

# TALK THAT TALK

## Communicating with Diverse Populations in Rural Communities



North Dakota Governor John Hoeven & Fargo Mayor Dennis Walaker at public briefing 3/28/2009

AP Photo/Elaine Thompson

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Benjamin Brown  
Noah Henning  
Jacob Hertzog  
Andrew Kodet

**NDSU** NORTH DAKOTA  
STATE UNIVERSITY

# About this Report

This report is one of seven reports produced as part of a semester-long, innovative problem solving engagement between FEMA Region 8 and North Dakota State University's Emergency Management Academic Program. Each report in this series addresses a specific problem statement presented by FEMA Region 8 problem sponsors. These problem statements represent challenges that have been identified across the emergency management practice spectrum.



NDSU offered the model interdisciplinary course focused on innovative problem solving for FEMA in partnership with Daniel Green, Resilience Analyst in National Preparedness from FEMA Region 8. The goal was to bring the perspectives and insights of next generation leaders to current challenges facing emergency management practice from a federal perspective. Student teams worked with their problem sponsors and subject matter experts to understand and contextualize the problems. The data collected from interviews, coupled with an understanding of the existing literature, allowed the teams to develop and test solutions within a systems thinking framework, and offer specific insights and recommendations.


The teams approached problem solving from a research and development approach, similar to the approach used by the Pentagon's Defense Advanced Research Projects Agency (DARPA). Using a Pasteur's Quadrant perspective (a use-inspired basic research approach) allowed the teams to seek a fundamental understanding of the problems they were addressing with a focus on dynamic solutions. This approach required a grounded understanding of the problem, and the context and systems within which it exists. The solutions offered often pushed beyond existing programs and workflows.

NDSU's evaluation of this model course's development and delivery is supported, in part, by a research award from FEMA's Higher Education Program. NDSU faculty, Drs. Carol Cwiak and Caroline Hackerott, will supply the entirety of the materials used in the model course as part of the evaluation to encourage other emergency management higher education institutions to engage in similar partnerships. It is envisioned that this model course can be used with partners at all government levels and across a variety of sectors to bring new perspectives to enduring challenges.

NDSU would like to thank the FEMA Region 8 problem sponsors, as well as all the emergency management and partner agency subject matter experts who graciously shared their time, energy, expertise, and guidance. In particular, the team thanks Daniel Green, who brought this opportunity to NDSU and fueled the faculty, students, and problem sponsors with a level of vision, commitment, and enthusiasm that set the tone for the entirety of the experience.




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# Executive Summary



The Talk that Talk problem statement focuses on the challenge local emergency managers in rural areas have communicating with the whole of the community. The rural nature of Region 8 combined with major shifts in communication platforms challenge efforts to provide both blue and grey sky information to residents. As tried and true communication platforms (i.e., newspapers, television, radio) have closed or consolidated, the communication challenges have increased. Yet, the emergency management capacity in these areas has not typically increased and the depth of capability surrounding these tools requires time to develop.

The NDSU team worked with the problem sponsor, conducted interviews with subject matter experts, and reviewed literature relevant to emergency management communication to understand and contextualize the problem. The communication challenges with the realities of local emergency management practice in rural areas was considered in crafting solutions. Five recommendations are offered that are focused on developing communication depth and effectiveness in rural areas.

# Problem Statement

EMGT 491/690  
INNOVATIVE PROBLEM SOLVING FOR FEMA

## TALK THAT TALK

### CHALLENGE

Emergency managers need a means to communicate with rural populations without adequate traditional media, cellular, or broadband coverage to ensure these populations are aware of and can participate in disaster response, recovery, and preparedness activities.

### BACKGROUND


Emergency managers use a variety of techniques to reach audiences. Most of Region 8 consists of largely rural states, including 29 tribal nations with them. Working with traditional media (TV, radio, newspapers) has long been a standard technique to reach all audiences. However, closure of media outlets and ownership consolidation has made reaching residents in rural area far more difficult. The expansion of social media has provided different opportunities, but comes with its own challenges, such as stark “digital divides” in generational use of technology, and limited access to connectivity.



