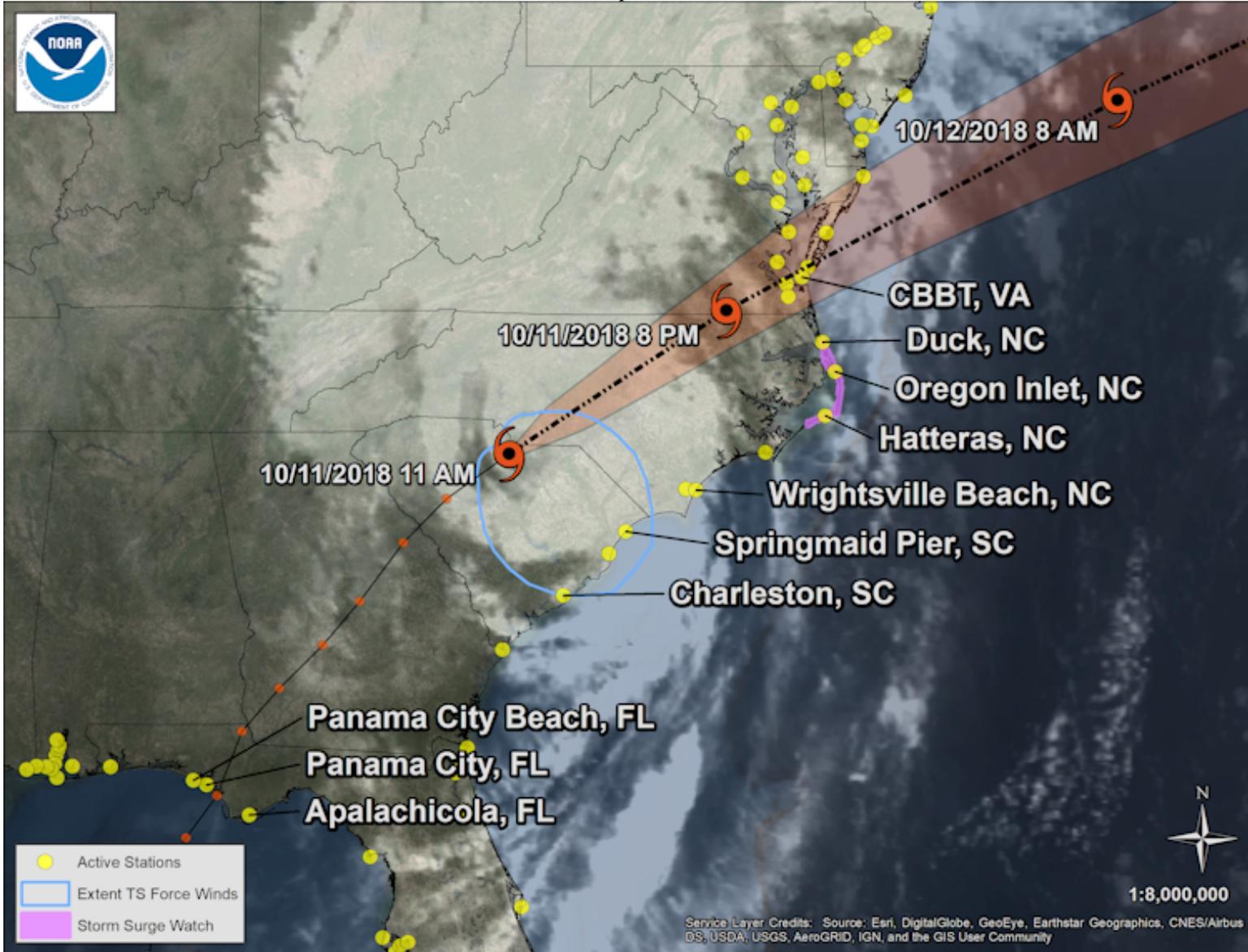


Tropical Storm Michael QuickLook
Posted: 12:00 EDT 10/11/2018

NOAA and NOAA Partnership Stations Relative to the Storm



Storm Analysis

As of 10/11/2018 12:00 EDT, as Tropical Storm Michael moves through the Carolinas and northeast, water levels along the coast of North and South Carolina are 0.3 to 1 ft above predicted tidal levels, with the highest (1.1 ft) at Oregon Inlet, NC. Water levels at stations along the Gulf of Mexico coastline are returning to normal. Apalachicola and Panama City are 1 to 1.3 feet above tidal predictions.

Winds are rising in the area of Wrightsville Beach, NC with winds of 35 knots and gusts up to 45 knots. Along the rest of the Carolina coast, winds are between 10 and 20 knots with gusts to 30 knots. Barometric pressure continues to fall slowly in the region and has returned to normal levels along the Florida Panhandle and Gulf Coast.

Water Level and Meteorological plots available below are updated automatically. A line denoting Mean Higher High Water (MHHW) is displayed to provide an approximate indication of when flooding inundation may occur.

For additional real-time and historical inundation information for select stations affected by this storm, please visit Coastal Inundation Dashboard. For additional data, please see the Center for Operational Oceanographic Products & Services website.

For more information or archived products and reports, please visit the Storm QuickLook Homepage.

Analyst: LAH

Select National Hurricane Center Advisory: BULLETIN
Tropical Storm Michael Advisory Number 20
NWS National Hurricane Center Miami FL
1100 AM EDT Thu Oct 11 2018

...MICHAEL PRODUCING HEAVY RAINFALL AND TROPICAL-STORM-FORCE WIND GUSTS OVER MUCH OF CENTRAL AND EASTERN SOUTH AND NORTH CAROLINA...

SUMMARY OF 1100 AM EDT...1500 UTC...INFORMATION

LOCATION...34.7N 80.8W
ABOUT 35 MI... SSE OF CHARLOTTE NORTH CAROLINA
MAXIMUM SUSTAINED WINDS...50 MPH
PRESENT MOVEMENT...NE OR 50 DEGREES AT 23 MPH
MINIMUM CENTRAL PRESSURE...990 MB...29.23 INCHES

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY:

The Tropical Storm Warning south of the Savannah River has been discontinued.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT:

A Storm Surge Watch is in effect for...
* Ocracoke Inlet North Carolina to Duck North Carolina

A Tropical Storm Warning is in effect for...
* Savannah River to Duck North Carolina
* Pamlico and Albemarle Sounds

A Tropical Storm Warning means that tropical storm conditions are expected somewhere within the warning area.

A Storm Surge Watch means there is a possibility of life- threatening inundation, from rising water moving inland from the coastline.

For storm information specific to your area, including possible inland watches and warnings, please monitor products issued by your local National Weather Service forecast office.

DISCUSSION AND OUTLOOK

At 1100 AM EDT (1500 UTC), the center of Tropical Storm Michael was located near latitude 34.7 North, longitude 80.8 West. Michael is moving toward the northeast near 23 mph (37 km/h) and this motion is expected to continue with an increase in forward speed through tonight. A turn toward the east-northeast at an even faster forward speed are expected on Friday and Saturday. On the forecast track, the center of Michael will continue to move across central and eastern North Carolina today, move across southeastern Virginia this evening, and move into the western Atlantic Ocean tonight.

