

IDSS in Response and Recovery:

How NWS Offices Combined to Support Public Safety Messaging for Hurricane Laura

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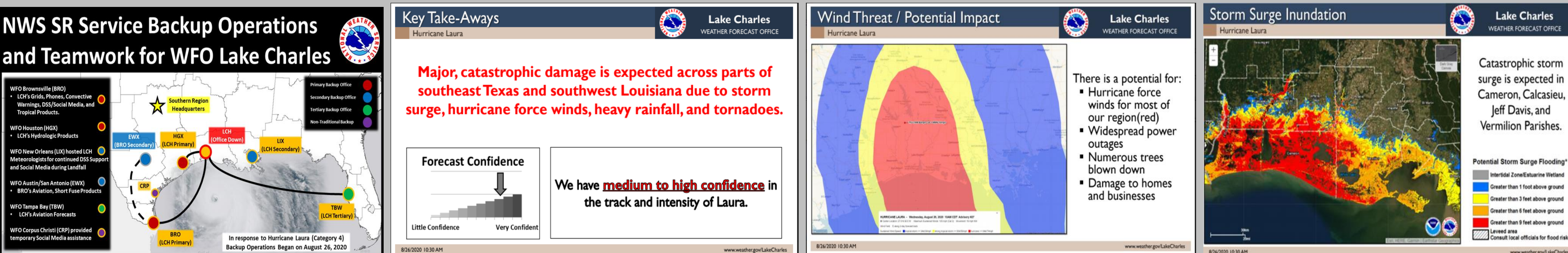
Messaging for the Last Mile

The Backup Setup

At 8 AM CT on 26 August 2020, NWS Weather Forecast Office (WFO) Lake Charles, LA (LCH) evacuated their office to allow staff to seek safe shelter on higher ground and in hurricane-resilient structures out of the path of rapidly intensifying Hurricane Laura. The decision was made on the increasing potential for a Category 4 landfall in southwest Louisiana, with wind and potential storm surge of more than 12 feet to impact the facility, located less than 25 mi from a highly prone coast. Local hurricane warning operations were turned over to WFO Brownsville/Rio Grande Valley, TX (BRO), including public phone lines. Meanwhile, members of the LCH management team deployed to the city Emergency Operations Center to continue direct core partner support.

