

Hurricane Local Products



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What is the HLS?

Contains info on

- Watches/warnings
- Potential impacts
- Precautionary/preparedness actions

HURRICANE LOCAL STATEMENT (HLS)

WTUS82 KCHS 272130

HLSCHS

URGENT - IMMEDIATE BROADCAST REQUESTED

HURRICANE XENA LOCAL STATEMENT

NATIONAL WEATHER SERVICE CHARLESTON SC AL012000

530 PM EDT SUN AUGUST 27 2000

...HURRICANE XENA IN THE NORTHWESTERN BAHAMAS MOVING TOWARD THE LOWCOUNTRY...

.NEW INFORMATION...

A HURRICANE WARNING IS NOW IN EFFECT FOR SOUTHERN SOUTH CAROLINA. HURRICANE XENA HAS STRENGTHENED TO A CATEGORY 3 ON THE SAFFIR SIMPSON WIND SCALE WITH MAXIMUM SUSTAINED WINDS OF 120 MPH AND GUSTS TO 145 MPH.

.WATCHES/WARNINGS...

A HURRICANE WARNING IS IN EFFECT FOR THE FOLLOWING COUNTIES

IN GEORGIA...

MCINTOSH...LIBERTY...BRYAN...CHATHAM...EFFINGHAM...SCREVEN...AND BULLOCH

IN SOUTH CAROLINA...

JASPER...HAMPTON...ALLENDALE...BEAUFORT...COLLETON...CHARLESTON...DORCHESTER...AND BERKELEY

A STORM SURGE WARNING IS IN EFFECT FOR THE FOLLOWING COUNTIES

IN GEORGIA...MCINTOSH...LIBERTY...BRYAN...AND CHATHAM

IN SOUTH CAROLINA...JASPER...BEAUFORT...COLLETON...CHARLESTON...DORCHESTER...AND BERKELEY

A TROPICAL STORM WARNING IS NOW IN EFFECT FOR THE FOLLOWING COUNTIES

IN GEORGIA... LONG...TATNALL...EVANS...CANDLER...AND JENKINS

A FLOOD WATCH IS IN EFFECT FOR ALL OF SOUTHERN SOUTH CAROLINA AND SOUTHEAST GEORGIA...

.STORM INFORMATION...

AT 5 PM EDT...THE CENTER OF HURRICANE XENA WAS LOCATED NEAR

LATITUDE 25.3 N AND LONGITUDE 76.3W. THIS WAS ABOUT 550 MILES

SOUTHEAST OF SAVANNAH GEORGIA...OR ABOUT 560 MILES SOUTH SOUTHEAST OF CHARLESTON SOUTH CAROLINA. STORM

MOTION WAS NW AT 15 MPH. STORM MAXIMUM WIND SPEED WAS 120 MPH.

HLS has value.

- The preferred source for local information
- Hurricane Assessment findings
- Product Improvements

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IN SOUTH CAROLINA

JASPER...HAMPTON

A STORM SURGE WARNING

IN GEORGIA...MCINTOSH

IN SOUTH CAROLINA

“The NWS should modify the HLS using input from social scientists.”

~ Hurricane Irene Assessment

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Sample



Research Team

Project Manager
at CSC:

Stephanie Fauver, Chris Ellis, CSC; Jen Sprague, NWS

Project Manager
at ERG:

Linda Girardi

Prototype
Developers:

Frank Alsheimer, Shannon White, Pablo Santos, David Sharp

NOAA
Interviewers:

Vankita Brown, Chris Ellis, Stephanie Fauver, Marian Hanisko, Adrienne Harrison, Betsy Nicholson, Heidi Stiller, Ann Weaver

Focus Group
Facilitators:

Betty Morrow, Gina Eosco, Linda Girardi

Follow-Up
Interviews:

Betty Morrow

WFO Staff:

Brownsville, Charleston, Miami, Slidell, Taunton

Interviews



NOAA-
Conducted
One-on-One
Interviews

47

Interviewees

Product Use

EM: The bible, Go to source, preferred source
Media: Very useful, but need it sooner

ELIMINATE ALL CAPS

NOT EASY TO READ;

“Have to re-type it all into my system without caps and it takes time to do this in a situation where time is very precious.”

More Local Info

More information on the duration and extent of impacts’

One interviewee suggested the HLS answer questions such as ‘what will we return to?’ and ‘how long will power potentially be out?’

Findings from early Exploratory Work



NOAA-
Conducted
One-on-One
Interviews

47
Interviewees

Phase I
Focus
Groups

68
Participants

Separate TCV from HLS

Explore how to provide available storm information and/or a new alert product before the issuance of watches

Make text more concise with improved formatting (bulleted lists, etc.)

Develop local impact statements to use with the HLS and associated graphics

Create high-resolution graphics to accompany HLS

What is the TVC?

- Automated warning produced from NHC Hurricane Warning to WFO warning area.
- Prior to 2015 was not a separate product (??)