Problem Sponsors: Brian Hvinden, External Affairs Officer; Jennifer Warren, External Affairs Officer/Public Affairs Specialist  
Senior Leader: Megan Flood, External Affairs Director



# Introduction



The Talk that Talk problem statement focuses on the challenge local emergency managers in rural areas have communicating with the whole of the community. FEMA Region 8 consists of six states which include 29 tribal nations and are largely rural. The rural nature of Region 8 combined with major shifts in the way both blue sky and grey sky emergency management information is communicated, has left some rural residents behind. The loss of longstanding information sources (such as the local newspaper), the closure of some television and radio media outlets and the consolidation of others, and the societal movement toward digital dominance in communications has changed what has historically been tried and true platforms for reaching rural populations.

The NDSU team worked with the problem sponsor, conducted interviews with subject matter experts, and reviewed literature relevant to emergency management communication. These efforts helped the team understand and contextualize the problem as it exists in rural areas with demographic and geographic challenges that are either amplified in, or unique to, rural areas. The consideration of these communication challenges with the realities of local emergency management practice in rural areas, led the team to consider solutions that focused on developing communication depth and effectiveness.

While there are federal initiatives underway to bolster high-speed internet in rural areas (USDA, 2024), these efforts are not the simple fix for emergency management communications that seek to inform, educate, and elevate risk awareness and ownership in rural residents. However, it is acknowledged at the outset that extending the reliability of the reach of emergency alerting systems must be a part of a bigger strategy to enhance communication in rural areas. The more tools that local emergency managers in these areas have to reach the whole of the community on both blue and grey sky days, the better disaster outcomes will be. Effective communication before, during, and after an emergency or disaster “saves lives and builds disaster resilience” (UNDRR, 2023).

# Understanding and Contextualizing the Problem

Through interviews and problem sponsor engagement, the NDSU team developed an understanding of critical issues that affect the effectiveness of communication tools, the significance of both blue and grey sky communications, and the capacity of local emergency managers within rural communities and isolated populations. The team recognizes the need for multiple channels of communication for local emergency managers that meet both the urgency of the communication and the audiences the communication is intended to reach. This is made more challenging in a rural context. For example, sirens may not be as effective in such a context where individuals are spread over a wide area and likely out of earshot.

A number of topics are important to address in understanding and contextualizing the dynamics of this problem. The following topics will be highlighted in this section: types of communication; local emergency management capacity; blue and grey sky communication; and, warnings. These topics are the ones the team felt were most salient in addressing the problem statement.

## Types of Communication

FEMA uses, and suggests to local emergency managers that they likewise use, different types of communication to try to most effectively address the urgency of the message (blue or grey sky) and the audience it seeks to communicate with (e.g., geographic area; population subsets; etc.). These types of communication can include in-person



events, print and alternative print media, broadcast media, and Internet/social media. All of these options have strengths that are useful in certain situations, but none of these individually solve emergency management communication issues.

### *In-Person Events*

In-person communication is very effective and best used when you are looking for a more personalized interaction, that can be targeted to specific populations and situations. Examples of in-person communication include community forums, trainings, conferences, meet and greets, and other community events. In-person events are an invaluable asset to local communities due to the utilization of two-way communication. This type of communication enables people to express their questions and concerns, providing the presenter a chance to address them effectively (FEMA, 2021).

In-person communication is highly effective in fostering trust, as messages delivered by local authorities are typically perceived as more trustworthy than those originating from national sources (Curran, 2016). Face-to-face interaction is also highly beneficial for individuals with functional needs who may have difficulty perceiving or comprehending other forms of communication. However, this type of communication is limited by its reach, time-consumption, and has other challenges (i.e., it may expose the presenter to difficult questions). By understanding the strengths and weaknesses of in-person communication, emergency managers can identify what strategy works best for their community's needs.

