

# Carolinas Coast: A One-Stop Shop for Marine Observations in the Carolinas

A partnership among the  
University of South Carolina,  
University of North Carolina-Wilmington, and the  
NOAA NWS Wilmington Weather Forecast Office



Funded by the  
National Oceanic And Atmospheric Administration

# Origins of “Carolinas Coast”

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## Development driven by 2 key needs:

- Wilmington WFO wanted to add new marine observations into their “marine” webpage for the maritime community in NC/SC.
- The coastal ocean observing community in the SE region wanted to enhance cooperation in meeting user needs

# Approach...

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**Building on existing Caro-COOPS, CORMP, and SEACOOS data management capacities:**

- Aggregate near real-time observations from in-situ platforms, models, and remote sensing...
- Integrate these with NOAA NWS observations and products...
- Leverage outreach activities within both NOAA NWS and coastal ocean observing systems...

### Carolinas Coast

Click on an icon on the map to see near-real-time observations for that location.  
Click on the latest observation reading to view previous observations.

Observations Hazards Station List

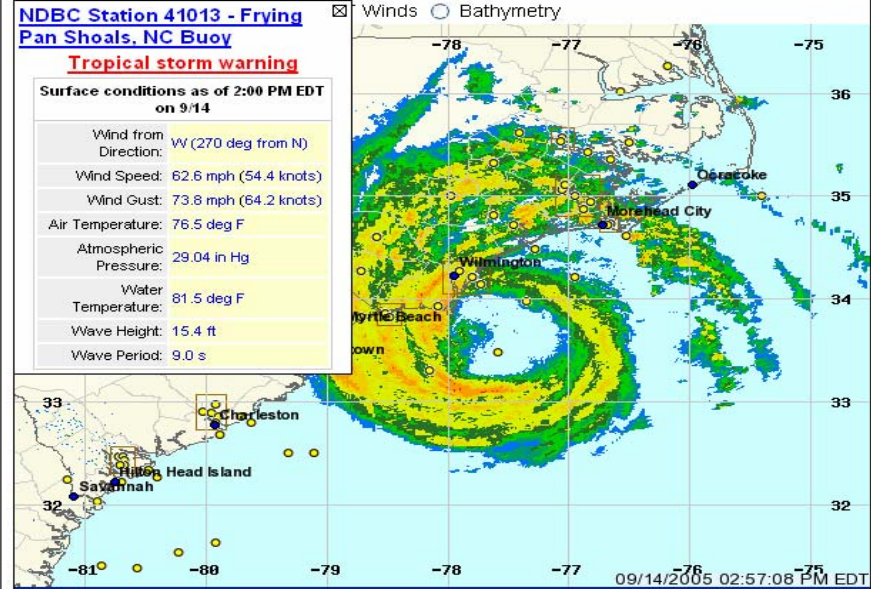
Select a background map:  Default  Sea Surface Temp.  Radar  Radar Loop  Air Pressure

**NDBC Station 41013 - Frying Pan Shoals, NC Buoy**

**Tropical storm warning**

Surface conditions as of 2:00 PM EDT on 9/14

Wind from Direction:	W (270 deg from N)
Wind Speed:	62.6 mph (54.4 knots)
Wind Gust:	73.8 mph (64.2 knots)
Air Temperature:	76.5 deg F
Atmospheric Pressure:	29.04 in Hg
Water Temperature:	81.5 deg F
Wave Height:	15.4 ft
Wave Period:	9.0 s



Help: Select a term from the list for more information.

Air Temperature

Image Provided By SEACOOOS (<http://seacoos.org/>)  
Data Provided By Texas A & M University Mesonet Radar (<http://mesonet.tamu.edu/>)

- ◆ QUIKSCAT (Satellite Derived Winds)

### Forecast Discussions



# National Weather Service Forecast Office

## Wilmington, NC



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### Carolinas Coast

Click on an icon on the map to see near-real-time observations for that location.  
Click on the latest observation reading to view previous observations.