WTUS82 KMFL 230915

TCVMFL

URGENT - IMMEDIATE BROADCAST REQUESTED
WILMA LOCAL WATCH/WARNING STATEMENT/ADVISORY NUMBER 32
NATIONAL WEATHER SERVICE MIAMI FL AL242005
515 AM EDT SUN OCT 23 2005

FLZ173-231545-
/O.NEW.KMFL.HU.W.1024.051023T0915Z-000000T0000Z/
/O.UPG.KMFL.HU.A.1024.000000T0000Z-000000T0000Z/
COASTAL MIAMI DADE COUNTY-
515 AM EDT SUN OCT 23 2005

...HURRICANE WARNING IN EFFECT...

* LOCATIONS AFFECTED
- MIAMI BEACH
- DOWNTOWN MIAMI

* WIND
- LATEST LOCAL FORECAST: EQUIVALENT TO STRONG TROPICAL STORM FORCE WIND
- PEAK WIND FORECAST: 55-70 MPH WITH GUSTS TO 90 MPH
- WINDOW FOR TROPICAL STORM FORCE WINDS: EARLY MONDAY MORNING THROUGH MONDAY AFTERNOON

- THREAT TO LIFE AND PROPERTY: HIGH
- THE WIND THREAT HAS REMAINED NEARLY STEADY FROM THE PREVIOUS ASSESSMENT.
- EMERGENCY PLANNING SHOULD INCLUDE A REASONABLE THREAT FOR HURRICANE FORCE WIND OF 74 TO 110 MPH OF EQUIVALENT CATEGORY 1 OR 2 INTENSITY.
- TO BE SAFE, AGGRESSIVELY PREPARE FOR THE POTENTIAL OF EXTENSIVE WIND IMPACTS. LIFE THREATENING WIND POSSIBLE. EFFORTS TO SECURE PROPERTIES SHOULD BE COMPLETED AS SOON AS PRACTICAL.
- FAILURE TO ADEQUATELY SHELTER MAY RESULT IN SERIOUS INJURY OR LOSS OF LIFE.

- POTENTIAL IMPACTS: EXTENSIVE
- CONSIDERABLE DAMAGE TO ROOFING AND SIDING MATERIALS OF STURDY BUILDINGS, WITH SOME HAVING WINDOW, DOOR, AND GARAGE DOOR FAILURES LEADING TO STRUCTURAL DAMAGE. MOBILE HOMES SEVERELY DAMAGED, WITH SOME DESTROYED. HARDEST HIT LOCATIONS MAY BE UNINHABITABLE FOR WEEKS.
- MANY LARGE TREES SNAPPED OR UPROOTED ALONG WITH FENCES AND ROADWAY SIGNS BLOWN OVER. SOME ROADS IMPASSABLE FROM LARGE DEBRIS, AND MORE WITHIN HEAVILY WOODED PLACES.
- SEVERAL BRIDGES, CAUSEWAYS, AND ACCESS ROUTES CONNECTING BARRIER ISLANDS IMPASSIBLE.
- POWER OUTAGES ACROSS LARGE AREAS, WITH SEVERAL PLACES SUFFERING EXTENDED OUTAGES.

Most recent findings: TCV



Phase II
Focus
Groups
NY, VA, FL, TX

94
Participants

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TCVMFL

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- SEVERAL BRIDGES, CAUSEWAYS, AND ACCESS ROUTES CONNECTING BARRIER ISLANDS IMPASSIBLE.
- POWER OUTAGES ACROSS LARGE AREAS, WITH SEVERAL PLACES SUBJECT TO EXTENDED OUTAGES.

- Strong support for separate TCV
- Emphasize the most important hazards
- Simplify and condense
- Improve formatting
- Consistently group impact statements by type
- Add evacuation information if possible

Most recent findings: HLS



Phase II
Focus
Groups

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Participants

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- FAILURE TO A LOSS OF LIFE

- POTENTIAL IMPACT
- CONSIDERABLE BUILDINGS, W FAILURES LEA DAMAGED, WIT UNINHABITABL
- MANY LARGE T ROADWAY SIGN DEBRIS, AND
- SEVERAL BRIL BARRIER ISLA
- POWER OUTAGE EXTENDED OUT

HLS: Two Situational Overview Examples

SITUATION OVERVIEW

TROPICAL STORM BILL WAS LOCATED NEAR 28.4 DEGREES NORTH LATITUDE AND 96.8 DEGREES WEST LONGITUDE AS OF 5 PM CDT. TROPICAL STORM BILL WILL MOVE NORTHWEST THROUGH THE NEXT 24 HOURS AS IT MOVES ACROSS SOUTH CENTRAL TEXAS.

