



HFIP Socio-Economic Working Group Update

November 8, 2017

HFIP Societal Impacts & HFIP Socio-Economic Working Group

- Jennifer Sprague (NWS/OASST) – Co-Chair
- Edward Rappaport (NHC) – Co-Chair
- Jamie Rhome (NHC)
- Robbie Berg (NHC)
- Lance Wood (NWS/SR)
- Hendricus Lulofs (NWS/ER)
- Matthew Green (FEMA)
- Tiffany Hershey (FEMA)
- William Hackett (CT EM)
- Mike Sprayberry (NC EM)
- Christopher Moore (TX EM)
- Chuck Lanza (FL EM)
- Wes Hohenstein (Media)
- Criag Setzer (Media)
- Karen Townsend (Private Sector - Hurrevac)
- Hugh Gladwin (Social Scientist (Anthropologist) – FIU)

2016/2017 Major Milestones

- **Potential Storm Surge Inundation Graphic:**
 - Final Report & Operational Product
- **Storm Surge Watch/Warning Graphic:**
 - Final Report & Experimental Product
- **Arrival of Tropical Storm Force Winds:**
 - Phase 1 Final Report,
 - Experimental Product, and
 - Start of Phase 2 (public testing)

Future Plans

- **Arrival of Tropical Storm Force Winds:**
 - Phase 2 (Final Report & findings due April 2018)
- **HFIP Strategic Plan:**
 - Weather Act 2017 (Section 104)
- **Tropical Cyclone Products:**
 - Improved communication of forecasted risks for ALL products in the tropical cyclone suite



STORM SURGE/ET INTERVIEWS

HERMINE/JULIA/MATTHEW

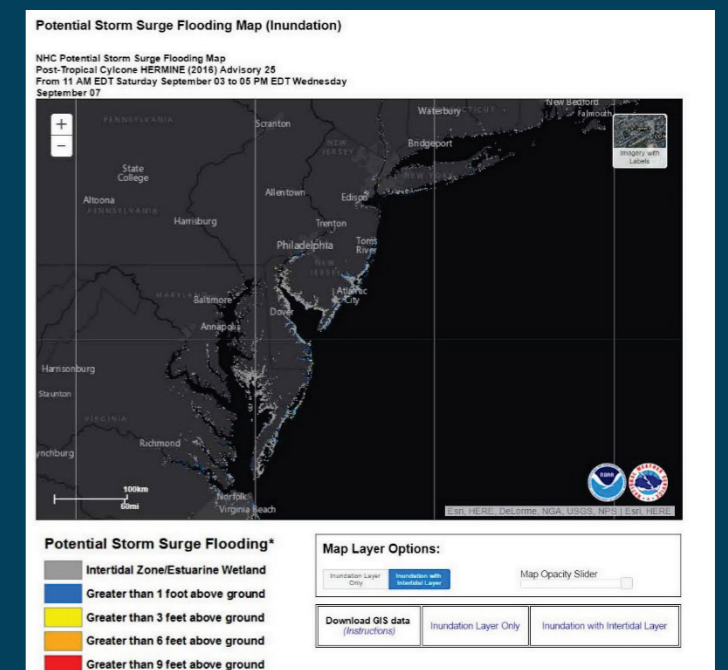
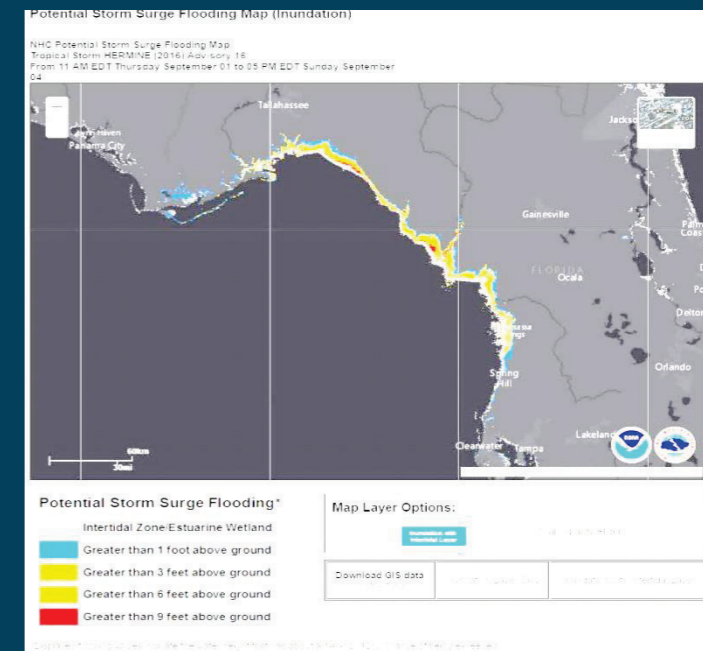
Hermine/Julia/Matthew Interviews Sample

In-depth interviews with limited number of experts with experience using products

Region	WFO	Federal (FEMA)	State EM	County/ Local EM	Media	Total
Florida	2			4	2	8
New Jersey	1		1	3	1	6
Virginia	1			3	1	5
National		1			1	2
TOTAL	4	1	1	10	5	21

Findings Potential Storm Surge Flooding Map

1. Strong support
2. Widely viewed, shared
3. Potential water levels seemed realistic to most
4. Limited confusion with “above ground” datum



Potential Storm Surge Flooding Map

Wish List:

- Higher resolution
- Ability to zoom in closer
- More explanation of probability
- Larger, easier to read text
- More outreach and education

Potential Storm Surge Flooding Map

Other Issues/Concerns:

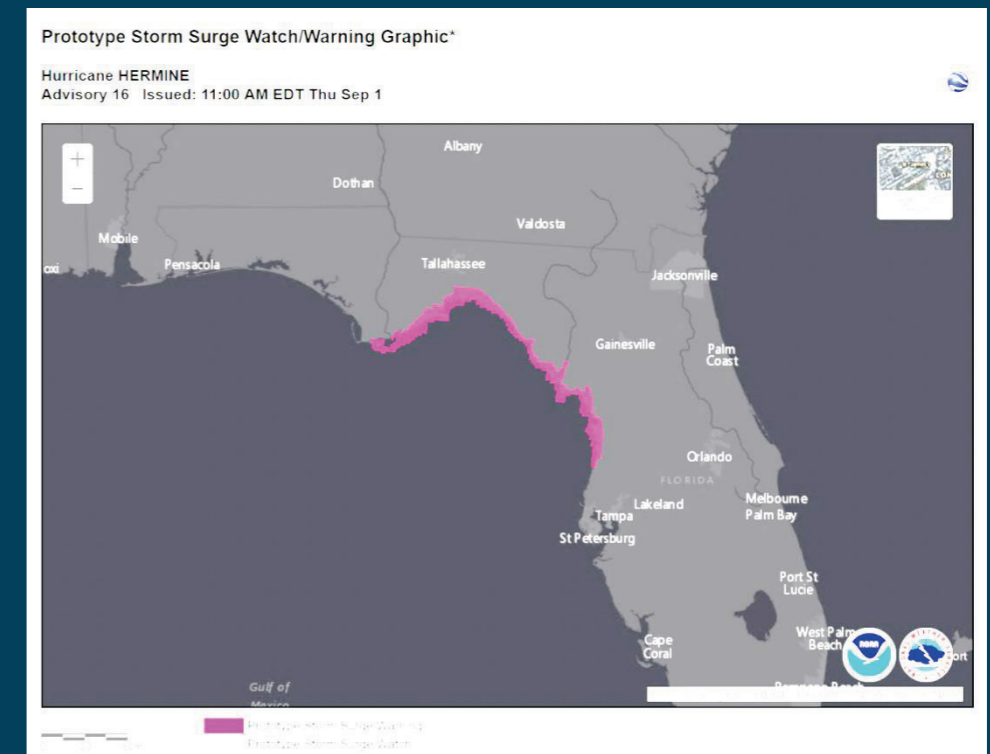
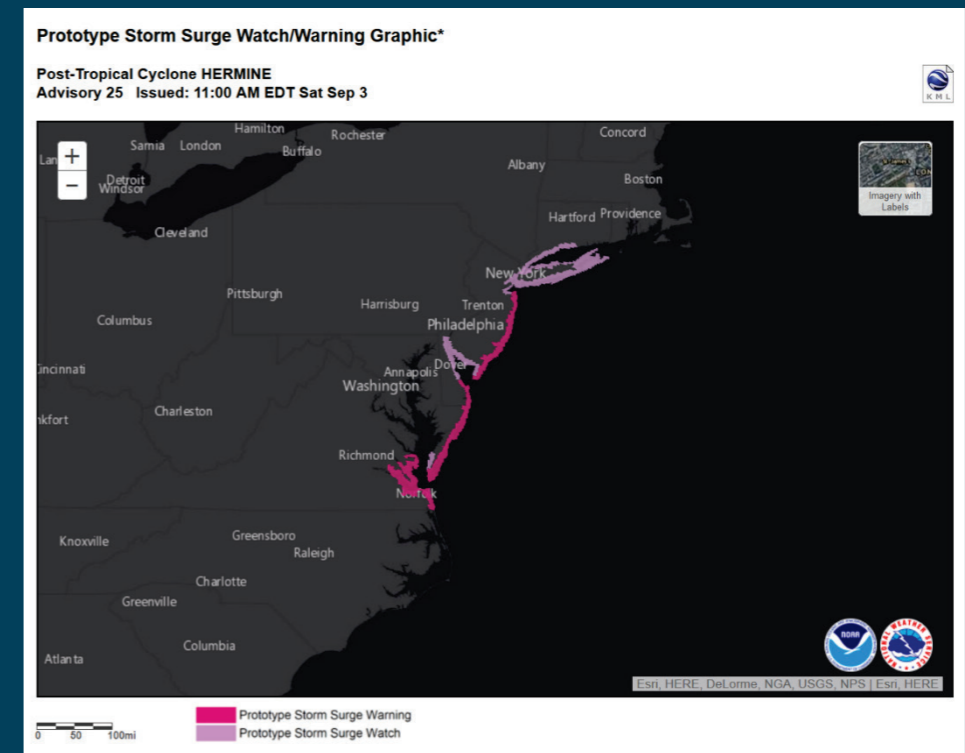
- Model resulted in unrealistic levels in some areas
- Some suggestions of another level between 1 and 3 feet
- Deterministic in appearance; not enough emphasis about what it's based upon

Matthew Service Assessment Findings:

- Not universally understood...*“probable worst-case scenario”*

Prototype Storm Surge Watch/Warning

1. Most were aware of it and thought it could be useful
2. Reluctance to assess it until additional storms
3. Some concern about how it would work with:
 - TS/Hurricane W & W
 - Potential Storm Surge Flooding Map



Prototype Storm Surge Watch/Warning Map

Other Issues/Concerns:

- Too many NWS products
- Too broad to be useful locally
- Not relevant for their area
- Not currently tied to EM actions

Transitioning Storms

1. Supportive of continuing to issue watches/warnings and producing potential SS flooding maps for these storms: fills an information gap
 - Especially for storms with high impacts
2. Currently ET surge discussions too technical
3. ET/PT terminology unclear to public



