



After Action Review

Hurricanes Helene and Milton

October 2024

**A Cross-Sector Review of How States and Sectors Coordinated
Information Sharing and Response Efforts During These
Hurricanes**

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Executive Summary

The 2024 After Action Review (AAR), held on October 30, brought together state and private-sector representatives to evaluate responses to Hurricanes Helene and Milton. Facilitated by the All Hazards Consortium, this cross-sector event provided an opportunity to share lessons learned, assess operational gaps, and strengthen future disaster preparedness and response efforts.

Key Participants and AAR Format

The session(s) included representatives from major industries such as Verizon, Walmart, Amazon, Entergy, and the American Petroleum Institute, alongside officials from Florida, North Carolina, Virginia, and other states. Federal partners like the Federal Motor Carrier Safety Administration (FMCSA) and FEMA also contributed. The meeting, conducted via Zoom, featured real-time information exchange supported by the SISE-net (Sensitive Information Sharing Environment) Hub and other collaborative tools.

Highlights and Key Findings

1. SISE-net Tools and Technology Adoption

- ✔ The SISE-net Hub served as a centralized platform for real-time operational updates. During Hurricane Helene (9/23–9/30), it recorded over 123,000 page views, and usage spiked further during Hurricane Milton, reaching nearly 269,000 total views by 10/10.
- ✔ The SIGNAL app enabled real-time information sharing between state and industry partners, fostering unprecedented synchronization of situational awareness during the storms.

2. Transportation and Logistics

- ✔ FMCSA's regional emergency declarations streamlined interstate transportation during the hurricanes. These declarations reduced confusion for drivers and ensured seamless delivery of essential goods across multiple states.
- ✔ North Carolina DOT introduced a dedicated cell within its Emergency Operations Center (EOC), providing real-time navigation support for responders.
- ✔ Challenges: Regulatory inconsistencies between states created logistical hurdles for companies like Walmart and utility providers. FMCSA is exploring improved protocols to address these issues in future emergencies.





3. Infrastructure and Utilities

- ✔ The WARN (Water/Wastewater Agency Response Network) program coordinated mutual aid for water sector recovery, particularly in Florida and North Carolina.
- ✔ Virginia's Infrastructure Task Force collaborated with Emergency Support Functions (ESFs) to restore energy and roadways, demonstrating the importance of focused infrastructure recovery teams.

4. Private-Sector Collaboration:

- ✔ Daily operational calls in North Carolina showcased effective communication between state agencies and private-sector partners, addressing critical needs like fuel distribution, cash vendor access, and retail continuity.
- ✔ Retailers such as Walmart and Publix employed mobile solutions to resume operations swiftly, including mobile pharmacies and payment systems.

5. Waste Management and Donations:

- ✔ Hurricanes exposed vulnerabilities in waste disposal logistics, particularly for spoiled food. Limited landfill access and insufficient dumpsters delayed recovery.
- ✔ Recommendations: States proposed establishing pre-planned agreements with waste management providers and creating regional hubs for donation processing to reduce logistical strain.

6. Insurance Challenges:

- ✔ Damage assessments faced delays due to access issues, communication breakdowns, and resource constraints. These delays slowed financial relief for affected residents and businesses, exacerbating economic challenges.

7. Communications Sector:

- ✔ Widespread outages during Hurricane Helene impacted over 236,000 residents in North Carolina and surrounding states. Damaged infrastructure and power outages delayed repair efforts.
- ✔ Collaborative initiatives between the communications and electric sectors reduced fiber and cable cuts, ensuring faster recovery of critical services.

8. Innovations and Tools:

- ✔ Weather Impact Videos: Created by Dave Jones of StormCenter Communications, these daily updates helped stakeholders predict and prepare for weather impacts. Garnering over 4.5 million views, these videos proved invaluable in providing actionable insights.
- ✔ Rail Sector Innovation: Rail camp cars were repurposed in North Carolina as shelters and temporary bridge replacements, demonstrating creative problem-solving in disaster recovery.

9. Foster Private-Sector Collaboration:

- ✔ Leverage operational calls to identify needs and facilitate timely responses. Encourage retailers to adopt mobile solutions for continuity of operations.

