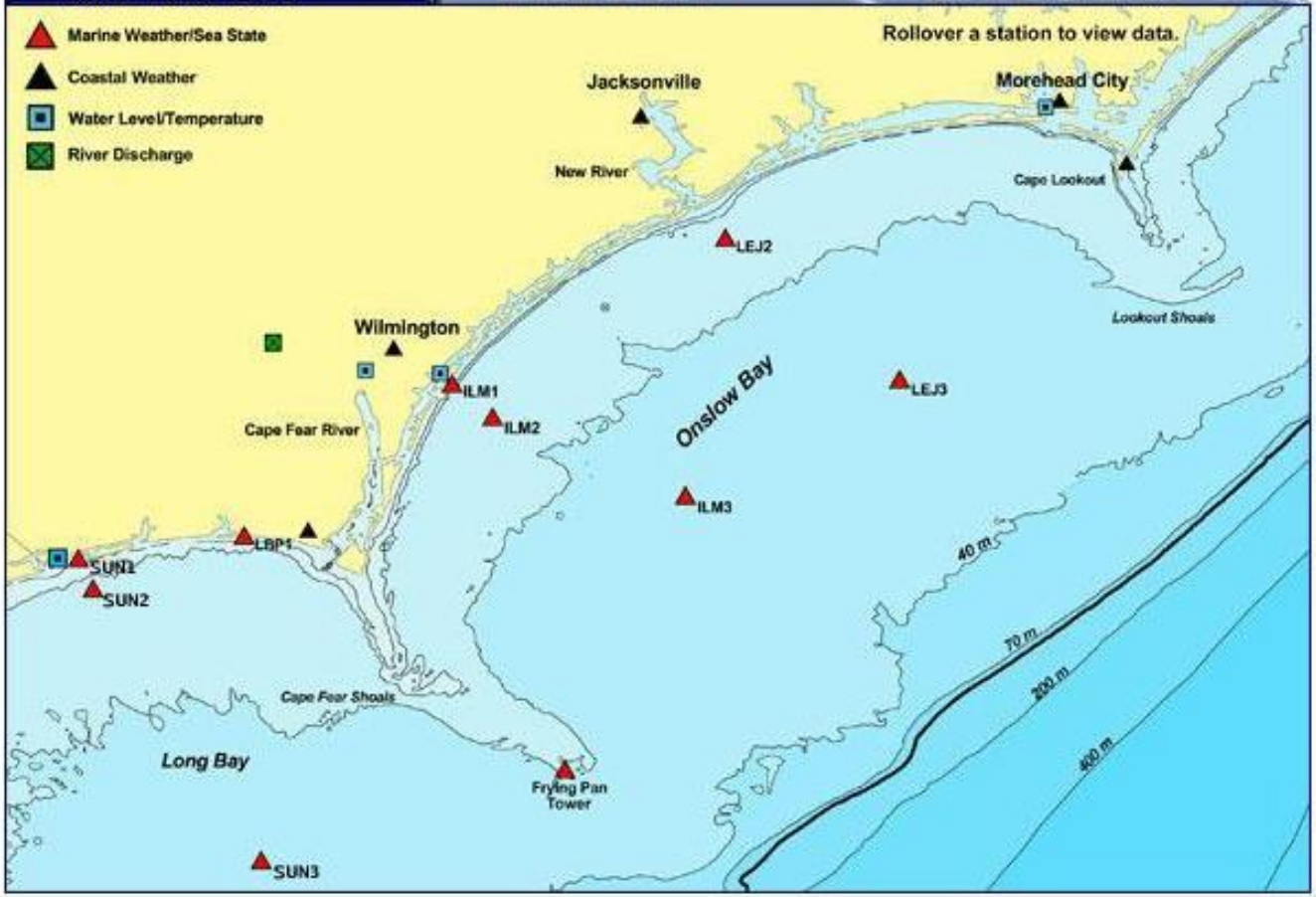
NEW! Hurriance Ophelia Storm Surge Forecast