ARRIVAL OF TROPICAL STORM FORCE WINDS MAP

**PRELIMINARY SURVEY FINDINGS
COASTAL EMS, MEDIA & WFOS**

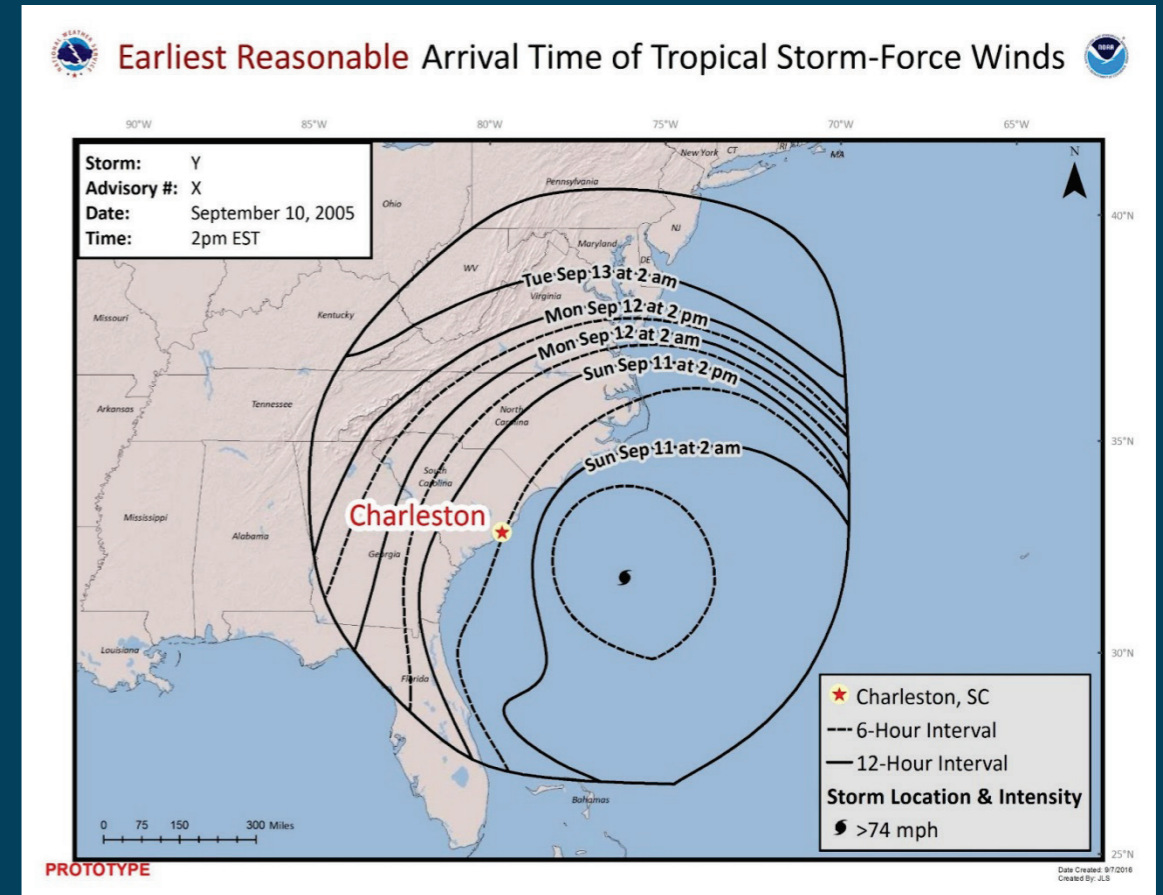
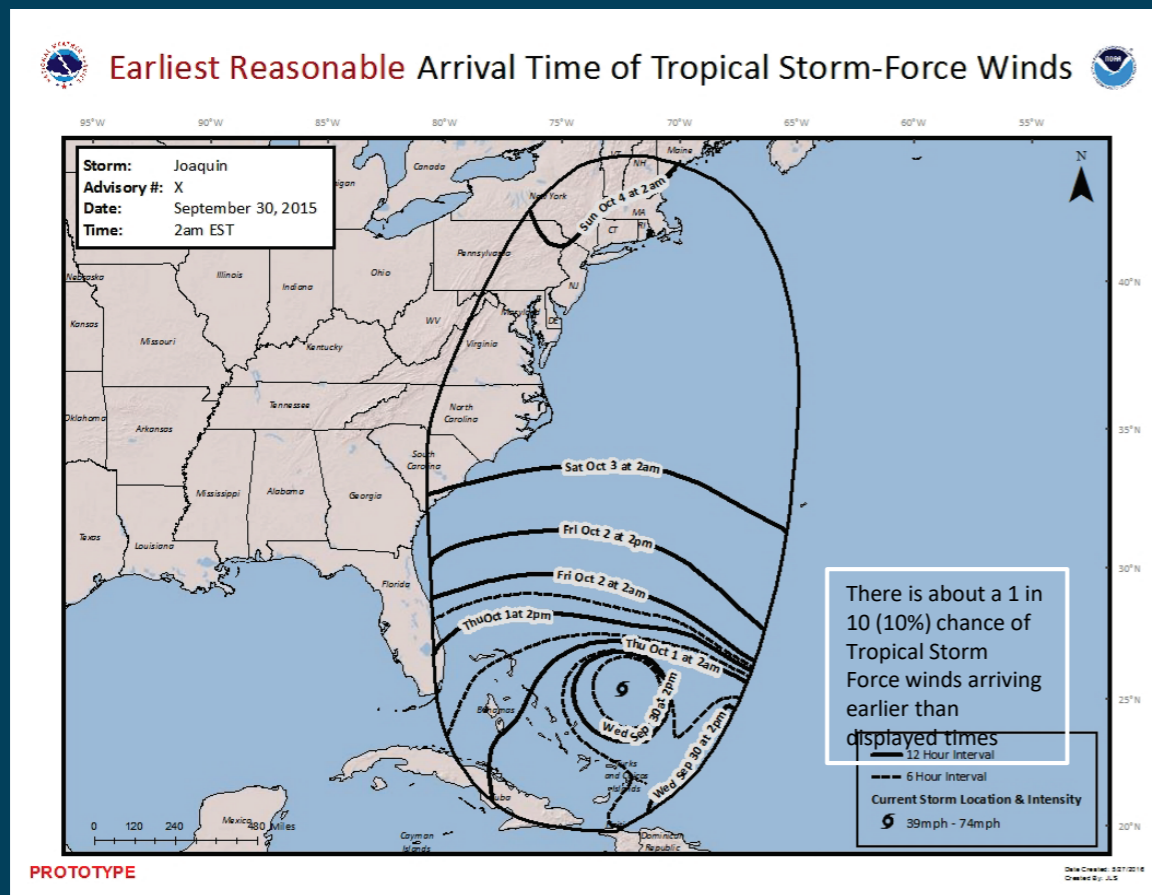
Sample

State	Count	
	Number Asked to Participate (Email)	Number of Responses (On-Line)
AL	36	4
FL	197	25
GA	44	1
LA	58	7
MS	22	1
MS & LA	1	1
NC	80	9
PR	3	1
SC	52	4
TX	112	18
USVI	2	0
VA	53	8
Not listed	0	40
Total	659	119

