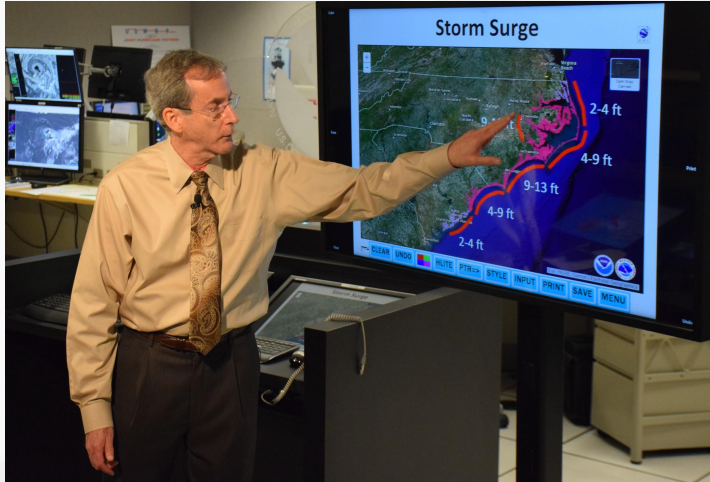


NHC's Social Media Efforts: A Focus on Hazards



National Hurricane Center @NHC_Atlantic

#Michael will continue to produce life-threatening hurricane-force winds well inland across portions of the Florida Panhandle, southeast Alabama, and southwestern Georgia this evening as the core of the hurricane continues to move inland. hurricanes.gov

Hurricane and Tropical Storm Watches and Warnings

The map shows the Southeastern United States with color-coded areas: blue for Tropical Storm Watch, orange for Tropical Storm Warning, red for Hurricane Watch, and dark red for Hurricane Warning. The warnings extend inland from the coast into Alabama and Georgia.

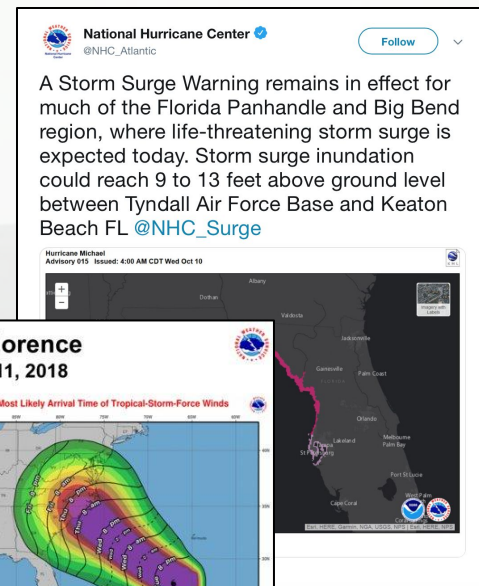
2:13 PM - 10 Oct 2018



Daniel Brown, Michael Brennan & Eric Blake
National Hurricane Center

NHC's Social Media Objectives

- Raise awareness
- Describe evolving threat
- Address uncertainty
- Focus on hazards, not storm “details”
- Encourage preparedness
- Direct users to trusted sources of information



Key Messages for Hurricane Florence

Advisory 50: 5:00 PM AST Tue Sep 11, 2018

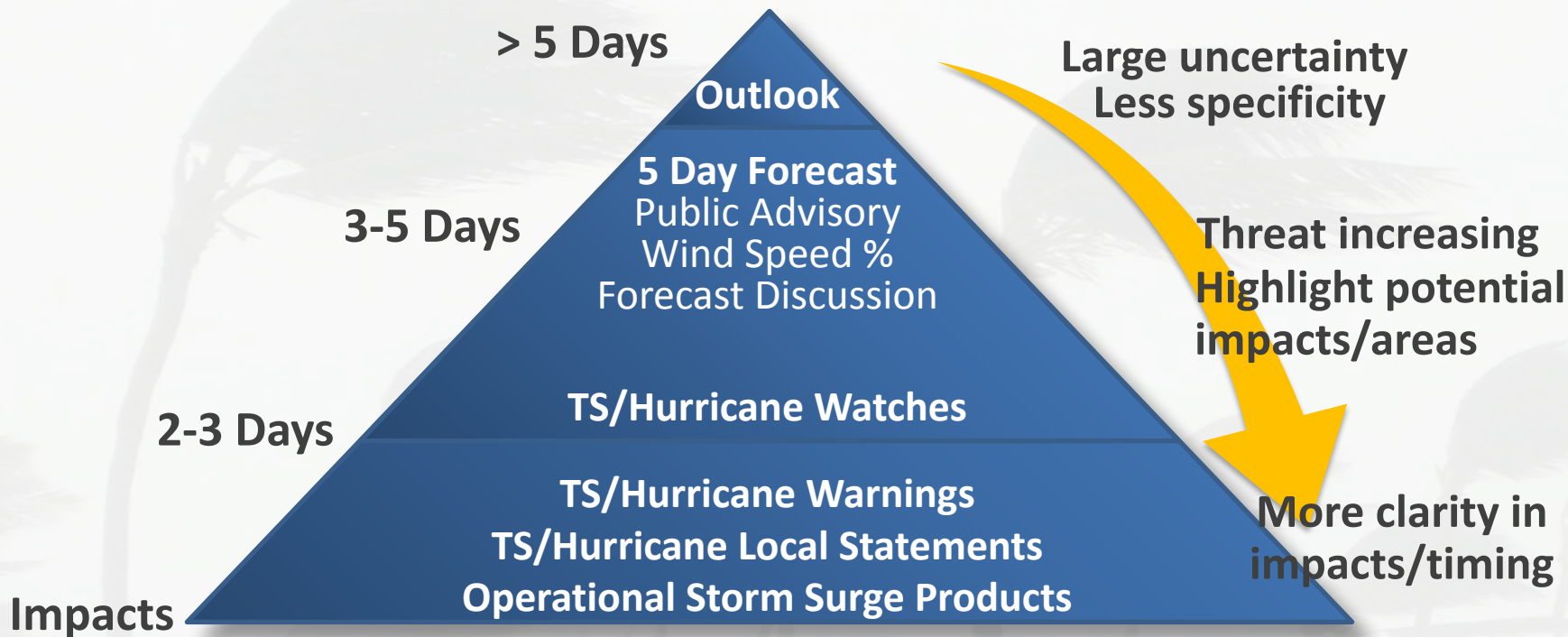
1. A life-threatening storm surge is now highly likely along portions of the coastlines of South Carolina and North Carolina, and a Storm Surge Warning is in effect for a portion of this area. All interests from South Carolina into the mid-Atlantic region should ensure they have their hurricane plan in place and follow any advice given by local officials.
2. Life-threatening, catastrophic flash flooding and significant river flooding is likely over portions of the Carolinas and Mid-Atlantic states from late this week into early next week, as Florence is expected to slow down as it approaches the coast and moves inland.
3. Damaging hurricane-force winds are likely along portions of the coasts of South Carolina and North Carolina, and a Hurricane Warning has been issued for a part of this area. Damaging winds could also spread well inland into portions of the Carolinas and Virginia.
4. Large swells affecting Bermuda and portions of the U.S. East Coast will continue this week, resulting in life-threatening surf and rip currents.

For more information go to hurricanes.gov

The image is a composite of several elements. At the top left is the NHC logo. The main title is 'Key Messages for Hurricane Florence' with the advisory number and time. Below this are four numbered key messages. To the right of the messages are two maps. The top map is titled 'Most Likely Arrival Time of Tropical-Storm-Force Winds' and shows a color-coded map of the Eastern US coast with a purple and red area indicating the arrival time. The bottom map is a similar color-coded map showing the storm's path and intensity. At the bottom right, there is a small inset map showing the storm's location relative to the entire Eastern US coast. The text 'All Times AST' is visible on the maps.

NATIONAL WEATHER SERVICE

Tropical Cyclone Products & Messaging Strategy



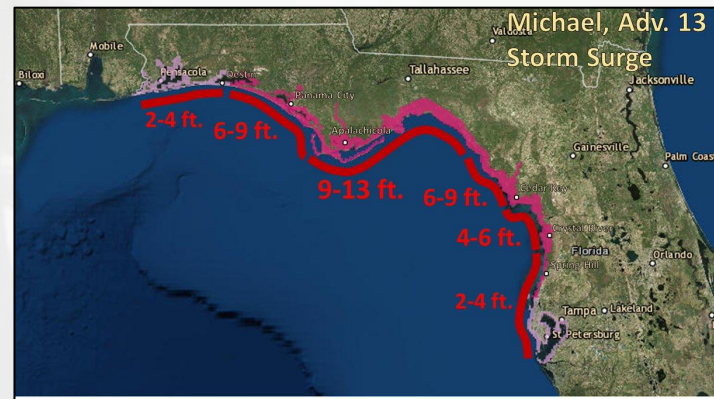
More Products, More Specificity as Threat Materializes

- Days out, not possible to provide detailed information on specific impacts, exact locations that will be affected, and timing
- As threat increases, impact area is highlighted but information on locations that will experience the worst conditions is not yet known. Exact timing is unclear.
- Focus during watch/warning phase is on potential impacts and need for preparedness actions and evacuation

4 days before Michael

Storm Surge, rainfall, and wind impacts are possible over portions of the northern Gulf Coast by mid-week, although it is too soon to specify the exact location and magnitude of these impacts.

1 day before Michael

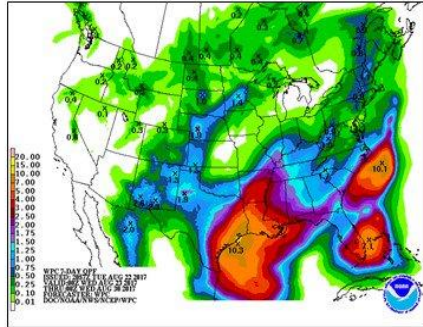
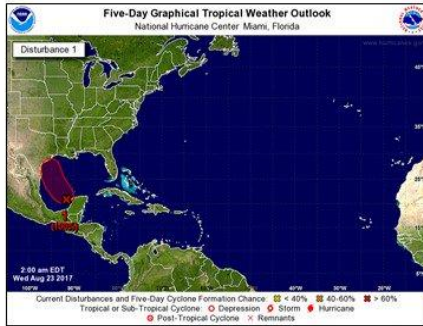


Given the Key Messages, which post will you issue? Select the best answer.



Key Messages regarding Remnants of Harvey

August 23, 2017 – 1 a.m. CDT



7-day rainfall forecast from WPC through 7 PM CDT August 29

NOAA National Hurricane Center: www.hurricanes.gov

1. The remnants of Harvey are very likely to regenerate into a tropical cyclone over the southwestern Gulf of Mexico today or tonight, move northwestward, and possibly make landfall along the Texas coast by late Friday.
2. This system could produce storm surge flooding along portions of the Texas coast and flooding rainfall across portions of southern and eastern Texas and western Louisiana. Tropical storm or even hurricane force winds are also possible along portions of the Texas coast, although it is too early to determine which areas could see these direct impacts.
3. Tropical Storm or Hurricane Watches could be required later today for portions of the coast of northeastern Mexico, Texas, and southwestern Louisiana. People in these areas should monitor the progress of this system and follow any instructions provided by their local officials.

- a. Interests in northeastern Mexico and along the Texas coast should monitor Harvey's remnants. They could produce storm surge, tropical storm or hurricane force winds, and very heavy rainfall across portions of central and eastern Texas from Friday into the weekend. Tropical storm or Hurricane Watches could be required.
- b. People in northeastern Mexico and along the Texas coast should prepare for re-intensification of Harvey's remnants. The cyclone could regenerate over the southwestern Gulf of Mexico today. It will move northwestward and possibly make landfall along the Texas coast late Friday. Watches or Warnings could be required.