### *Print and Alternative Print Media*

Print and alternative print media is another strategy for communication, especially in blue sky situations where information dissemination is not time critical. This form of communication is very effective for presenting in-depth analysis of developing situations and for educating the public about preparedness (FEMA, 2021). Printed media



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has distinct visual characteristics that can evoke heightened emotional responses, lead to deeper and better understanding of the content, and communicate value to the physical senses (Wang et al., 2023). It is these qualities that help make print media so effective. Print media can create greater risk awareness in individuals which can in turn help develop an individual's sense of risk ownership and agency. Some tools used for this type of communication are pamphlets, billboards, flyers, newspapers, educational materials, maps, infographics, etc. All of these tools can help emergency managers spread awareness and outreach to their community. Print media allows creativity and the ability to present information in a more eye-catching display than other forms of communication. Unfortunately,

these tools come with limitations like speed of delivery, timeliness, declining readership, reach to younger audiences, and limited capacity for real-time updates. In some cases, these tools may also require additional contextualization to be used effectively (i.e., background information and access to subject matter experts).

### *Public Warning Systems*

Public warning systems have long been a relied upon tool. For many years, emergency messaging came through traditional broadcast media (i.e., television and radio). The expansion of the utilization of this tool has dramatically improved communication access. Tools like the Emergency Alert System (EAS), Wireless Emergency Alerts (WEA), National Oceanic and Atmospheric Administration (NOAA) weather radios, and local emergency alert systems (e.g., CodeRED, Everbridge, etc.) are now widely used for emergency messaging.



IPAWS, “FEMA’s national system for local alerting that provides authenticated emergency and life-saving information to the public through WEA, EAS, and NOAA Weather Radio” (FEMA, 2024b) is designed to send out alerts quickly (within 10 minutes if done efficiently), and can reach at least 85 percent of the targeted population (Curran, 2016). This tool can be utilized at all levels of emergency management and is effective for the Immediate broadcast of urgent messages (Wood et al., 2017).

However, these systems are far from perfect and come with their own issues. FEMA identified limitations such as: reporting may be less detailed; messages may be filtered through a reporter or other spokesperson; internet access is required for the message to be received; they may be edited or cut to fit available times; and the listener/viewer often must register to receive the message (FEMA, 2021). Others have had similar findings, and have expressed concern about the efficacy of messaging over cellular networks which requires the resident to register for such notification calls (Curran, 2016). Even with these limitations, these systems remain a strong tool for local emergency managers as they provide the broadest distribution of emergency messaging and allow for consistent messaging across the EAS, WEA, and NOAA weather radio platforms. Many local emergency managers already use these systems, but the team learned from interviewees that the power of these systems are not being maximized to their full potential.

### *Social Media*

Social media has profoundly changed disaster communication, revolutionizing the way information is disseminated, accessed, and shared through non-governmental channels. Social media is one of the most useful tools in emergency management. It is used in both grey and blue-sky situations and has also been successfully used as a mechanism for situational awareness, resource mobilization and collaboration, volunteer crowdsourcing, and as a platform for sharing life-safety information (Kankanamge et al., 2019; Palen & Hughes, 2018; Starbird & Palen, 2010). Social media also increases protective action after a warning because these digital networks provide people fast and simple options for assuring family members are safe and for obtaining assistance if needed (Curran, 2016).

FEMA currently uses multiple social media platforms (i.e., Facebook, Linked-in, YouTube, Twitter, and Instagram) to share their agency, preparedness, and other emergency management messages. However, social media, like every other communication type, has its limitations.

Determining the credibility and accuracy of the information being shared on social media can be difficult (Curran, 2016). Similarly to broadcast media, unreliable internet connection can hinder the ability to reach the entire targeted population (Crowe, 2012). Further, it must be actively monitored to be effective for emergency messaging. Understanding these gaps allows emergency managers to identify the most efficient form of communication for each situation. In most cases the emergency manager will have to use multiple communication channels to ensure everyone gets the message.



## **Local Emergency Manager Capacity and Capability**

Local emergency managers often lack the capacity and capability to successfully complete all the necessary tasks to further resilience in their communities. Capacity refers to the personnel, equipment, and resources necessary to accomplish the necessary tasks; and capability refers to the knowledge and skill needed to address these tasks proficiently (Cwiak & Butterfass, 2024). A significant aspect of this challenge is the widespread occurrence of emergency management roles in rural areas being funded as part-time positions, often limited to 10 or 20 hours per week, serving as supplementary responsibilities alongside other assigned tasks (Cwiak & Butterfass, 2024). Additionally, emergency managers are often burdened with such a wide spectrum of duties that it is often challenging to achieve any real preparedness or planning because of a lack time and resources (Crowe, 2023). This limited capacity is one of the main reasons local emergency managers cannot meet all of their community's emergency management needs.