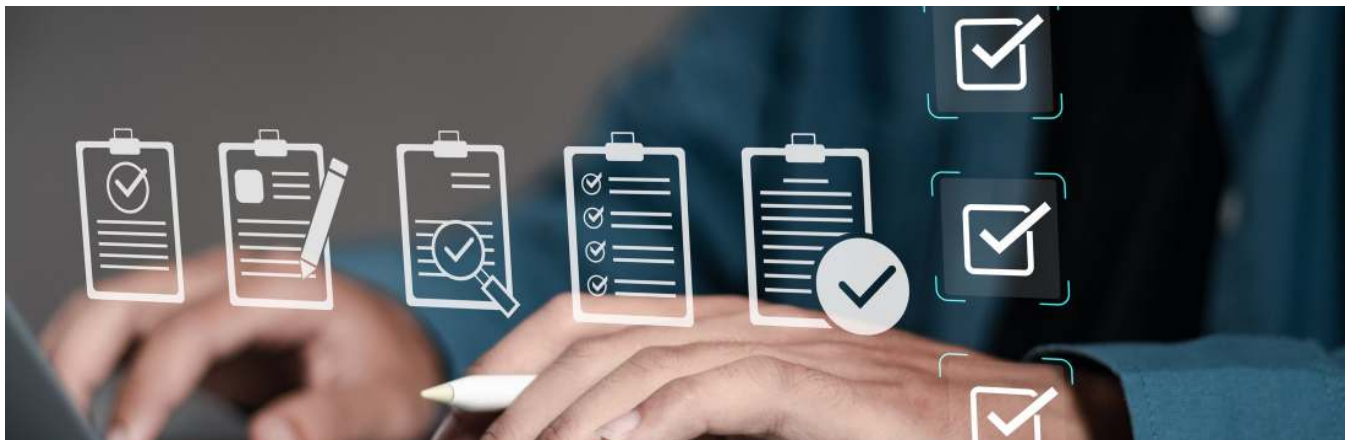
10. Explore Insurance Solutions:

- ✔ Use drones for faster damage assessments Create secure agreements for sharing damage assessment data between government and private sectors

11. Recommendations

- ✔ Broaden training for SISE-net tools like the Hub and SIGNAL app to ensure effective use across sectors.
- ✔ Expand liaison programs to improve data-sharing between impacted and non-impacted states.
- ✔ Improve Transportation Protocols: Advocate for consistent interstate regulations to address recurring logistical barriers.
- ✔ Promote best practices like the Routing Assistance Hotline and North Carolina DOT's EOC cell for real-time navigation.
- ✔ Strengthen Donation and Waste Management: Develop centralized systems for tracking donations and managing waste disposal; Establish regional agreements with waste management providers to ensure extended service hours during disasters.

Conclusion The 2024 AAR underscored the value of cross-sector collaboration, advanced technology, and adaptive strategies in disaster response. By addressing identified gaps and implementing the recommended actions, the SISE-net community and its partners are poised to enhance resilience and efficiency in future emergencies. These efforts demonstrate the growing capacity to safeguard communities and critical infrastructure during increasingly complex disasters.



Introduction

On Wednesday, October 30, representatives from multiple states and sectors gathered for an after-action review of the responses to Hurricanes Helene and Milton.

This meeting served as a facilitated, cross-sector information-sharing session, focusing on the operational data exchanged across sectors and states during the hurricanes.

Participants worked to identify key gaps in areas such as personnel, processes, information, and technology.

The session also allowed stakeholders to provide valuable input and recommendations to strengthen response efforts in the future.

Additionally, the review aimed to enhance the effectiveness of the SISE-net community, ensuring its resources continue to provide reliable, timely information-sharing support during crises.