- Observations
- Hazards
- Station List

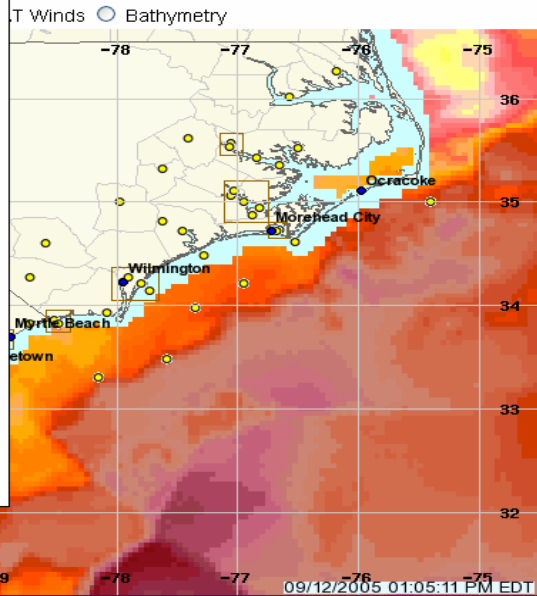
Select a background map:  Default  Sea Surface Temp.  Radar  Radar Loop

**Caro-COOPS SUN3 - Sunset**  
**Beach Mid-Shelf**

#### Tropical storm warning

Surface conditions as of  
11:00 AM EDT on 9/12

Wind from:	ENE (64 deg from N)
Wind Speed:	15.0 mph (13.0 knots)
Wind Gust:	32.0 mph (27.8 knots)
Air Temperature:	80.1 deg F
Atmospheric Pressure:	29.91 in Hg
Water Temperature:	79.3 deg F
Salinity:	36.1 PPT
Current to Direction:	0.0 (225.00 deg from N)
Current Speed:	2749.2 knots



Help: Select a term from the list for more information.

Air Temperature

Image Provided By SEACCOOS (<http://seaccoos.org/>)  
Data Provided By USF Ocean Circulation Group (<http://ocg6.marine.usf.edu/>)

Done

Internet

**Carolinas Coast**

Click on an icon on the map to see near-real-time observations. Click on the latest observation reading to view product details.

Observations Hazards Station List

Select a background map:  Default  Sea Surface Temperature

**Caro-COOPS SUN3 - Sunset Beach Mid-Shelf**

**Tropical storm warning**

**Surface conditions as of 11:00 AM EDT on 9/12**

Wind from Direction:	ENE (64 deg from N)
Wind Speed:	15.0 mph (13.0 knots)
Wind Gust:	32.0 mph (27.8 knots)
Air Temperature:	80.1 deg F
Atmospheric Pressure:	29.91 in Hg
Water Temperature:	79.3 deg F
Salinity:	36.1 PPT
Current to Direction:	0.0 (225.00 deg from N)
Current Speed:	2749.2 knots

Image Provided By SEACOOS (http://seacoos.org) Data Provided By USF Ocean Circulation Group (http://ocgb.marine.usf.edu/)

**Query Results Detailed - Microsoft Internet Explorer**

File Edit View Favorites Tools Help  
 Back Forward Stop Home Search Favorites Refresh Print Mail News Feeds Address http://nautilus.baruch.sc.edu/portal\_rs/query\_details\_wind.phtml?hour\_range=24&station\_id=caroco... Go Links

<b>Station ID</b>	carocoops_SUN3_buoy	<b>Institution</b>	Baruch Institute, University of South Carolina at Columbia
<b>Lon, Lat</b>	-78.15 E, 33.31 N	<b>Institution URL</b>	<a href="http://carocoops.org">http://carocoops.org</a>
<b>Title</b>	Caro-COOPS data for buoy SUN3	<b>DODS URL</b>	<a href="http://trident.baruch.sc.edu/dods">http://trident.baruch.sc.edu/dods</a>

Observations 1 day(s) before and after 2005-09-12 11:00:40 EDT

Wind Speed

Date/Time (EDT)	Wind Speed (MPH)
Sep 11 9am	18
Sep 11 6pm	33
Sep 11 3pm	11
Sep 11 9am	26
Sep 11 6am	27
Sep 11 3am	15
Sep 12 0am	16
Sep 12 3am	26
Sep 12 6am	25
Sep 12 9am	15 (now)
Sep 12 6pm	15

Internet

National Weather Service Forecast Office  
**Wilmington, NC**

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### Carolinas Coast

This map shows short-fuse hazard warnings in the Carolinas Coast area.