NEW! Notice to Mariners

REAL-TIME DATA | ARCHIVED DATA | WHAT'S HAPPENING



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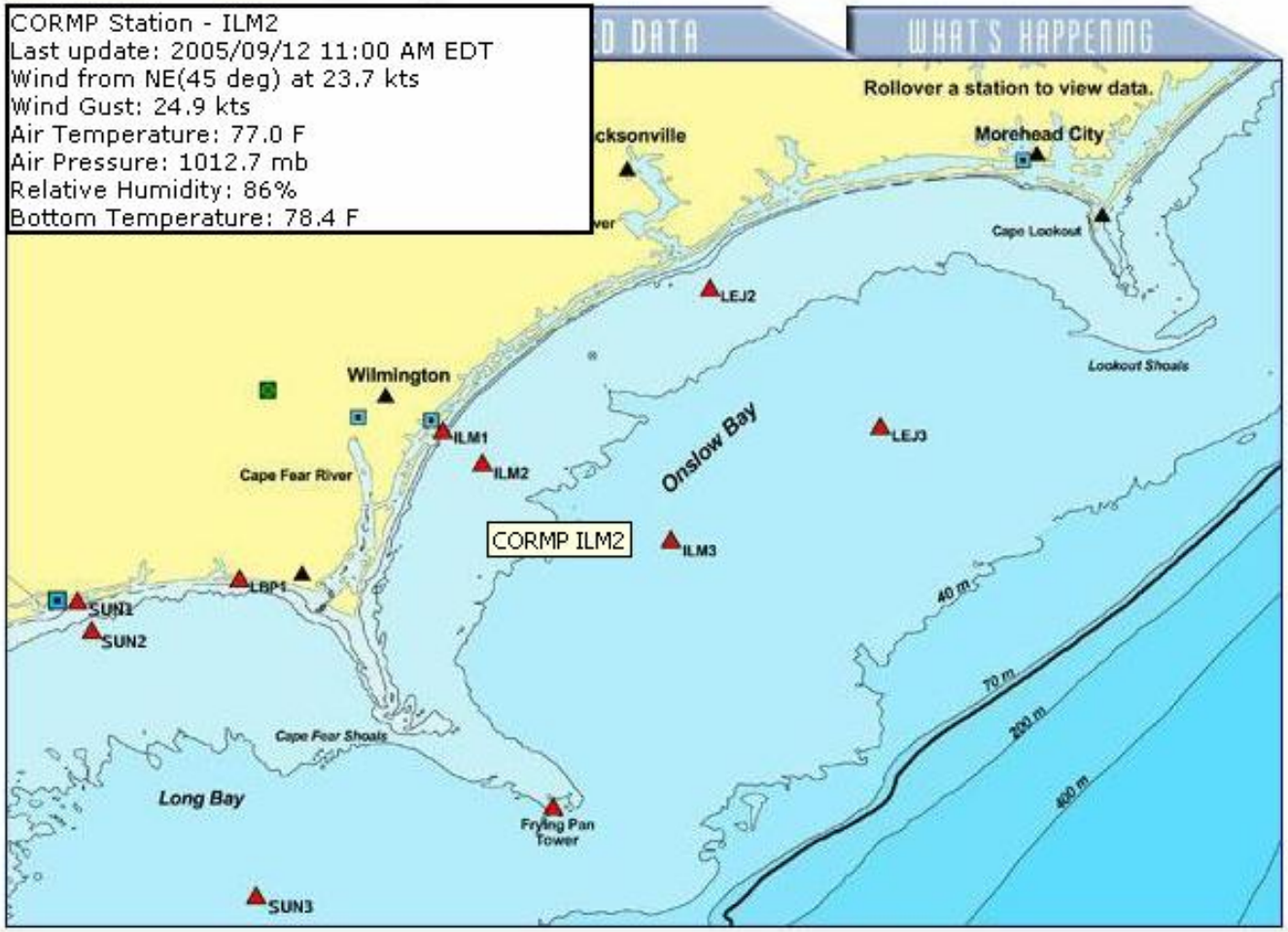
NEW! Hurriance Ophelia Storm Surge Forecast

NEW! Notice to Mariners

CORMP Station - ILM2
Last update: 2005/09/12 11:00 AM EDT
Wind from NE(45 deg) at 23.7 kts
Wind Gust: 24.9 kts
Air Temperature: 77.0 F
Air Pressure: 1012.7 mb
Relative Humidity: 86%
Bottom Temperature: 78.4 F