Response Rate= 18%

Completion Rate = 72%

Surveys Showed Maps Depicting Data From Either Joaquin or Ophelia



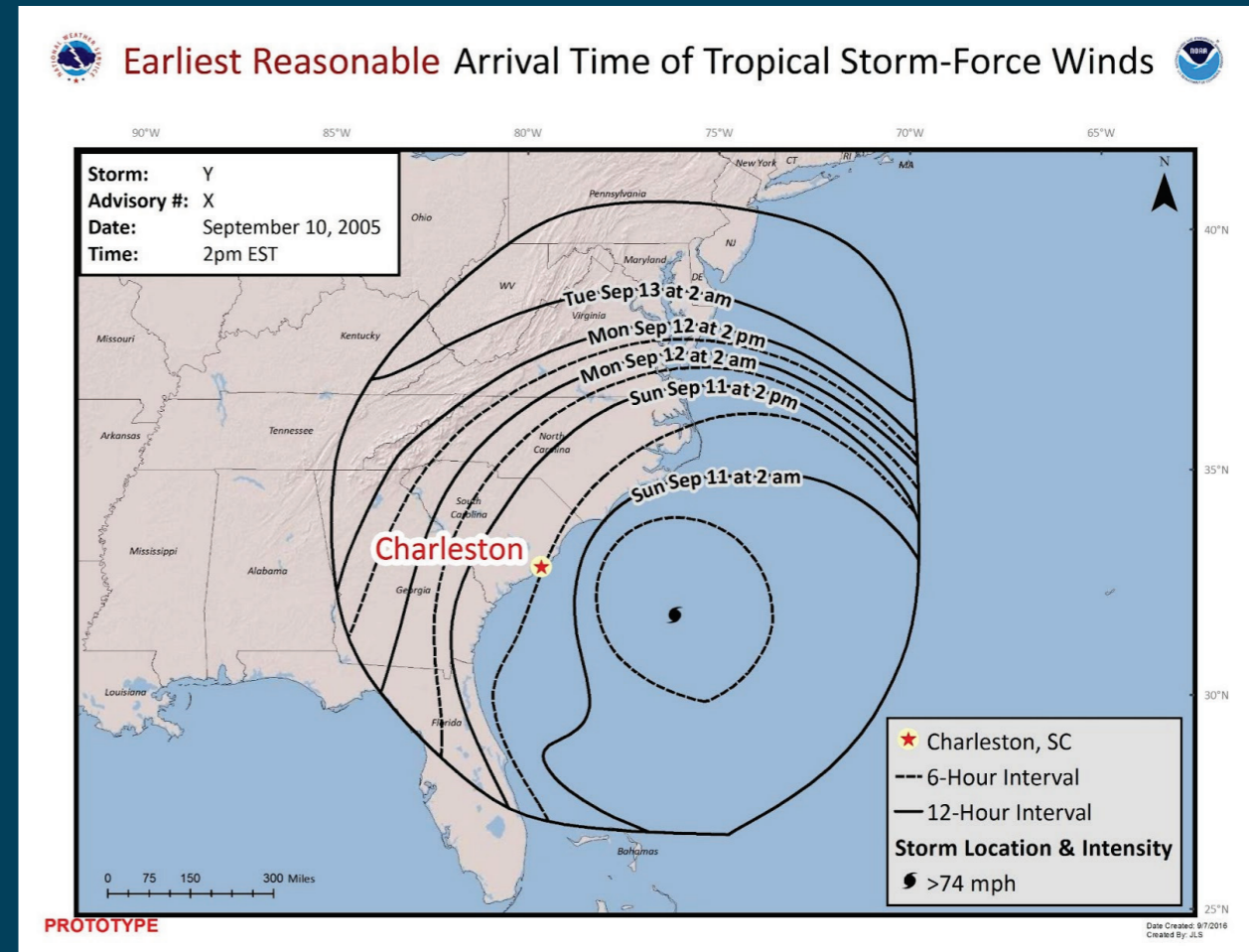
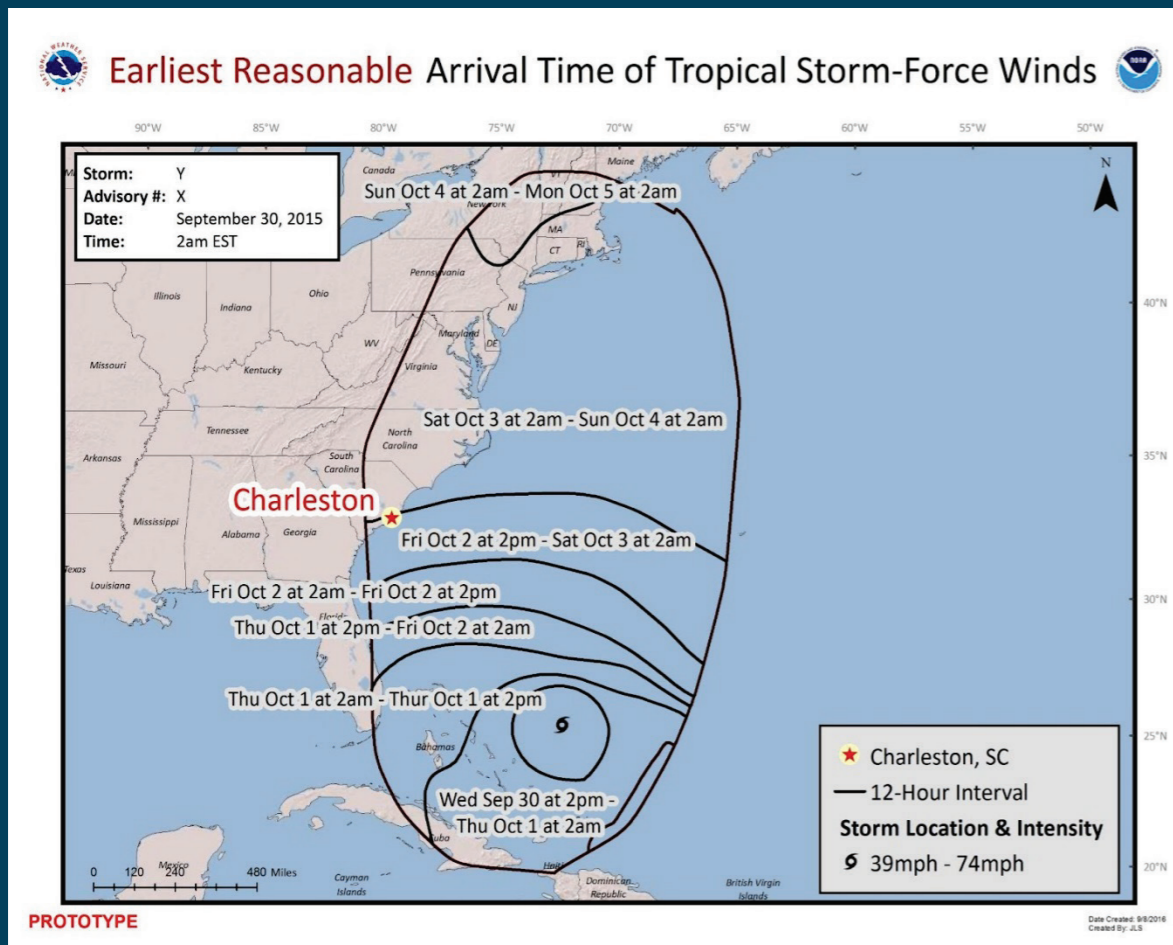
Questions About HLS/TCV/HTI Were Also Included