Maximum sustained winds are near 50 mph (85 km/h) with higher gusts. Little change in strength is expected today, with the strongest winds primarily spreading northward along the coast of the Carolinas. Michael is forecast to intensify as it becomes a post- tropical low over the Atlantic late tonight.

Tropical-storm-force winds extend outward up to 185 miles, mainly to the south and east of the center. A wind gust of 54 mph was recently reported at Folly Island, South Carolina. Myrtle Beach, South Carolina, recently reported a wind gust of 47 mph.

The estimated minimum central pressure based on surface observations is 990 mb (29.23 inches).

HAZARDS AFFECTING LAND

STORM SURGE: The combination of a dangerous storm surge and the tide will cause normally dry areas near the coast to be flooded by rising waters moving inland from the shoreline. The water has the potential to reach the following heights above ground if peak surge occurs at the time of high tide...

Sound side of the North Carolina Outer Banks from Ocracoke Inlet to Duck...2-4 ft

WIND: Tropical storm conditions are occurring over portions of central and eastern South Carolina and will spread northward over central and eastern North Carolina this afternoon and evening.

Gale- to storm-force winds are expected over portions of southeastern Virginia, extreme northeastern North Carolina, and the Delmarva Peninsula late tonight and Friday morning when Michael becomes post-tropical off the Mid-Atlantic coast.

RAINFALL: Michael is expected to produce total rain accumulations of 4 to 7 inches from northern South Carolina, west-central to northwestern North Carolina, and into south-central to southeast Virginia, including the southern Delmarva Peninsula. Isolated maximum totals of 9 inches are possible in North Carolina and Virginia. This rainfall could lead to life-threatening flash floods.

Rainfall totals of 1 to 3 inches expected across the Central Appalachians into the Mid-Atlantic and southern New England.

TORNADOES: Tornadoes are possible through this evening across central and eastern North Carolina and southeast Virginia.

NEXT ADVISORY

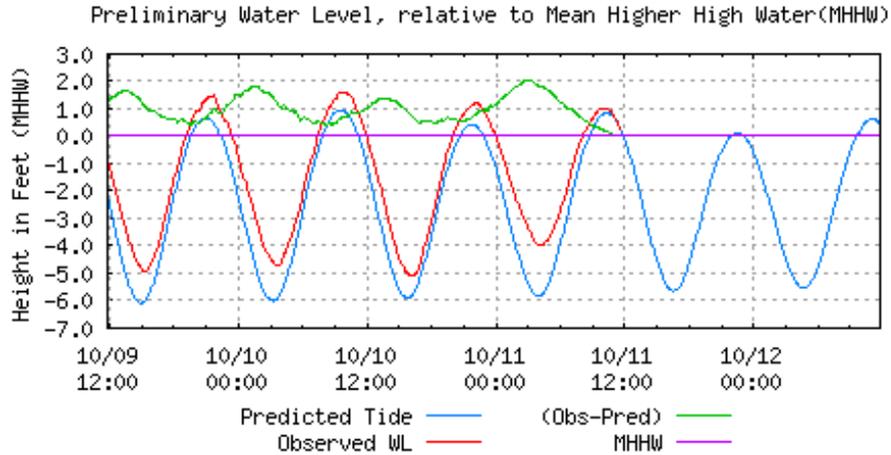
Next intermediate advisory at 200 PM EDT.
Next complete advisory at 500 PM EDT.

\$\$
Forecaster Brown

For the purpose of timely release, data contained within this QuickLook have undergone a "limited" NOS Quality Assurance/Control; however, the data have not yet undergone final verification. All data subject to NOS verification.

Jump to: [Charleston, Cooper River Entrance - Water Level](#), [Charleston, Cooper River Entrance - Winds](#), [Charleston, Cooper River Entrance - Barometric](#), [Springmaid Pier - Water Level](#), [Springmaid Pier - Barometric](#), [Wrightsville Beach - Water Level](#), [Wrightsville Beach - Winds](#), [USCG Station Hatteras - Water Level](#), [USCG Station Hatteras - Winds](#), [USCG Station Hatteras - Barometric](#), [Oregon Inlet Marina - Water Level](#), [Oregon Inlet Marina - Winds](#), [Oregon Inlet Marina - Barometric](#), [Duck - Barometric](#), [Duck - Water Level](#), [Duck - Winds](#), [CBBT, Chesapeake Channel - Water Level](#), [CBBT, Chesapeake Channel - Winds](#), [CBBT, Chesapeake Channel - Barometric](#), [Apalachicola - Water Level](#), [Apalachicola - Winds](#), [Apalachicola - Barometric](#), [Panama City - Water Level](#), [Panama City - Barometric](#), [Panama City Beach - Water Level](#), [Panama City Beach - Winds](#), [Panama City Beach - Barometric](#)

NOAA/NOS/CO-OPS 8665530 Charleston, Cooper River Entrance, SC



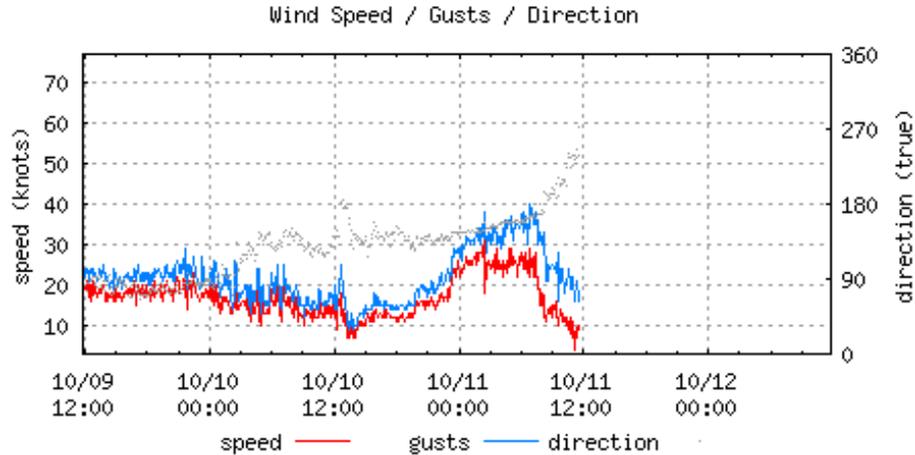
Last Observed Sample: 10/11/2018 11:42 (EDT). Data relative to MHHW

Observed: 0.18 ft. Predicted: 0.18 ft. Residual: 0.00 ft.

Historical Maximum Water Level: Sep 21 1989, 6.76 ft.

Next High Tide: 10/11/2018 22:29 (EDT), 0.11 ft.

