



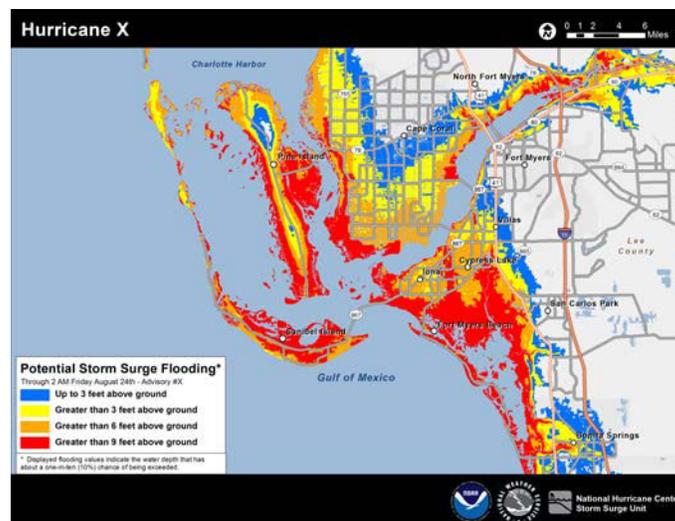
## Update on NHC Products and Services for 2014

NOAA's National Hurricane Center (NHC) will implement the following changes to its text and graphical products for the 2014 hurricane season:

### 1) Potential Storm Surge Flooding Map

Beginning with the 2014 Atlantic hurricane season, NHC will issue the Potential Storm Surge Flooding Map for those areas along the Gulf and Atlantic coasts of the United States at risk of storm surge from a tropical cyclone. This experimental product provides valuable new information on the storm surge hazard associated with tropical cyclones, by highlighting geographical areas where inundation from storm surge could occur and the height above ground that the water could reach. The map depicts inundation levels that have a 10 percent chance of being exceeded, and can be thought of as representing a reasonable worst-case scenario for any individual location.

The first map will usually be issued at the same time as the initial hurricane watch or, in some cases, with a tropical storm watch. The map is based on the latest forecast track and intensity for the tropical cyclone, and takes into account likely forecast errors. The map is subject to change every six hours in association with each new NHC full advisory package. Due to the processing time required to produce the map, it will not be available until about 45 to 60 minutes following the advisory release.



More information on the Potential Storm Surge Flooding Map can be found at:  
[http://www.nhc.noaa.gov/news/20140131\\_pa\\_stormSurgeGraphic.pdf](http://www.nhc.noaa.gov/news/20140131_pa_stormSurgeGraphic.pdf)

## 2) Enhancements to the Tropical Weather Outlook and Graphical Tropical Weather Outlook

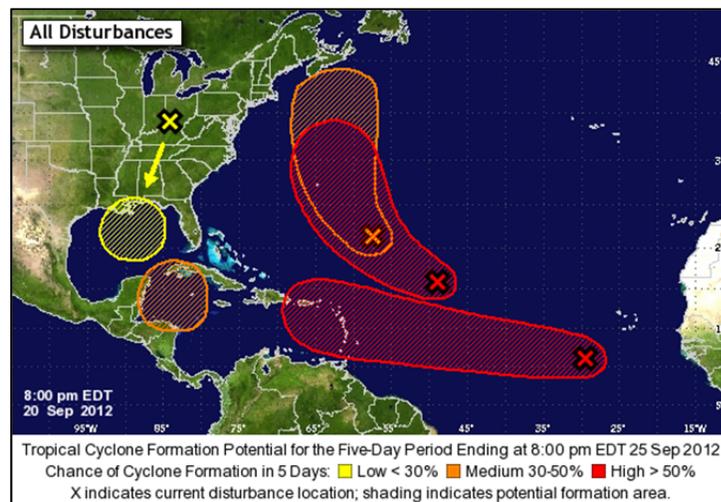
During the 2013 hurricane season, NHC extended the time period covered in the Tropical Weather Outlook text product (TWO) to 5 days on an experimental basis. This year, the experimental 5-day TWO forecasts become operational, and the form of the TWO will change slightly. In addition, NHC will introduce an experimental corresponding 5-day Graphical Tropical Weather Outlook (GTWO) to accompany the text product.

