



Equitable Weather Messaging and Community Engagement - WFO Indianapolis



Presenter: Kaily Gomez
Mentor: Sam Lashley





Underserved and Vulnerable Populations

Groups that have limited or no access to resources or that are otherwise disenfranchised. These groups may include people who are **socioeconomically disadvantaged**; people with **limited English proficiency**; **geographically isolated** or **educationally disenfranchised** people; **people of color** as well as those of **ethnic and national origin minorities**; **women and children**; **individuals with disabilities** and others with access and functional needs; and **seniors**.

FEMA.gov Glossary Section: NDRF - National Disaster Recovery Framework

By the *Numbers*

1.25 million people in the U.S. experienced sheltered homelessness at some point in 2020 (USICH)

25.7 million people in the U.S. had limited English proficiency in 2021 (KFF)

37.9 million people in the U.S. were living in poverty in 2022 (ACS)

42.5 million people in the U.S. had a disability in 2021 (ACS)

The mortality rate associated with extreme weather is **1.87x higher** among Black people and **7.34x higher** among Indigenous people (Sharpe & Wolkin, 2021)

Most dangerous weather event types in 2023

➤ Weather event types causing the most **deaths** in 2023:

1. Heat
294 deaths



2. Wildfire
105 deaths



3. Tornado
91 deaths



➤ Weather event types causing the most **injuries** in 2023:

1. Heat
1,862 injuries



2. Tornado
955 injuries



3. Winter weather
230 injuries

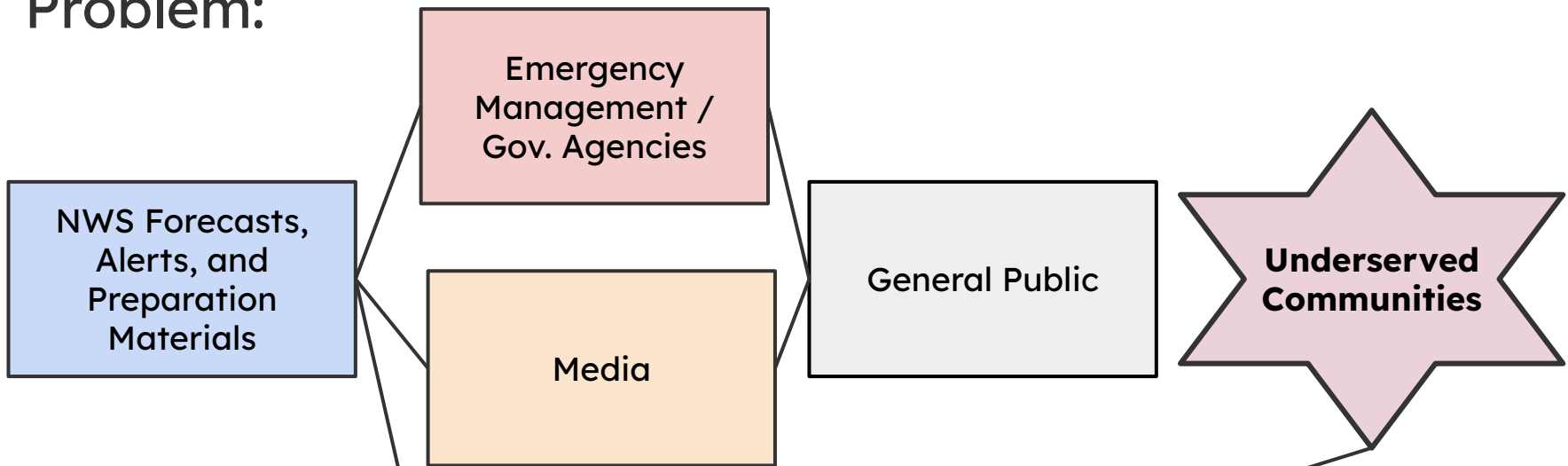


Objectives

- ❖ Connect and build trust with our community
- ❖ Hear their feedback on our current informational products
- ❖ Learn how hazardous weather affects the operations and constituents of various organizations
- ❖ Find gaps in communication
- ❖ Brainstorm solutions and develop shared goals
- ❖ Inviting diverse perspectives → **Saving more lives!**



Problem:



Solution:



Conference Planning

Initial Search

Putting myself in others
peoples' shoes

01

Invitations

Invited those who
expressed interest

03

Agenda Finalization

Icebreaker, breakout sessions,
presentations, and panel Q&A

05

Personalized Emails

Making people feel seen
increases engagement

Request ASL Interpreter

We went through NOAA
OHCS

Personalized Email Template

Hello _____,

My name is Kaily Gomez and I'm an intern for the Indianapolis branch of the National Weather Service. I've been working closely with meteorologists on staff to design a conference dedicated to improving our messaging and outreach efforts. Our goal is to build relationships with various organizations in our community to ensure that severe weather information is accessible and equitable. We would love to welcome you to a seat at the table to discuss how our office can better serve your organizational objectives and your community's needs. **I carefully and deliberately selected your organization due to your commitment to (insert their cause) and our shared goal to _____.** We hope to combine our perspectives and build a plan to ensure safety and success for all Hoosiers both at our Equitable Weather Messaging and Community Engagement Conference on August 1st and for years to come. If you are interested in this partnership and you believe that your organization could benefit from our support, please respond to this email so we can continue the conversation.

Thank you,
Kaily





Examples

To Exodus Refugee:

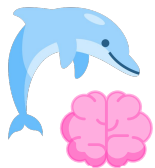
I carefully and deliberately selected your organization due to *your commitment to welcoming refugees to Indiana* and our *shared goal to ensure that they have a smooth transition*. We know that adjusting to a different climate in the midst of seeking refuge can be an incredibly stressful experience. We believe that our services can help alleviate some of that stress and increase a sense of security in the face of hazardous and unfamiliar weather.

To accessABILITY:

I carefully and deliberately selected your organization due to *your commitment to Disability Rights* and our *shared goal to ensure that people with disabilities have all the resources they need to live independently*. We believe that everyone should have access to life-saving information and we want to make sure that the emergency messaging we distribute is inclusive.



Conference Day



Cognitive Diversity Icebreaker

- ★ List sea creatures on your own
- ★ Share with your group
- ★ Learn to collaborate and accept diverse answers



Presentations

#1: Sam Lashley - NWS Services and Products, WRN Ambassador Program

#2: Allison Curry (IDHS) - Emergency Management State Resources

#3: Jeremy Swartz (FEMA) - Equity in Emergency Management

#4: Monica Bozeman - [NWS LEP by CWA Dashboard](#)



Breakout Sessions

1. Rank each hazardous weather type by level of impact to your organization and/or to those you serve.
2. How would you respond to tornadic storms on a busy Friday afternoon? What are your biggest concerns?
3. What barriers prevent your constituents from preparing for inclement weather?



Panel Q&A

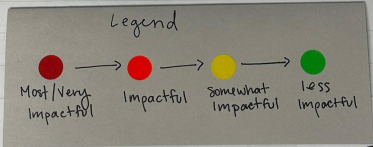
3 WFO Indianapolis Representatives, 1 IDHS, and 1 FEMA with brief remarks from Red Cross

Challenges of the org-

- Taking Action Appropriately
- Knowledge & Resources
- Language
- Transportation of members to the safe shelter locations and setting access to resources
- Cultural & Socio-Differences
- Urgency to share & get a response

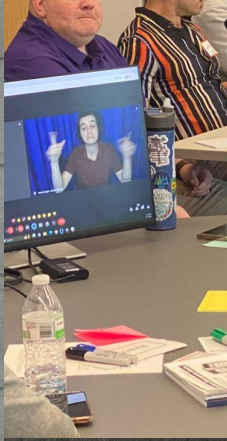
App Development

- offered in: English, ASL, Mandarin, Spanish, Haitian-Creole, Burmese
- Alert watches/warnings
- promotes equity & accessibility to info.



Deaf DeafBlind?

- Communication Access
- After - no interpreters
- Don't know what to do
- Where to go?
- Services available?
- Safety after
- Social w/ others
- Most time isolated
- Culture
- During - VP need internet



How do each of you envision your orgs working together moving forward following interactions & discussions w/ the organizations represented here today?

How do you find the nearest shelter if you're not at home, such as in the city or on a highway?
(outside of websites)

Emma Wright - Junior Achievement of Central Indiana
Is there a specific person we should be reaching out to for volunteer or speaker needs?

Michelle Wickham - Indiana Disability Rights
What are the best practices or recommendations for emergency preparedness for people w/ a variety of disabilities?

Christopher Hernandez - Red Cross
Are multi-lingual reports available for publication in addition to the great products we already benefit from?

Is there a formal process to designate a building or room as a Tornado shelter?



Scenario 3 - Challenges and Barriers

From an NWS perspective the hardest challenge is finding the right contacts to reach all the groups that need information to make sure they have it during severe weather

Not having an easily accessible app. Most people find those easier to use and access. My parents stopped using the NWS info once the mobile website went away.