- Observations
- Hazards
- Station List

Select a background map:  Hazards  Hazards with Radar  Show Cities

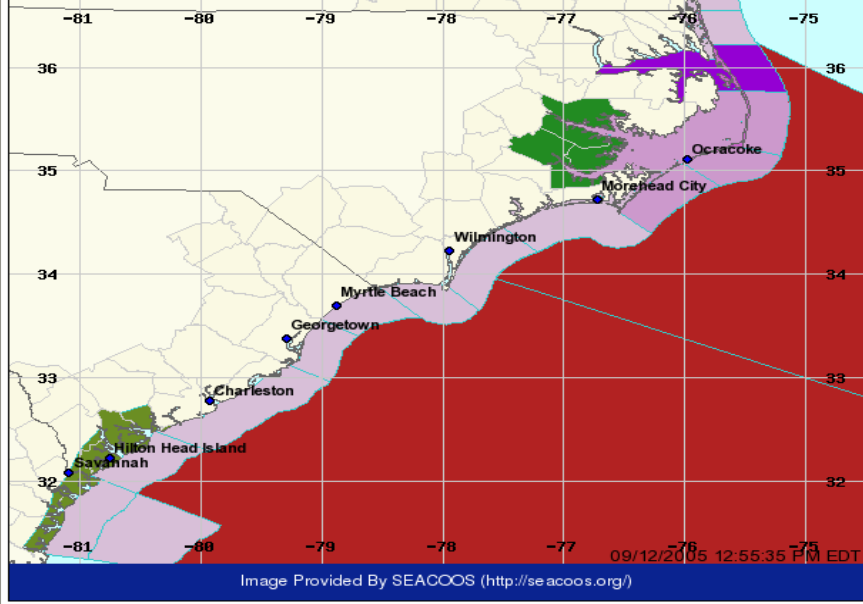
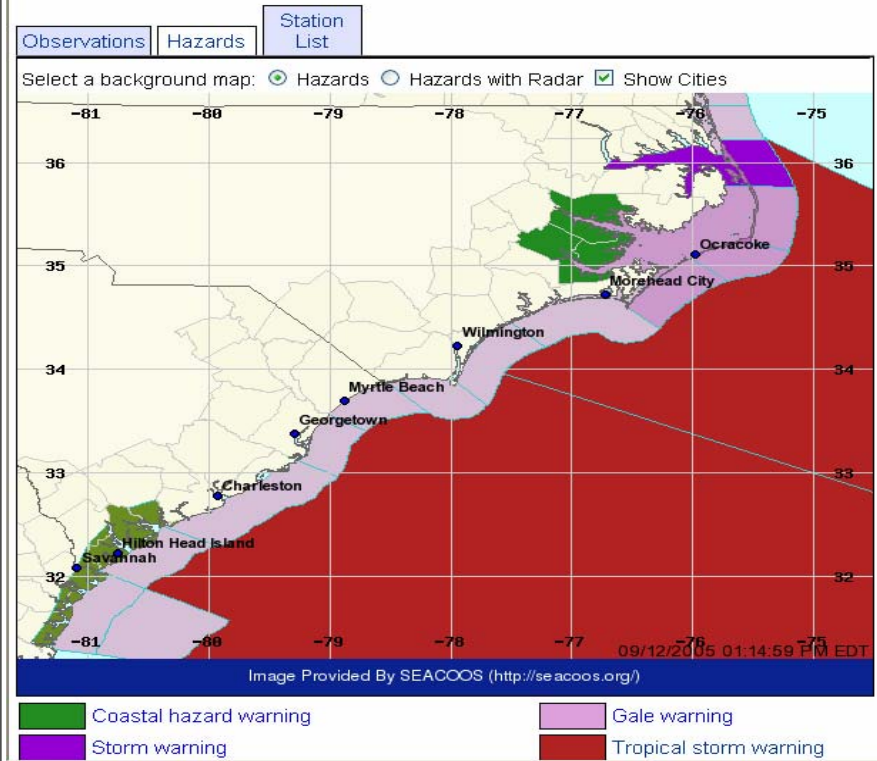