Given the Key messages, which post will you issue? Select the best answer.

A 0%



B 0%

Pre-Storm Messaging

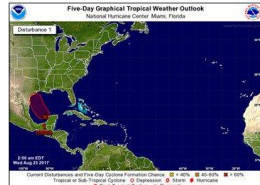
- Strongly worded Tropical Weather Outlooks begin emphasizing hazards
 - Storm Surge
 - Tropical storm or hurricane-force winds
 - Potential for heavy rainfall
- Mention that watches or warnings could be required
- Overall focus is on potential impacts – not track or intensity

Tropical Weather Outlook
NWS National Hurricane Center Miami FL
200 PM EDT Tue Aug 22 2017

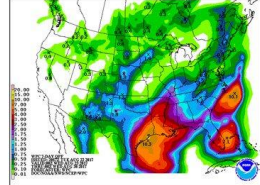
Interests in northeastern Mexico and along the Texas coast should monitor the progress of this system, as **it could produce storm surge and tropical storm or hurricane force winds along portions of the Texas coast, and very heavy rainfall across portions of central and eastern Texas from Friday through the weekend.** Please refer to products from your local National Weather Service office for more information on this system.

 **Key Messages regarding Remnants of Harvey** 
August 23, 2017 – 1 a.m. CDT

Five-Day Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida



Control Ocean Surges and Five-Day Outlook Hurricane Chance: 0% to 10%
Hurricane or Post-Tropical Storm Surge: 0% to 10%
Post-Tropical Storm Surge: 0% to 10%



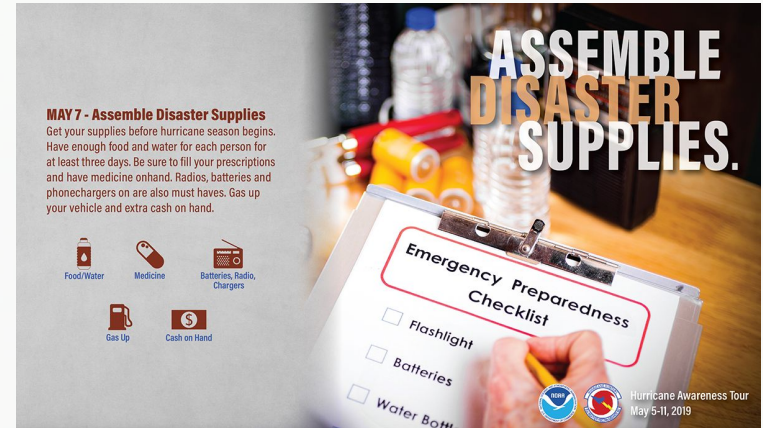
7-day rainfall forecast from WPC through 7 PM CDT August 29

1. The remnants of Harvey are very likely to regenerate into a tropical cyclone over the southwestern Gulf of Mexico today or tonight, move northwestward, and possibly make landfall along the Texas coast by late Friday.
2. This system could produce storm surge flooding along portions of the Texas coast and flooding rainfall across portions of southern and eastern Texas and western Louisiana. Tropical storm or even hurricane force winds are also possible along portions of the Texas coast, although it is too early to determine which areas could see these direct impacts.
3. Tropical Storm or Hurricane Watches could be required later today for portions of the coast of northeastern Mexico, Texas, and southwestern Louisiana. People in these areas should monitor the progress of this system and follow any instructions provided by their local officials.

NOAA National Hurricane Center: www.hurricanes.gov

Messaging Threats Many Days Away

- Mention ***potential for impacts***, but no specific information on timing, magnitude and location of impacts
- Encourage interests to ***monitor*** the storm and ensure they have a ***hurricane plan*** in place
- As event approaches and confidence increases, messaging becomes more specific and focused



ASSEMBLE DISASTER SUPPLIES.

MAY 7 - Assemble Disaster Supplies
Get your supplies before hurricane season begins. Have enough food and water for each person for at least three days. Be sure to fill your prescriptions and have medicine on hand. Radios, batteries and phonechargers on are also must haves. Gas up your vehicle and extra cash on hand.

Food/Water Medicine Batteries, Radio, Chargers
Gas Up Cash on Hand

Emergency Preparedness Checklist

- Flashlight
- Batteries
- Water Bottles

Hurricane Awareness Tour May 5-11, 2019



DEVELOP AN EVACUATION PLAN.

MAY 6 - Develop an Evacuation Plan
Find out today if you live in a hurricane evacuation zone. Plan where you'll go and how you would get there. Leave immediately if ordered to evacuate and be sure to plan for your pets.

Find out if you live in an evacuation zone Plan your route out
Follow evacuation orders Plan for your pets

HURRICANE EVACUATION ROUTE

Hurricane Awareness Tour May 5-11, 2019

Given the Key Messages 5 or more days out, which post will you issue? Select the best answer.

Key Messages for Tropical Storm Florence

Advisory 33: 11:00 AM AST Fri Sep 07, 2018

1. Regardless of Florence's eventual track, large swells will begin to affect Bermuda later today and portions of the U.S. East Coast this weekend, resulting in life-threatening surf and rip currents.

2. The risk of other direct impacts associated with Florence along the U.S. East Coast next week has increased. However, there is still very large uncertainty in model forecasts of Florence's track beyond day 5, making it too soon to determine the exact location, magnitude, and timing of these impacts. Interests near and along the U.S. East Coast should monitor the progress of Florence through the weekend and ensure they have their hurricane plans in place.



For more information go to hurricanes.gov

- The current model track forecast indicates that Florence is going to make a slight right turn later today and bring large swells to Bermuda. Portions of the U.S. East Coast may also experience high surf and rip currents starting around 8 am on Thursday morning.
- Here are the 11 AM AST Key Messages for Tropical Storm Florence. High surf will begin to affect the U.S. East Coast this weekend. The risk of other direct impacts has increased, but it is too early to know the specifics of these impacts.

Given the Key messages 5 or more days out, which post will you issue? Select the best answer.

A 0%

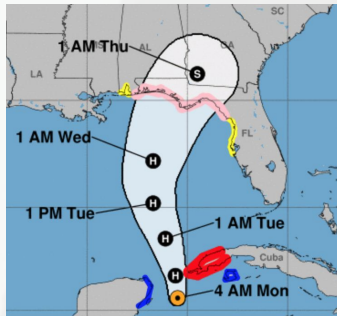
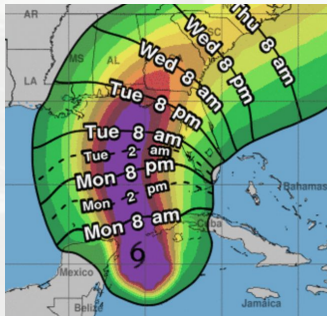
B 0%

Start the presentation to see live content. For screen share software, share the entire screen. Get help at goflex.com/app

Messaging Challenges

Too Much Focus on Exact Forecast Track and Timing of Landfall

Hurricane Michael:
Where is it going;
what time will it make
landfall?




The current model has Michael heading north up the eastern side of the Gulf of Mexico early Wednesday.

Forecasters say that Michael is expected to begin making a turn toward the northeast sometime on Wednesday morning. That turn would bring Michael into Florida somewhere near Panama City Beach around 2 p.m. Wednesday, according to the NHC.


Use New Time of Arrival Graphics

Messaging Threats Five Days or More Away


- Key Messages can be introduced during this phase
- Emphasis is on preparedness and broad areas that could be impacted
- Storm surge, rainfall, and wind impacts mentioned - too early for details

 **National Hurricane Center** @NHC_Atlantic · 7 Sep 2018


Here are the 11 AM AST Key Messages for Tropical Storm #Florence. High surf will begin to affect the U.S. East Coast this weekend. The risk of other direct impacts has increased, but it is too early to know the specifics of these impacts. nhc.noaa.gov/refresh/graphi...

 **Key Messages for Tropical Storm Florence**
Advisory 33: 11:00 AM AST Fri Sep 07, 2018

1. Regardless of Florence's eventual track, large swells will begin to affect Bermuda later today and portions of the U.S. East Coast this weekend, resulting in life-threatening surf and rip currents.
2. The risk of other direct impacts associated with Florence along the U.S. East Coast next week has increased. However, there is still very large uncertainty in model forecasts of Florence's track beyond day 5, making it too soon to determine the exact location, magnitude, and timing of these impacts. Interests near and along the U.S. East Coast should monitor the progress of Florence through the weekend and ensure they have their hurricane plans in place.



Most Likely Arrival Time of Tropical-Storm-Force Winds



For more information go to hurricanes.gov

Given the Key Messages 3-5 days out, which post will you issue? Select the best answer.

Key Messages for Hurricane Florence

Advisory 41: 11:00 AM AST Sun Sep 09, 2018

1. There is an increasing risk of two life-threatening impacts from Florence: storm surge at the coast and freshwater flooding from a prolonged heavy rainfall event inland. While it is too soon to determine the exact timing, location, and magnitude of these impacts, interests at the coast and inland from South Carolina into the mid-Atlantic region should closely monitor the progress of Florence, ensure they have their hurricane plan in place, and follow any advice given by local officials.



For more information go to hurricanes.gov

- The current forecast track projects Hurricane Florence to make landfall on the border between the Carolinas. Interests in those areas should be prepared for storm surge flooding and hurricane-force winds. For more specific information about your location go to weather.gov.
- Don't concentrate on the exact forecast track for Hurricane Florence. Significant effects will extend outside the cone and will arrive at the coast sooner than the eye. For more information about impacts at your specific location, go to weather.gov

Given the Key messages 3-5 days out, which post will you issue? Select the best answer.

A 0%

B 0%

Start the presentation to see live content. For screen share software, share the entire screen. Get help at polls.com/app

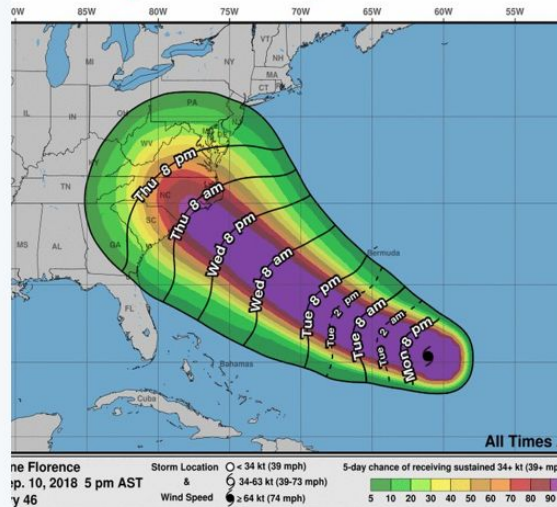
Keeping Focus Off the Track and Awareness of Hazards Beyond the Cone



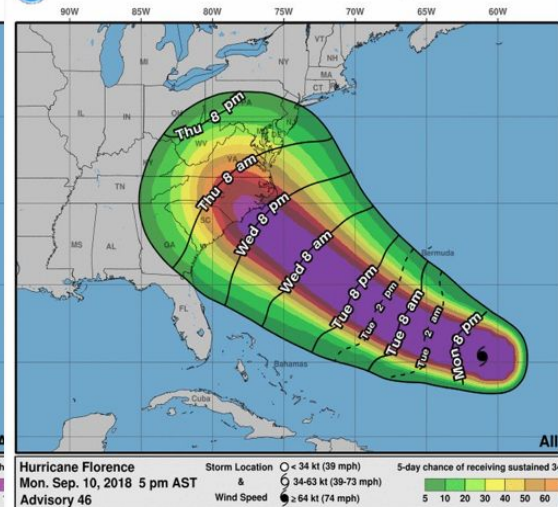
National Hurricane Center @NHC_Atlantic · 10 Sep 2018

Don't concentrate on the exact forecast track of Hurricane #Florence. Significant effects will extend outside the cone, and will arrive at the coast sooner than the eye. For more information about impacts at your specific location, go to weather.gov

Most Likely Arrival Time of Tropical-Storm-Force Winds



Earliest Reasonable Arrival Time of Tropical-Storm-Force



Messaging Threats Three to Five Days Out

- Messaging begins to focus on area where impacts could occur
- Risk of impacts continues to increase, but uncertainty still too large to get specific about timing and magnitude
 - Time of Arrival graphics can be helpful!
- Life-threatening wording can be included at this stage, if confidence allows.
- Preparedness actions typically underway
 - Mention hurricane plan and to seek advice of local officials

Key Messages for Hurricane Florence
Advisory 41: 11:00 AM AST Sun Sep 09, 2018

1. There is an increasing risk of two life-threatening impacts from Florence: storm surge at the coast and freshwater flooding from a prolonged heavy rainfall event inland. While it is too soon to determine the exact timing, location, and magnitude of these impacts, interests at the coast and inland from South Carolina into the mid-Atlantic region should closely monitor the progress of Florence, ensure they have their hurricane plan in place, and follow any advice given by local officials.