D DATA | WHAT'S HAPPENING



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## Site: ILM2

CHANGE SITES: ILM2 GO


Latitude: 34 08.4502
Longitude: -77 42.8901
Depth(approx): 17 M

Buoy Configuration

Data Type: Air Temp
Start Date: 2005-06-07
End Date: 2005-09-12
Output: Graph
Submit

Last update: 2005/09/12 11:00 AM EDT

| | |
|---|---|
| Wind Speed | 23.7 kts |
| Wind Direction - From | NE(45 deg) |
| Wind Gust | 24.9 kts |
| Air Temperature | 77.0 F |
| Air Pressure | 1012.7 mb |
| Relative Humidity | 86% |
| Bottom Temperature | 78.4 F |
| Bottom Chlorophyll | 52.92 (ug/L) |
| Bottom Salinity | 35.17 ppt |
| Surface Current Speed | 1.07 kts |
| Surface Current Direction - To | 216.7 deg |
| Solar Radiation | 549(W/m^2) |

Graph Last Day
Graph Past3 Days
Graph Past Week
Graph Past Month
Graph Past 3 Months
Graph Past Year

Query Mooring Data
Direct File Access
Quality Control Criteria
Metadata
<-- Archived Data Map
<-- Real-time Data Map

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CHANGE SITES: ILM2 GO


Latitude: 34 08.4502
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Buoy Configuration

Graph Last Day
Graph Past 3 Days
Graph Past Week
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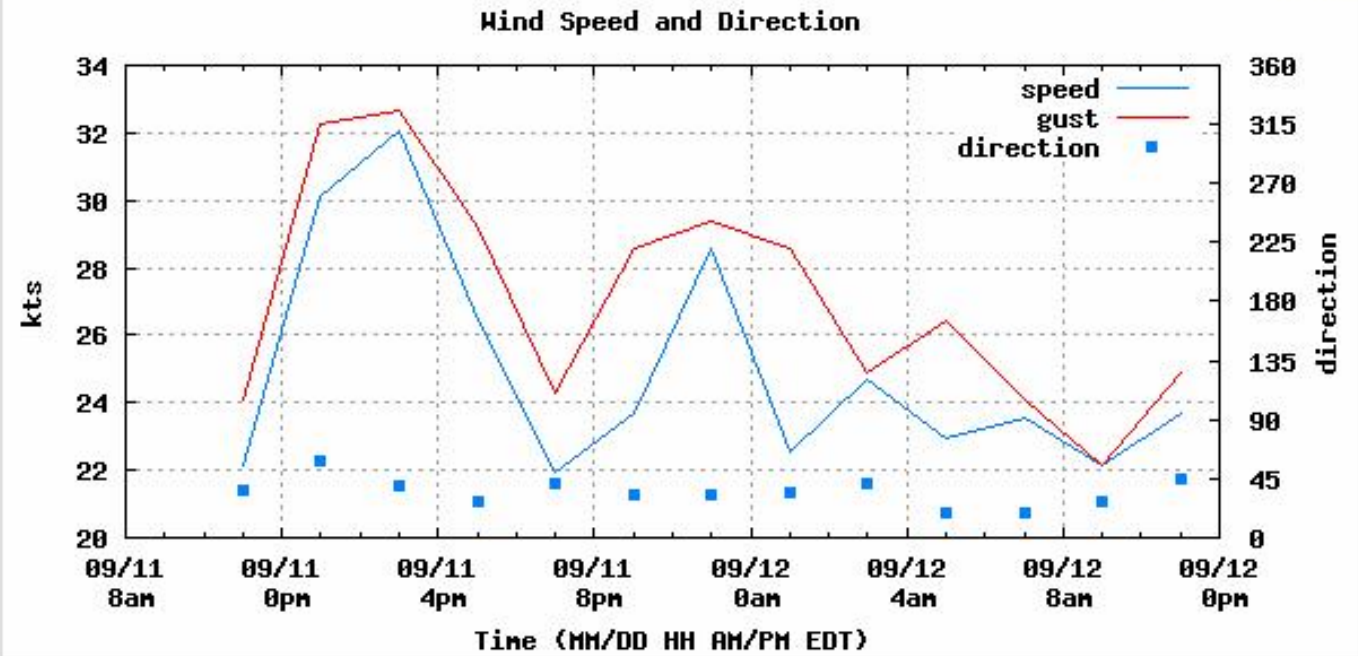
Replot in m/s