Participants

Participants included representatives from industry and government, including

- ✔ Verizon, Cox Communications, Entergy, National Grid, EEI, Energy Marketers of America, American Petroleum Institute (API), CapitalOne, Dupont, Amazon, Cencora, Walmart, American Rail Association (AAR), Owner Operator Independent Drivers Association (OOIDA), American Water Works Association (AWWA), South Florida Water Management District, FMI Food Industry Association, Albertsons, and more...
 - ✔ Florida, Mississippi, North Carolina, Virginia, Georgia, South Carolina, Tennessee, and the US DOT / Federal Motor Carrier Safety Administration.
-

Format

The ARR was facilitated by the All Hazards Consortium's working group leadership and guide by slides displayed live via the ZOOM platform. The meeting was recorded and made available to all participants for their operational use.

This report summarizes their take-aways from Hurricanes Helene and Milton that impacted the Southeast US in October 2024.



SISE-net Cross Sector Virtual Tabletop Exercise

Background

In the summer of 2021, state and industry working groups of the SISE launched the first Cross-Sector Virtual Tabletop Exercises to enhance preparedness and response for hurricane season and better synchronize cross-sector situational awareness and response efforts.

Held in 2021, 2022, and 2023, these cross-sector exercises generated actionable solutions and processes that the industry implemented and tested during live operations in response to winter storms and hurricanes the following year.

These cross-sector exercises created a safe environment for open dialogue, allowing industry and state representatives to identify and discuss critical information needed before and after a hurricane's landfall. These discussions led to valuable recommendations for improving processes, information flow, and tools, fostering stronger preparedness and response strategies moving forward.

Exercise participants included representatives from Florida, Texas, Louisiana, Mississippi, Illinois, North Carolina, South Carolina, Virginia, Georgia, the Federal Motor Carrier Safety Administration, and various industry sectors, including communications, electric, fuel, finance, medical, pharmaceuticals, retail transportation, water, and food.

These exercises identified the most common information requested by industry and states before and after a hurricane landfall.

- ✔ **Before landfall**, industry needs information from state and federal governments regarding emergency declarations, executive orders, waivers for transportation and fuel, and operational guidance or situation reports to alleviate intrastate and interstate regulations or controls. This enables them to pre-position power restoration crews, resources, food, water, supplies, and other hurricane response-related materials.
- ✔ **After landfall**, state governments need information from industry regarding facility status for critical facilities, infrastructure disruptions affecting power, communications, fuel, and transportation, as well as industry requests to determine how non-impacted states can assist in response efforts.

By synchronizing this information across industry sectors, supply chains, government levels, and trade groups, this cross-sector exercise aimed to reduce operational delays, streamline information flow, and gets everyone involved “**on the same page**” at the same instant.

Each year new solutions were developed:

- ✔ 2021 - A prioritized list of specific information needs by both industries and states establishing a foundation for streamlined communication.
- ✔ 2022 - A refined process to identify, validate, and gather this information into a secured centralized information hub that now serves as a go-to resource for approved state and industry updates.
- ✔ 2023 - A mobile app was introduced, enabling validated and trained personnel from various sectors and states to crowdsource updates directly into the hub.
- ✔ 2024 - A secure live chat app was developed, allowing approved participants to share real-time updates efficiently.

Together, these solutions strengthen information flow, enhance and synchronize situational awareness for everyone involved, and foster collaborative response and recovery efforts across multiple sectors and states.

All of these results are part of the SISE-net (Sensitive Information Sharing Environment - Network) which support a SISE-net Community of hundreds operational professionals nationwide.

Learn more at <https://www.ahcusa.org/cross-sector-exercises.html>.

Sectors Need This Before Landfall	States Need This After Landfall
<p style="text-align: center;">Declarations</p> <p>Emergency Declarations or Executive Orders related to current hurricane OR that can be extended for use with the current hurricane)</p>	<p style="text-align: center;">Facility Status – Open/Closed</p> <p>(Status of a specific facility(s) in the impacted area for fuel, retail, medical, manufacturing, distribution)</p>
<p style="text-align: center;">Waivers</p> <p>Waivers for transportation, fuel, food or other sectors that require movement of critical resources beyond normal operating conditions or regulations)</p>	<p style="text-align: center;">Information Requests</p> <p>(Industry request for government support on expediting flow of information, removing obstacles, clarifying details and other hurricane related situational awareness)</p>
<p style="text-align: center;">Guidance/Alerts/Updates</p> <p>State guidance, alerts or updates on government actions in a state on transportation, curfews, wind restrictions, debris removal, construction, closures major events, etc..)</p>	<p style="text-align: center;">Infrastructure Disruptions</p> <p>(Disruptions, interruptions, and/or limitations to normal business operations of critical infrastructure in the electrical communications, transportation, fuel, water, food and information sectors)</p>