For more information go to hurricanes.gov

National Hurricane Center @NHC_Atlantic · 9 Sep 2018

Here are the key messages on Hurricane #Florence as of 11 pm EDT. Florence is expected to become a major hurricane on Monday, and there is an increasing risk of coastal storm surge flooding and freshwater flooding from heavy prolonged rain when the hurricane approaches the U.S.

Given the Key Messages in the Watch/Warning phase, which post will you issue? Select the best answer.

Key Messages for Hurricane Florence

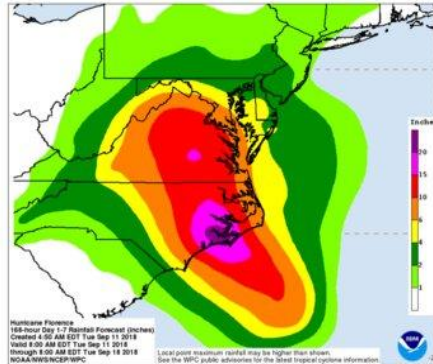
Advisory 48: 5:00 AM AST Tue Sep 11, 2018

1. A life-threatening storm surge is likely along portions of the coastlines of South Carolina, North Carolina, and Virginia, and a Storm Surge Watch has been issued for a portion of this area. All interests from South Carolina into the mid-Atlantic region should ensure they have their hurricane plan in place and follow any advice given by local officials.

2. Life-threatening freshwater flooding is likely from a prolonged and exceptionally heavy rainfall event, which may extend inland over the Carolinas and Mid Atlantic for hundreds of miles as Florence is expected to slow down as it approaches the coast and moves inland.

3. Damaging hurricane-force winds are likely along portions of the coasts of South Carolina and North Carolina, and a Hurricane Watch has been issued for a part of this area. Damaging winds could also spread well inland into portions of the Carolinas and Virginia.

4. Large swells affecting Bermuda and portions of the U.S. East Coast will continue this week, resulting in life-threatening surf and rip currents.



For more information go to hurricanes.gov

- Don't focus on the wind speed category of Hurricane Florence! Life-threatening storm surge flooding, catastrophic flash flooding and prolonged significant river flooding are still expected. More at hurricane.gov.
- Florence has become a very strong Category 4 Hurricane! The current track will take it to the Carolinas and bring hurricane-force winds and storm surge to areas included in the Warning. Florence could bring significant rainfall too.

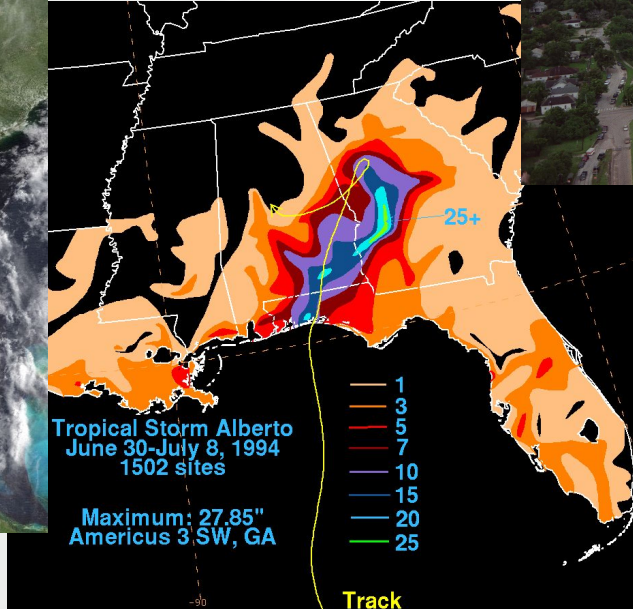
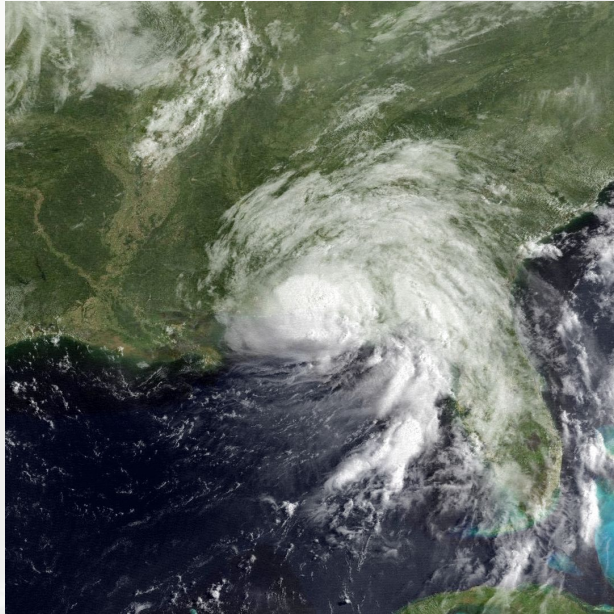
Given the Key messages in the Watch/Warning phase, which post will you issue? Select the best answer.

A 0%

B 0%

Messaging Challenges

Too much focus on category and/or storm intensity



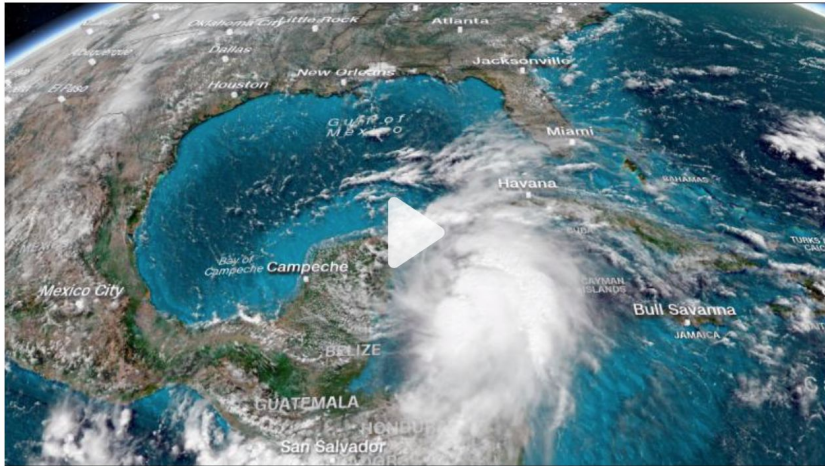
“Just” a Tropical Storm

**Alberto (94), Allison (01),
Imelda (19) were minimal
tropical storms that
produced significant
flood events.**

Messaging Challenges

Categories – Only Based on Wind

Michael, now a Category 1 hurricane, expected to strengthen



Why Rainfall Is Hurricane Florence's Biggest Danger, Not Its Category

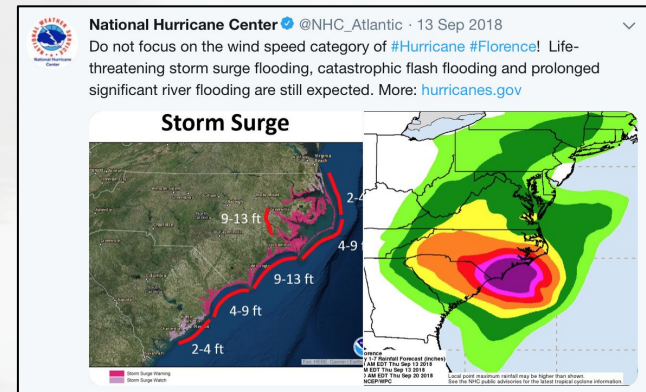
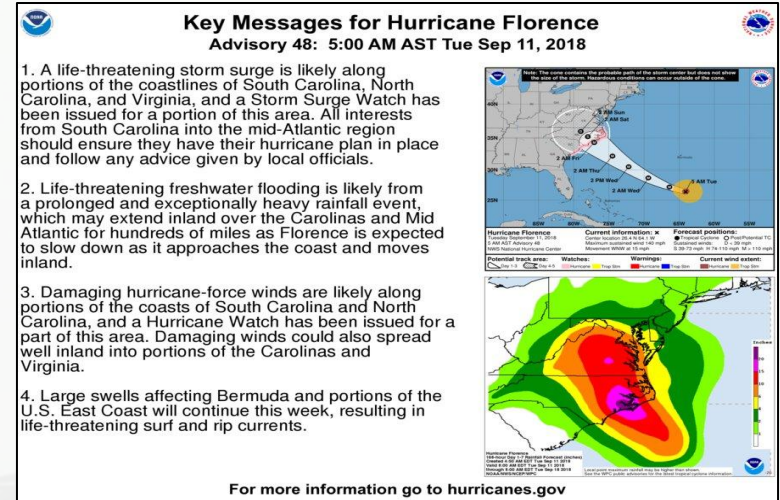


Marshall Shepherd Contributor 
Science

Category can be useful when storms are strengthening but make hazard communication more difficult when storms are weakening
Do not use “Downgraded” focus on impacts

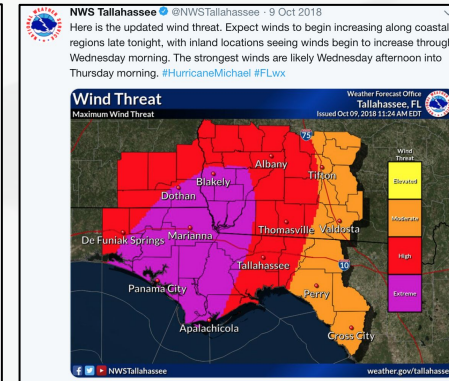
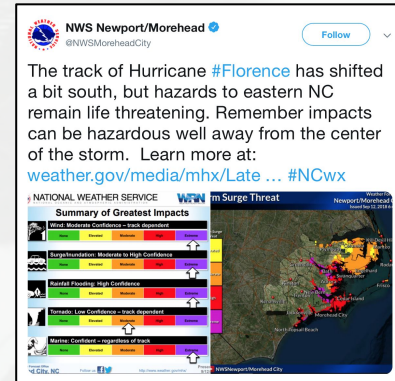
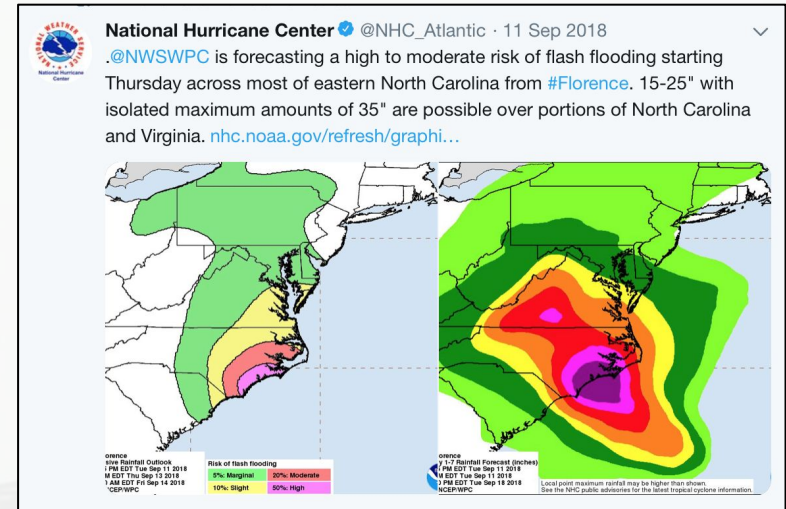
Messaging Threats in the Watch/Warning Phase

- Important to keep messaging ***focused on hazards not track or intensity.***
- Concentrate messaging on individual hazards, with more detail provided at this stage
 - ***Life-threatening*** storm surge ***likely*** somewhere within the warning area
 - ***Life-threatening*** freshwater flooding ***likely*** for Carolinas and mid-Atlantic
 - Hurricane-force winds possible (likely) within the watch (warning) area





Messaging Threats in the Watch/Warning Phase

- Remember that each hazard is likely to require a different response
- Hazards also likely to occur at different locations and times
 - Harvey – storm surge and extreme wind at landfall, flooding rains days later
- Watches/Warnings and other NWS hazard-specific graphics can help to message location and timing of surge, rainfall, and wind hazards and impacts




Given the Key Messages, which post will you issue? Select the best answer.