The new 5-day GTWO, available for both the Atlantic and eastern North Pacific basins *beginning July 1*, will indicate the formation potential of individual disturbances during the next 5 days. The current location of existing disturbances will be denoted by an “X”, and shaded areas will represent the potential tropical cyclone formation area for each disturbance during the subsequent 5-day period. The areas will be color-coded by development likelihood, with yellow representing a low (<30%) chance, orange denoting a medium (30% to 50%) chance, and red corresponding to a high (>50%) chance of tropical cyclone formation during the next 5 days. A mouse-over feature will allow users to see the accompanying Outlook text for each disturbance. Clicking on a disturbance will display a graphic showing only that disturbance, which should improve clarity when the forecast genesis areas overlap.

Because the new 5-day GTWO will tend to be busier than the current 48-hr GTWO (which will continue to be produced), the 5-day graphic will not display the locations of existing tropical cyclones. In addition, some aspects of the 48-hr GTWO will change. Previously, the 48-hr graphic denoted disturbances with circles or ovals; beginning in 2014, disturbances will be denoted by Xs, just as they are depicted in the 5-day graphic. Active tropical cyclones will continue to be depicted on the 48-hr graphic.

In 2013, TWO formation probabilities were embedded within the paragraph describing each disturbance. In 2014, the formation probabilities will appear in a tabular form beneath each paragraph.

The TWO and GTWO products are issued at 2 a.m., 8 a.m., 2 p.m., and 8 p.m. Eastern Daylight Time. During Eastern Standard Time, the Outlooks are issued at 1 a.m., 7 a.m., 1 p.m., and 7 p.m.



### **3) Elimination of the Intensity Probability Table**

The Wind Speed Probability text product included a table showing the likelihood that a tropical cyclone would be at any of several different intensity categories (e.g., depression, storm, category 1 hurricane, etc.) at fixed points in time (e.g., 12 hours, 24 hours, etc.). This table was originally intended to help users assess the risk of different storm intensities at particular times. However, NHC has learned that many users consult this table to estimate the chances that a tropical cyclone will make landfall at one or more of the various intensity categories. Unfortunately, the current methodology provides a highly misleading estimate of landfall intensity. Because of the likelihood of misuse for land-threatening storms, NHC is discontinuing this table until a better procedure to estimate intensity risk can be developed.

To understand the problem, consider a storm that is forecast to be just off the coast at 72 hours. The probability that the cyclone will be at any particular intensity category at 72 hours is estimated by creating a large number of potential track and intensity scenarios, based on the latest official forecast and a climatological error distribution. If the 72-hour forecast is for the storm to be very close to land, a sizable fraction of the potential scenarios will have already encountered land by that time. For these scenarios, the expected 72-hour intensity will be much lower than what would be expected for a storm that had not yet made landfall. So even though the table accurately assesses what the intensity is likely to be at 72 hours, it grossly underestimates the likely intensity for the moment when the storm comes ashore.

### **4) Use of mixed case in the NHC Tropical Weather Outlook and Tropical Cyclone Discussion.**

The National Weather Service began experimenting with the use of mixed-case (upper and lower case) text in some products a few years ago after World Meteorological Organization standards were changed. Beginning in 2014, NHC will issue the Tropical Weather Outlook and the Tropical Cyclone Discussion using mixed case, as well as with the full set of standard punctuation symbols. No formatting changes are planned to the other NHC tropical cyclone advisory products at this time.