Sector Reports

Transportation

Background

In response to Hurricane Helene, the FMCSA closely monitored declarations issued by various states to support emergency relief operations and extend service hours for commercial drivers. Alex Keenan, FMCSA's Emergency Coordinator, explained the process of issuing and managing these declarations, which evolved as the storm's impact broadened.

Initially, eight states—North Carolina, South Carolina, Tennessee, Virginia, Kentucky, West Virginia, and Florida—issued their own declarations to provide flexibility in driver hours, enabling essential goods and services to reach affected areas quickly. However, as the storm continued to affect multiple states, the need for streamlined guidance became evident.

The President also issued a federal declaration covering some of the states affected by the storm, authorizing FEMA support but not encompassing all impacted areas. This led to overlaps and gaps in coverage, with state and federal declarations addressing different regions and needs. For example, some states requested extensions, complicating matters for truck drivers who struggled to determine which declarations applied to them and their expiration dates.

FMCSA Regional Declarations

This situation prompted FMCSA to issue a single regional declaration covering all affected states, simplifying the process for drivers providing assistance.

The regional approach allowed states to avoid frequent extension requests, reduced confusion for drivers, and ensured a coordinated response across the Eastern Seaboard, where utility companies, grocery stores, and transporters required clear directives to maintain resource flow.

FMCSA recognized that as storms like Helene affect larger areas, a regional declaration often becomes essential, offering a unified and practical solution across multiple states—especially for widespread impacts that exceed the capabilities of individual state declarations.

In monitoring storms and issuing declarations, FMCSA collaborates closely with various stakeholders, including utility companies, transportation providers, and emergency responders, to assess the needs and timing for such declarations.

The goal is to keep the process manageable for all involved, ensuring that drivers and response teams can effectively deliver aid and resources where they are most needed, while maintaining regulatory flexibility to support timely recovery efforts across impacted areas.

The Federal Motor Carrier Safety Administration (FMCSA) provided an overview of its approach to issuing FMCSA Regional Emergency Declarations for emergencies like hurricanes.



QUESTION:

Cox Communications highlighted a significant regulatory shift affecting cross-state workforce movement for utilities, particularly in states without DOT requirements for certain vehicles. This issue became prominent for companies like Cox, operating in areas such as Connecticut and Rhode Island, where all drivers are DOT certified and can move freely across state lines. However, in states like Kansas, vehicles operating solely intrastate don't require DOT registration, restricting their workforce to Kansas due to the updated rules.

FMCSA REPLY:

During recent emergencies, FMCSA received numerous waiver requests from companies facing similar cross-state challenges. To address this, FMCSA implemented a process for issuing temporary registrations and waiving fees. For example, companies with vehicles registered in Virginia and aiming to operate in North Carolina can quickly apply for a temporary permit via FMCSA's website, which also requires proof of insurance.

This year, the issue became particularly relevant in California, where many vehicles and drivers are registered solely for intrastate operations. Utility companies devised creative workarounds, such as transporting utility trucks via flatbed carriers across states and flying workers to their destinations to maintain compliance. Drivers needing to operate out of state were required to obtain temporary interstate CDLs by visiting their state DMV. In emergency contexts, certain requirements, such as medical clearances, could be waived.

However, interstate regulatory constraints remain complex. While state governors can declare emergency waivers to mobilize out-of-state support, they cannot override the specific requirements of other states. For instance, a Florida governor can invite utility support from Virginia but cannot waive Virginia's interstate licensing rules.

FMCSA is actively exploring ways to reduce these regulatory pressures, which are increasingly common as utilities expand mutual aid operations. Under the current Mutual Aid Assistance Program, utility workers can cross state lines if their licenses and certifications meet interstate standards. Without these, the situation becomes a state-level issue, highlighting the need for better state and federal alignment to facilitate faster, safer emergency responses across jurisdictions.