Key Messages for Hurricane Michael

Advisory 15: 4:00 AM CDT Wed Oct 10, 2018

- Life-threatening storm surge is likely along portions of the coasts of the Florida Panhandle, Big Bend, and Nature Coast, where a storm surge warning is in effect. The worst storm surge is expected between Tyndall Air Force Base and Keaton Beach, where 9 to 13 feet of inundation is possible.
- Michael is likely to produce potentially catastrophic wind damage where the core of the hurricane moves onshore in the Florida Panhandle, and everyone in the hurricane warning area should prepare for life-threatening hurricane winds. Dangerous hurricane-force winds will also extend well inland across portions of the Florida Panhandle, southern Georgia, and southeast Alabama as Michael moves inland.
- Heavy rainfall from Michael could produce life-threatening flash flooding from the Florida Panhandle and Big Bend region into portions of Georgia, the Carolinas, and southeast Virginia.
- Tropical storm conditions will likely affect portions of the southeast U.S. coast from northeast Florida through North Carolina, and tropical storm watches and warnings are in effect for these areas.



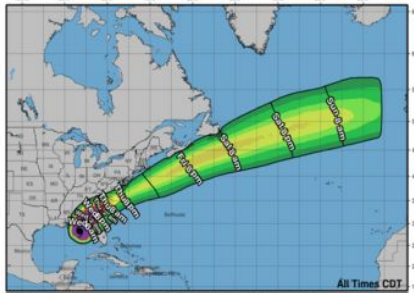
Hurricane Michael
Wednesday October 10, 2018
4 AM CDT Advisory 15
NHC's National Hurricane Center

Current information: * Center location 28.3 N 86.5 W
Maximum sustained wind 140 mph
Movement N at 13 mph

Forecast positions: ● Tropical Cyclone ○ Post-Potential TC
Sustained winds: D = 39 mph
E 39-73 mph W 74-110 mph M+ 110 mph

Potential track area: Watches: Day 1-3 Tropical Storm Day 4-5 Hurricane Warnings: Tropical Storm Hurricane Current wind extent: Tropical Storm Hurricane

Most Likely Arrival Time of Tropical-Storm-Force Winds



Hurricane Michael
Wed, Oct 10, 2018 4 am CDT
Advisory 15

Storm Location: ○ 34 W (39 mph)
* 34-63 W (39-73 mph)
Wind Speed: ● 63-81 W (74 mph)

3-day chance of receiving sustained 30+ kt (39+ mph) winds
0 10 20 30 40 50 60 70 80 90 100 %

For more information go to hurricanes.gov

- Life-threatening storm surge likely - worst surge from Mexico Beach to Keaton Beach. Potentially catastrophic wind damage where the core of Michael moves onshore. Dangerous hurricane-force winds will extend well inland into southern Georgia and southeast Alabama.
- Hurricane Michael is a massive Category 5 storm with a well-defined eye as it approaches landfall somewhere along the coast of the Florida Panhandle. It will bring dangerous winds and storm surge from Mexico Beach to Keaton Beach. Some winds could reach Georgia.

Given the Key messages, which post will you issue? Select the best answer. 🗨️

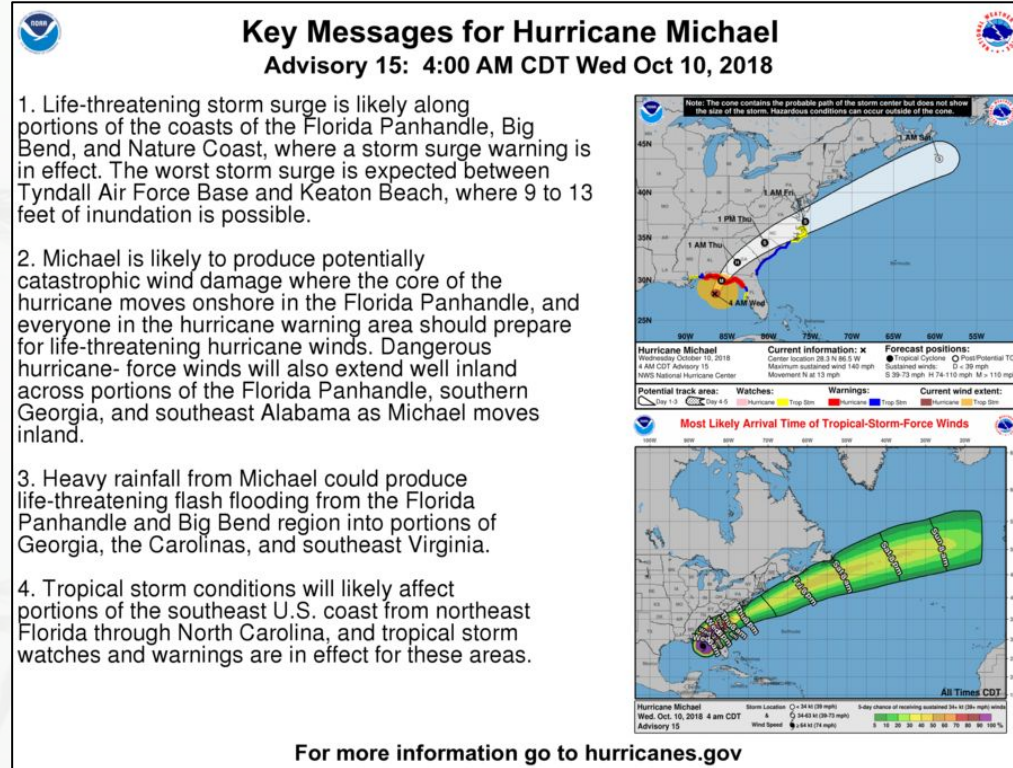
A 0%

B 0%

Start the presentation to see the content. For screen share software, share the entire screen. Get help at poller.com/app

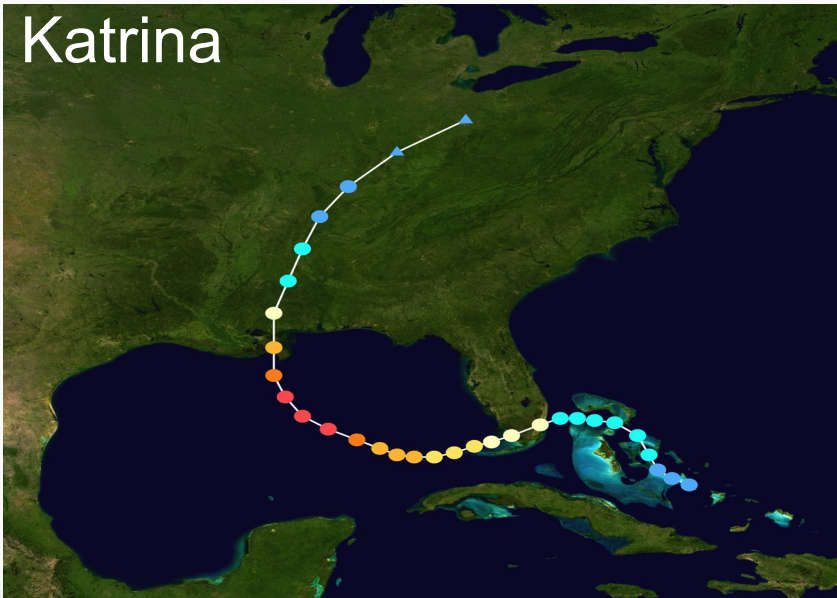
Messaging A Quickly Evolving Threat

- **Life-threatening** storm surge likely - worst surge from Mexico Beach to Keaton Beach
- **Potentially catastrophic** wind damage where the core of Michael moves onshore
- Dangerous hurricane-force winds will extend well inland into southern GA and southeast AL



Careful with Analogs

Katrina



Isaac

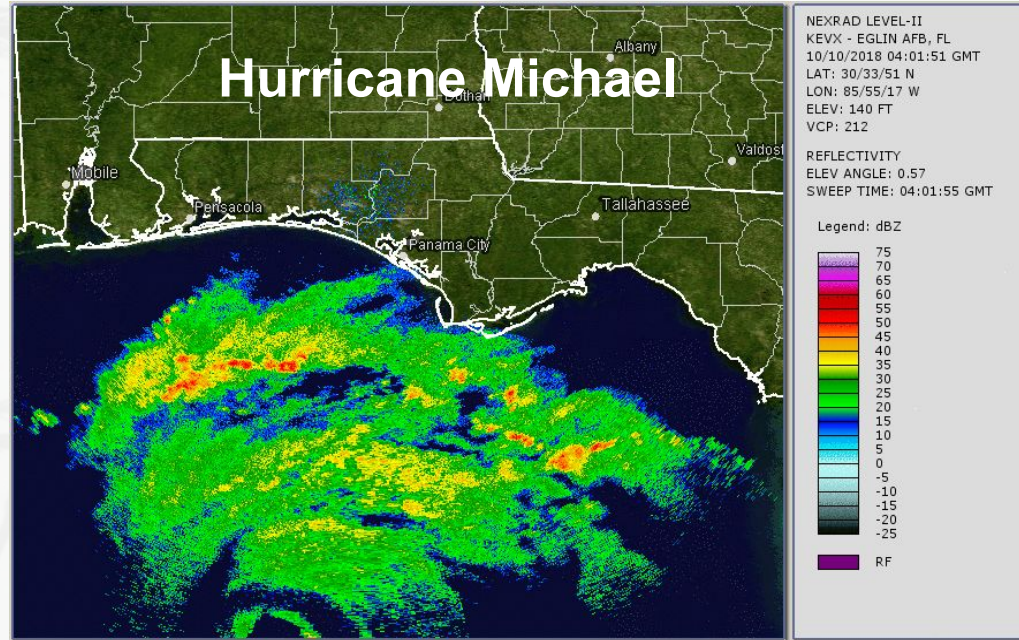
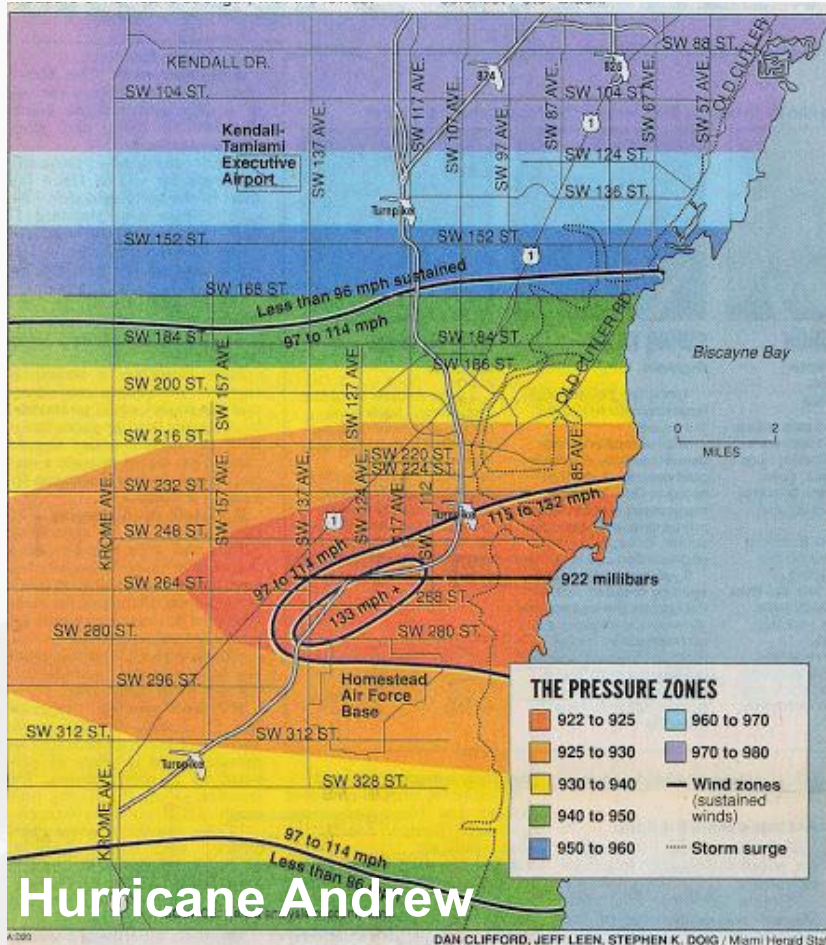