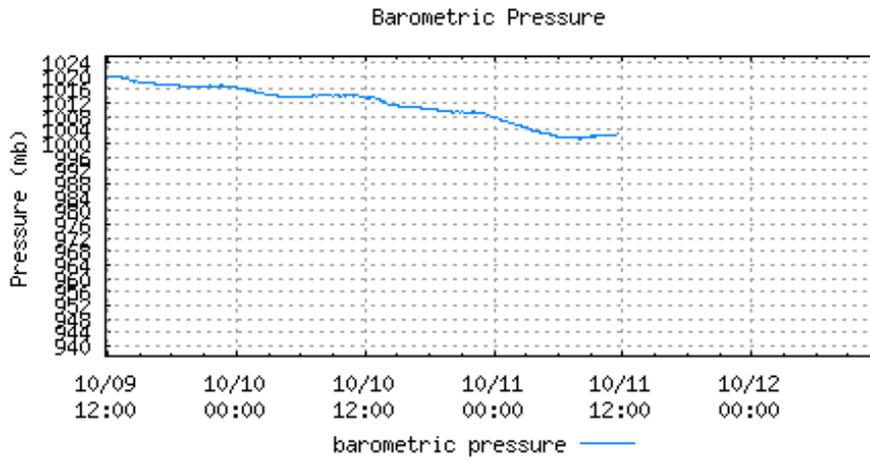
NOAA/NOS/CO-OPS 8665530 Charleston, Cooper River Entrance, SC



Last Observed Sample: 10/11/2018 11:42 (EDT)

Wind Speed: 9 knots Gusts: 17 knots Direction: 246° T

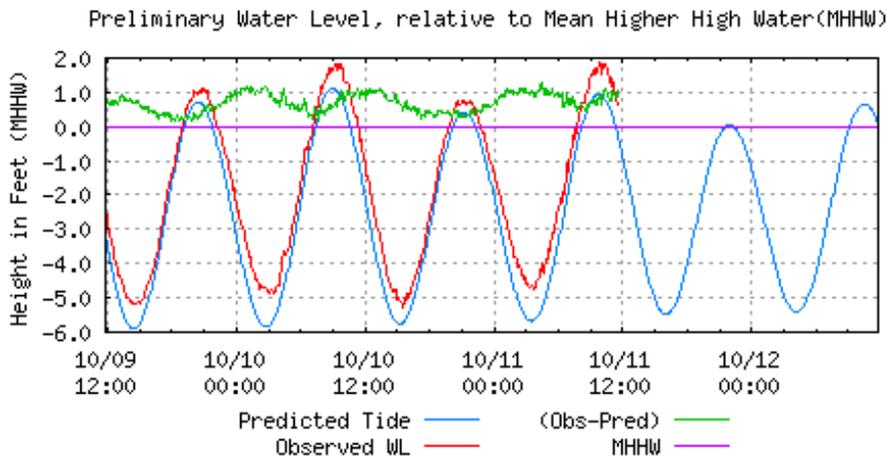
NOAA/NOS/CO-OPS 8665530 Charleston, Cooper River Entrance, SC



Last Observed Sample: 10/11/2018 11:42 (EDT)

Barometric Pressure: 1002.6 mb

NOAA/NOS/CO-OPS 8661070 Springmaid Pier, SC



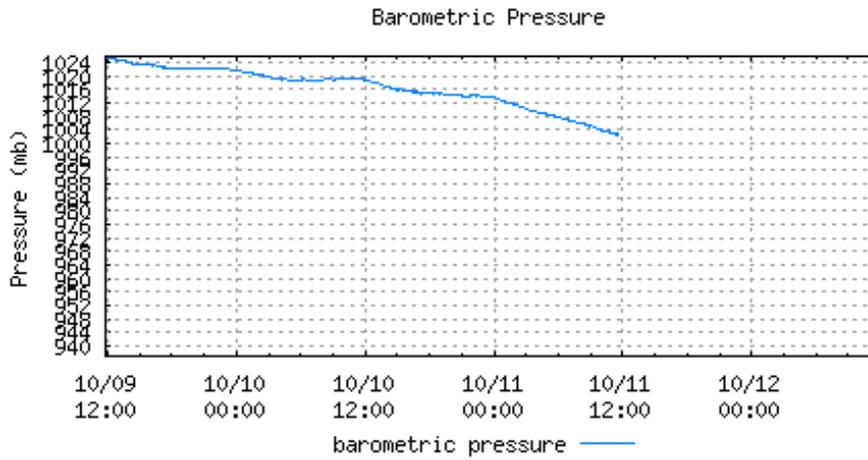
Last Observed Sample: 10/11/2018 11:42 (EDT). Data relative to MHHW

Observed: 0.21 ft. Predicted: -0.47 ft. Residual: 0.68 ft.

Historical Maximum Water Level: Sep 21 1989, 8.77 ft.

Next High Tide: 10/11/2018 21:57 (EDT), 0.05 ft.

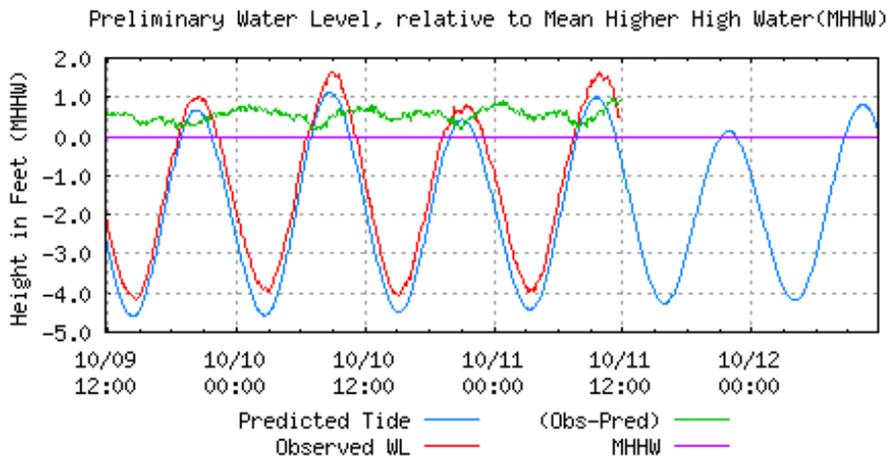
NOAA/NOS/CO-OPS 8661070 Springmaid Pier, SC



Last Observed Sample: 10/11/2018 11:42 (EDT)

Barometric Pressure: 1002.4 mb

NOAA/NOS/CO-OPS 8658163 Wrightsville Beach, NC



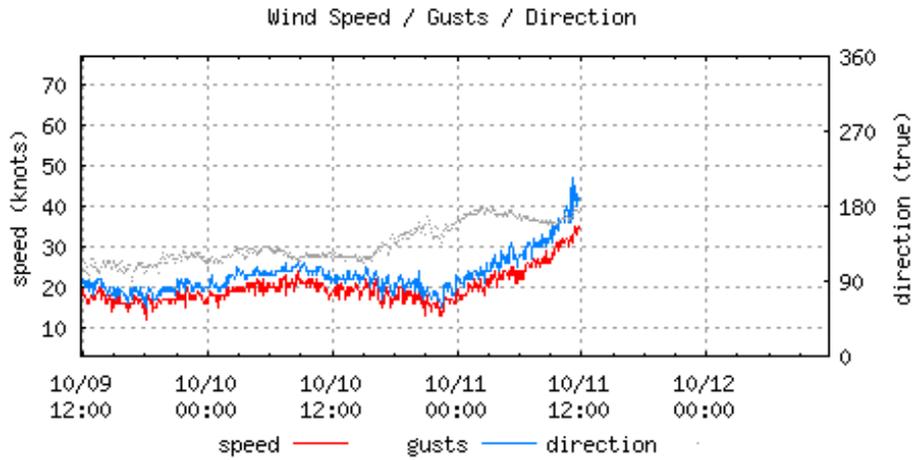
Last Observed Sample: 10/11/2018 11:48 (EDT). Data relative to MHHW

Observed: 0.36 ft. Predicted: -0.55 ft. Residual: 0.91 ft.