Having a full-time emergency manager that can focus solely on emergency management tasks will allow for increased time and attention to be directed toward the community. This would provide local emergency managers with more time to complete the many tasks facing them in their role. With this additional time, local emergency managers could spend time developing greater capacity in areas they are not as familiar with, such as developing stronger communication platforms and understanding best uses of available warning tools.

But capacity and capability are not the only challenge local emergency managers face. Disagreement among state and local policy makers, limited political influence over development, and environmental interests present challenges to emergency management practice as well (Mileti, 1999). For local emergency managers to effectively accomplish their important work, they must have the requisite capacity, capability, and widespread mission support.

## **Blue and Grey Sky Communication**

Blue sky communication refers to communication with the public proceeding a hazard event. Blue sky communication addresses (in part): efforts that should be taken before a hazard occurs (i.e., preparedness and mitigation actions); protective actions to take before and during an event; and, the communication platforms that will be used to notify the public in emergencies. This communication is essential to not only understanding how emergency messages will be received, but also the actions that need to be taken once those messages are received. The information communicated before, during, and after disaster needs to be understood, trusted, and acted upon to advance community resilience (UNDRR, 2023).

Grey sky communication refers to communication that is relayed during the hazard event. Grey sky communications are often quick and concise because they must relay information on a time-sensitive basis. Forms of grey sky communications are warning messages, sirens, or WEAs. It is essential that the audiences receiving these messages be considered pre-event to ensure the right message is conveyed on the right platforms.

Individuals with functional needs rely on messages that are accessible (given their specific needs) to ensure the message is received clearly (FEMA, 2021). Language barriers can hinder how messages are perceived and understood. If the community has a population that speaks a variety of languages, then the messages should be sent out in multiple languages via appropriate platforms to meet the community's needs. While translation of alerts can happen on modern forms of technology (if the owner has a specific language set for the device), that is not a given. It is important for emergency managers to understand the vulnerable populations in their community and the gaps in their communication platforms.

Gaps in communication could also affect the extent to which an individual takes effective protective action during an event. An individual who hasn't experienced an event may be more reluctant to take communication seriously and that may hinder them from taking protective action (Sutton et al., 2020). Gaps in communication could also affect the extent to which an individual takes effective protective action during an event. Local emergency managers should encourage community residents to take time to prepare, which increases the likelihood the message will be taken seriously and lead to protective action (FEMA, 2021).

Interviewees highlighted the importance of going into the community during blue sky days to network and relay important information. Engaging with the community not only affords the local emergency manager the opportunity to convey vital information to residents, it is also a chance to learn more about the community they represent. By effectively communicating with residents during blue sky days, emergency managers can develop risk awareness and risk ownership in individuals and advance trust in emergency management warnings when grey skies arrive.

## **Warnings**

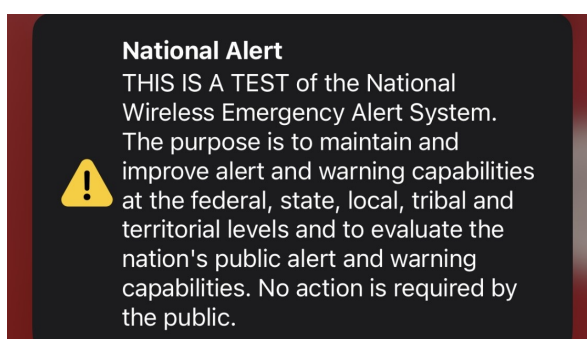
Adequate and effective warnings are vital in communicating with the public. Delays that prolong the time between threat detection and public protective action behavior are potentially deadly (Mileti, 2018; Sorensen, et al., 2020). Mileti identifies three major points of delay in alert and warning systems. The first possible delay point involves the initial warning issuance or "taking too long to push the button". It may be possible to reduce the delay between imminent threat and sending the warning by creating messages in advance (Sutton et al., 2024). By the time a mass notification is written, recorded, and dialed out, the twister may already be on the ground and creating a path of destruction (Curran, 2016).