FUTURE ACTION ITEM:

Advocate for and establish more streamlined processes to support interstate operations, enhancing flexibility for the telecom, power, and other sectors, and enabling efficient, coordinated support during emergencies across state lines.

QUESTION:

Walmart raised a critical logistical issue encountered while moving supplies from Texas and Louisiana to areas impacted by the storm in Florida, Georgia, and North Carolina. The problem arose when Walmart's trucks had to pass through states that had not issued emergency declarations, creating complications in permitting and regulatory compliance.

FMCSA REPLY:

- ✔ FMCSA explained that under a governor's emergency declaration—such as the one issued by Florida—vehicles originating from other states like Texas could travel through intervening states (even those without declarations) without being bound by hours of service restrictions. This exemption covers both outbound and return trips, allowing drivers to focus on swift aid delivery.
- ✔ However, FMCSA emphasized that state-specific regulations remain in effect for aspects such as vehicle weight, size, and roadside inspections, which states regulate independently. While FMCSA can waive hours of service and registration fees under emergency declarations, weight and size permits fall under state jurisdiction. For instance, utility trucks traveling from California to Florida had to coordinate with each state along the route, obtaining special permits or relying on state governors to temporarily waive certain requirements.

QUESTION:

Walmart highlighted a particular challenge they face when transporting heavy supplies like water. Stopping to unload excess weight from a fully packed sleeper cab can consume significant time, adding delays to emergency response.

FMCSA REPLY:

- ✔ FMCSA acknowledged that while state-owned interstate systems require adherence to oversized and overweight regulations, states generally cooperate to expedite permits during disasters.

QUESTION:

Another concern was third-party carriers who may lack the specific documentation, vehicle logos, or Walmart credentials to confirm they are delivering essential supplies.

FMCSA REPLY:

- ✔ FMCSA clarified that third-party carriers also qualify for FMCSA hours of service exemptions if they are responding to a declared emergency, regardless of DOT number. However, if weight or size permits are required, the carrier's DOT number may affect the process.

FMCSA Routing Assistance

During Hurricane Helene, the Department of Transportation (DOT) leveraged a specialized resource known as the Routing Assistance Hotline to support truckers, utility drivers, and other responders navigating complex and damaged routes.

Established several years ago, including during events like Hurricane Harvey, the hotline has evolved into a vital resource for drivers in emergency response situations.

This hotline is not accessible to the general public; it is dedicated solely to assisting those on the front lines—responders who need real-time route guidance to reach critical destinations quickly and safely.