Historical Maximum Water Level: Oct 4 2015, 2.97 ft.

Next High Tide: 10/11/2018 21:52 (EDT), 0.14 ft.

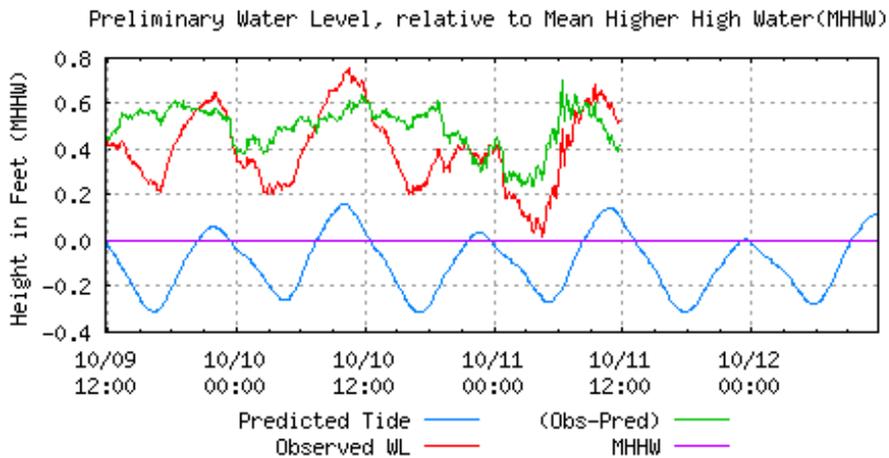
NOAA/NOS/CO-OPS 8658163 Wrightsville Beach, NC



Last Observed Sample: 10/11/2018 11:48 (EDT)

Wind Speed: 32 knots Gusts: 41 knots Direction: 173° T

NOAA/NOS/CO-OPS 8654467 USCG Station Hatteras, NC



Last Observed Sample: 10/11/2018 11:48 (EDT). Data relative to MHHW

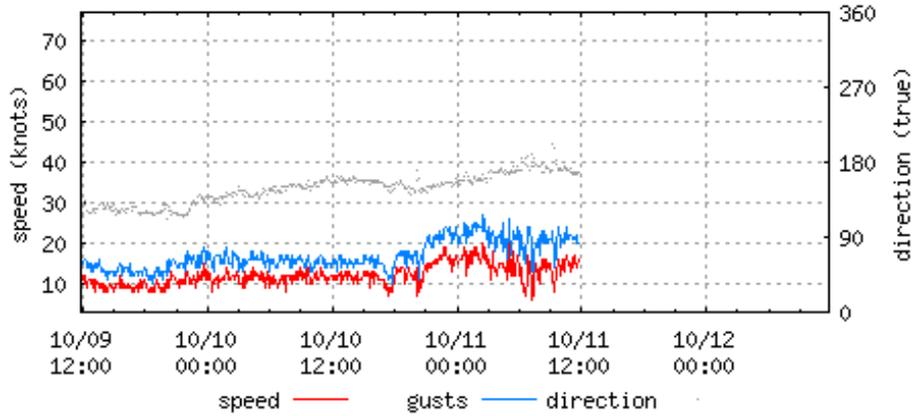
Observed: 0.55 ft. Predicted: 0.11 ft. Residual: 0.44 ft.

Historical Maximum Water Level: Oct 9 2016, 5.76 ft.

Next High Tide: 10/11/2018 23:24 (EDT), 0.00 ft.

NOAA/NOS/CO-OPS 8654467 USCG Station Hatteras, NC

Wind Speed / Gusts / Direction

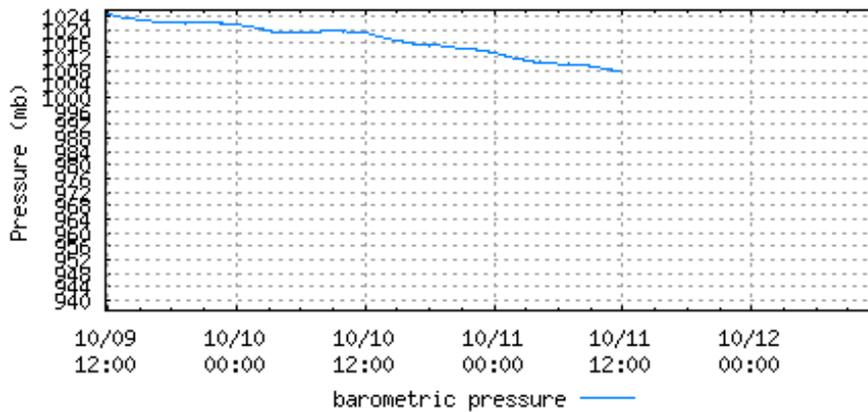


Last Observed Sample: 10/11/2018 11:48 (EDT)

Wind Speed: 15 knots Gusts: 22 knots Direction: 168° T

NOAA/NOS/CO-OPS 8654467 USCG Station Hatteras, NC

Barometric Pressure

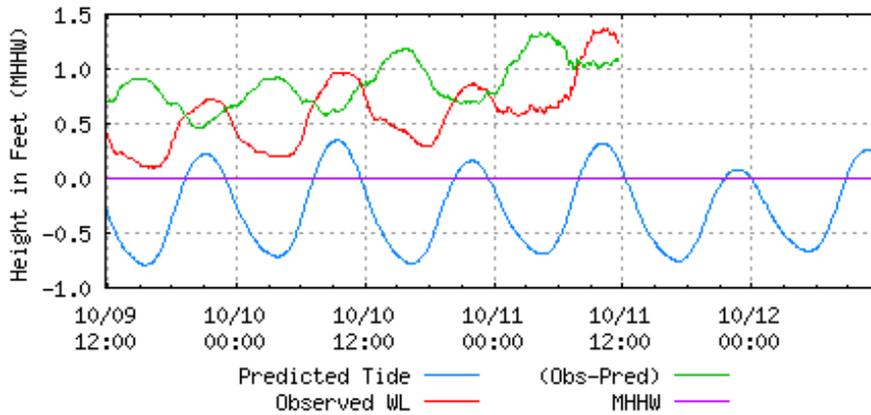


Last Observed Sample: 10/11/2018 11:48 (EDT)