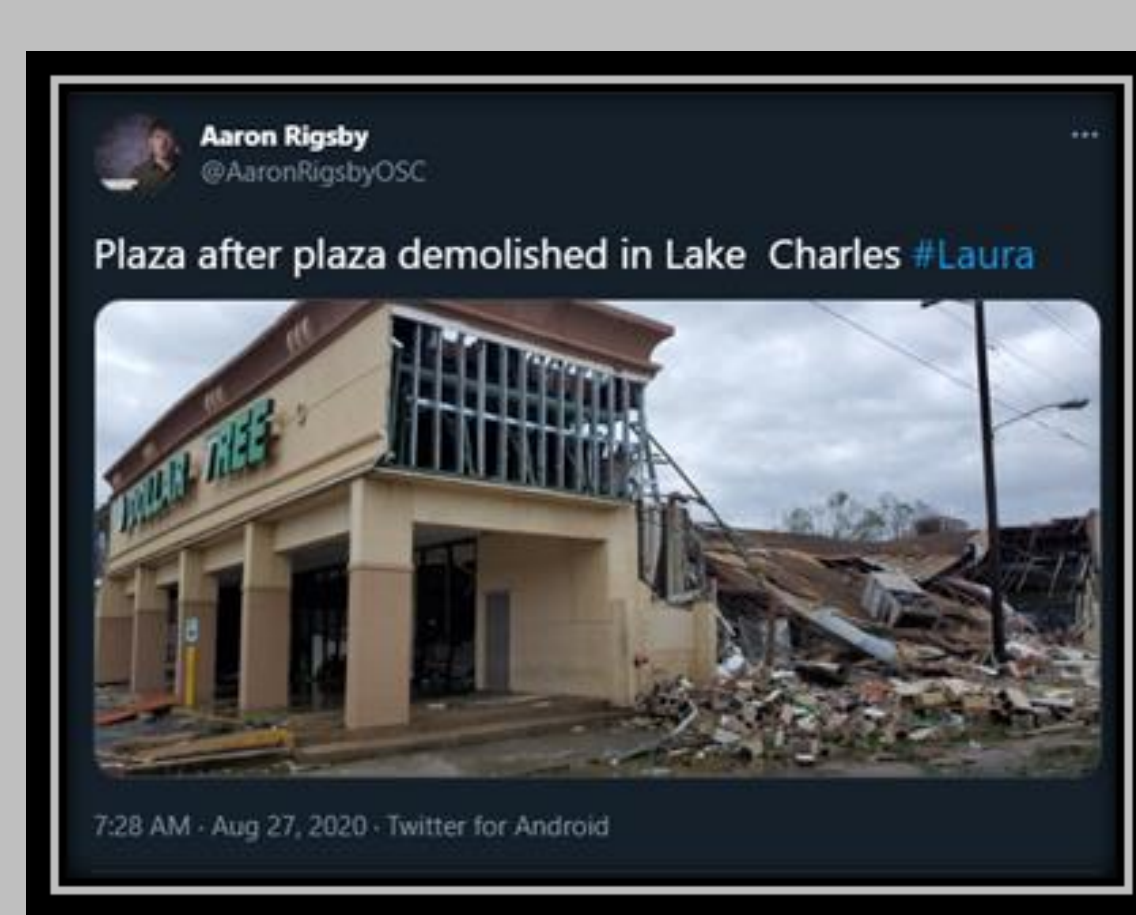
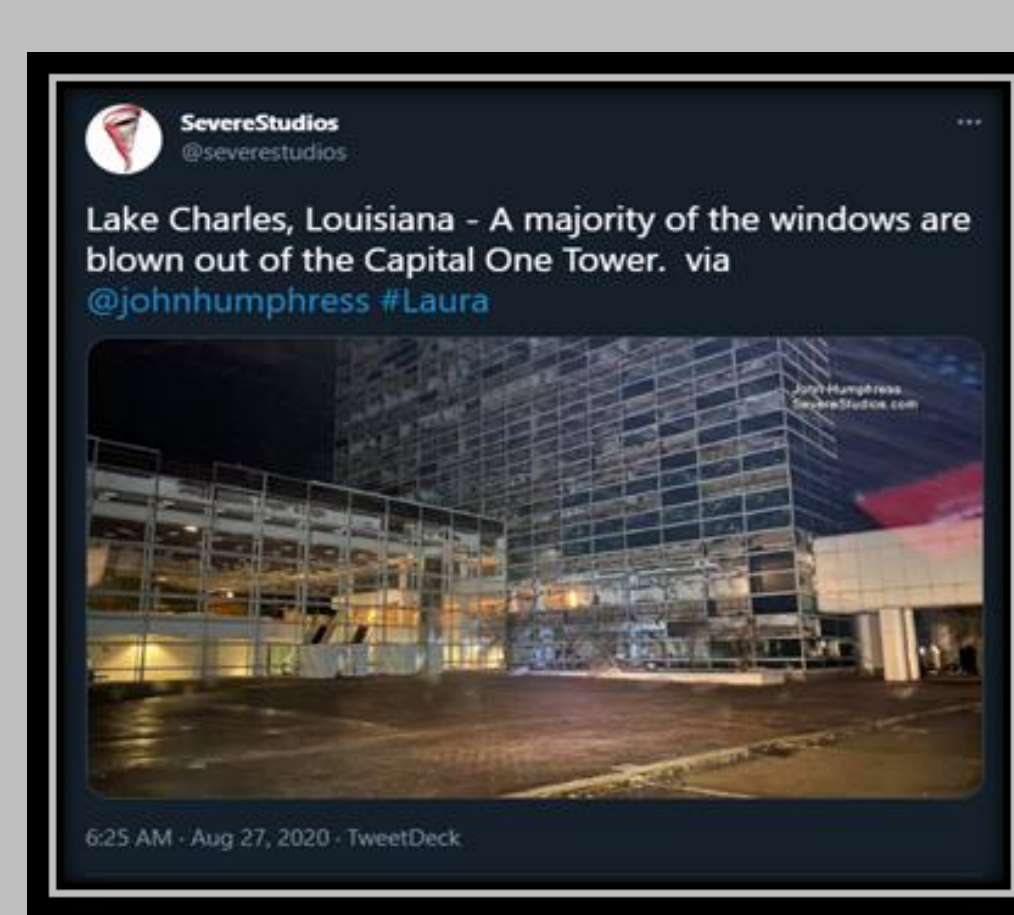
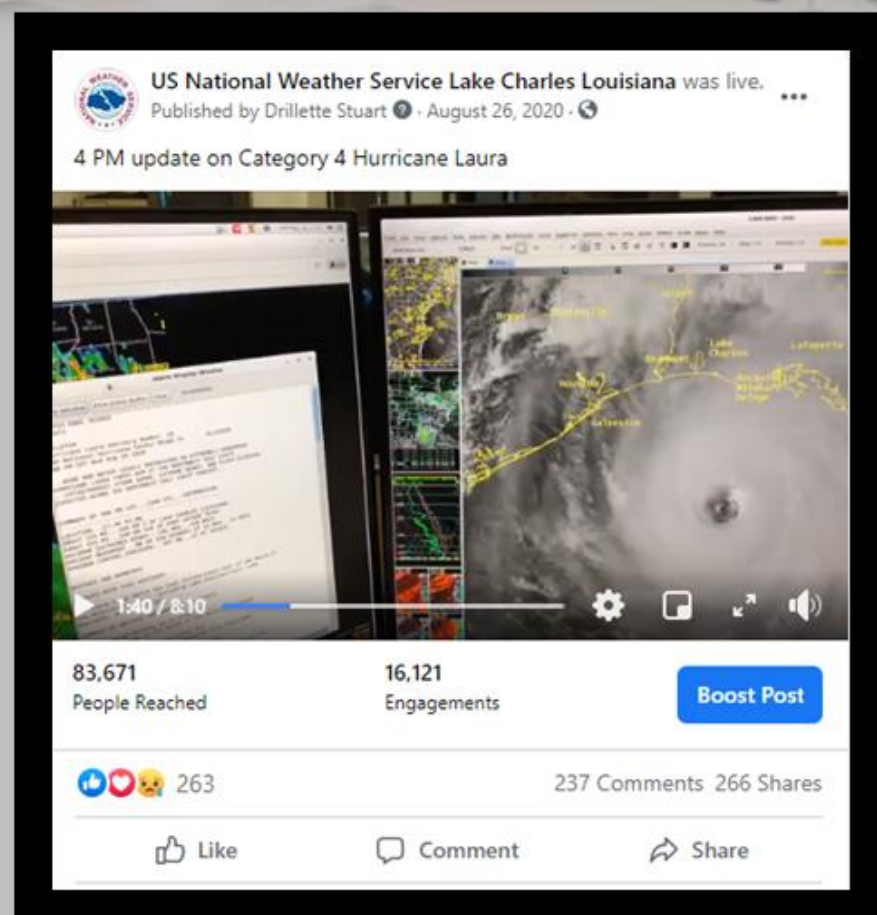
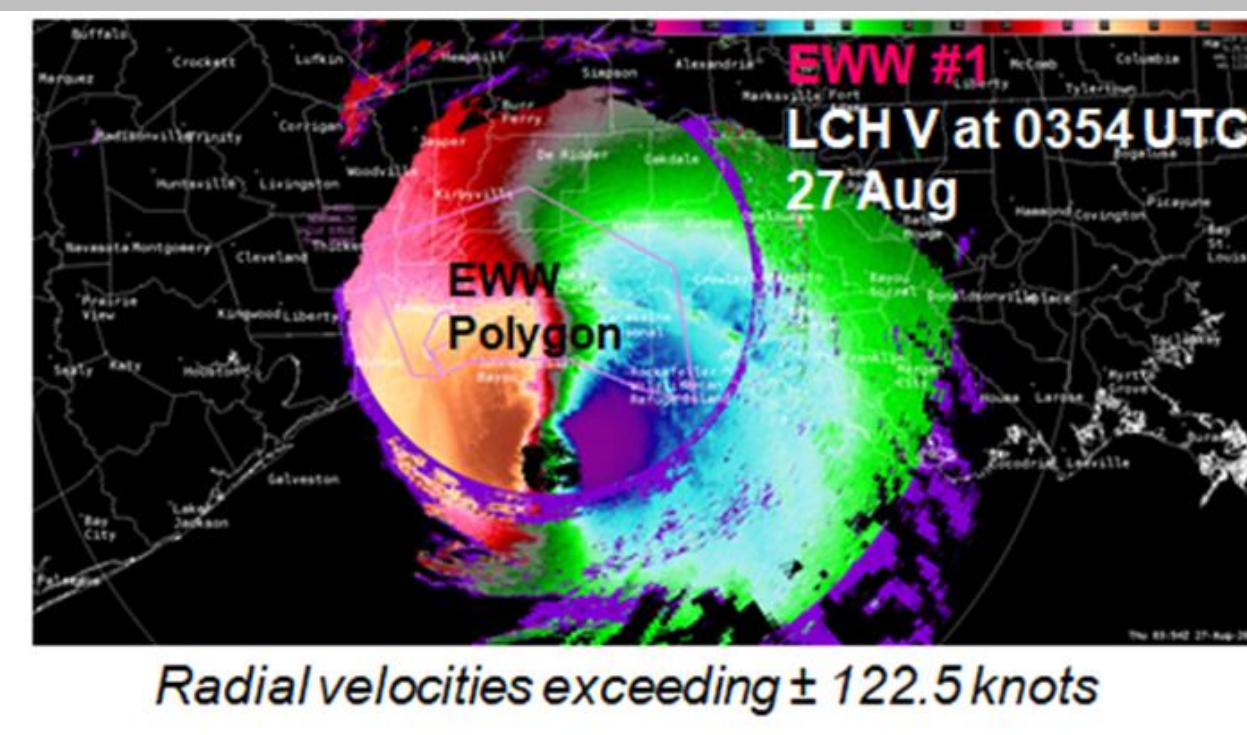
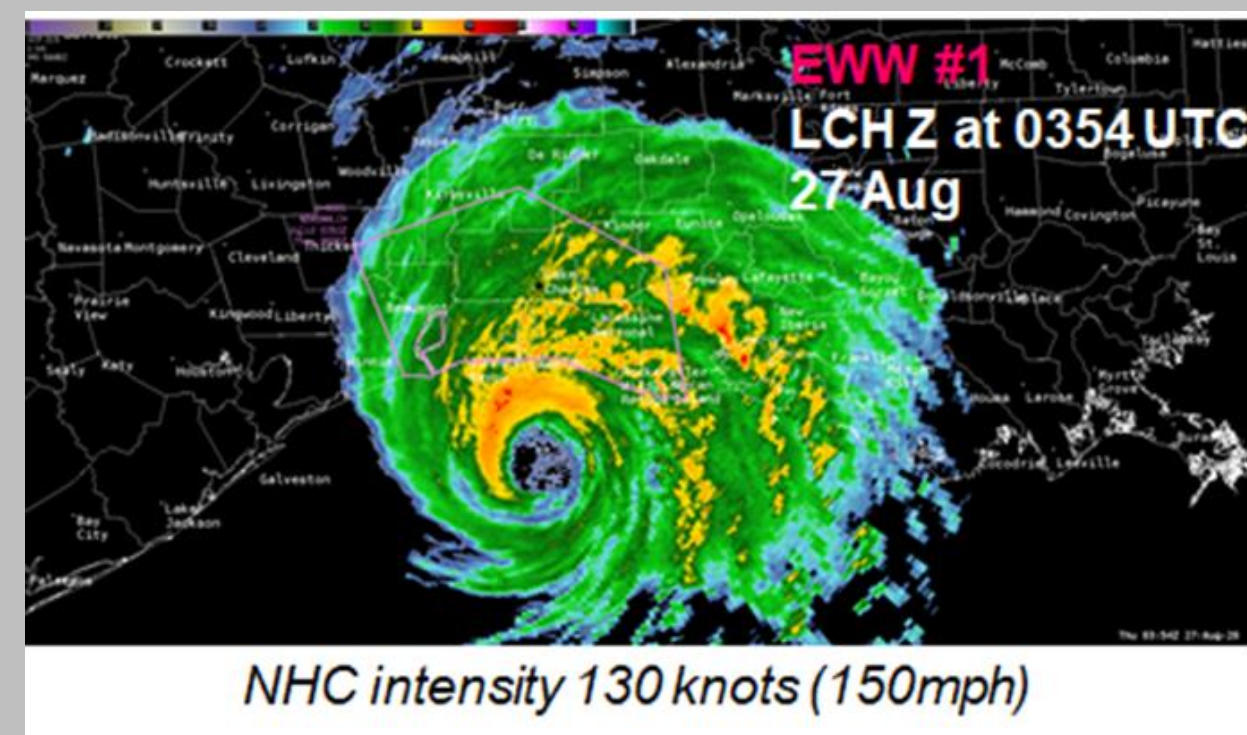
WFO BRO maintained a unified message of potentially catastrophic winds and "unsurvivable" storm surge through Laura's landfall at around 1 AM on 27 August, and provided local hurricane and flash flood warnings through the night into the daylight hours. While operational staff from LCH was relocating to safer ground, BRO staff assisted with social media posts and LCH web graphics to reach tens of thousands of residents in southwest Louisiana and far southeast Texas. An unknown but likely sizable number of these residents likely used the information to make critical last-minute preparedness and evacuation decisions.