The second point of potential delay involves receipt of the message by the intended audience (Mileti, 2018). One cannot assume that the audience receives the warning immediately or at all. For example, Curran (2016) notes that sirens are effective only for those who can hear them.

Finally, Mileti identifies a possible delay created when the audience does not take immediate action as encouraged by the warning message. Therefore, the structure, content, and channel of delivery of warnings is critical. The goal of a successful warning is to reduce the time between one, receipt of the information, and two, taking protective action.

There are many strategies available to reduce this delay. The structure of the warning message dictates how the individuals receiving it will perceive the information given and take protective action. A warning that is structured in a confusing way takes away from its effectiveness causing the intended audience to look elsewhere to get information they can understand (Mileti, 2018).

Content of the message should be clear and specific, meaning, the recipient of the message should know the source of the message, the hazard the message is about, the exact location the hazard will be affecting, consequences for not taking protective action, what protective action is required, the time allowed for taking the protective action, how the action reduces consequences, and the expiration time of the warning (Mileti, 2018). Warnings should also be formatted in a way that individuals with access and functional needs receive them. Using clear language allows formats such as text-to-speech to relay the message effectively — just as it would be read (Mileti, 2018).



The current messaging templates provided by FEMA allow 90 or 360 characters messages depending on the network (FEMA, 2024a). The 90 character messages do not have sufficient characters to relay all the information that is needed. The intended audience could be confused by these messages due to their brevity. This will lead to individuals look for other

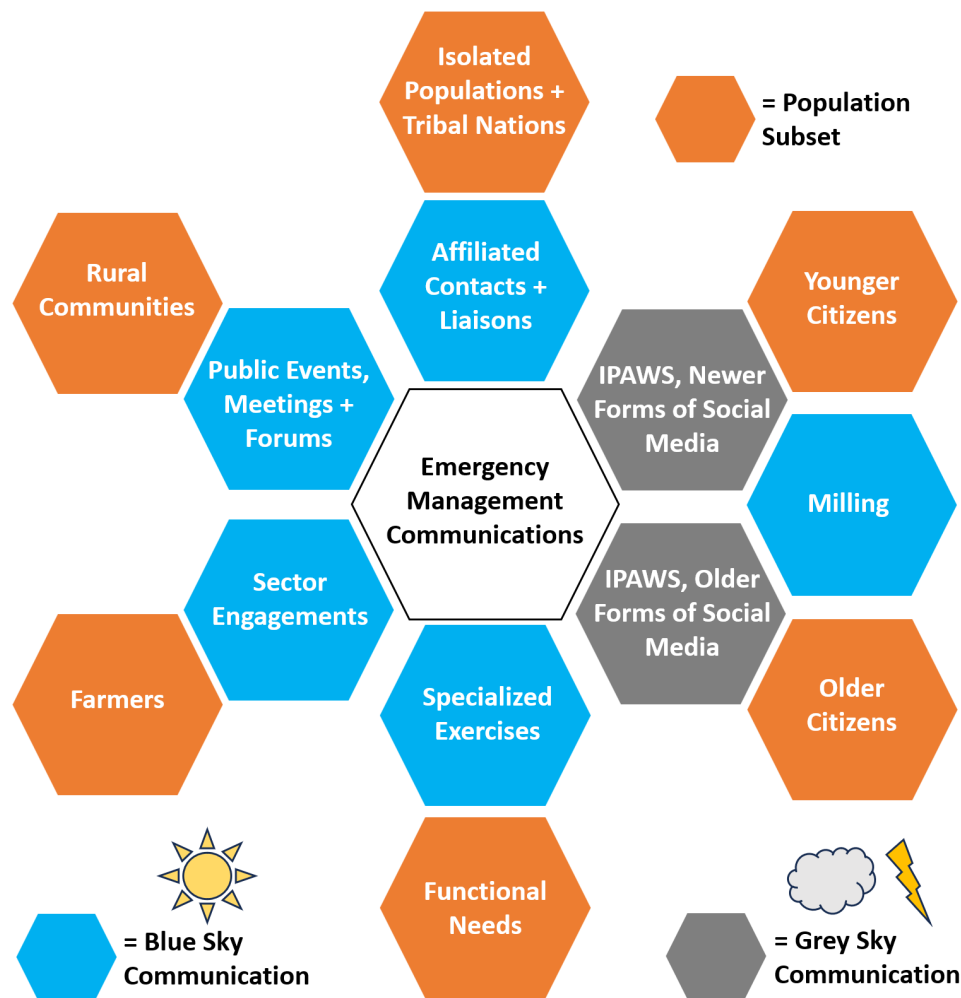
sources of information that were not included in the warning. This will ultimately delay individuals taking protective action and lead to negative consequences for individuals in the affected area (Sutton et al., 2024). To make a warning message that covers all the areas urged by Mileti (2018), a 360 character message is necessary. However, it is noted the limitations on older networks limits WEA to 90 characters. This must be taken into consideration when attempting to reach the whole of the community.