Image Provided By SEACCOOS (<http://seacooos.org/>)

- Coastal hazard warning
- Storm warning
- Gale warning
- Tropical storm warning

**Carolinas Coast**

This map shows short-fuse hazard warnings in the Carolinas Coast area.



National Weather Service - Carolinas Coast - Detailed Announ...  
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 Address [http://hauutilus.baruch.sc.edu/seaccoos\\_misc/get\\_nws\\_annour](http://hauutilus.baruch.sc.edu/seaccoos_misc/get_nws_annour) Go Links

ANZ088-122030-  
 CAPE FEAR TO 31N OUT TO 32N 73W TO 31N 74W.  
 1030 AM EDT MON SEP 12 2005

...HURRICANE WARNING...

...THIS AFTERNOON...SHIFTING WINDS 35 TO 60 KT...EXCEPT 25 TO 35 KT SW PORTION. SEAS 12 TO 20 FT...EXCEPT TO 30 FT NEAR THE CENTER OF OPHELIA. RAIN...TSTMS AND SQUALLS WITH VSBY OCCASIONALLY LESS THAN 1 NM.

...TONIGHT...SHIFTING WINDS 35 TO 60 KT INCREASING TO 65 KT NEAR THE CENTER OF OPHELIA LATE TONIGHT...AND 25 TO 35 KT OVER THE SW PORTION. SEAS 12 TO 20 FT...EXCEPT TO 30 FT NEAR THE CENTER OF OPHELIA. RAIN...TSTMS AND SQUALLS WITH VSBY OCCASIONALLY LESS THAN 1 NM. FAR E PORTION...SE WINDS 20 TO 30 KT BECOMING S TUE. SEAS 12 TO 20 FT. SCATTERED SHOWERS AND TSTMS.

...TUE...SHIFTING WINDS 35 TO 55 KT...EXCEPT TO 65 KT NEAR THE CENTER OF OPHELIA... AND 25 TO 35 KT FAR SW PORTION. SEAS 12 TO 20 FT...EXCEPT TO 30 FT NEAR THE CENTER OF OPHELIA.

...TUE NIGHT...NW PORTION...WINDS BECOMING W TO SW 30 TO 45 KT. SEAS 12 TO 22 FT...EXCEPT DECREASING TO 8 TO 12 FT FAR SW PART. SE PORTION...WINDS BECOMING S 25 TO 35 KT. SEAS 12 TO 18 FT. SHOWERS AND SCATTERED TSTMS THROUGHOUT.

...WED...WINDS BECOMING W TO SW AND DECREASING TO 20 TO 30 KT THROUGHOUT. SEAS BECOMING 10 TO 17 FT...EXCEPT 4 TO 10 FT W OF 78W.

...THU...SW WINDS DECREASING TO 10 TO 20 KT...HIGHEST E. SEAS SUBSIDING TO 5 TO 8 FT...EXCEPT 2 TO 5 FT W OF 1000 FMS.

...FRI...SW WINDS 10 KT. SEAS BECOMING 2 TO 4 FT...HIGHEST NE.

Done Internet



# Next Steps

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- Focus Group discussion
  - 2<sup>nd</sup> meeting to discuss site development & Tides tab
- Developing “Forecasts” tab
  - Integration with NOAA NWS experimental digital forecast products
- Developing Operational Capacity
  - Establishing protocol for long-term coordination between universities and NOAA NWS
  - Improving reliability of data access and aggregation – (e.g. mirrored sites/back-up servers)

**Please visit:**

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**<http://nautilus.baruch.sc.edu/carolinas>**