Assistance to LCH extended well beyond the WFO BRO staff. Other forecast duties, including hydrologic (river/stream) and aviation forecasts, were offloaded to other WFO around the Gulf of Mexico. WFOs New Orleans/Baton Rouge, LA, (LIX) and Houston/Galveston, TX (HGX) hosted displaced staff from LCH; WFO Austin/San Antonio, TX (EWX) assumed some of WFO BRO's forecast responsibilities (below, left).

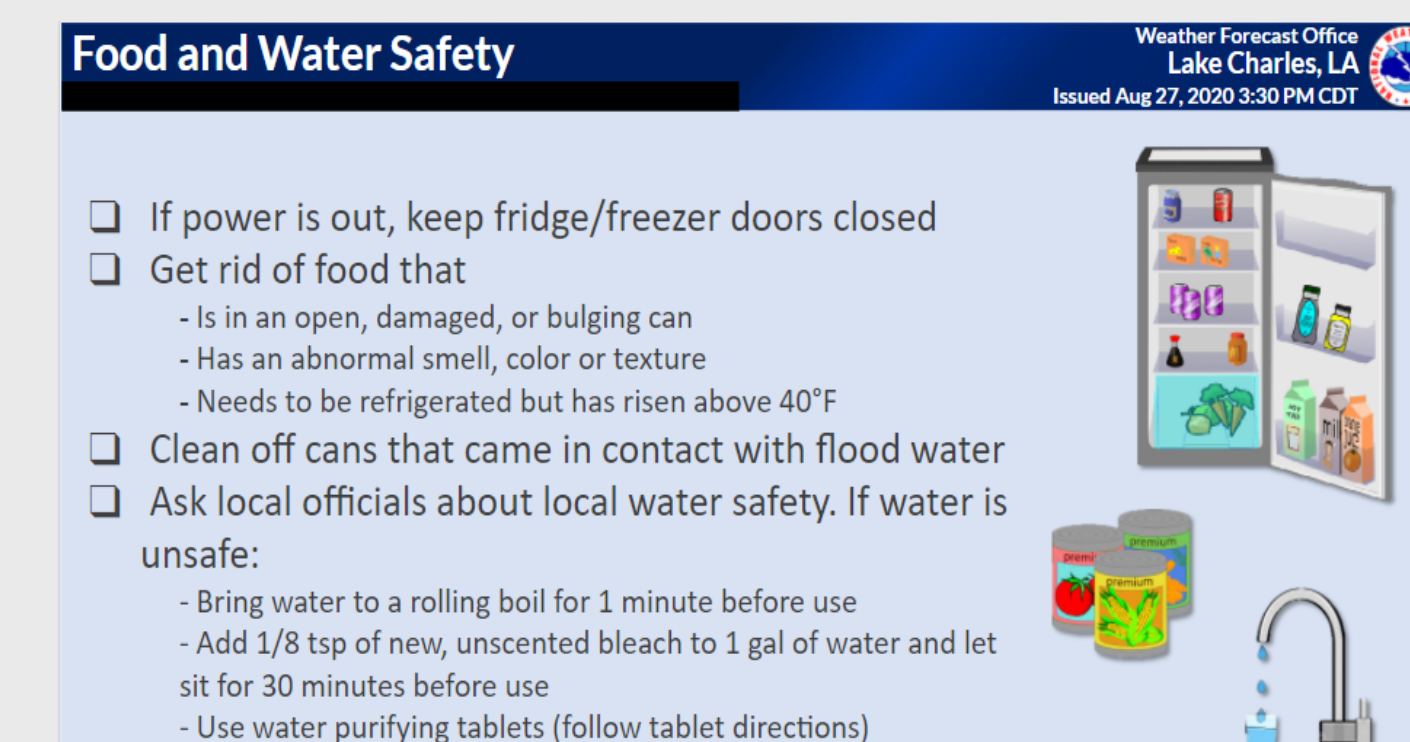
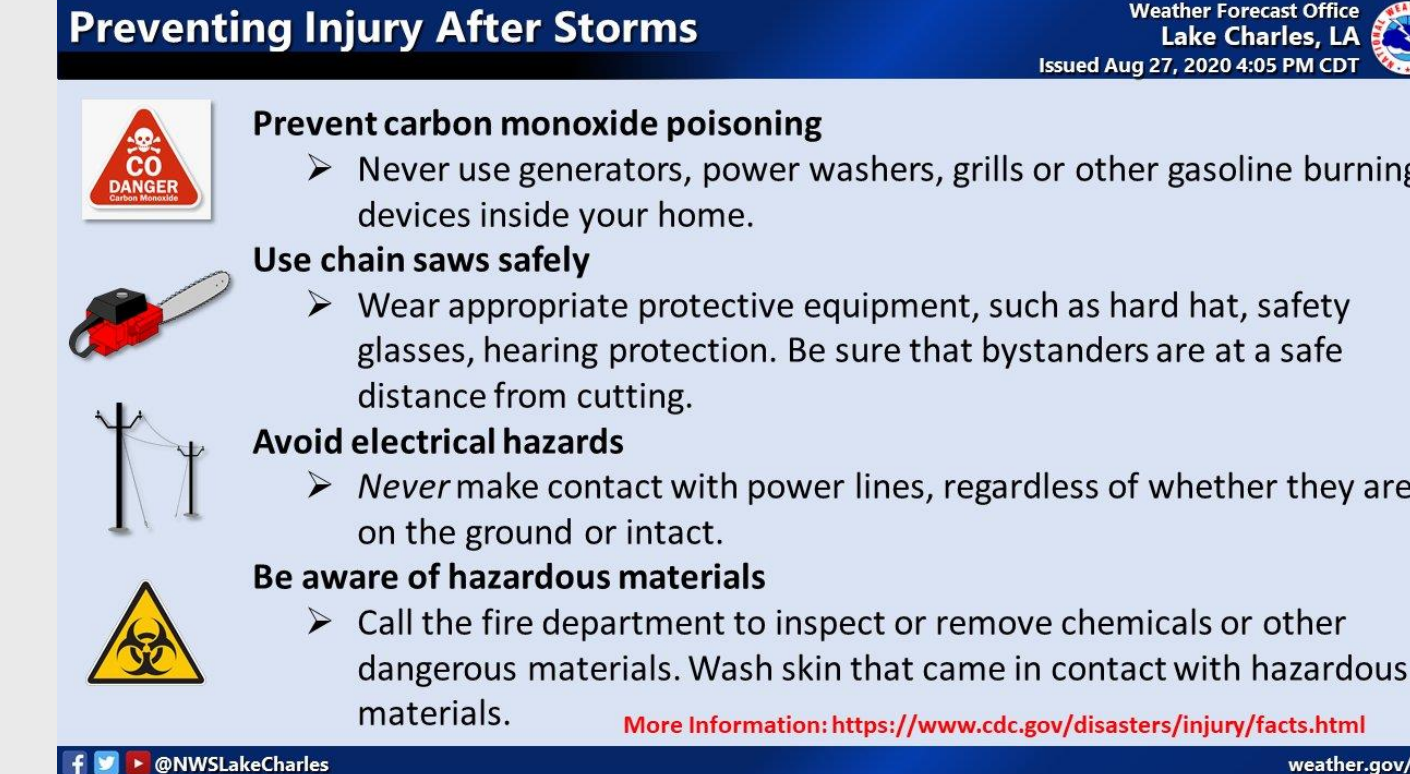
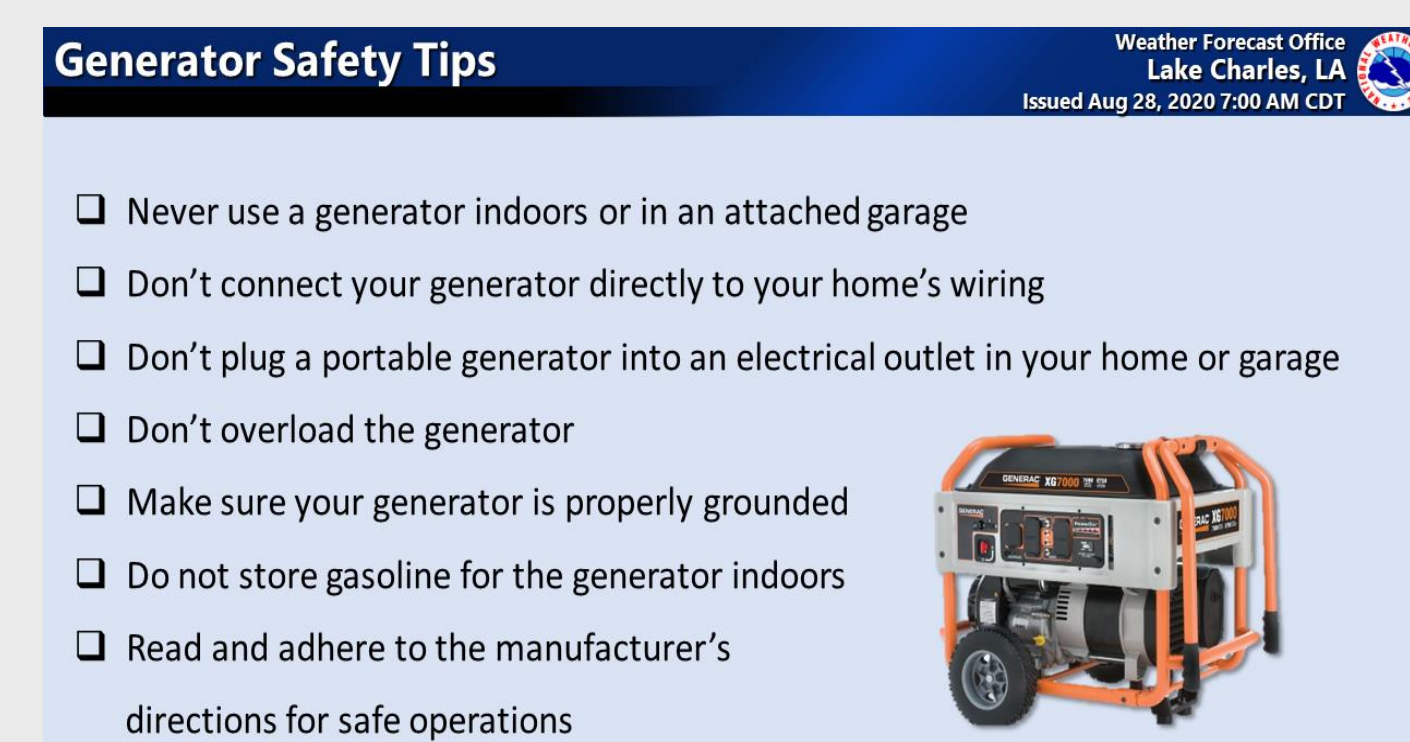
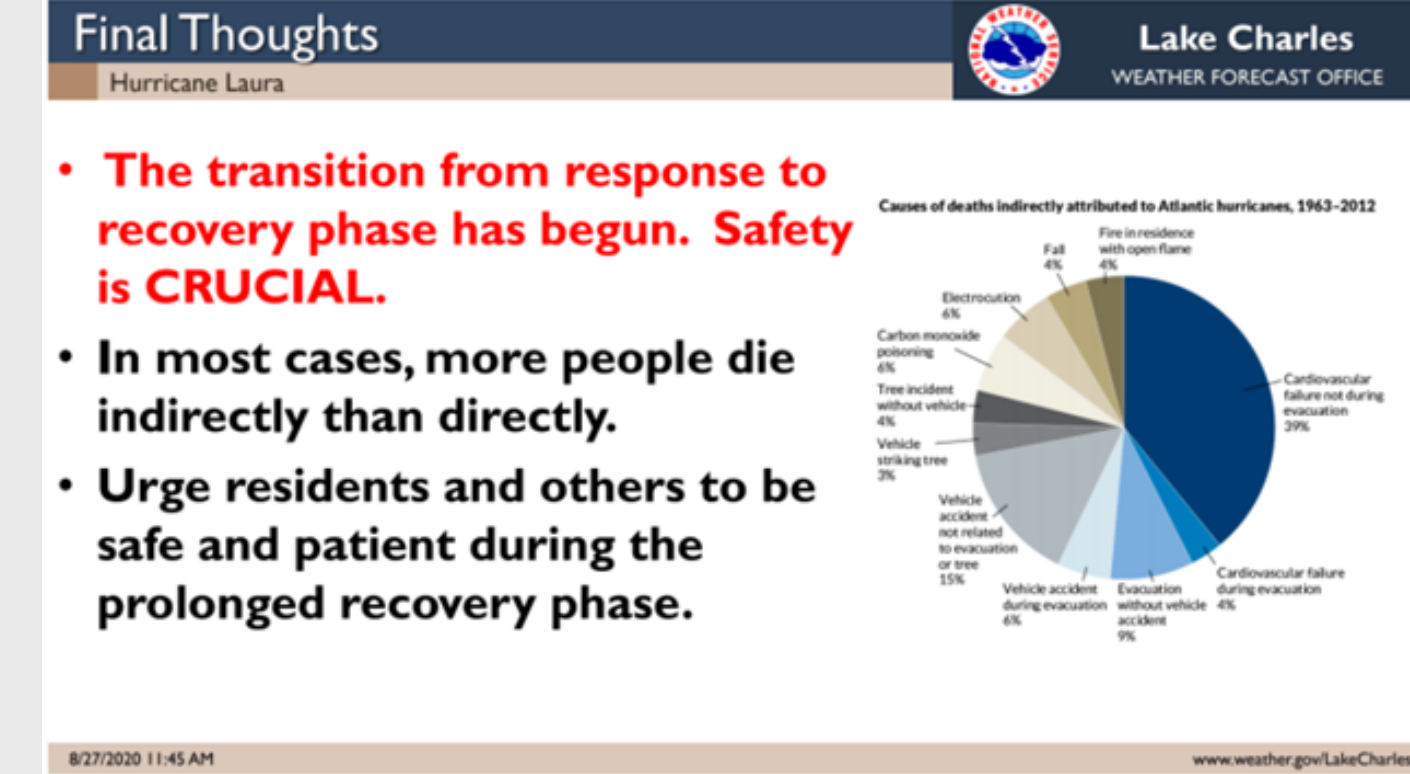