Every storm is different (size, intensity, structure, angle of approach). Analogs can be carefully used to explain how this storm is going to be different than a past one.

Past Experience

“Didn’t think it would be that bad!”

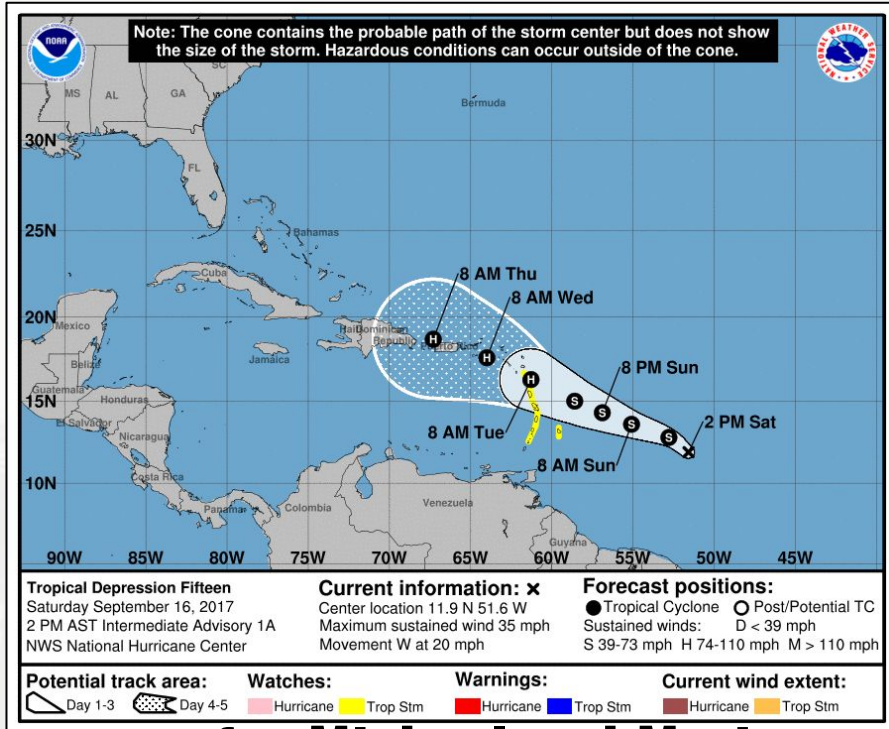
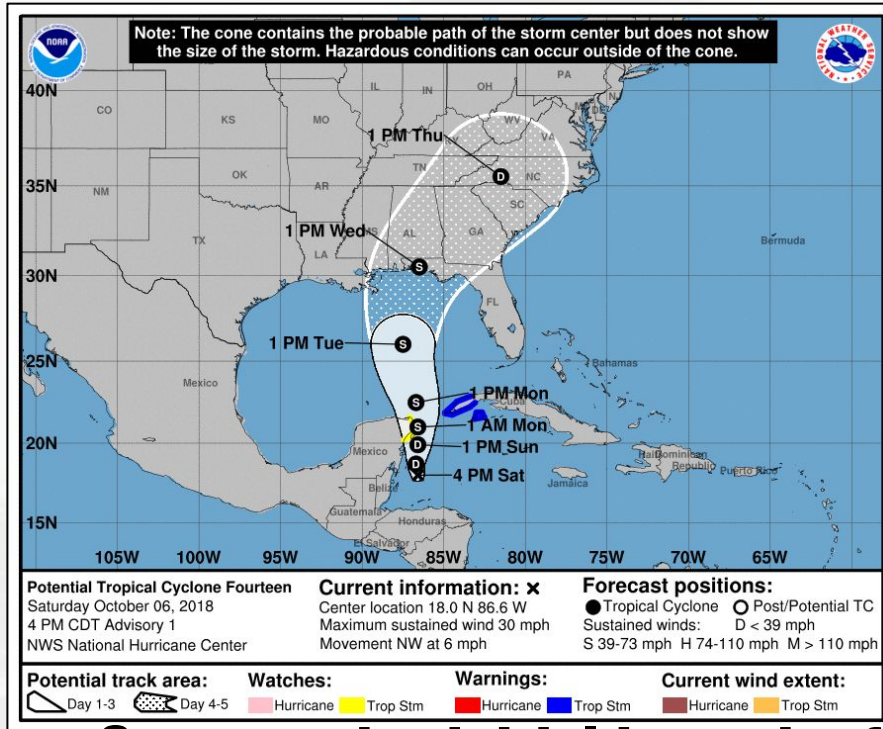
“That wasn’t bad at all!”



Depends on your perspective

Anchoring

Tendency to “anchor” on one piece of information in decision making – not accounting for forecast changes



Conservative initial intensity forecasts for Michael and Maria

NHC Grand Challenge: Shorten Lead Times

The Nation's Strongest – 150 MPH or Greater
All But 1 Were Tropical Storms 3 Days Before Landfall

U.S. 150 mph+

1919 – Storm 2

1932 – Storm 2

1935 – Labor Day

1969 – Camille

1992 – Andrew

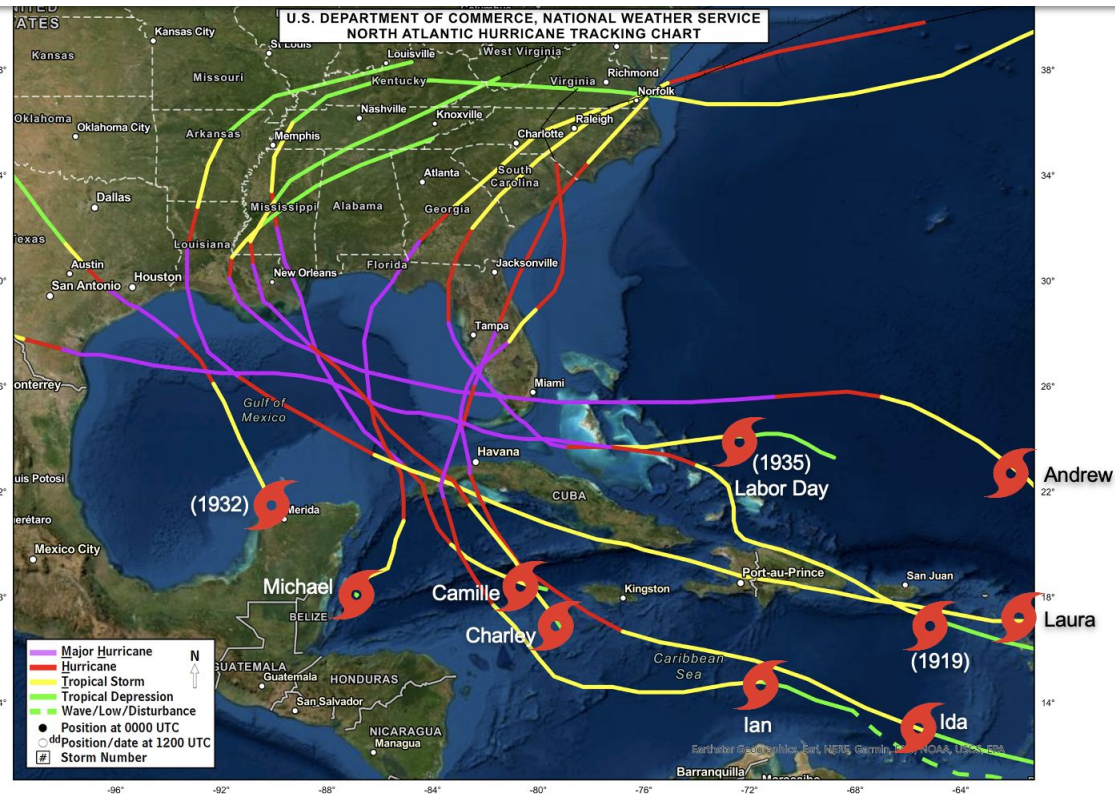
2004 – Charley

2018 – Michael

2020 – Laura

2021 – Ida

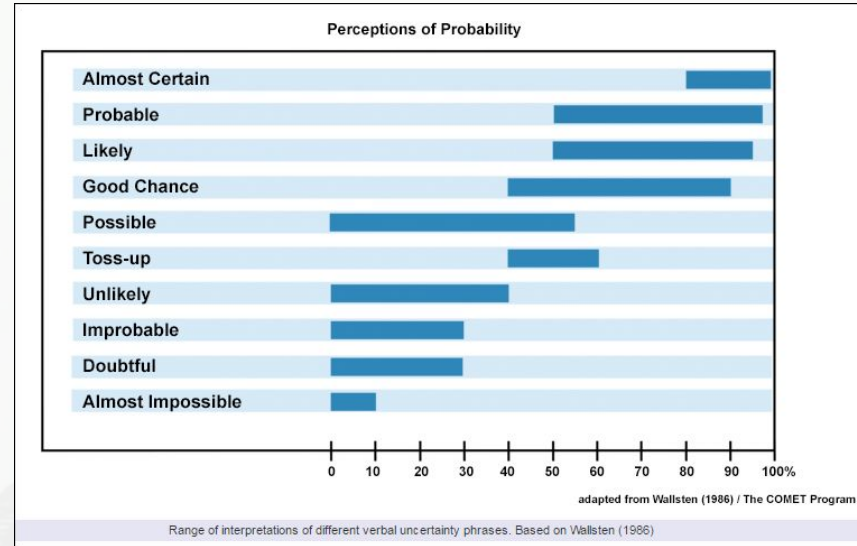
2022 – Ian



Average time to become a hurricane is 50 h before landfall

Words Matter

- Choose words carefully!
 - Careful when saying weakening, downgraded – hazards often continue!
 - Careful when describing improving conditions or ending time of a particular hazard – does not necessarily mean all clear!
 - Public can perceive words related to probabilities very differently – try to be clear when describing
- Keep headlines focused on hazards and impacts not storm statistics!