One challenge our team faces when working with AI that translates weather information is ensuring that the translations are accurate for people receiving alerts

Is there a common place nationally across NWS with a "contact list" of your partners? At the HQ level, it is hard to find out that local info. - Esp relevant for national programs

In WFO level, does anyone keep track of which partners have non-English messaging needs? Trying to keep a database of this info for translation program.

YES to the lack of mobile app!!! - The need for push notifications is HUGE

Getting the translated messages out in enough time to make a difference in staying safe!

Did we have tornado-specific preparedness info (infographics, etc) translated ahead of severe wx season for the local office to share out?

Access to personal care

Mobility

Power/Internet Outages



Tornadoes

NWS Paducah, KY

NWS Wilmington, Ohio



Severe Weather

NWS Paducah, KY

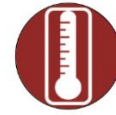
NWS Wilmington, Ohio



Flooding

NWS Paducah, KY

NWS Wilmington, Ohio



Heat

NWS Paducah, KY

NWS Wilmington, Ohio



Extreme Cold

NWS Paducah, KY

NWS Wilmington, Ohio



Winter Weather

NWS Paducah, KY

NWS Wilmington, Ohio



Tornadoes

IDHS, MCPHD

IDHS, MESH

MCCEMA

IDR



Severe Weather

IDHS, MCPHD

MESH, IDHS

NWS BGM, IDR

NWS BGM, MCCEMA



Flooding

IDHS

NWS BGM, IDR

MCPHD, IDR



IDHS



Heat

MCPHD

IDHS

IDHS

MCCEMA



Extreme Cold

MCPHD

MESH

IDHS

MCCEMA

IDHS



Winter Weather

MCPHD

IDHS

MCCEMA

NWS BGM

IDR



We are always monitoring for severe weather & climate threats and pushing out watches and warnings from you to our subscribers.

Many of our Watch Desk and Planning staff are trained meteorologists and we issue daily briefings which include weather. (IDHS)

When I become aware of the upcoming potential for a weather event from NWS.

As part of Advance Planning, we have the County EMAs enter details of upcoming scheduled events in WebEOC. Part of this process includes the ability to request NWS Weather support

Warming/Cooling station information and Overnight sheltering SHOULD be updated by the ESF-6 desk in WebEOC

When do you begin to prepare?

MCPHD is concerned with extreme temp. We monitor ER visits when temps reach a certain threshold. Also, if there are extreme temps and outages with vulnerable pops

Thresholds or impact levels?

Temps below 10 degrees, warming stations are open through 6pm.

Flooding is another impact that shelters might be open for.

Work in progress, for a emergency shelter for colder temps. But there are homeless shelters open for the overnight periods.

Warming or cooling stations in other counties tend to be faith based stations/shelters.

Results

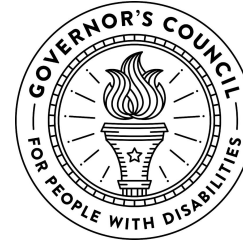
- Turnout: 30-40 in-person, 47 virtual → **80+** attendees
- Concerns about translations, evacuation plans, availability of resources, cultural barriers, and identification of storm shelters
- Extreme heat and cold seem to have the highest impact but lowest priority – impacts are being seen before alerting threshold is reached
- Probabilities are confusing even for EMs, especially for winter weather
- Many requests for an accessible weather app, captioned ASL videos, and more graphics !!!
- JPEGs are easier to disseminate than PDFs
- Sirens and evacuation notices may not be understood by immigrants and could be mistaken for war signals or deportation

Suggested Improvements

- ❑ Take 4-6 months *minimum* to plan future conferences
- ❑ Send invitations to all new potential partners
- ❑ Make time for more one-on-one meetings
- ❑ Plan activities with accessibility in mind rather than making accommodations afterwards
- ❑ Coordinate schedules for the entire planning team
- ❑ Randomize breakout session groups
- ❑ Request in-person ASL interpreters 3-6 weeks in advance
- ❑ Test logistics at facility beforehand

Takeaways

- ❖ HUGE step towards achieving service equity
- ❖ Many new connections made and many more to come
- ❖ Leaving a lasting impact with tangible resources
- ❖ Making underserved communities feel seen and respected through inclusion



Big-Picture Goals

Share our findings and templates with other WFOs to make these events a NOAA-wide initiative!



Meet with individual groups & hold conferences for specific communities

Hold an annual conference, create a Service Equity Team, and put more boots on the ground



Acknowledgements

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 IDHS: Allison Curry and Eden Krumholz

 FEMA: Jeremy Swartz

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