Barometric Pressure: 1007.3 mb

NOAA/NOS/CO-OPS 8652587 Oregon Inlet Marina, NC

Preliminary Water Level, relative to Mean Higher High Water (MHHW)



Last Observed Sample: 10/11/2018 11:36 (EDT). Data relative to MHHW

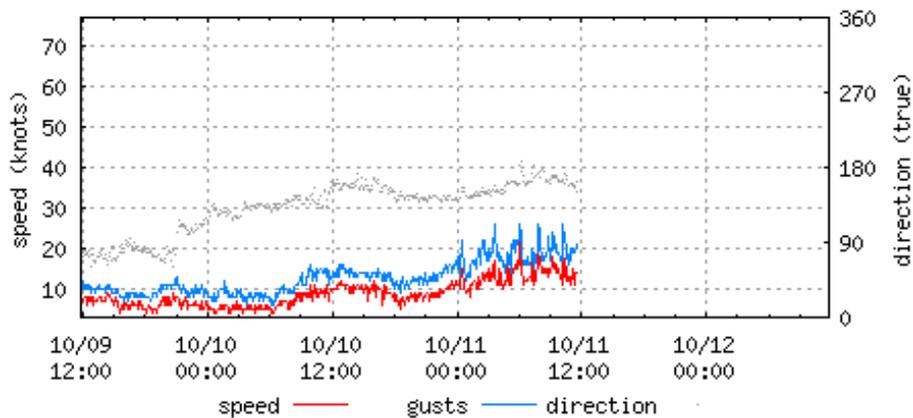
Observed: 1.25 ft. Predicted: 0.16 ft. Residual: 1.09 ft.

Historical Maximum Water Level: Aug 28 2011, 6.31 ft.

Next High Tide: 10/11/2018 22:44 (EDT), 0.08 ft.

NOAA/NOS/CO-OPS 8652587 Oregon Inlet Marina, NC

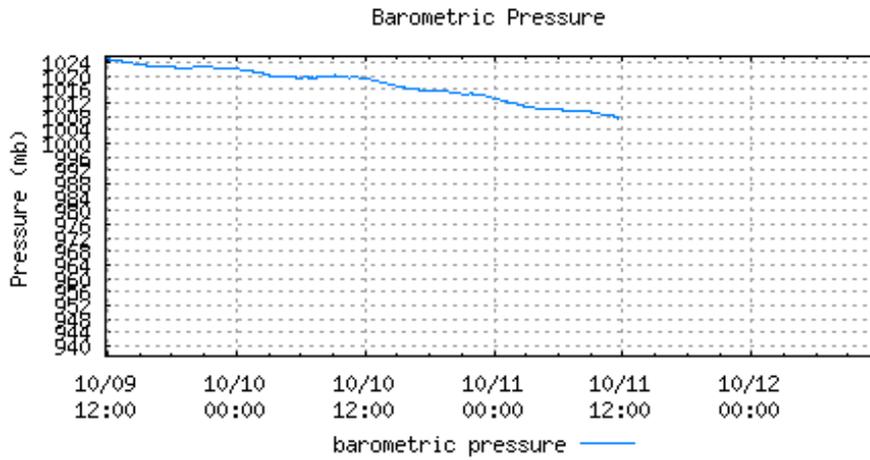
Wind Speed / Gusts / Direction



Last Observed Sample: 10/11/2018 11:36 (EDT)

Wind Speed: 14 knots Gusts: 21 knots Direction: 162° T

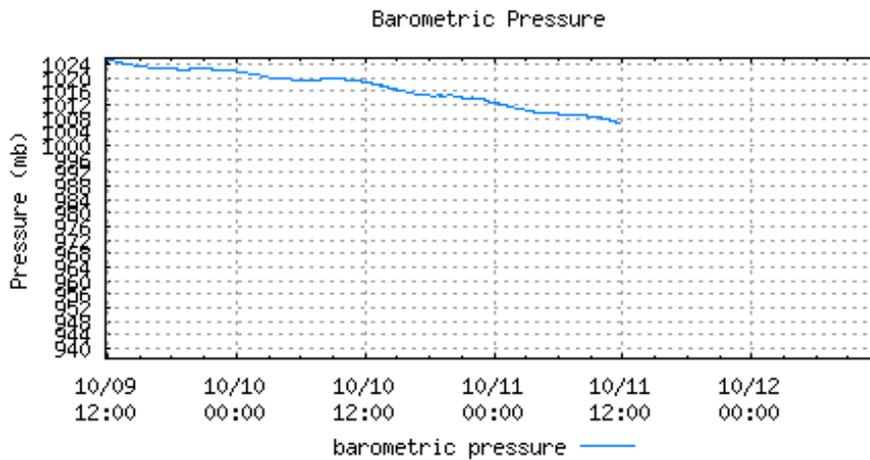
NOAA/NOS/CO-OPS 8652587 Oregon Inlet Marina, NC



Last Observed Sample: 10/11/2018 11:36 (EDT)

Barometric Pressure: 1007.3 mb

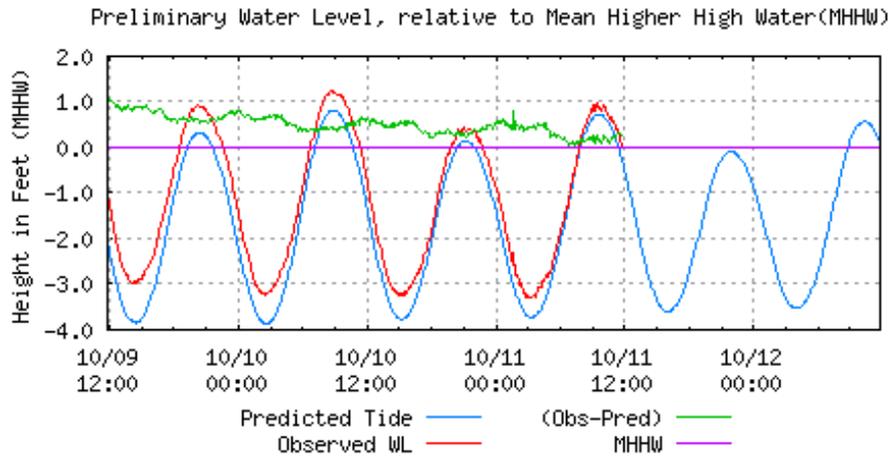
NOAA/NOS/CO-OPS 8651370 Duck, NC



Last Observed Sample: 10/11/2018 11:42 (EDT)