Carolinas Brace for Hurricane Florence and Widespread Flooding

Hurricane Florence still poses grave threat despite weaker winds

Which post will you issue after the storm? Select the best answer.

0

The skies are clear and the hurricane has moved on! The danger from the storm is over and recovery can begin. Be careful as you begin clean up and repair work. weather.gov/safety/hurricane-after

0%

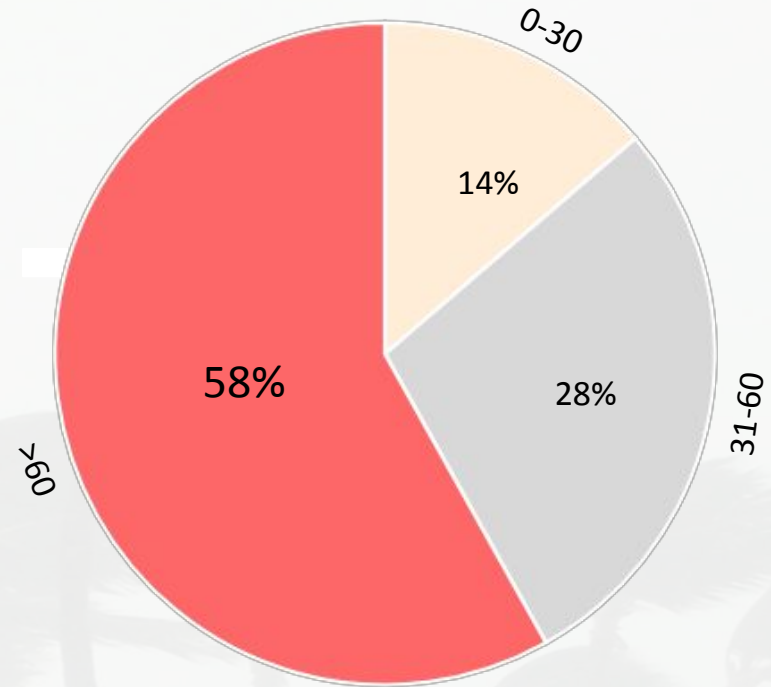
Hurricane dangers remain ever after the skies turn blue. Watch out for downed power lines and damaged buildings. Avoid floodwaters as they can hide a variety of dangers, and never drive through them. weather.gov/safety/hurricane-after

0%

Post-Impact Messaging

“The Storm is Past! I’m Safe now.”

- Nearly as many deaths occur during the preparation and recovery phase
- Many related to heart attacks, issues related to loss of electricity, accidents during cleanup and evacuation
- Disproportionately skewed toward older population
 - 8 times as many victims over the age of 60 as under 21 years old
- Generator safety is important topic!



U.S. Tropical Cyclone Indirect Deaths by Age of Victim (years)

Summary

- Remain focused on hazards & impacts, not track or category
- Every storm is different
- Hurricane is not a point – significant impacts occur far from the center – outside the cone
- Consistency and words matter
- Only share information from reliable sources



Delivering the Right Message

WPN
Building a Weather-Ready Nation
by Improving Communication
of Hurricane Hazards

Emphasize the Dangers of Each Hazard
While wind makes headlines, nearly 90% of all deaths associated with hurricanes are from water -- storm surge, surf, inland flooding.

Focus on What's Important: Communicating Impacts
Focus on the area where impacts will be felt vs. the track. Hurricane impacts occur far from the eye. Avoid describing the storm as "weakening" while the danger from other hazards remains significant.

Use the Official National Hurricane Center Forecast
Direct attention to the official National Hurricane Center forecast vs. sharing outlier scenarios from one model run or spaghetti plots.

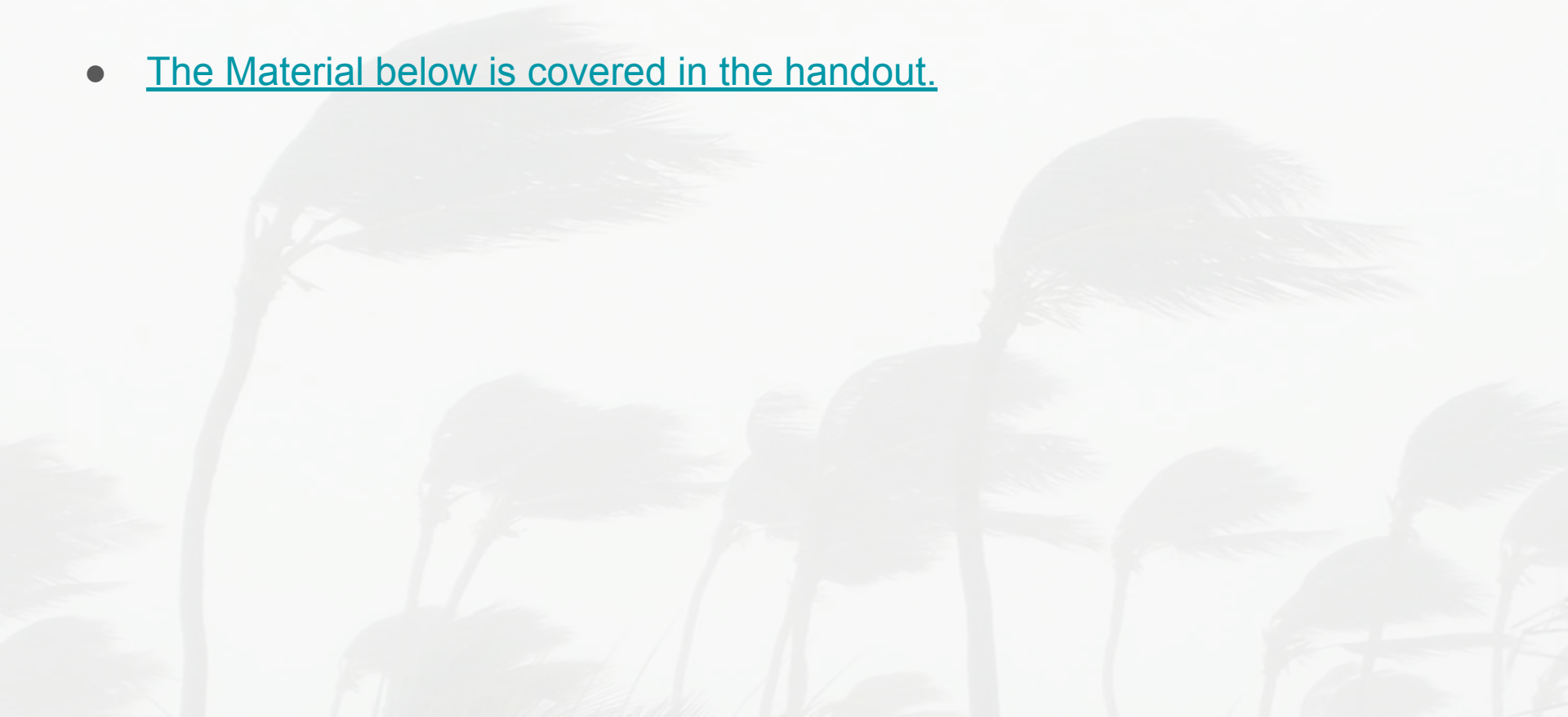
Only Share Reliable Sources
Avoid sources that try to create hype or make predictions beyond the limits of current science.

Highlight Hazards that Continue After a Storm Passes
Rip currents, flooding and heat remain dangerous long after the storm. Health risks associated with debris, downed power lines, and carbon monoxide poisoning are serious concerns during the storm clean-up.

weather.gov/safety/hurricane | 

Do not review beyond this point!!!!

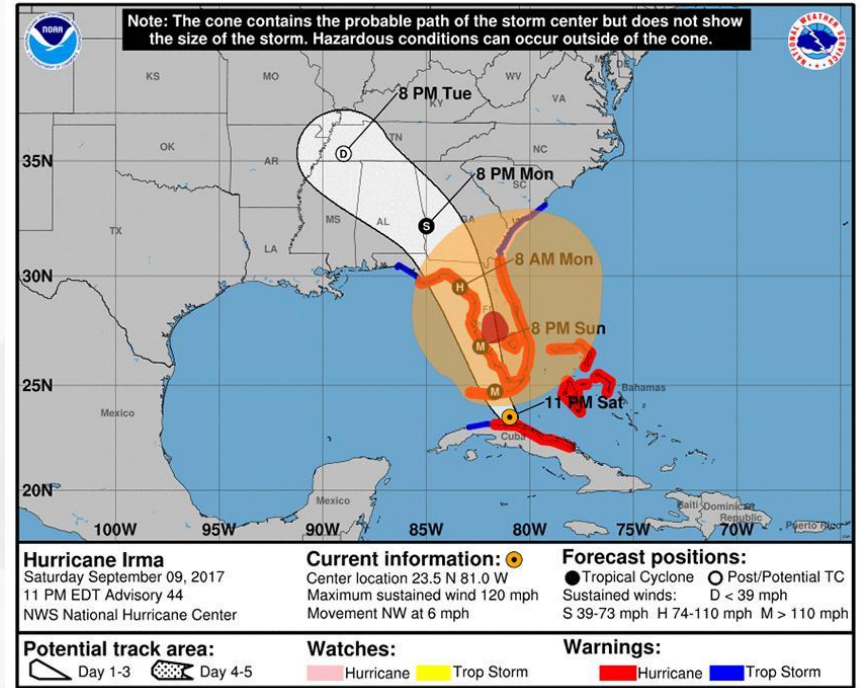
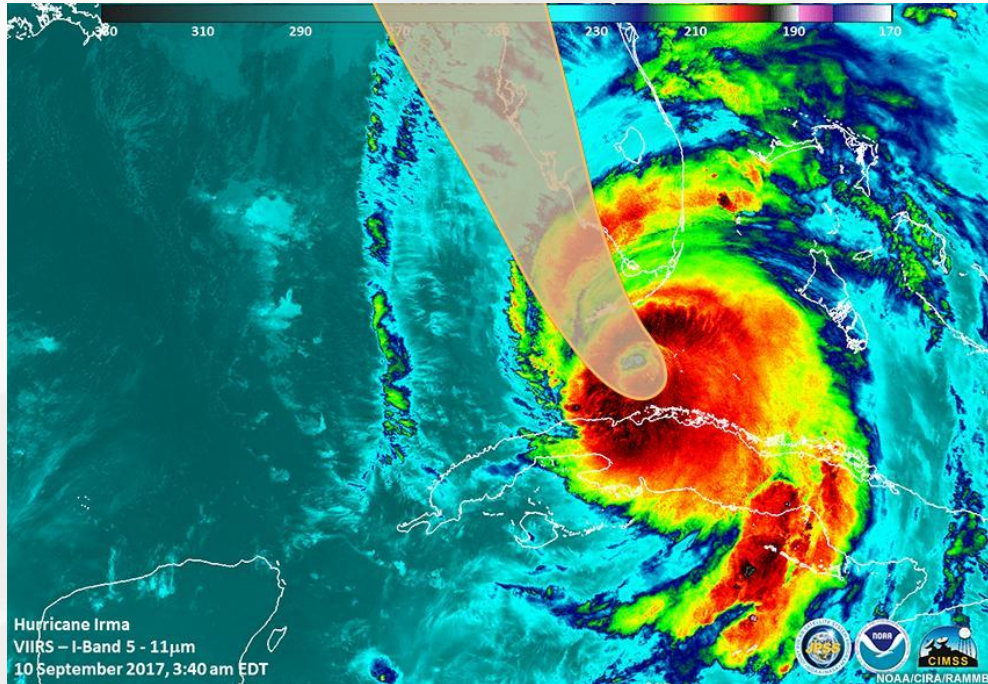
- [The Material below is covered in the handout.](#)



Messaging Challenges

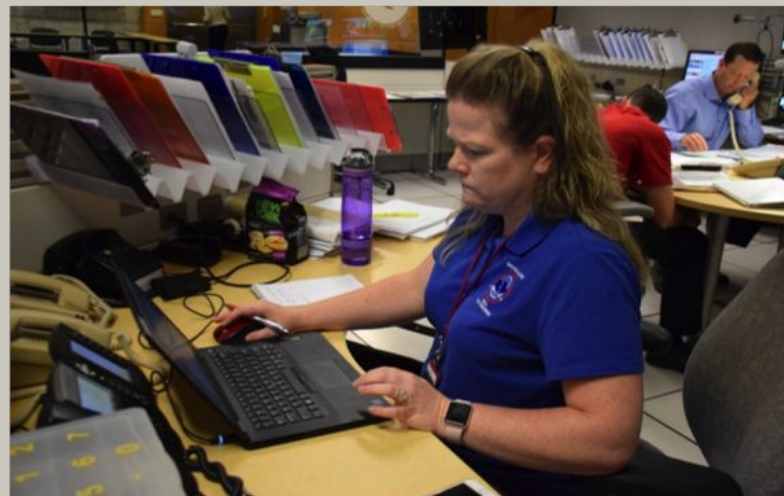
Hazards Extend Far From the Center!