Preferred Probability Level for Maps Reported According to Map Example Used

Purpose	Saw Joaquin Map		Saw Ophelia Map	
	Internal Use	External Use	Internal Use	External Use
Earliest Reasonable Arrival Time	33%	41%	34%	49%
Most Likely Arrival Time	25%	30%	26%	37%
Both	41%	23%	37%	14%
Neither/Not Sure/No Preference	1%	5%	0%	0%

- General preference for Earliest Possible map, particularly for External Use
- Some interest in receiving both, particularly for Internal Use
- Those seeing Ophelia map were less likely to want both

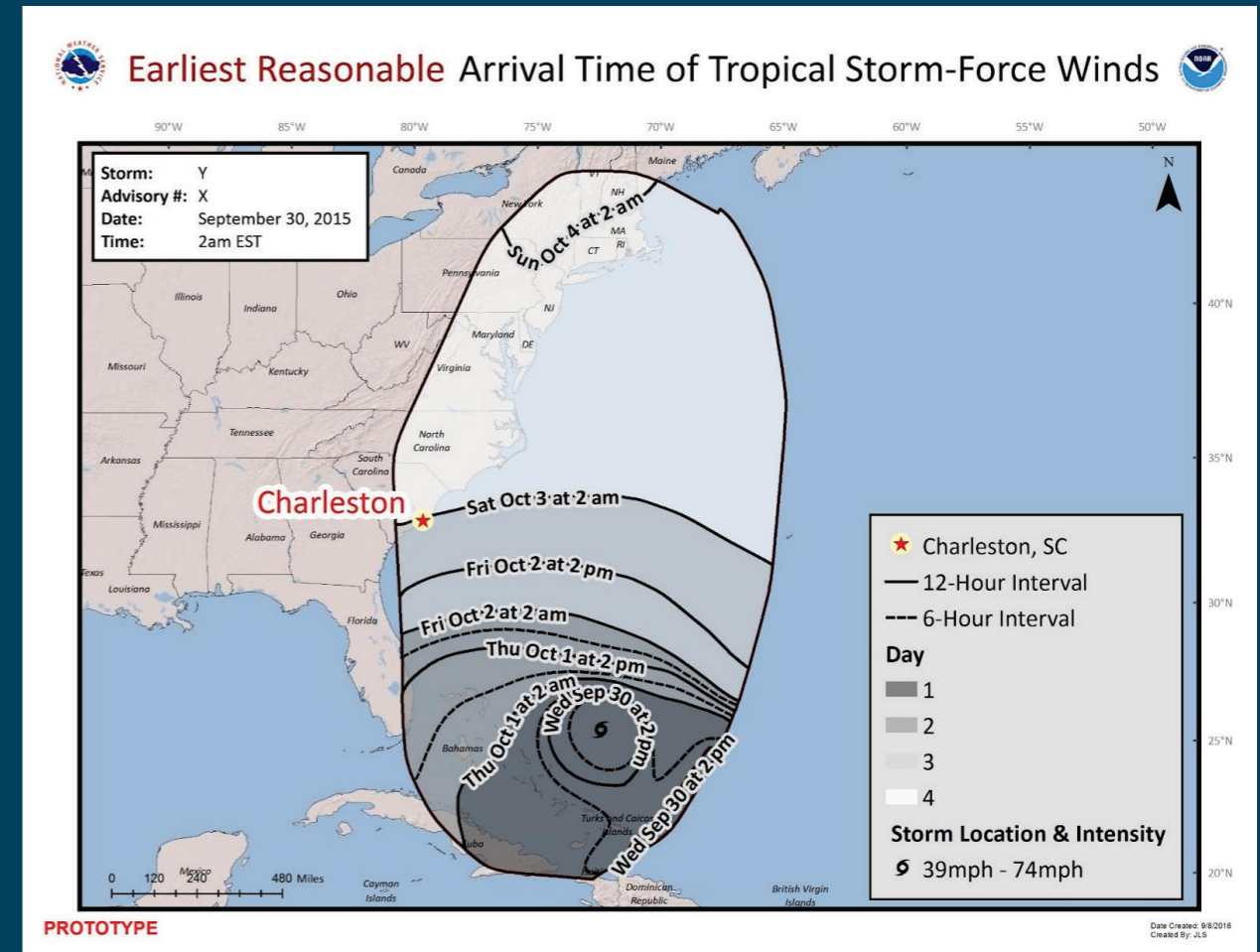
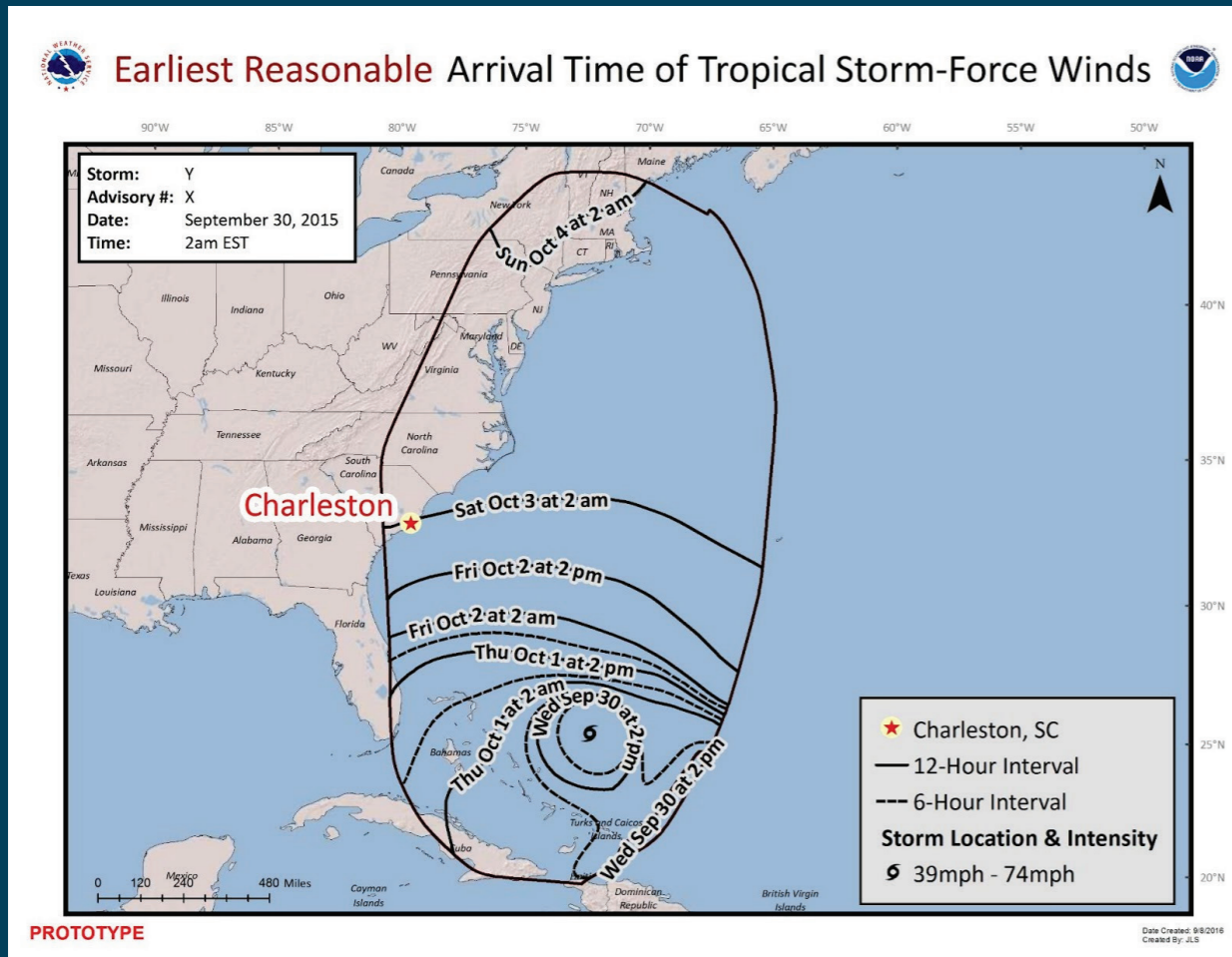
Labeling of Times



