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Identifying Public Response and Uncertainty to Hurricane Ida's Remnants (2021) in the Northeastern United States

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INTRODUCTION

Studying the flooding of Hurricane Ida's (2021) remnants revealed a vulnerability in the northeastern region of the United States regarding the preparation for impact. There exist many inconsistencies in the graphics between departments of the National Weather Service (NWS) throughout the nation, as well as a sparse amount of understanding and standardized information about hurricane impacts in the northeast. Language and emergency messaging is currently very ambiguous to the public, and a lack of government mobilization reduces credibility to the severity of the forecast.

Meteorologists are comfortable with the 'what is happening', but in the age of information, they are learning to explain "when and how it will happen". A combination of complacency, confusion and tragedy requires reevaluation in the way that impacts are communicated.

METHODS

Expanding on a procedure done in a study by Lambrecht and Hatchett (2019), responses and engagement on Twitter were seperated into different 'community commonplaces' to gauge general explanation for miscommunication. These analogues were seperated into four categories; communication collapse due to the public, meteorological officials (forecasters, NOAA/NHC, etc), government bodies and the media, and general sentiment.

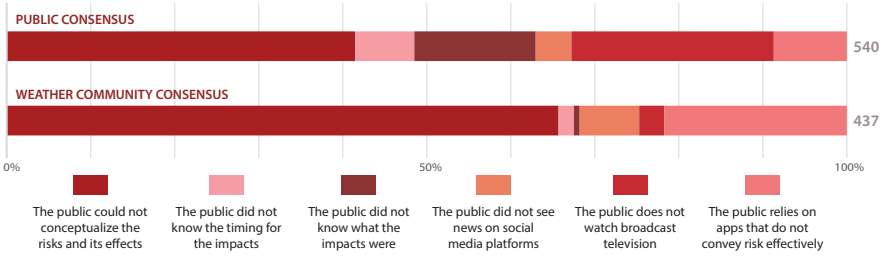
(Fig. 1) Compares explanations of public comprehension failures. (Fig. 2) Compares explanation of official communication failures. (Fig. 3) Compares explanations of general attitudes that led to confusion or complacency. (Fig. 4) Emphasizes primary suggestions for improvement. (Fig.5) Breaks down concepts that may require reevaluation

REFERENCES

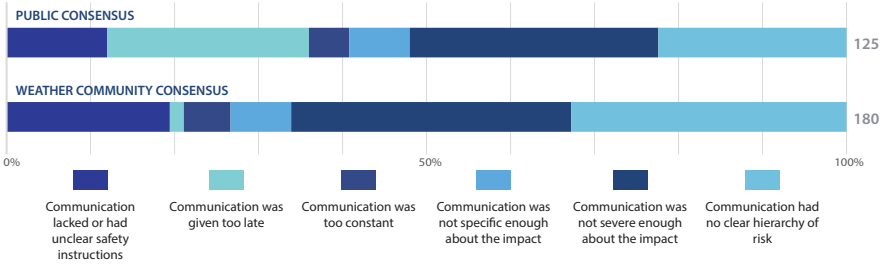
Lambrecht, K. M., Hatchett, B. J., Walsh, L. C., Collins, M., & Tolby, Z. (2019). Improving Visual Communication of Weather Forecasts with Rhetoric, Bulletin of the American Meteorological Society, 100(4), 557-563.

LAPSES IN COMMUNICATION

PUBLIC COMPREHENSION (FIG.1)



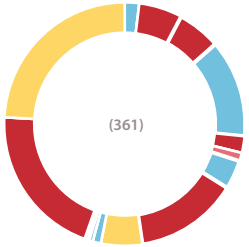
OFFICIAL COMMUNICATION (FIG. 2)



IMPROVEMENT IN COMMUNICATION

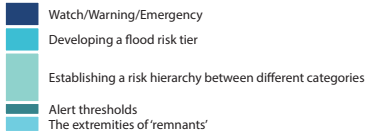
PRIMARY SUGGESTIONS (FIG. 4)

- Emergency and city managers and government officials should issue stronger emergencies (24.10%)
- Using fewer numbers, more verbal visualizations in warning messaging (20.50%)
- Improve current weather apps to accommodate critical information (13.85%)
- Improve and clarify definitions of warnings and impacts (13.85%)



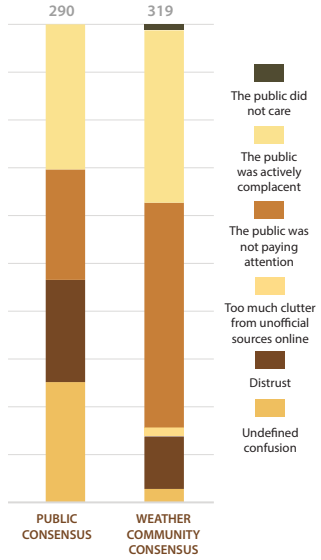
TERMS AND DEFINITIONS TO IMPROVE (FIG. 5)

During the extreme flooding event, New York City was given its first 'flash flooding emergency' alert-- a term made to communicate urgency. The public was confused by this addition; this contributed to a high volume of requests for an impact risk tier.



RESULTS

GENERAL ATTITUDES (FIG. 3)



LIMITATIONS

- This data was primarily gathered from Twitter; similar discussions with more information may have been had on other social media platforms (Facebook, Instagram, etc.).
- Most broadcast meteorologists post their graphics on Twitter, but not their broadcasts. As a result it was easier to collect data based on individual graphics' effetiveness, but reactions and analyzations of their live communication were lacking.
- The 'general population' in this investigation are those with phones; this may not accurately represent the opinions and issues that those without social media have.
- Not everyone engages in Twitter discussions, even if they are professionals in their fields.

DISCUSSION

- Both the public and the weather community attributed the delay of action within government bodies to the invalidation of Ida's remnant's severity.
- A core tenet of emergency messaging is language; 'remnants', though technically correct, was not deemed strong language by social scientists in responses. The public expressed preference for more qualitative references ('this will submerge the streets') to emphasize the effects of the flooding.
- The public uses text messaging, social media and weather apps as primary sources for weather information; apps were not seen to have properly communicated the severity of impact with its visual messaging.
- A large source of confusion came from the clashing of different impact risks; when faced with a flooding warning and a tornado warning, there was no clear sense of instruction for how to react.

Communication of risk should be paired wth a call to action to emphasize severity and provide direction.

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