Also important to note is the phenomenon called “milling” in regard to both protective action delay and the secondhand spread of communication through friend, family, and other networks. Milling occurs when not information has been provided to inform action and individuals seek more information from others to see what they know and are going to do (Wood et al., 2017). Milling can also have a positive effect (primarily in blue sky communication) on the sharing of information across networks, but it can be relied on as the source is secondary and messaging may be distorted as it is passed along.

Interviewees emphasized that there is a lack of internet access in many rural areas in Region 8. This reiterates the need for warnings to be communicated across multiple platforms to ensure they reach all of the populations at risk. Research supports the importance of relaying consistent messages across multiple platforms to reach the greatest number of individuals possible (Mileti, 2018). Messages through platforms such as television, radio, and NOAA weather radios can reach parts of the population that otherwise may not receive adequate warning. NOAA weather radios are also an effective tool for those out in remote areas (e.g., farmers, ranchers, oil fields, etc.) as there are pocket size versions that only alert when there is an emergency.

# Discussion and Recommendations

In considering the importance of timely, effective blue and grey sky communication in rural areas with additional challenges that complicate local emergency managers' ability to reach the whole of the community, the NDSU team considered a number of solutions designed to build depth and effectiveness into blue and grey sky communications. The image below shows the way the team conceptualized blue and grey sky communications from a population subset and platform perspective.



Five recommendations are provided by the NDSU team. These recommendations span the blue sky, grey sky continuum and seek to improve: 1) the efficacy of messaging through quality, access, capability development, and risk awareness and ownership; and, 2) the depth of capacity and capability in rural areas through funding mechanisms and the further development of residents, partners, and the local emergency manager's knowledge base and skill sets.

- **Fund a rural grant initiative that provides funding for NOAA alert weather radios and preparedness materials specific to rural areas.**

This initiative is intended to help bridge identified emergency communication gaps and provide local emergency managers in rural areas with the capacity to develop area specific emergency management literacy within the communities they serve. Given the lack of funding support for emergency management programs in rural areas and the lack of capacity regarding grant writing, this initiative should require no more than a 10% match (which can be met by a community partner donation) and have a simplified grant process and reporting structure. If it does meet the above criteria, local emergency managers in rural areas will struggle to access to the initiative.

This initiative will fund the purchase of NOAA alert weather radios to be supplied to residents in rural areas who have no other reliable emergency alerting source. These radios come in both full-size and portable versions, are looped into IPAWS, and are not only reasonable, but can be purchased in bulk at reduced cost from established weather radio partners. The success of weather radios in saving lives is well-documented (see <https://midlandusa.com/blogs/blog>).



This initiative will also fund area specific preparedness materials that can be distributed to rural area residents at local outreach events. These materials can cover local emergency communication networks, protective action instructions, and other preparedness activities in formats that meet the community's needs in regard to language, ability, and interests.