A Hurricane is Not a Point!



Messaging Takes Coordination

- NWS Decision Support Services (DSS) Coordinator is initiated when threat is identified
 - Person deploys and works within NHC operations
- Facilitates communication between deployed NWS personnel, WFOs, RFC, national centers, HLT, and other parts of NOAA
- Ensures consistent messaging within the organization and assists with forecast coordination



Jenifer McNatt serving as DSS Coordinator during Hurricane Irma

**CONSISTENCY
IS THE
BUILDING BLOCK
OF TRUST**

Summary of tweet best practices

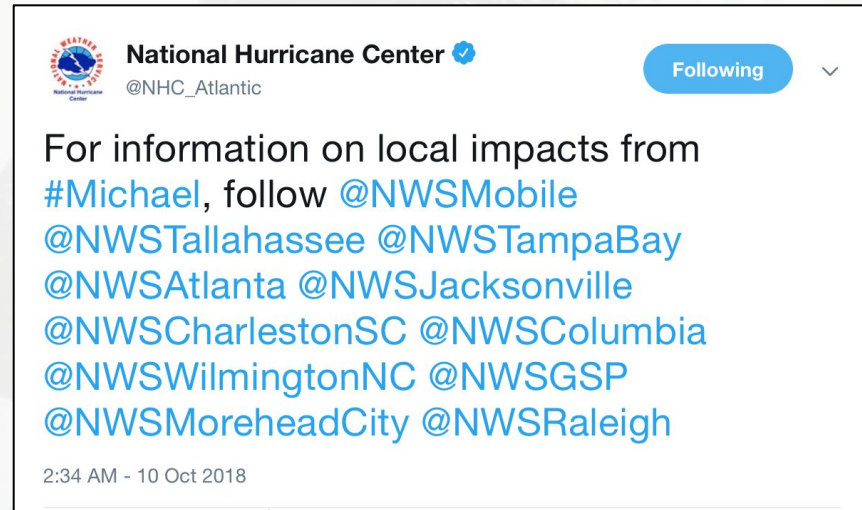
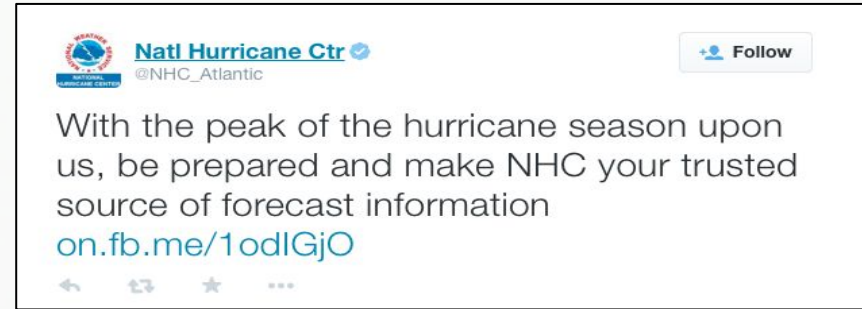
- Use a hashtag- #Matthew
- Include an image or loop
- Colors are a big plus (don't tweet out the Dvorak curve)
- Include interesting and relevant information
- Consider tweeting relevant 5 am advisory information after you finish the 8 am TWO (people miss it)
- Official links only

A Tropical Storm Watch has been issued for Florida from the 7 Mile Bridge to south of Deerfield Beach [#Matthew hurricanes.gov](#)



Trusted Sources

- Resist posting and sharing computer model graphics
- Put out “official” information and products from trusted sources
- Share and re-tweet information from trusted sources
- Use social media to politely dispel rumors and provide general preparedness tips



Don't Be Afraid to Dispel Rumors

- If misinformation is being spread, don't hesitate to address it!
 - Do it politely
 - Don't call out source
 - Use it as a general reminder for preparedness and/or re-direct message back to potential hazards & impacts
- Work with the entire weather enterprise (media, private sector, and EM community) to provide consistent, actionable messages!

Greater New Orleans

Ch

Beware fake forecasts shared on social media, National Hurricane Center says



NOAA NWS National Hurricane Center

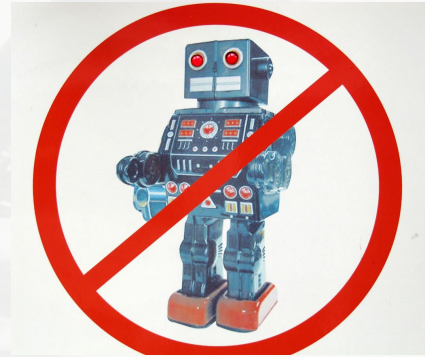
Now that we have entered the heart of the hurricane season, there is an increase in the Internet hype around disturbances that NHC is monitoring. Given the long lead times involved, the wide range of possible outcomes, and the historically poor and erratic performance of guidance models with weak disturbances, there is no reliable science to forecast potential impacts to specific locations that would be more than a week away.

Nearly every disturbance poses some potential to become a dangerous hurricane. Folks in hurricane-prone areas should always be keeping an eye on the tropics and be prepared to respond when a true threat develops, but also remember the limitations in the science. NHC's forecasts of tropical cyclone formation and track extend out only to 5 days - because the science hasn't advanced enough to reliably forecast beyond that time frame. (We're working on internal forecasts out to 7 days, but we're a ways away from feeling comfortable making them public because the errors can be quite large.)

The bottom line really is: be alert, be prepared, but also be wary of long-range projections that go beyond what the science can offer. And make the NOAA National Hurricane Center www.hurricanes.gov your calm, clear, and trusted source for official forecast and warning information on tropical cyclones.

Why not just use automated tweets?

- As a rule, people are not using social media for automated information
- The general public can tell very quickly that this information is from a computer and not from a human (usage, syntax, grammar etc)
- Usage statistics show that manual tweets are viewed & shared 3-4x as much as the automated ones, even with similar information
- In Matthew, 19 of 20 top tweets were manual
- Automated tweets do not encourage people to follow NHC's message.

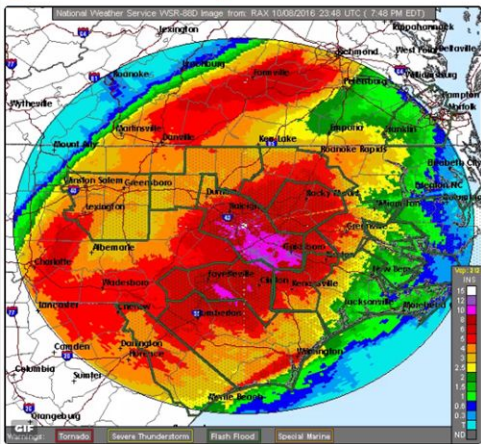


Tropical Storm and/or Hurricane Watches are likely for portions of the Florida Peninsula & Florida Keys later this morning for #Matthew.



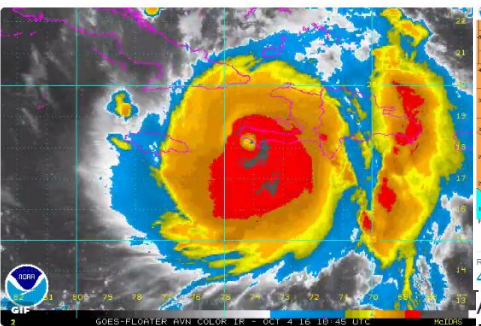
811
k

Record-breaking flooding is ongoing in North Carolina. Please see statements from @NWSRaleigh @NWSWilmingtonNC @NWSMoreheadCity #Matthew



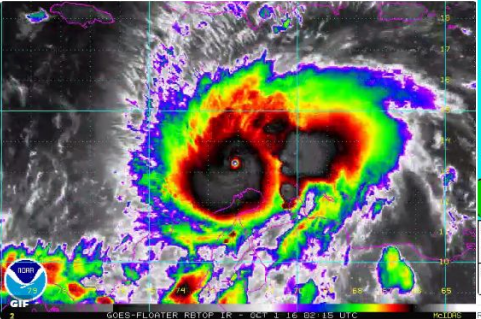
323k

#Matthew made landfall near Les Anglais, Haiti at 7 am EDT. This is the first Category 4 #hurricane landfall in Haiti since Cleo in 1964.



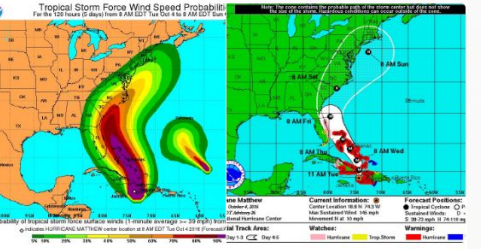
637

#Matthew is now a category 5 #hurricane, the first in the Atlantic basin since Felix of 2007. More info: nhc.noaa.gov/#MATTHEW



499
k

Remember effects (wind, rainfall, high surf etc) will extend well outside of the forecast cone (which is only for the center of #Matthew)



285

A Tropical Storm Watch has been issued for Florida from the 7 Mile Bridge to south of Deerfield Beach #Matthew hurricanes.gov



275
k

Top Tweets in Matthew (detailed)

Messaging Challenges

Using “Downgraded” – No!!!


Keep Focus on Life-Threatening Hazards

The Latest: Florence Downgraded to a Category 1 Hurricane

Florence downgraded to a Category 1 hurricane with top sustained winds of 90 mph (150 kph).

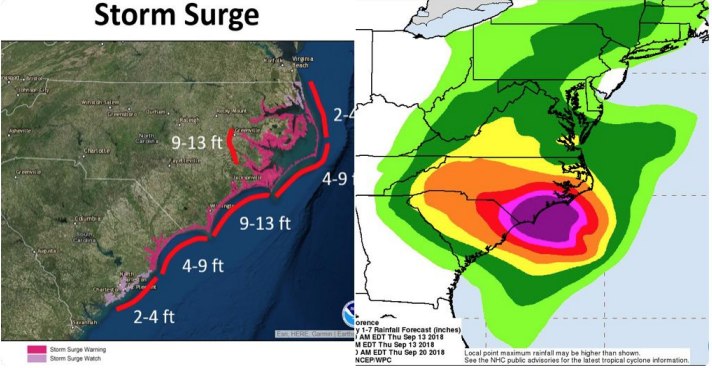
Sept. 13, 2018



 **National Hurricane Center** @NHC_Atlantic · Sep 13

Do not focus on the wind speed category of #Hurricane #Florence! Life-threatening storm surge flooding, catastrophic flash flooding and prolonged significant river flooding are still expected. More: hurricanes.gov

Storm Surge



NHC_Surge and NWS WPC

316 5.7K 17K

Stay focused on hazards!!!

