

**Update – SOCP/CMTS Extreme Weather Working Group
Develop an approach to address North Wall Episodes**

Notes from Nov 28, 2018 meeting

NOAA provided an overview and indicated that they are working on North Wall Episode prediction software, but with the technical issues involved it will take some time to ensure they have a consistent and effective solution that they can provide to the maritime community. NOAA will continue development and understand the urgency from the maritime industry for a product that could help identify conditions favorable for possible North Wall events.

Update 4/8/2019 – Sienkiewicz NOAA/Ocean Prediction Center

NOAA Ocean Prediction Center has continued to work with the NOAA Environmental Modeling Center concerning the development of ocean wave forecast guidance that accounts for wave/wind/ocean current interactions. A version of the NOAA Wavewatch III (NWW3) model has been coupled with the Global Real Time Ocean Forecast System (GRTOFS) in a research mode. The month of October 2017 has been run and output generated. Initial comparisons between the coupled version of NWW3 and GRTOFS and the operational NWW3 (no ocean current impacts) do show increased wave heights over the major current systems of the global ocean. Further assessment is ongoing and will include defining specific cases when the wave height differences between modeling systems are maximized and comparison of wave height forecast values with satellite radar altimeter wave heights.

To better understand the impacts of wind/wave/current interactions, NOAA Ocean Prediction Center has been querying ship tracks via an AIS web application and cataloging tracks from vessels slowing significantly, changing course, or hove to while crossing the Gulf Stream. The track data from ships crossing or motoring in the Gulf Stream have been collected since late Dec 2018. Approximately fourteen weather events generated conditions that impacted vessels progress across the Gulf Stream from late Dec 2018 through early April 2019. As an example, the April 2-4 hurricane force storm had 42 vessels showing some impact while in or crossing the Gulf Stream. An intern project this summer will consist of developing a data base of the wind, wave, and current conditions for the time and location of individual ships when in the Gulf Stream and altering course and speed. The goal of this project is to better understand the larger scale environmental conditions associated with hazardous wave conditions on the Stream. Ship tracks do reveal impacts well east of US Offshore waters, as far east as the waters south and southeast of Newfoundland.

Recommendations regarding updating the 1-2-3 Rule

Notes from 11/28/2018 Meeting

NOAA reviewed where they are headed for a tool to replace the 1-2-3 Rule, and with the data and technology available today, the product delivered will be an improvement to 1-2-3 Rule.

Update 4/8/2019 – Sienkiewicz NOAA/Ocean Prediction Center

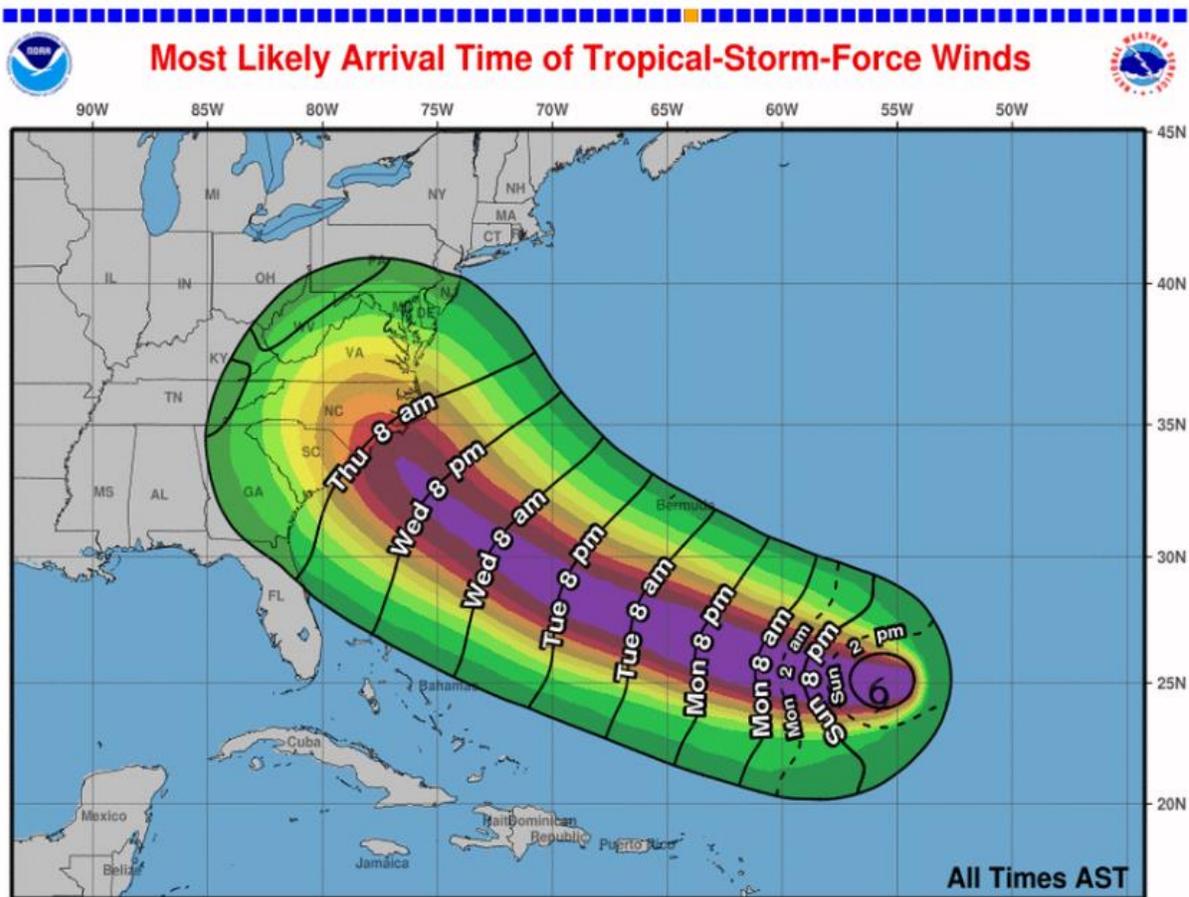
In response to the USCG recommendation 12 from the El Faro Loss, NOAA NWS is working to make updated products available via the ftpmail request service.