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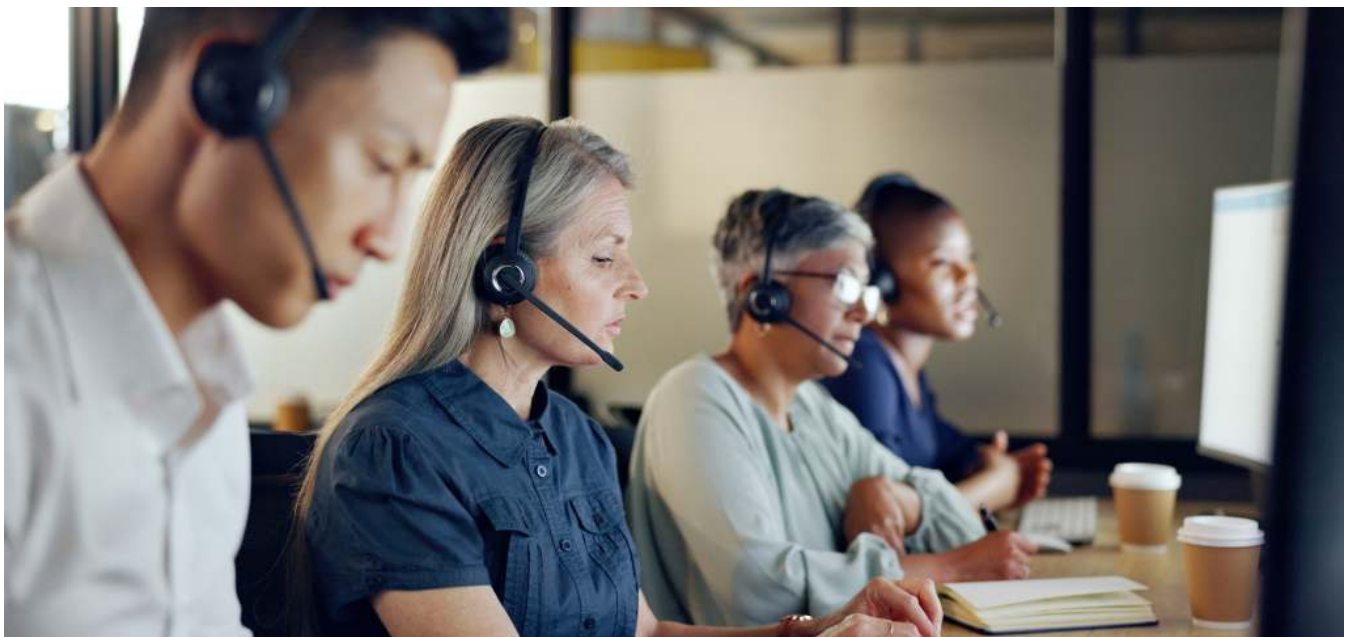
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The hotline functions through a DOT-manned system that integrates information from various sources like state operation centers, highway patrol reports, and platforms like Google Maps. This allows responders to call in and get updated guidance on road conditions.

For example, a driver trying to reach a specific town, such as Hickory, North Carolina, could inquire about accessible routes amid road closures or washed-out bridges. The hotline then compiles the latest data to provide drivers with safe, alternate routes.

FUTURE ACTION ITEM:

- ✔ Provide education to industry on the Routing Assistance Hotline Service.
- ✔ Update the Routing Assistance Hotline brochure that was developed in 2018 and make it available to the appropriate stakeholders.



State Routing Assistance

During recent emergency response operations, North Carolina's Department of Transportation (DOT) implemented a valuable resource to support route planning and navigation for responders facing unpredictable road closures. This initiative involved a dedicated DOT cell at the state's Emergency Operations Center (EOC), providing up-to-date route information to drivers needing safe passage through affected areas.

This DOT cell, staffed with route-mapping experts, became essential as the storm evolved, delivering daily updates on road closures and impassable areas. North Carolina also provided a specific state DOT contact number that drivers could call directly, allowing them to speak with experts who guided them through real-time route changes. This system proved invaluable for community asset drivers and other emergency responders, who found the rapid guidance critical for maintaining efficiency and safety in reaching affected communities.

The resourceful setup drew praise from private-sector representatives and communication coordinators. Many identified it as a best practice worth replicating in future disasters, especially for its direct support to drivers navigating challenging, shifting conditions. This approach was first introduced in North Carolina during Hurricane Florence but was significantly scaled up due to the increased demand and severity of the recent storm.

As responders shared the success of this approach during the meeting, it became clear that North Carolina's strategy of deploying a specialized DOT cell provided a practical solution to real-time navigation challenges in disaster zones. This enabled effective collaboration between state agencies, private-sector liaisons, and on-the-ground teams. This model is now being considered for broader application across other state emergency response frameworks.

Future Action Item:

- ☑ Have North Carolina provide further education to industry stakeholders on their DOT cell and how it supports transportation routing.

Trucking

The Owner-Operator Independent Drivers Association (OOIDA) highlighted ongoing challenges and successes in coordinating resources and permits during recent disaster responses. With each new storm, unique logistical issues arise. In this particular event, many members needed to transport heavy equipment, such as bulldozers and earth movers, from distant locations like Utah.

The goal was to aid in clearing roads and debris, but moving such equipment required obtaining permits from each state along the way—a process that can be slow, especially outside business hours. Nevertheless, OOIDA acknowledged that state agencies were highly supportive, ensuring permits and even law enforcement escorts to facilitate smooth and timely transport.