# GPS Coordinates

| | | | |
|---|---|---|---|
| LBP1 | Ocean Crest Pier (Oak Island, NC) | Nov 05 | Subsurface mooring |
| ILM1 | Johnnie Mercer's Pier | June 05 | Subsurface mooring |
| ILM2 | Wrightsville Beach Nearshore | June 05 | N34°08.450' W77°42.890' |
| ILM3 | Wrightsville Beach Offshore | June 05 | N33°59.431' W77°21.584' |
| LEJ2 | Camp Lejeune Nearshore | Aug 05 | N34°28.566' W77°16.783' |
| LEJ3 | Camp Lejeune Offshore | Dec 05 | N34°12.652' W76°57.154' |

# Potential Benefits

- Increased amount of real time marine observations in southeastern NC
- More observations = more informed and safer marine community
- Improved inshore and offshore marine forecasting ability by the NWS
- Pier based observations will allow for improved rip current forecasting


# Access buoy data

- www.cormp.org
- www.carocoops.org
- National Data Buoy Center
  www.ndbc.noaa.gov
- NOAA weather radio
- Dial-a-buoy
- NWS-ILM Marine Weather Page
  www.erh.noaa.gov/ilm/marine

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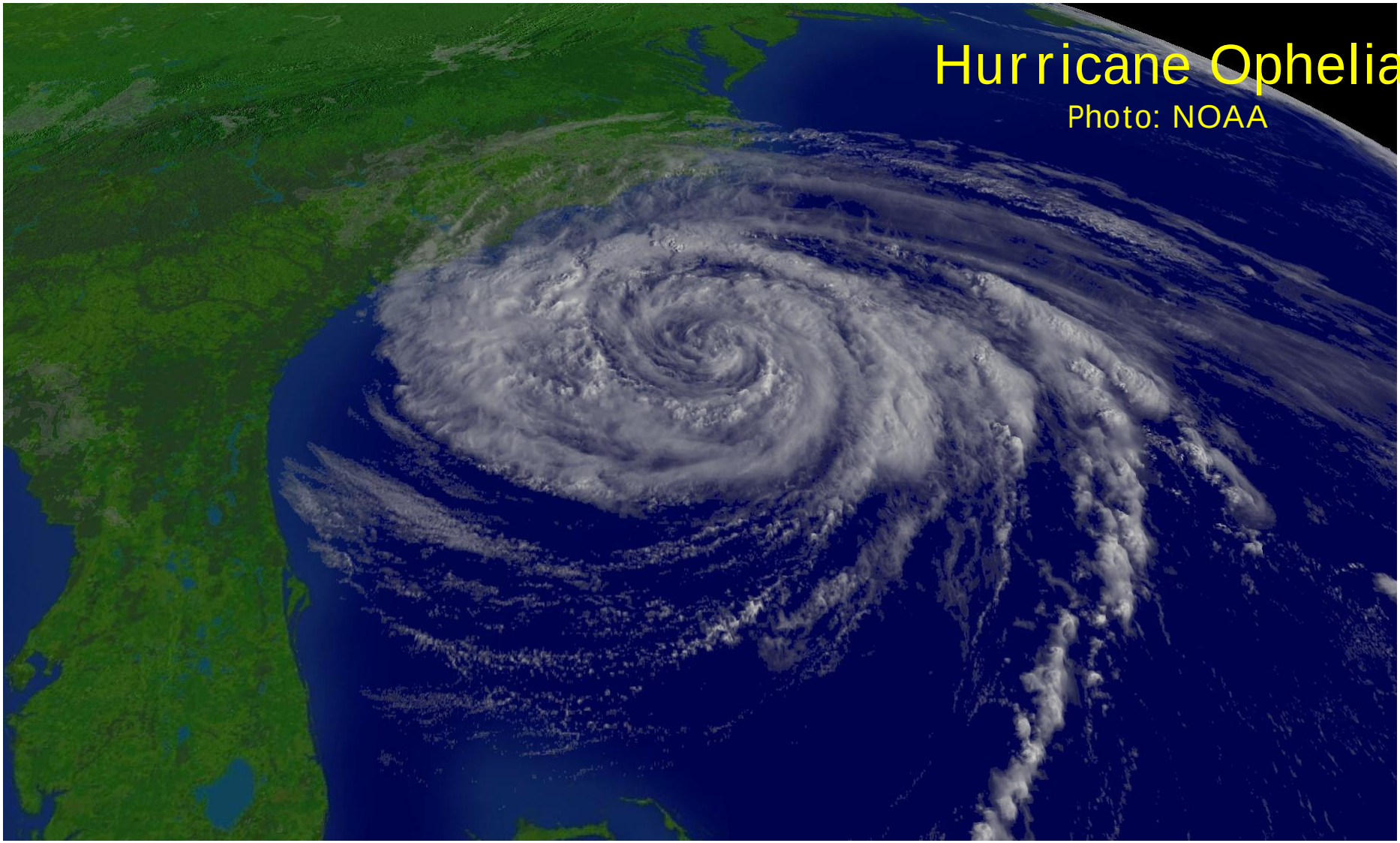
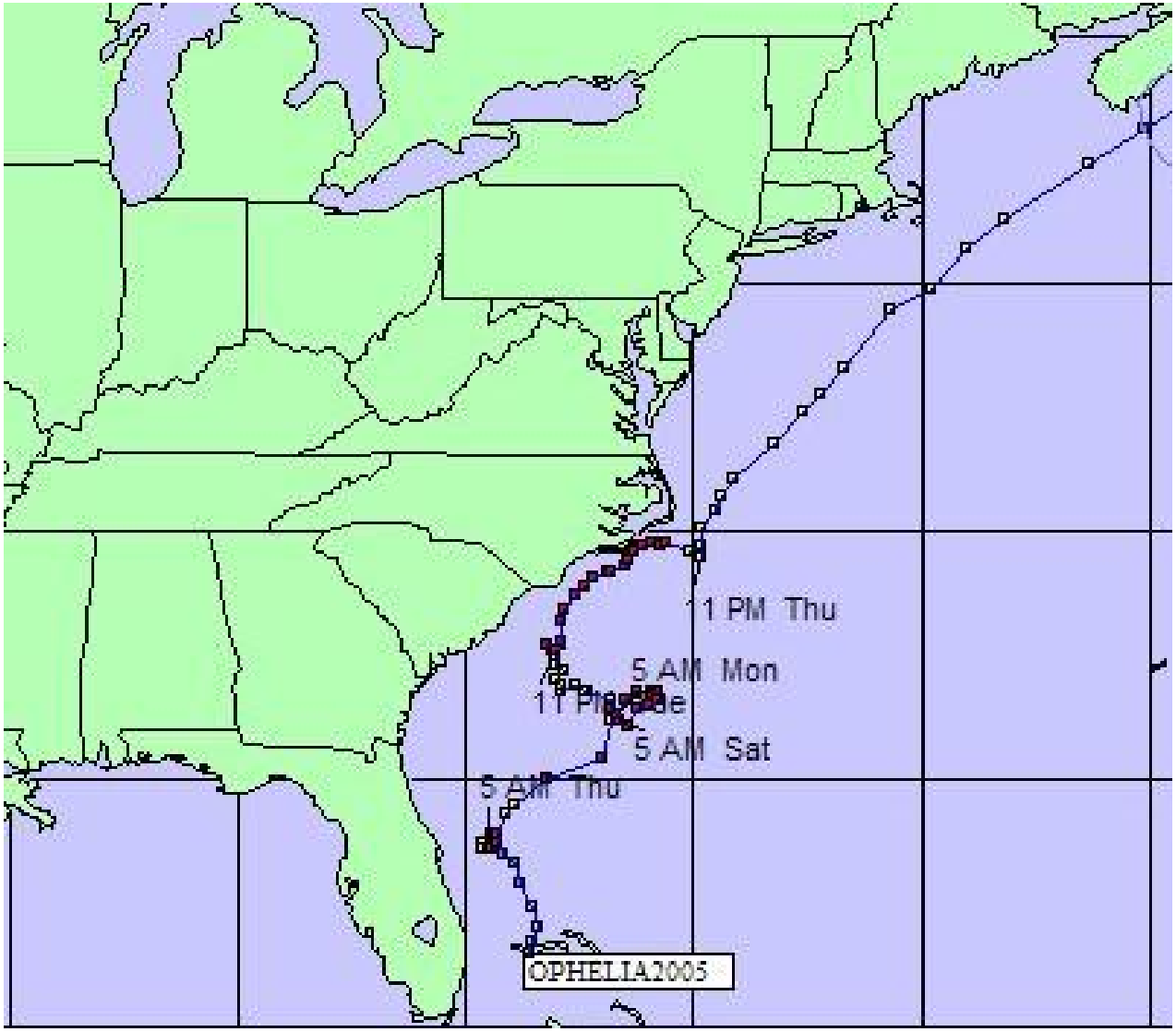
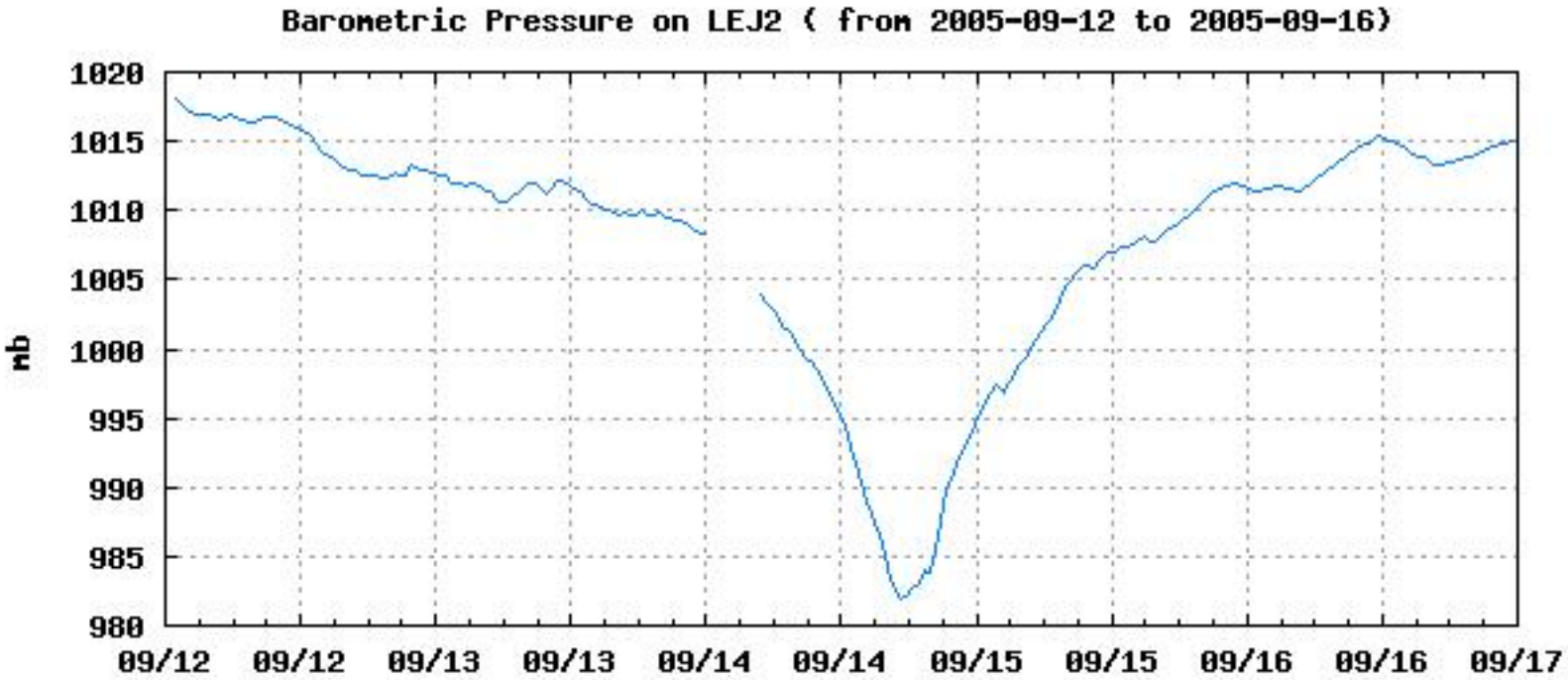