12. Engage with NOAA regarding their weather forecast products and delivery to ensure optimal service to maritime stakeholders. (FAM Page 9, Action on Safety Recommendation #14).

The 1-2-3 Rule, we at NOAA Ocean Prediction Center consider part of a larger issue in that NOAA NWS does produce the information for avoidance but is not easily available to vessels operating with limited bandwidth. NOAA Ocean Prediction Center has had discussions with NCEP Central Operations

(dissemination), the National Hurricane Center, and National Weather Service – Marine, Tropical, and Tsunami Services Branch. NCEP Central Operations has confirmed that color graphical products can be added to the directory hosting products that can be requested via ftpmail without requiring the assignment of specific World Meteorological Organization headers. (This is a huge time savings in process). As discussed in the 11/28 meeting, NWS compared file sizes between color and black and white versions of NWS marine graphics and found that the different versions are comparable in file size and therefore can be made available for ftpmail request. The next step is to identify existing NWS graphical products to add to the directory for availability.

The 1-2-3 rule is a way of estimating the radius of winds of 34 knots and greater and avoidance zone from the 6 hourly Tropical Cyclone Messages (TCMs). The National Hurricane Center produces a graphic from each TCM issuance that display the probability of wind speeds of 34 knots (Wind Speed Probability) and greater for the 5 day forecast track. An example from Florence is shown below showing the wind speed probabilities in color by percent chance. As a possible replacement for the 1-2-3 rule or addendum for the danger graphic, the Wind Speed Probability graphic is a scientifically based representation of winds of tropical storm force. The version displayed below also shows the expected onset day and time in Atlantic Standard Time of the conditions. The OPC has had discussion with NHC concerning the possibility to use UTC as opposed to the local time of the storm center for the marine community. There is still work to do to make such products available via ftpmail. NOAA will continue through the necessary steps.



Status: The Coast Guard and NOAA are jointly developing best practices and dissemination of weather forecasts to enhance the Coast Guard and stakeholders' contributions to the use of weather products while also increasing the commercial and recreational use of weather products.

Separately, in the summer of 2018, NOAA's National Weather Service established a pilot program at the Coast Guard's Fifth Coast Guard District to distribute weather forecast information to vessel hazards associated with tropical cyclonic activity. This pilot program will continue until June 2019, at which time the program's effectiveness will be evaluated.

Finally, to ensure optimal service to maritime stakeholders, the Coast Guard and NOAA's Ocean Prediction Center plan to engage on ways to improve and better distribute weather forecast products at a future meeting held by the Navigation Safety Advisory Committee. The next meeting is expected to be held in the spring of 2019.

NOAA NWS User Community Initiative

Darren indicated they continue to develop a robust list of maritime weather community contacts for NOAA NWS to use to share and vet proposed changes to NWS products. Darren asked that the group to provide him with any additional input regarding maritime industry contact.

Darren highlighted that NOAA sent information on NWS products changes in two Notices to Mariners, and thanked the group for that suggestion.

Darin reinforces to the group that they should go to the NWS website and sign-up to get notices regarding changes to NWS products; and in addition encourage others in the maritime community to sign up as well. By doing this you will always ensure you have the latest and greatest update regarding NWS products.