Preferred

- About 75% preferred use of specific times rather than general time frames
- Over 80% preferred placement of times on the borders rather than in the center of time segments
- No important differences related to which map they saw

Color Scheme



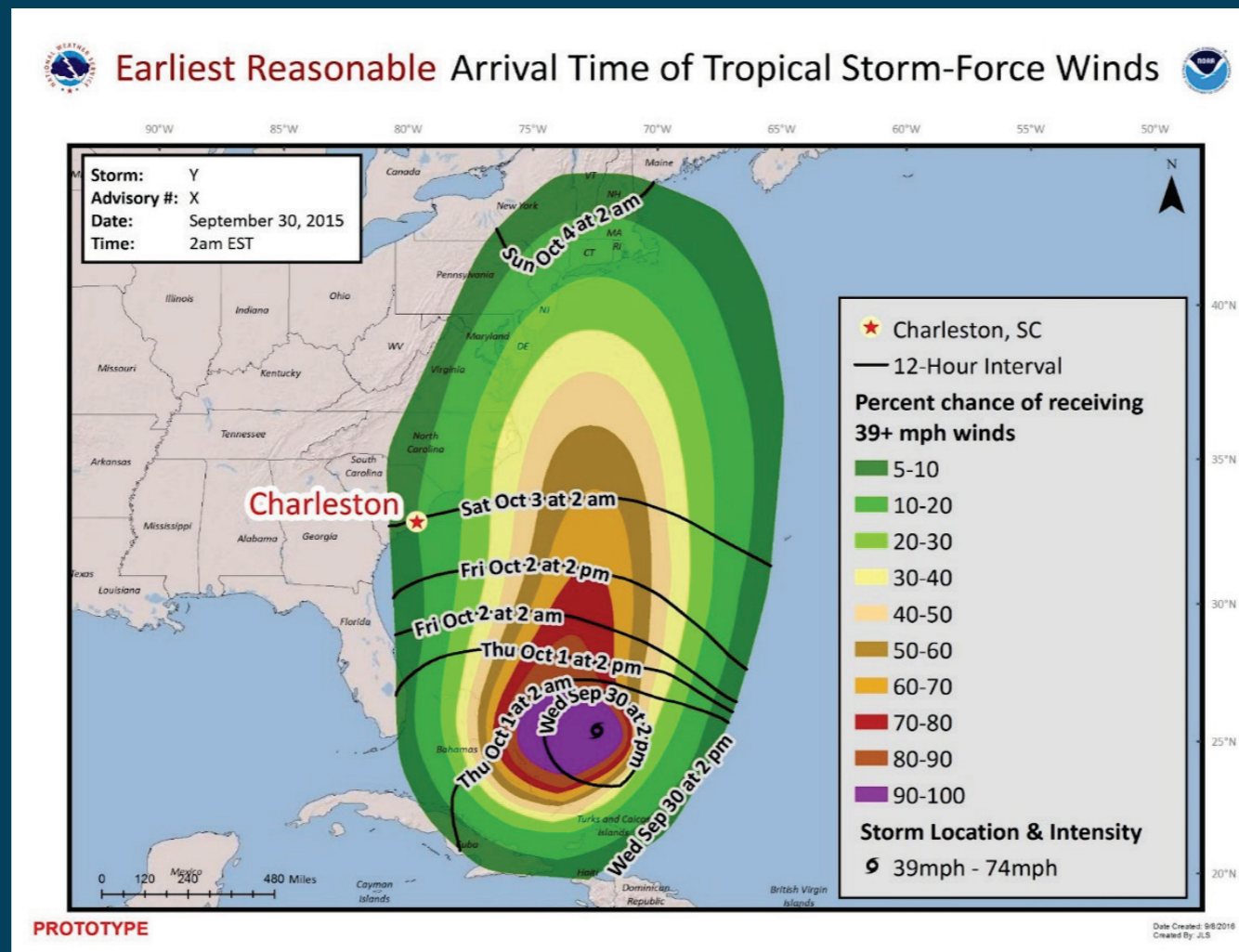
Preferred

- Slight majority preferred Gray over No Color
- Some interest in receiving both, particularly for Internal Use