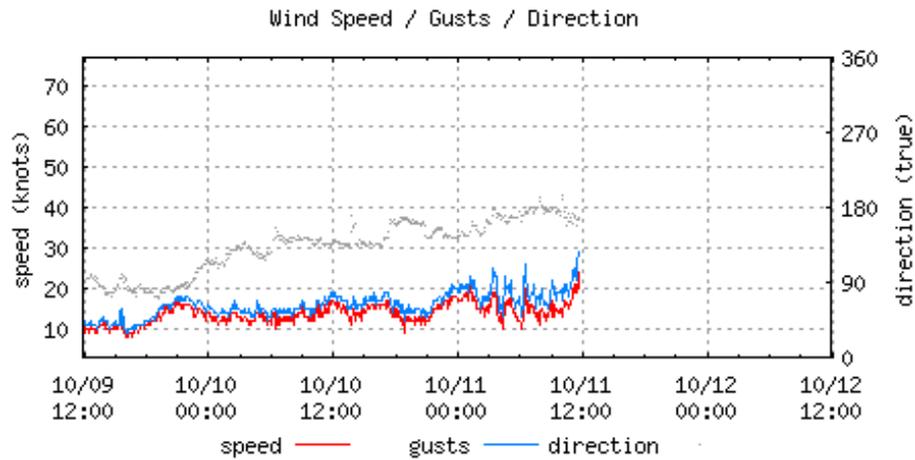
Barometric Pressure: 1006.4 mb

NOAA/NOS/CO-OPS 8651370 Duck, NC



Last Observed Sample: 10/11/2018 11:42 (EDT). Data relative to MHHW
Observed: 0.04 ft. Predicted: -0.24 ft. Residual: 0.28 ft.
 Historical Maximum Water Level: Sep 18 2003, 4.13 ft.
 Next High Tide: 10/11/2018 21:53 (EDT), -0.09 ft.

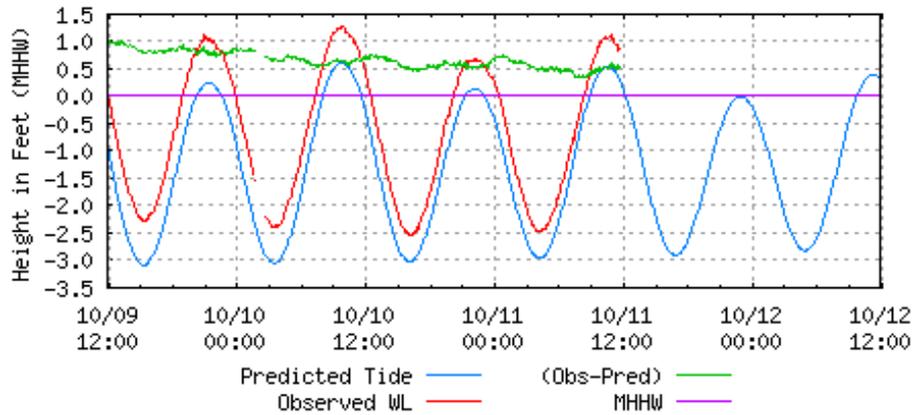
NOAA/NOS/CO-OPS 8651370 Duck, NC



Last Observed Sample: 10/11/2018 11:42 (EDT)
Wind Speed: 24 knots Gusts: 29 knots Direction: 166° T

NOAA/NOS/CO-OPS 8638901 CBBT, Chesapeake Channel, VA

Preliminary Water Level, relative to Mean Higher High Water (MHHW)



Last Observed Sample: 10/11/2018 11:36 (EDT). Data relative to MHHW

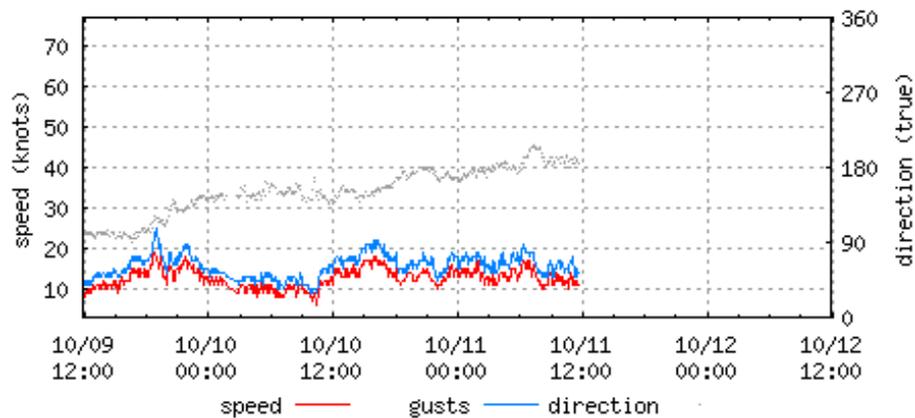
Observed: 0.86 ft. Predicted: 0.31 ft. Residual: 0.55 ft.

Historical Maximum Water Level: n/a

Next High Tide: 10/11/2018 22:51 (EDT), -0.01 ft.

NOAA/NOS/CO-OPS 8638901 CBBT, Chesapeake Channel, VA

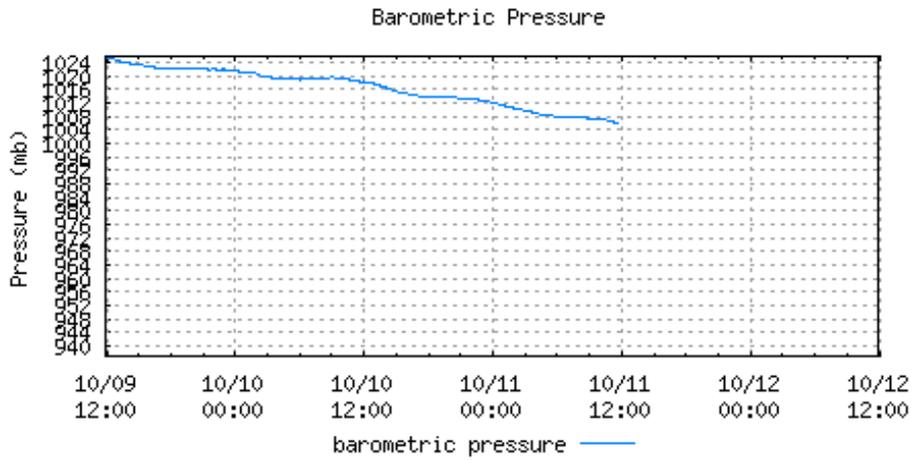
Wind Speed / Gusts / Direction



Last Observed Sample: 10/11/2018 11:36 (EDT)

Wind Speed: 11 knots Gusts: 14 knots Direction: 185° T

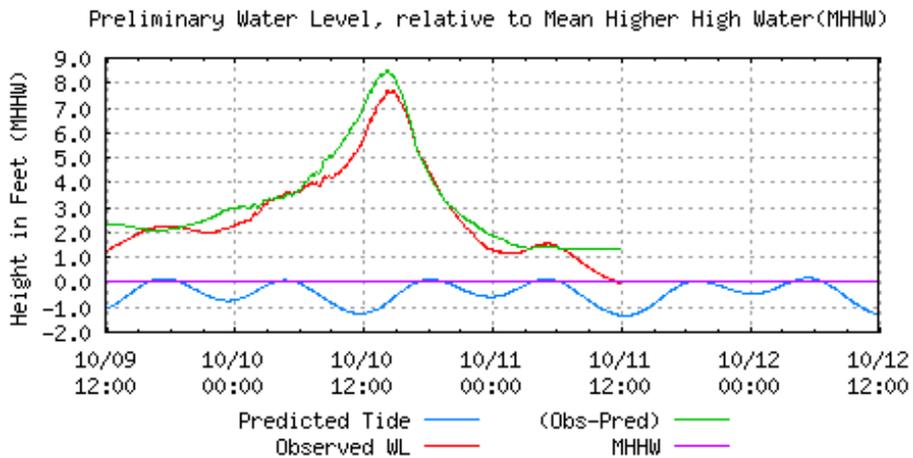
NOAA/NOS/CO-OPS 8638901 CBBT, Chesapeake Channel, VA