Messaging Challenges

No Need to Focus on Storm Status

Tropical storm watches issued for Florida as system strengthens



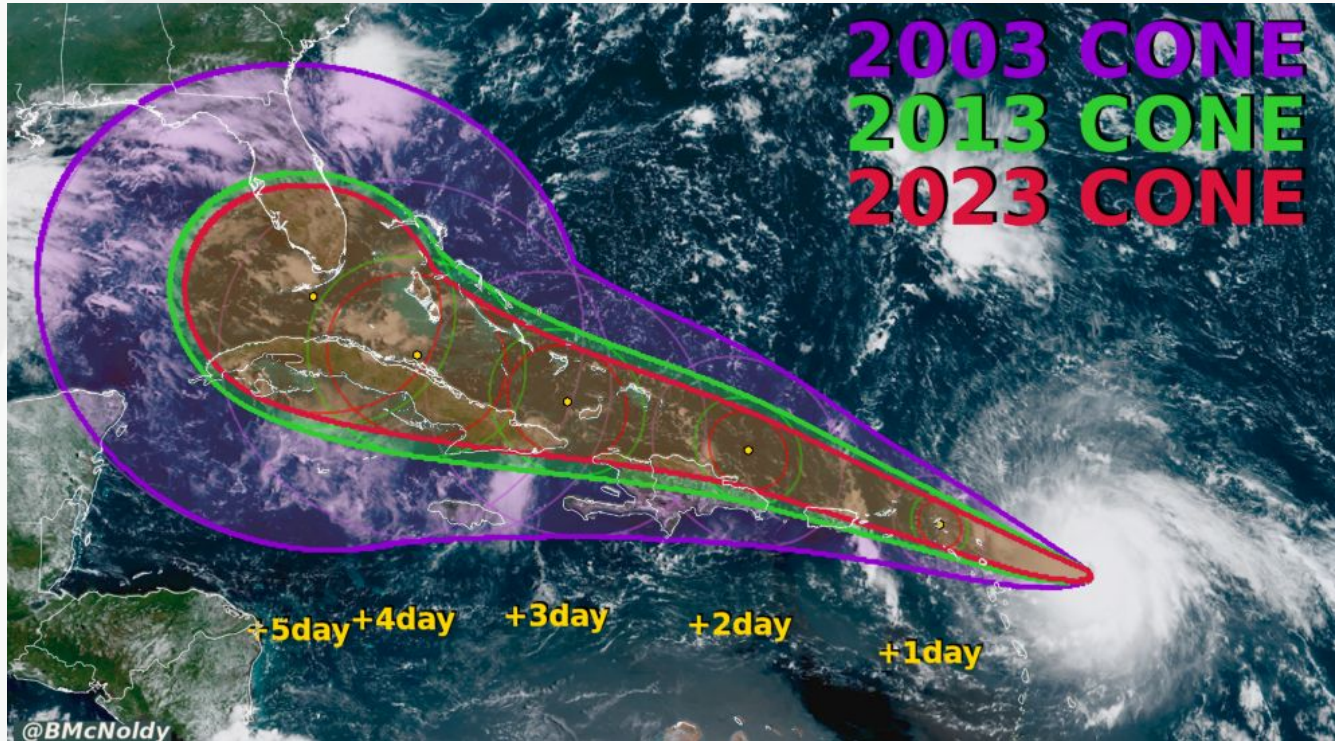
Different designation for Nestor, but the same storm surge and winds hitting Florida



Great examples of keeping focus on impacts of developing and transitioning storms!

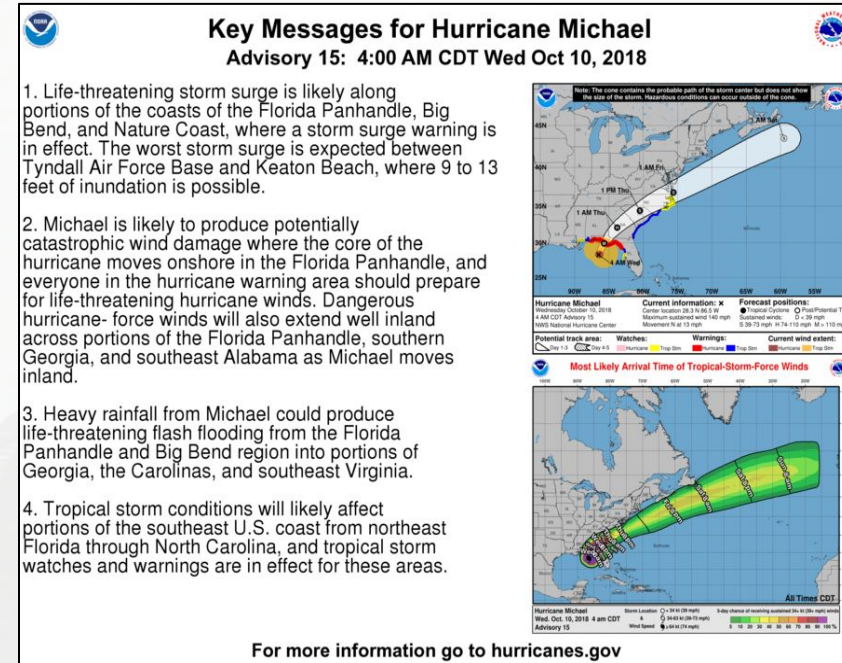
Messaging Challenges

Cone on a diet – but storm size unchanged!
More impacts outside the cone!

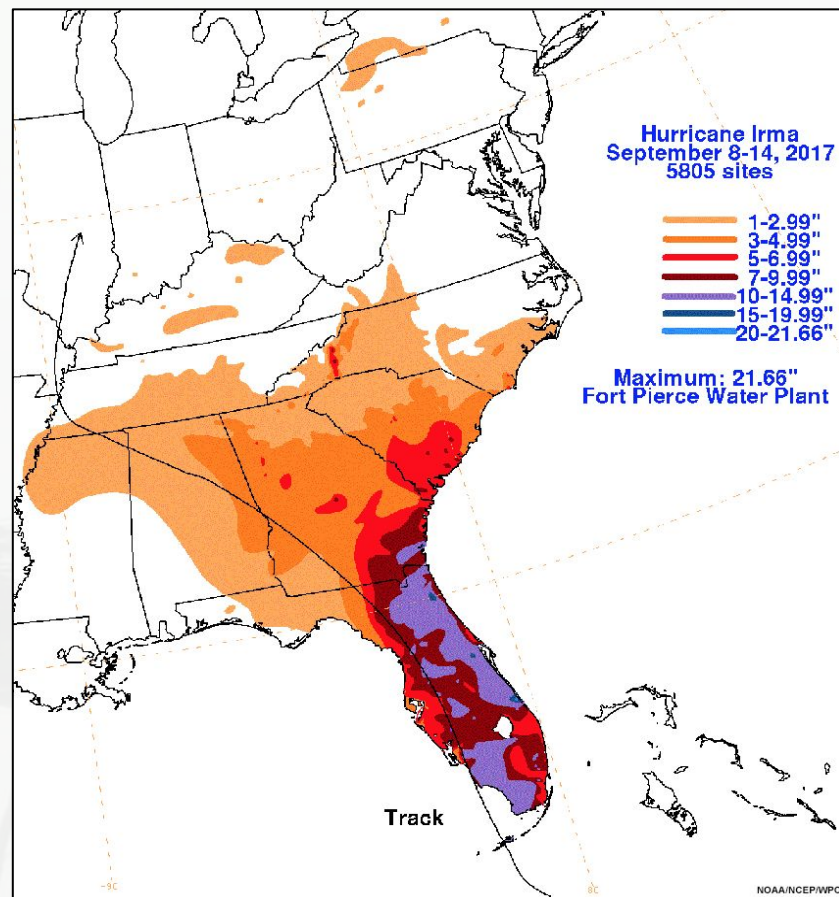
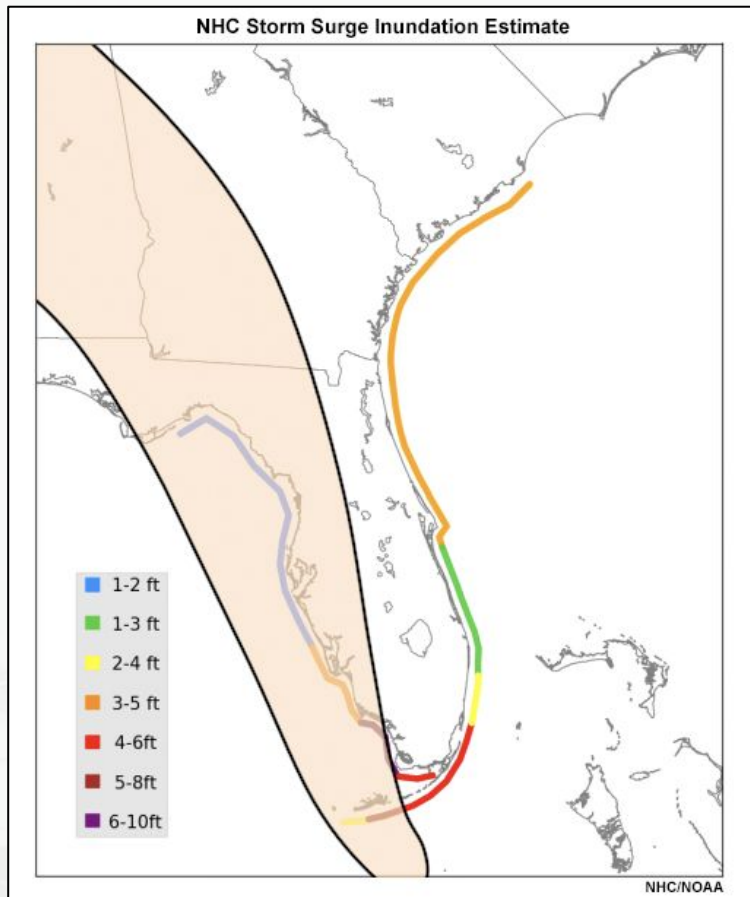


Given the Key messages, which post will you issue?

- a) Life-threatening storm surge likely - worst surge from Mexico Beach to Keaton Beach. Potentially catastrophic wind damage where the core of Michael moves onshore. Dangerous hurricane-force winds will extend well inland into southern Georgia and southeast Alabama.
- b) Hurricane Michael is a massive Category 5 storm with a well-defined eye as it approaches landfall somewhere along the coast of the Florida Panhandle. It will bring dangerous winds and storm surge from Mexico Beach to Keaton Beach. Some winds could reach Georgia.



Messaging Challenges



Which post will you issue after the storm?

- a) The skies are clear and the hurricane has moved on! The danger from the storm is over and recovery can begin. Be careful as you begin clean up and repair work. [weather.gov/safety/hurricane-after](https://www.weather.gov/safety/hurricane-after)
- b) Hurricane dangers remain even after the skies turn blue. Watch out for downed power lines and damaged buildings. Avoid floodwaters as they can hide a variety of dangers, and never drive through them, as it doesn't take much to sweep your car away. [weather.gov/safety/hurricane-after](https://www.weather.gov/safety/hurricane-after)



After the Storm:
HAZARDS REMAIN

 **Be careful near damaged buildings**
Do not enter a damaged building until local authorities say it's safe. Leave your home if there's shifting or unusual noises. If you smell gas, get outdoors immediately and call 911.

 **Watch out for power lines**
Stay far away from damaged power lines, whether they've fallen to the ground or are dangling overhead.

 **Don't walk or drive through floodwaters**
They can contain harmful bacteria, chemicals, sharp objects, live wires and reptiles/other animals. It only takes 12 inches of fast-moving water to sweep a car away.

[weather.gov](https://www.weather.gov) 