The SISE-net’s “one-stop-shop” feature, now available for accessing waivers and exemptions, has been a game-changer, greatly reducing the administrative burden for responders. This centralized system simplifies preparation and allows OOIDA to locate vital information on waivers and emergency declarations, significantly reducing the typical headaches associated with these regulations.

Donations Involving Trucking

Managing donations requiring trucking support poses challenges, as many groups send items like clothes, which are often unneeded. This influx of nonessential goods strains logistics, prompting OOIDA to recommend that donors confirm needs with local organizations.

Some OOIDA members volunteer to transport donations when necessary, but the excess of nonessential items remains a recurring issue.

Despite these obstacles, recent storm response efforts went smoothly due to improved processes and strong collaboration with state partners, underscoring the value of preparation and streamlined resources.

Locating Diesel Fuel

During emergencies, OOIDA members frequently reach out for logistical support, especially regarding fuel availability in affected areas. Members often find fuel stations empty and need guidance on where to refuel. While OOIDA strives to provide up-to-date information, this recent event saw fewer calls than expected, suggesting that many responders were able to navigate the situation independently.

Numerous members traveled to the region to assist with recovery efforts, reflecting the strong commitment within the community to support each other during challenging times.





Communications

Thousands of North Carolina residents lost internet, cable, and cell service during Hurricane Helene, as major providers reported widespread outages. At the storm's peak, over 236,000 customers were without service, significantly impacting people's ability to stay connected during the crisis.

Hurricane Helene severely damaged network equipment, causing major disruptions across the region. Power outages compounded the issue, as cell towers and network sites rely on electricity, leading to further interruptions. Extensive outages were reported across six states, including North Carolina, disrupting critical communication channels when they were needed most.

Restoring communication after Hurricane Helene was challenging due to blocked roads, flooding, and difficult mountain terrain, which delayed repair crews' access to affected areas. To assist residents, providers implemented temporary measures, such as waiving call, text, and data fees for impacted customers during the recovery period to help alleviate communication issues.

Reducing Fiber / Cable Cuts

Over the past several years, the communications sector has been collaborating with the electric sector on initiatives designed to reduce incidents of fiber and cable cuts during disaster response and debris removal missions.

Working with states, the SISE, FEMA, CISA, and other organizations, educational materials were

created and distributed to raise awareness of these issues and provide actionable steps to prevent cable damage during cutting or clearing operations.

This effort has yielded results. While it has not entirely eliminated cuts, the communications sector has observed a reduction in fiber and cable damage during storms.

Innovations

- ✔ **STARLINK by SpaceX:** Wireless phones were provided to survivors of Hurricane Helene through STARLINK. Some organizations purchased and donated units to those in need, ensuring more people could stay connected during recovery.
- ✔ **Cable Disruption Reporting:** When vehicles run over cables, service disruptions can occur, and identifying the crimped cables or fibers can be challenging. In collaboration with North Carolina Emergency Management, communications companies established a dedicated phone number, allowing citizens to text NC with the location of damaged cables. This initiative expedited repairs and restored services more quickly

FUTURE ACTION ITEM:

- ✔ No suggestions offered.

Rail

Hurricane Helene caused significant disruptions across the southeastern U.S. railroad sector, inflicting severe damage to critical rail routes. Three major carriers—Norfolk Southern (NS), CSX, and Watco’s Blue Ridge Southern—each faced over 50 miles of track damage. The destruction included extensive washouts, scour damage, and impaired bridges, posing substantial infrastructure challenges.

Despite the widespread damage, NS and CSX, as Class 1 carriers, leveraged alternate routes to maintain the movement of commodities. However, delays were inevitable, as these pathways required modifications to accommodate increased traffic and ongoing recovery efforts. This situation highlighted the resilience of the rail network while emphasizing the complexities of responding to extensive infrastructure damage.

The hurricane also underscored the vulnerability of railroads to major storms, which can cause flooding, landslides, and other environmental challenges that disrupt critical transportation systems.

Innovative Response

- ✔ The rail sector in Western North Carolina demonstrated remarkable innovation by repurposing 233 rail camp cars as disaster resources. These rail cars, consisting of a flatbed frame with a cab, served dual purposes. The cabs were converted into shelters accommodating up to four beds, while the flatbed frames were repurposed to replace small damaged bridges, providing essential infrastructure support during the recovery process.