Last Observed Sample: 10/11/2018 11:36 (EDT)

Barometric Pressure: 1005.7 mb

NOAA/NOS/CO-OPS 8728690 Apalachicola, FL



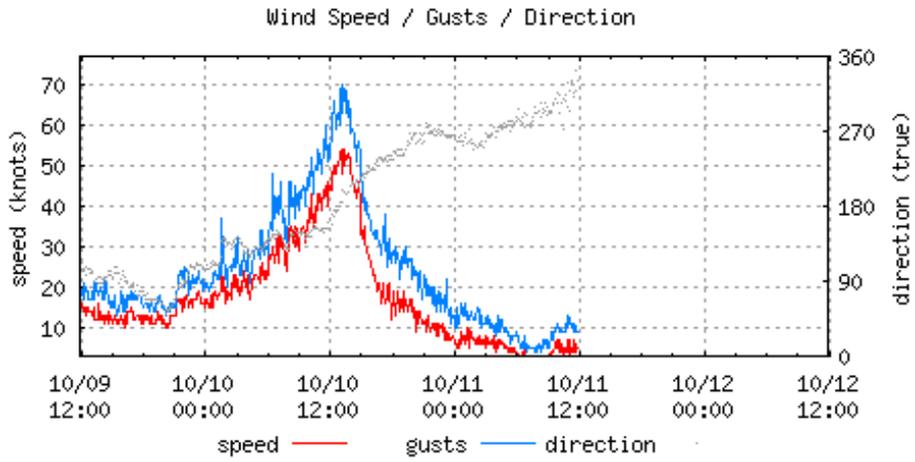
Last Observed Sample: 10/11/2018 11:48 (EDT). Data relative to MHHW

Observed: -0.01 ft. Predicted: -1.31 ft. Residual: 1.30 ft.

Historical Maximum Water Level: Jul 10 2005, 6.43 ft.

Next High Tide: 10/11/2018 19:04 (EDT), 0.05 ft.

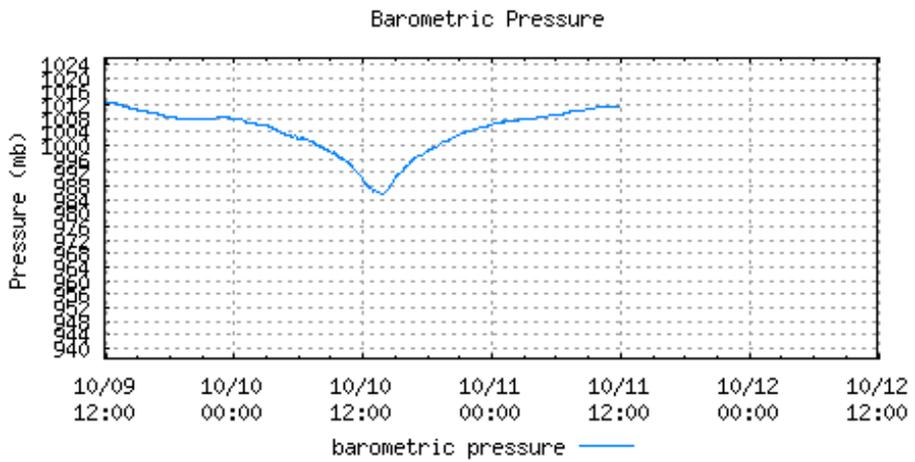
NOAA/NOS/CO-OPS 8728690 Apalachicola, FL



Last Observed Sample: 10/11/2018 11:48 (EDT)

Wind Speed: 5 knots Gusts: 9 knots Direction: 330° T

NOAA/NOS/CO-OPS 8728690 Apalachicola, FL

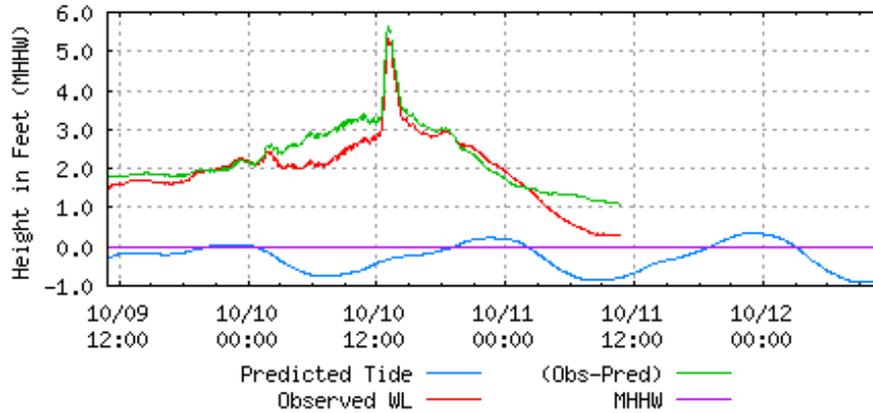


Last Observed Sample: 10/11/2018 11:48 (EDT)

Barometric Pressure: 1011.4 mb

NOAA/NOS/CO-OPS 8729108 Panama City, FL

Preliminary Water Level, relative to Mean Higher High Water (MHHW)



Last Observed Sample: 10/11/2018 10:42 (CDT). Data relative to MHHW

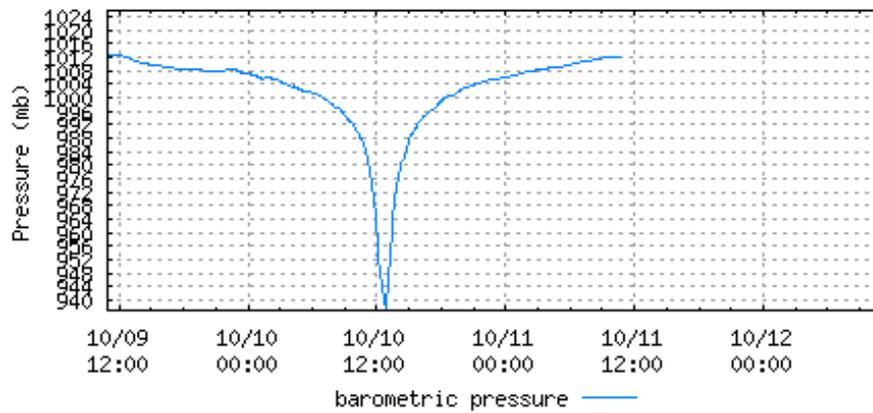
Observed: 0.29 ft. Predicted: -0.79 ft. Residual: 1.08 ft.