- Most interpreted darker gray as depicting arrival time, but some thought it referred to potential intensity
- No important differences related to which map they saw

Combining Arrival Of Tropical Storm Force Winds Map With Other Forecast Data Maps:

- Wind Speed Probability
- Forecast Track

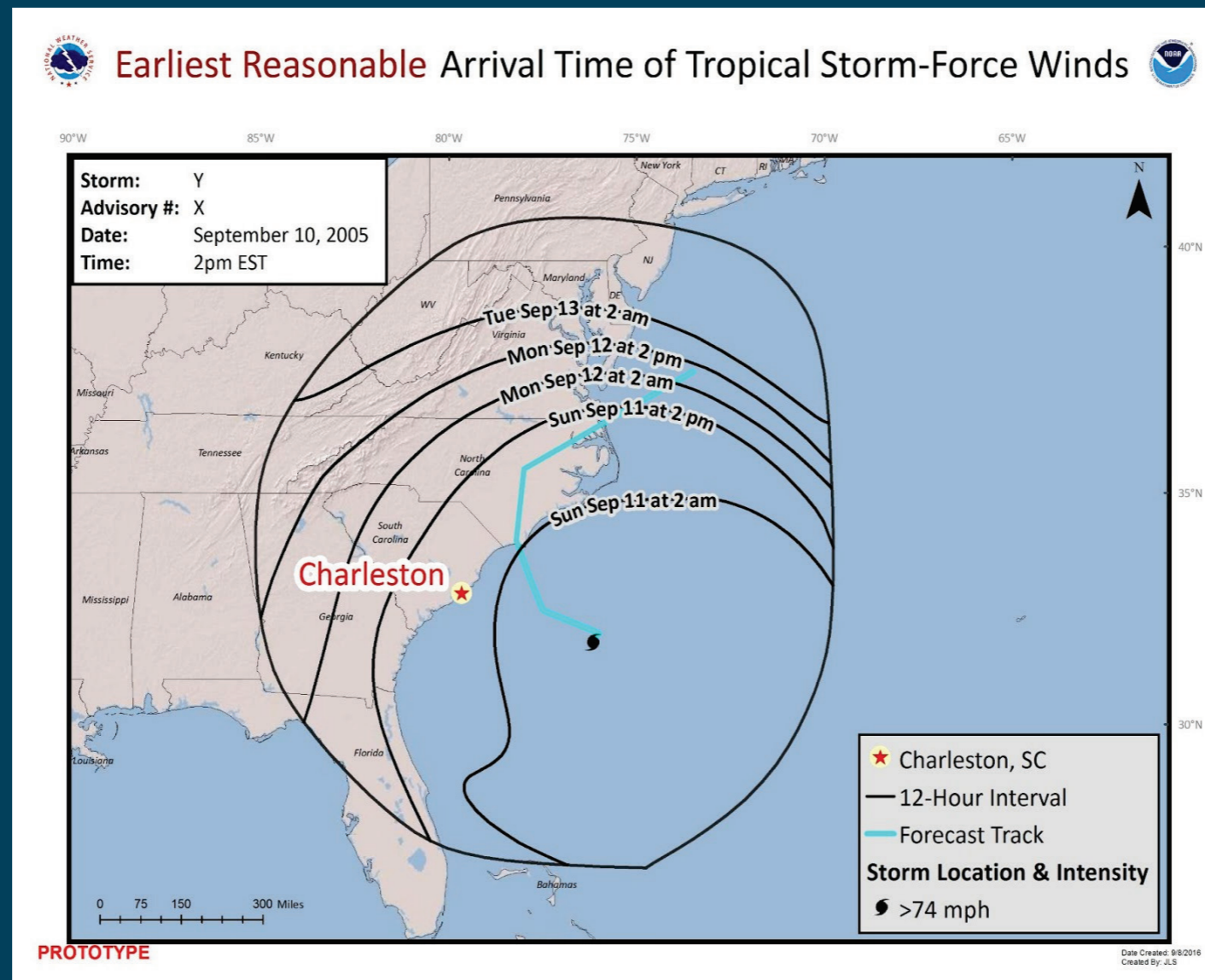
ATSFW and Wind Speed Probabilities



- Over 50% in both samples thought this map would be Very Useful
- Fewer in Ophelia sample answered Somewhat Useful (40% vs 21%)