# Ophelia storm track

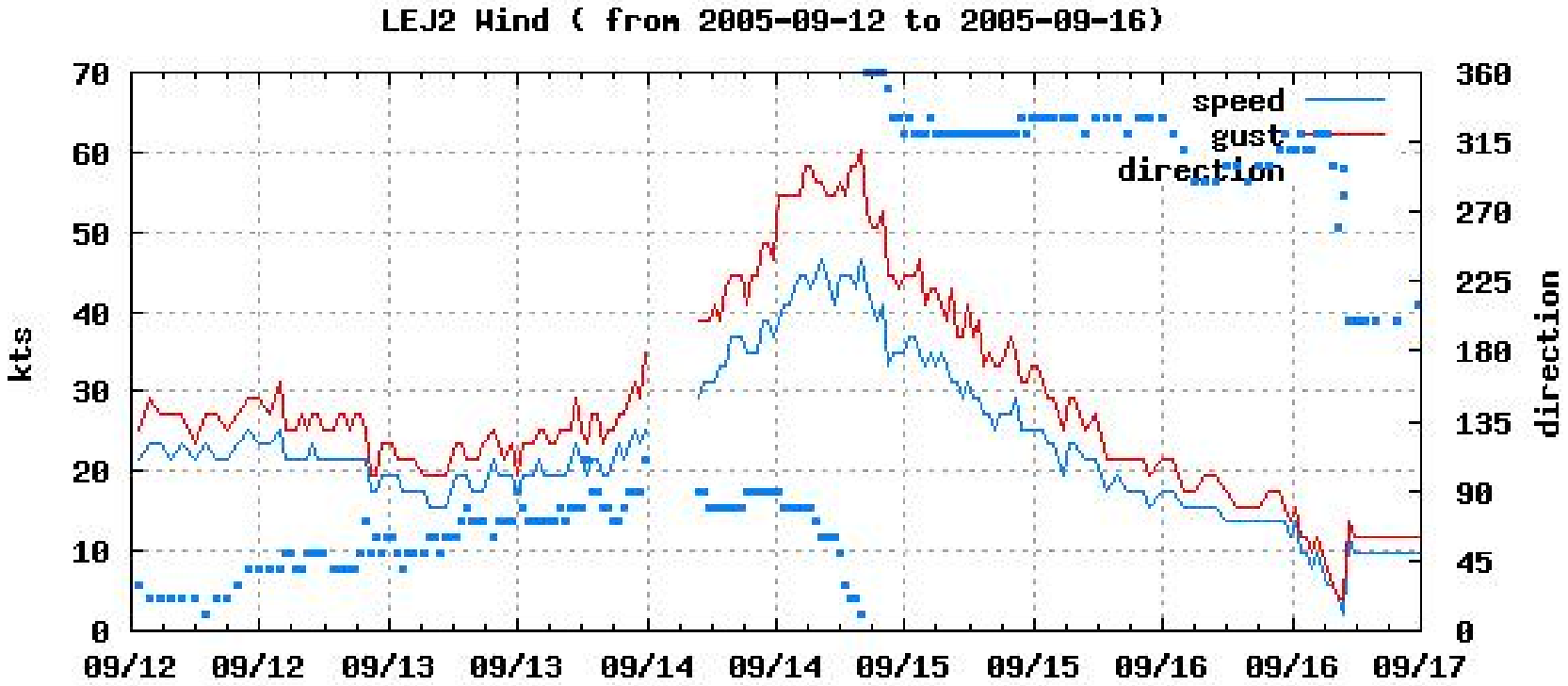
Storm passed close to Jacksonville during the late afternoon an evening on Wed, Sept 14

# Hurricane Ophelia




Air pressure significantly decreased as the eye of the storm passed close to LEJ2, dropping down to 983 mb between 6:00 and 9:00 p.m. on 9/14/05.

# Hurricane Ophelia




Max sustained: 45 kts

Max gust: 60 kts

Wind direction shift at 9:00 p.m. on 9/14 (eye passed)

# Hurricane Ophelia


LEJ2 sits in approximately 55 feet of water
Max wave height 19 ft (4 hour period)

# Hurricane Ophelia


LEJ2 sustained a small amount of damage after the storm.


# Questions?

Caro-COOPS

MARINES
THE FEW. THE PROUD.

NOAA

NATIONAL WEATHER SERVICE

NC STATE UNIVERSITY

US Army Corps of Engineers
Wilmington District

North Carolina Department of Environment and Natural Resources
NCDENR

UNCW