STORM TOTAL RAINFALL AMOUNTS FROM THIS EVENING THROUGH THURSDAY MORNING WILL RANGE FROM 3 TO 6 INCHES ALONG AND EAST OF U.S. HIGHWAY 281 WITH ISOLATED AMOUNTS OF 8 TO 12 INCHES ALONG AND EAST OF A GEORGETOWN TO CUERO LINE. HIGH IMPACT FLASH FLOODING AND POTENTIAL MODERATE TO MAJOR FLOODING OF SOME RIVERS AND CREEKS WILL BE POSSIBLE LATE TONIGHT THROUGH WEDNESDAY NIGHT ACROSS PORTIONS OF SOUTH CENTRAL TEXAS. RESIDUAL RIVER AND CREEK FLOODING COULD LINGER WELL INTO NEXT WEEK FOR HIGHEST IMPACTED AREAS.

TROPICAL STORM FORCE WINDS OF 30 TO 40 MPH WITH GUSTS UP TO 50 MPH WILL BE POSSIBLE EARLY THIS EVENING ALONG AND EAST OF A CUERO TO GONZALES TO LA GRANGE LINE.

ISOLATED TORNADOES ARE POSSIBLE ALONG AND EAST OF A BURNET TO CUERO LINE THIS EVENING THROUGH EARLY WEDNESDAY.

SITUATION OVERVIEW

TROPICAL STORM BILL IS ABOUT TO MAKE LANDFALL SOUTHWEST OF MATAGORDA BAY. THE MAIN IMPACTS FROM TROPICAL STORM BILL WILL CONTINUE TO BE VERY HEAVY RAINFALL RESULTING IN INLAND FLOODING. ALONG THE UPPER TEXAS COAST ESPECIALLY MATAGORDA BAY...THE MAIN IMPACTS WILL BE TROPICAL STORM FORCE WINDS AND MINOR COASTAL FLOODING.

- Mixed opinions about utility content, and level of detail
- Most liked the new format
- WFOs wanted to include local forecast information
- Many felt WFO decision support most effective

Threat and Impact Statements

Some confusion about differences between threats and impacts

How distinct?

Include both?

Focus?

* FLOODING RAIN

- LATEST LOCAL FORECAST: FLASH FLOOD WATCH IS IN EFFECT
 - PEAK RAINFALL AMOUNTS: ADDITIONAL 2-4 INCHES, WITH LOCALLY HIGHER AMOUNTS

- CURRENT THREAT TO LIFE AND PROPERTY: **ELEVATED**
 - THE FLOODING RAIN THREAT HAS REMAINED NEARLY STEADY FROM THE PREVIOUS ASSESSMENT.
 - EMERGENCY CONSIDERATIONS SHOULD INCLUDE A THREAT OF FLOODING.
 - BE SAFE AND REMAIN READY TO PROTECT AGAINST FLOODING RAIN IMPACTS. STAY INFORMED.
 - IF FLOOD RELATED WATCHES AND WARNINGS ARE IN EFFECT, HEED RECOMMENDED ACTIONS. ALSO LISTEN FOR POSSIBLE RIVER FLOOD WARNINGS FOR LONGER-TERM IMPACTS ALONG RIVERS.

- POTENTIAL IMPACTS: **LIMITED**
 - LOCALIZED RAINFALL FLOODING MAY PROMPT A FEW EVACUATIONS.
 - RIVERS AND TRIBUTARIES MAY QUICKLY RISE WITH SWIFTER CURRENTS. SMALL STREAMS, CREEKS, CANALS, ARROYOS, AND DITCHES MAY BECOME SWOLLEN AND OVERFLOW IN SPOTS.
 - FLOOD WATERS CAN ENTER A FEW STRUCTURES, ESPECIALLY IN USUALLY VULNERABLE SPOTS. A FEW PLACES WHERE RAPID PONDING OF WATER OCCURS AT UNDERPASSES, LOW-LYING SPOTS, AND POOR DRAINAGE AREAS. SEVERAL STORM DRAINS AND RETENTION PONDS BECOME NEAR-FULL AND BEGIN TO OVERFLOW. SOME BRIEF ROAD AND BRIDGE CLOSURES.

Feedback on Categories

- Conflicts with terminology, scales, colors with other NWS products
- Concerns with some terms
- Correspondence issues between some threats and impacts
- Both categories necessary?

Storm Surge

- ▶ Extreme Threat: for surge flooding greater than 9 ft above ground
- ▶ High Threat: for surge flooding 6-9 ft above ground
- ▶ Moderate Threat: for surge flooding 3-6 ft above ground
- ▶ Elevated Threat: for surge flooding 1-3 ft above ground
- ▶ Little to No Threat: little to no surge flooding

<u>Threats</u>	<u>Impacts</u>
Extreme Threat: for extreme rainfall flooding	Devastating to Catastrophic
High Threat: for major rainfall flooding	Extensive
Moderate Threat: for moderate rainfall flooding	Significant
Elevated Threat: for minor rainfall flooding	Limited
Little to No Threat: little to no rainfall flooding	Little to None

Way Forward



- Simplify and condense all text
- Make it easy to use in social media
- Address inconsistency with other NWS products?
- Invest resources in coordination and training among WFOs and education of partners



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Questions?