Historical Maximum Water Level: Oct 4 1995, 5.72 ft.

Next High Tide: 10/11/2018 22:59 (CDT), 0.35 ft.

NOAA/NOS/CO-OPS 8729108 Panama City, FL

Barometric Pressure

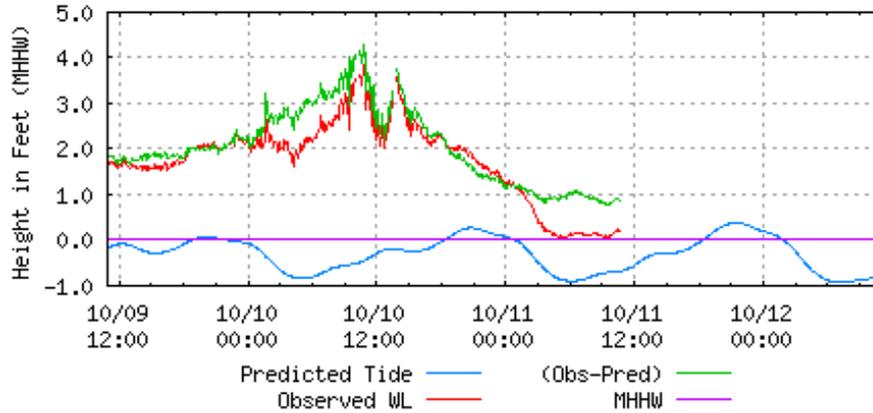


Last Observed Sample: 10/11/2018 10:42 (CDT)

Barometric Pressure: 1011.8 mb

NOAA/NOS/CO-OPS 8729210 Panama City Beach, FL

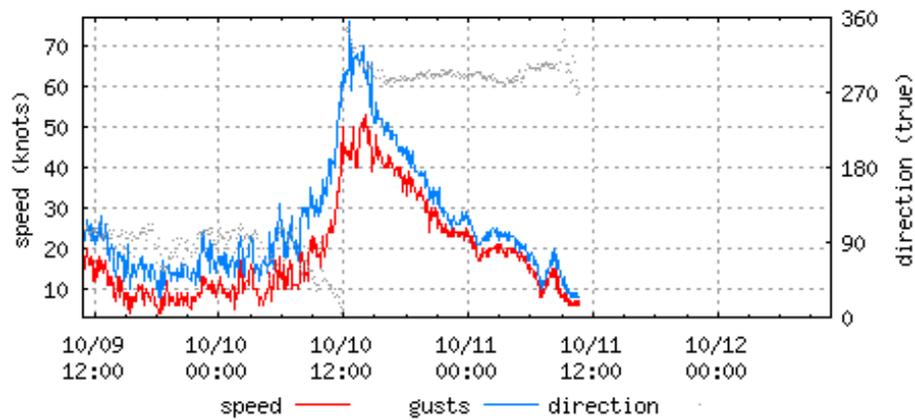
Preliminary Water Level, relative to Mean Higher High Water(MHHW)



Last Observed Sample: 10/11/2018 10:42 (CDT). Data relative to MHHW
Observed: 0.20 ft. Predicted: -0.68 ft. Residual: 0.88 ft.
 Historical Maximum Water Level: Oct 4 1995, 7.07 ft.
 Next High Tide: 10/11/2018 21:26 (CDT), 0.38 ft.

NOAA/NOS/CO-OPS 8729210 Panama City Beach, FL

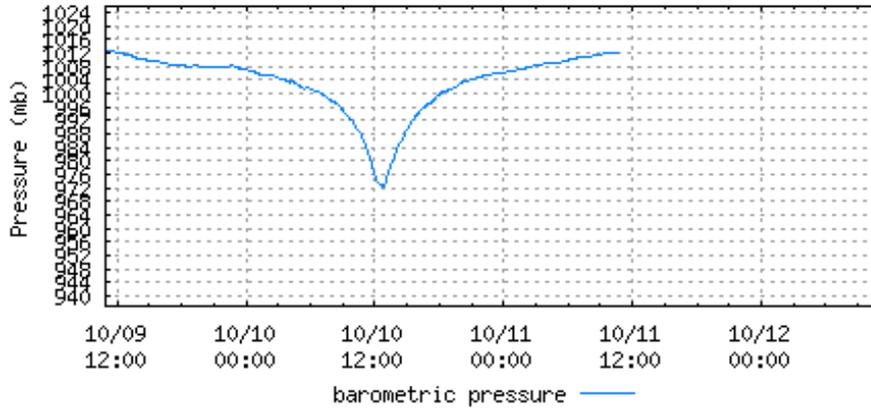
Wind Speed / Gusts / Direction



Last Observed Sample: 10/11/2018 10:42 (CDT)
Wind Speed: 6 knots Gusts: 8 knots Direction: 270° T

NOAA/NOS/CO-OPS 8729210 Panama City Beach, FL

Barometric Pressure



Last Observed Sample: 10/11/2018 10:42 (CDT)

Barometric Pressure: 1011.8 mb

Latest Water Level Observations on MHHW

Station ID	Station Name	Date/Time	Observed Water Level	Predicted Tide	Residual Water Level	24 Hour Maximum Storm Tide
8665530	Charleston, Cooper River Entrance, SC	10/11/2018 11:42 (EDT)	0.18 ft	0.18 ft	0.00 ft	1.22 ft
8661070	Springmaid Pier, SC	10/11/2018 11:42 (EDT)	0.21 ft	-0.47 ft	0.68 ft	1.89 ft
8658163	Wrightsville Beach, NC	10/11/2018 11:48 (EDT)	0.36 ft	-0.55 ft	0.91 ft	1.64 ft
8654467	USCG Station Hatteras, NC	10/11/2018 11:48 (EDT)	0.55 ft	0.11 ft	0.44 ft	0.69 ft
8652587	Oregon Inlet Marina, NC	10/11/2018 11:36 (EDT)	1.25 ft	0.16 ft	1.09 ft	1.38 ft
8651370	Duck, NC	10/11/2018 11:42 (EDT)	0.04 ft	-0.24 ft	0.28 ft	0.98 ft
8638901	CBBT, Chesapeake Channel, VA	10/11/2018 11:36 (EDT)	0.86 ft	0.31 ft	0.55 ft	1.12 ft
8728690	Apalachicola, FL	10/11/2018 11:48 (EDT)	-0.01 ft	-1.31 ft	1.30 ft	7.73 ft
8729108	Panama City, FL	10/11/2018 10:42 (CDT)	0.29 ft	-0.79 ft	1.08 ft	5.31 ft
8729210	Panama City Beach, FL	10/11/2018 10:42 (CDT)	0.20 ft	-0.68 ft	0.88 ft	3.86 ft

Center for Operational Oceanographic Products & Services (CO-OPS) | National Ocean Service (NOS)
National Oceanic and Atmospheric Administration | U.S. Department of Commerce