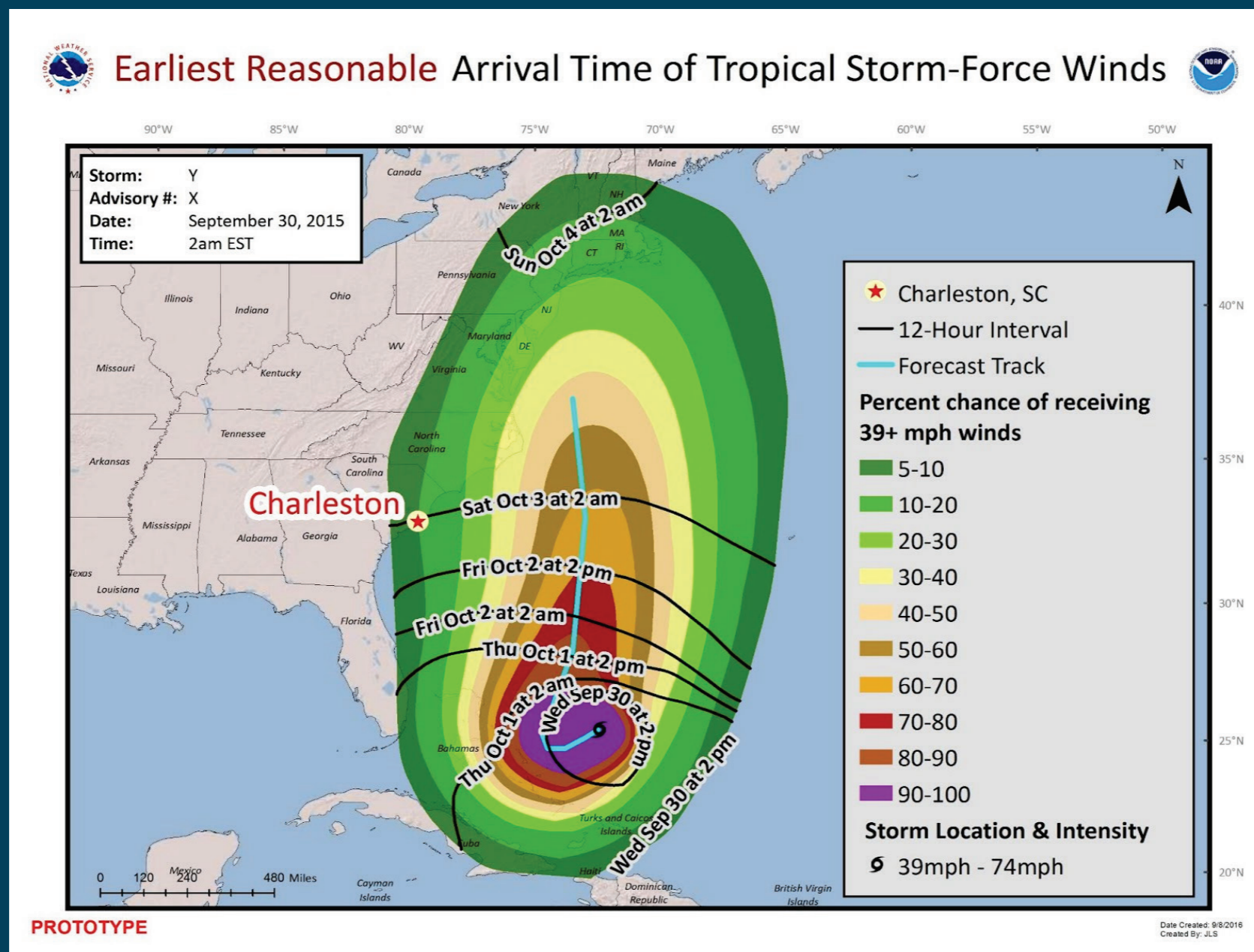
(Note: 89% say they Always or Frequently use the current Wind Speed Probabilities Map)

ATSFW and Storm Track



- Over 50% in both samples thought this map would be Very or Somewhat Useful
- Fewer in Joaquin sample choose Very Useful
- Opinion divided over showing track as a center line or as as center points

ATSFW, Wind Probabilities, and Track



- 85% of the Joaquin sample and 73% in the Ophelia sample rated this map as Very or Somewhat Useful
- Nearly unanimous support for having the ability to toggle

Summary of ATSFW Findings

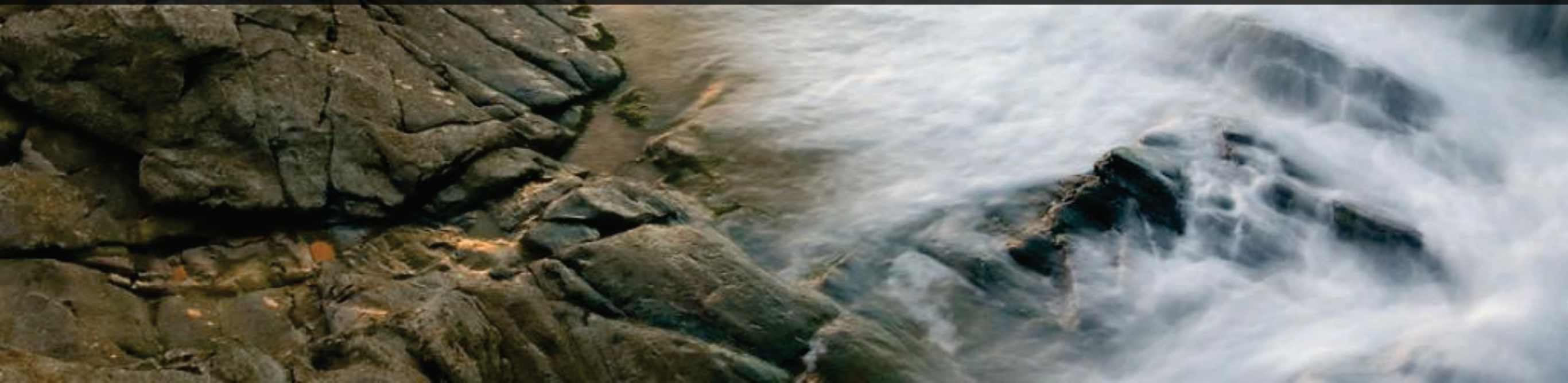
1. 91% think NHC should produce the map
2. 98% would always or frequently use for internal job responsibilities/decision-making and 88% would always or frequently use for external communication
3. Strong support for combining with Wind Speed Probabilities Map and Track Information
 - Findings were somewhat more mixed in Ophelia sample
 - Preference for ability to toggle information on and off
 - Concern that map could otherwise be too cluttered
4. Desire for more description on map

Phase 2 (Due April 2018):

- 1. Develop Online Survey to Test Prototypes with the Public.**
- 2. Collect and Analyze Responses and Develop Recommendations**
- 3. Final Presentation/Report on Findings and Recommendations**



CONCLUDING THOUGHTS






APPRECIATE MORE TOOLS



**TAKES TIME TO BUILD TRUST
IN NEW PRODUCTS**

A photograph of a bookshelf filled with books. The books are arranged in rows, and the spines of the books are visible. A central book is highlighted with a white border. The text "WANT HIGH-QUALITY DESIGN" is overlaid in white on a black background across the middle of the image.

WANT HIGH-QUALITY DESIGN

WANT MORE INTERPRETATION





THANK YOU