- **Develop a training course to enhance the communication capability of local emergency managers and their partners in rural areas.**

A training course focused on enhancing the communication capability of local emergency managers and their partners in rural areas will help create small cadres of more capable communicators that can be of service before, during, and after an emergency or disaster. Including key partners in the distributed function roles of emergency management (e.g., county or tribal administrators and staff, local fire, county sheriff, public health, emergency medical services, public works, etc.) does a few important things. First, it provides depth in communication ability in an area that has limited resources. Second, it helps strengthen connection within the community among individuals likely to be engaged in potential response and/or recovery efforts. Third, it creates a better understanding in partners of the emergency management role, mission, and tools available to meet community needs. This training course should not exceed a day due to the time constraints potential attendees in rural areas have.

- **Utilize a standardized template to pre-script warnings.**

During a hazard event the urgency of the situation constricts the time available to craft warning messages. Utilizing a template built on a understanding of effective warning research, such as FEMA’s existing online WEA templates, simplifies message development and ensures better outcomes (FEMA, 2024a). These templates can be used pre-event to develop messages for a variety of scenarios and a variety of distribution platforms to maintain message consistency. For example, messages for protective action for a tornado can be pre-scripted and the location information can be added when the threat is at hand. In these types of events when minutes matter, this practice can save lives.

The FEMA templates allow 90 and 360 character message composition online. The 90 character message is for older wireless networks and the 360 character message is for newer networks. The 360 character message allows for more complete messaging in alignment with the information shown through research to be the most effective for informing timely protective action. These messages can then be shared across other platforms for consistency.

In addition to storing the pre-scripted messages on the jurisdiction’s local network, a blank copy of the message template should also be stored for redundancy purposes. Printed copies should also be kept in the emergency manager’s office and in the Emergency Operations Center (EOC). The prompts of the template help ensure that the necessary information is elicited from the message writer and included in the message. To hone the ability of local emergency managers to produce these messages timely, warning message composition can be incorporated into exercises.

- **Establish a Regional Emergency Management Resource Library.**

Local emergency managers in rural areas lack capacity. The establishment of a Regional Emergency Management Resource Library would provide information applicable to rural areas that could be used by community members and organizations in their school newsletters, church bulletins, organizational publications, social media posts, and other materials published in print or electronically for distribution to their service audience. This online library can act as a force multiplier by aggregating accurate emergency management information that can be easily accessed and used by those who want to highlight this information as segments on seasonal concerns, occupational considerations, weather weeks, preparedness month, etc. — with the intent that the ease and accuracy of the information will increase its use and as such, serve as a community education tool. This library, once developed, pays dividends with little effort.

These materials can be provided in multiple lengths to accommodate use in a variety of formats and can include materials specific to the region. This library will increase community exposure to accurate emergency management information and will normalize its common discussion in the community which should improve residents’ risk awareness and ownership.

- **Create local partnerships to preparedness messaging visibility.**

Partnering with local businesses such as grocery stores, gas stations, banks, etc. throughout the year to share preparedness materials and messaging is a simple way to provide community businesses an opportunity to contribute to the areas' overall preparedness for disasters. Preparedness materials specific to the area can be provided near the entry of businesses for their patrons. Businesses can also incorporate the messaging into their street signage, shopping bags, sale and marketing advertisements, and in areas of passive engagement like gas pumps (as shown in the image below).




These partners can be recognized on the local emergency management website as community partners and can be highlighted at public outreach events. This not only creates increased visibility of the messaging, it enhances community partnerships that are essential to disaster response, recovery, and ultimately, resilience.





## Summary



Through interviews and research, the NDSU team learned more about the challenges surrounding blue and grey sky communication in rural areas. In contextualizing these challenges, it became clear that these challenges were not only rooted in the demographic and geographic considerations specific to rural areas, but also to the endemic lack of capacity and capability in local emergency management in these areas.

The team found that the current communication platforms being used have both benefits and limitations and concluded that these platforms are not a one-size fits all proposition. Instead the message is, use all the platforms available to you timely and with consistent messaging to ensure you reach as many residents as possible. Additionally, warnings must be from trust sources and be well-informed with an understanding of what the research tells us about what facilitates timely protective action by individuals.

The recommendations provided in this report are designed to create greater depth and effectiveness in rural areas. This is accomplished through outreach, partnerships, and accessible materials. It is said that “information is power” — the hope is to deliver that power to the rural residents in Region 8.

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