### **5) Tropical Cyclone forecast cone will be slightly smaller.**

The size of the tropical cyclone forecast cone will be a bit smaller in 2014. The cone represents the probable track of the center of a tropical cyclone, and is formed by enclosing the area swept out by a set of imaginary circles placed along the forecast track (at 12, 24, 36 hours, etc.). The size of each circle is set so that two-thirds of historical official forecast errors over the previous five years (2009-2013) fall within the circle. The circle radii defining the cones in 2014 for the Atlantic and eastern North Pacific basins are given in the table below:

Forecast Period (hours)	Circle radius Atlantic Basin (nautical miles)	Circle radius Eastern North Pacific Basin (nautical miles)
12	33	30
24	52	46
36	72	62
48	92	79
72	125	105
96	170	154
120	226	190

**Other items of interest for 2014:**

- 1) Pronunciation guides for storm names including the phonetic pronunciations of all Atlantic and Eastern North Pacific storm names can be found on the NHC website at:

Atlantic: [http://www.nhc.noaa.gov/pdf/aboutnames\\_pronounce\\_atlc.pdf](http://www.nhc.noaa.gov/pdf/aboutnames_pronounce_atlc.pdf)

Eastern North Pacific:

[http://www.nhc.noaa.gov/pdf/aboutnames\\_pronounce\\_epac.pdf](http://www.nhc.noaa.gov/pdf/aboutnames_pronounce_epac.pdf)

- 2) The National Hurricane Center has a Facebook page. The “NOAA NWS National Hurricane Center” page provides updates about the NHC outreach and education campaign and other items that might be of interest to the public throughout the year. During the hurricane season, the site contains a daily tropical weather update for both the Atlantic and eastern North Pacific basins, as well as alerts regarding any tropical cyclone activity as needed. The NHC Facebook page is found at:

<http://www.facebook.com/NWSNHC>

- 3) The National Hurricane Center is on Twitter. NHC has two automated Twitter feeds, one for the Atlantic basin- **@NHC\_Atlantic** (which includes the Gulf of Mexico and Caribbean Sea) and one for the eastern North Pacific basin- **@NHC\_Pacific**

Automated tweets are sent via these accounts whenever NHC issues:

- A public advisory regarding a tropical cyclone (TCP)
- A tropical cyclone update (TCU)

Each tweet contains a link to access the corresponding product on the NHC website. NHC can also tweet a special message at any time.

The NHC Director Dr. Richard Knabb is on Twitter. Dr. Knabb can be followed at: **@NHCDirector**

The NHC storm surge group can be followed on Twitter at: **@NHC\_Surge**  
This account enhances storm surge forecasts by providing real-time reports and observations during an event (resources permitting). The feed will enhance preparedness and outreach efforts throughout the year, and provide news and announcements on updates to the SLOSH modeling system and storm surge decision support tools.

4) Audio podcast will be available when the media pool is activated:  
<http://www.nhc.noaa.gov/audio>

The audio podcast RSS/XML feed for top-of-the-hour briefings will be operational when the media pool is activated. The media pool typically is activated when a hurricane watch is issued for any portion of the U.S. contiguous coastline.

**Experimental Products:** (Note that the timeliness and accuracy of these products cannot be guaranteed)

- 1) NHC provides various advisory products in GIS format. Information on these products can be found at: <http://www.nhc.noaa.gov/gis/>
- 2) In 2014, NHC will be working behind the scenes on potential enhancements to products and services. These planned in-house (non-public) experiments include extending tropical cyclone track and intensity forecasts out to seven days from the current five-day period, creation of track and intensity forecasts for disturbances with a high chance of formation, and the issuances of tropical cyclone watches and warnings prior to the formation of a cyclone.

#### **On the Web:**

National Hurricane Center  
<http://www.hurricanes.gov>

Graphical Tropical Weather Outlook:  
<http://www.nhc.noaa.gov/aboutnhcgraphics.shtml#GTWO>

Saffir Simpson Hurricane Wind Scale:  
<http://www.nhc.noaa.gov/aboutsshws.php>

Definition of NHC Track Forecast Cone:  
<http://www.nhc.noaa.gov/aboutcone.shtml>

National Hurricane Center Facebook page:  
<http://www.facebook.com/NWSNHC>

National Hurricane Center Twitter page:  
<http://www.nhc.noaa.gov/twitter.shtml>

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