All Hands on Deck: Public Service for a Devastating Outcome

WFO BRO had planned days ahead for the situation. Extra staffing was on duty and ready to handle the more than two dozen phone calls and a few interviews from the southwest Louisiana/far southeast Texas region and beyond. Updated hurricane threat and impact information was provided seamlessly via text, graphic, and social media. A widely viewed Facebook Live session during the afternoon of 26 August was a critical piece of the message, where forecasters urged followers to resolutely follow local evacuation orders. As Laura bore down by nightfall, LCH forecasters resumed social media posts, which allowed the BRO overnight forecast team to focus on local flood and extreme wind warnings as the eyewall moved across southwest Louisiana. At least one BRO forecaster collected wind damage and flood reports from social media, and passed them along to the LCH social media team, as part of the Supplemental Assistance Volunteer Initiative (SAVI).



Messaging in Recovery



The Damage Was Done. Casualties Had Just Begun

Immediately after hurricane warnings expired or were cancelled, WFO BRO jumped into action with core partner briefings that highlighted the importance of public and partner safety messages during recovery. A WFO BRO forecaster reached out to a forecaster at WFO LIX for information that highlighted safety and casualty prevention. The information was repurposed into infographics, which included proper generator use and how to keep food safe and water potable. WFO BRO developed the preventing injuries infographic from scratch. Each would prove beneficial for other WFOs impacted by tropical cyclones later in 2020, as well as during the peak of the February 2021 Winter Storm in Texas and Louisiana.



The immediate transition was based on first-hand experience with casualties during recovery following Hurricane Hanna (25-26 July 2020), where four persons died and another sustained critical injuries from carbon monoxide (CO) poisoning in Edinburg, TX.

While there were at least a dozen CO poisoning deaths in Louisiana and Texas associated with recovery, those numbers could have been higher without safety messaging on multiple platforms from government, broadcast media, and other entities.

The Heat that Didn't Kill

Widespread power outages impacted more than three-quarter of a million residents immediately after Hurricane Laura's departure. Destruction of critical transmission hubs that serve southwest Louisiana required weeks to be repaired, leaving several hundred thousand residents powerless well into September.

WFO Shreveport, LA (SHV), WFO LIX, and WFO LCH collectively proposed to adjust Heat Advisory criteria down to >100°F/38°C, for counties and parishes with >10% power outages (upper right). WFO LIX then collaborated with the Louisiana Governor's Office of Homeland Security and Emergency Preparedness for their approval, while WFO SHV did the same with the Texas Division of Emergency Management and the Arkansas Division of Emergency Management.

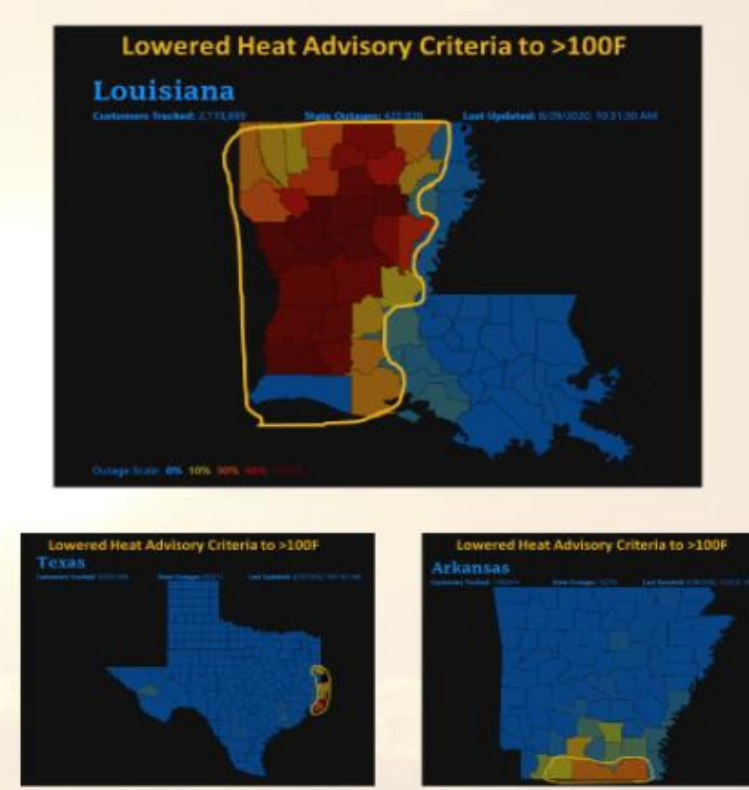
Prolonged Heat Concern

- Temps in the 90s with heat indices in the 100-115°F range Friday through the weekend.
- As early as Thursday, August 27th, it was identified that marginal heat advisory level heat would be an issue due to widespread power outages in Louisiana and Texas.
- The extra heat-related illnesses due to power outages and heat stresses in recovery efforts were highlighted in Heat Advisories on the 27th.



Before continued...

- On August 28th, the lengthy duration of power outages became more evident.
- Neighboring offices (LCH/LIX/LZK) were asked to consider this and a consensus was reached to recommend to our partners that we lower our criteria to 100F.



During - Messaging the Prolonged Heat Threat



WFO BRO issued the first Heat Advisory with the new criteria on 29 August, and would total fifteen issuances until 15 September. A cold front arrived on 16 September, ending the dangerous heat threat. Though nine persons lost their lives in Louisiana from heat-related illness in recovery, that number could have been much greater without the amplified heat safety messaging.

References

- NOAA/NWS National Hurricane Center, 2021: Tropical Cyclone Report, Hurricane Laura, 20-29 August, 2020
- Louisiana Department of Health, 2021: Storm Related Deaths – Hurricane Laura (Updated 8 January, 2021)

Acknowledgments

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