FUTURE ACTION ITEM:

- ✔ No suggestions offered.





Insurance

In the aftermath of major disasters, insurance companies face significant challenges in assessing property damage and issuing timely compensation. Restricted access due to road closures, power outages, and communication breakdowns hampers the ability of adjusters to reach affected areas, delaying evaluations and engagement with property owners. These delays are further exacerbated by ongoing search and rescue operations and emergency response efforts, which often limit access to disaster zones. As a result, critical financial relief is postponed, hindering recovery for residents and businesses.

Delayed damage assessments by insurers have far-reaching consequences. Financial delays prevent residents and small businesses from beginning essential repairs, prolonging recovery efforts, and leaving local economies vulnerable. Businesses struggle to reopen, employees face potential layoffs, and consumer spending declines, compounding the economic strain on affected communities and slowing the overall pace of recovery.

Frustration among residents and business owners awaiting assistance often leads to a breakdown in trust between communities and insurers, particularly when support feels inaccessible. Additionally, emergency responders face heightened coordination challenges, as they must balance public safety priorities with insurance adjusters' demands for access. This creates logistical burdens,

stretching resources thin in already overwhelmed areas.

These challenges underscore the urgent need for improved planning and streamlined protocols that enable insurance adjusters to assess damages swiftly and efficiently, ensuring faster financial relief and smoother recovery efforts.

Future Action Items

- ✔ **Explore the Use of Drones:** Leverage drones for faster damage assessments, enabling quicker distribution of financial relief to impacted areas.
- ✔ **Develop a Secure Coordination Process:** Establish secure agreements between state/local governments and the private sector to coordinate and share essential damage assessment information.

Water

The American Water Works Association (AWWA) highlighted both the strengths and challenges faced by the water sector during recent emergency response efforts.

The water sector's mutual aid networks, such as North Carolina's WARN (Water/Wastewater Agency Response Network) program, demonstrated resilience and efficiency, particularly in coordinating resources across regions.

For instance, Florida's well-established WARN program efficiently deployed aid to hurricane-impacted areas, including the Big Bend and Pinellas regions, and then shifted to central parts of the state as needs evolved.

However, in North Carolina, the WARN program needed additional time to organize in less-frequented areas like the western mountains, where disaster response activity is typically less common. Despite these delays, the program managed to execute the largest water mutual assistance effort in its history.

Information Sharing Challenges

One major challenge during recent emergency responses was the restricted sharing of operational updates at the federal level. Although state-level situational reports (SITREPs) and dashboards provided a comprehensive view, this information was often missing from federal reports and briefings. This lack of transparency led to frustration among state and

local agencies, as crucial details about the operational status of water systems didn't reach other critical response teams who rely on such data.

This communication gap seemed to stem from unspecified security concerns or possible political influences, creating obstacles in sharing key information with federal partners and other sectors dependent on water sector updates for safe operations. Stakeholders in the water sector saw this as counterproductive, as timely updates on water system functionality are essential for guiding utility response efforts and ensuring safety.

The American Water Works Association (AWWA) and other sector leaders recognized the importance of resolving these communication challenges to improve future responses. While the WARN (Water/Wastewater Agency Response Network) network operated effectively in the field, refining information-sharing protocols and removing unnecessary federal-level barriers are vital to enhancing cross-sector coordination in future incidents.

Future Action Item:

- ✔ Explore options to leverage existing mechanisms, processes, and organizations to enhance the flow of water sector situational awareness from the state level up to the federal level and other relevant partners.





Food / Waste Management

In the food sector, hurricanes often result in widespread power outages, leading to significant losses of perishable goods. The primary challenge is waste management: removing spoiled fresh and frozen items from stores quickly so they can reopen and resume normal operations. However, waste removal logistics frequently face a critical obstacle—landfill closures. Hurricanes often strike on Fridays, and with most landfills closed over the weekend, stores are left with limited options to dispose of large quantities of spoiled products.

Hurricane Helene also exposed a major challenge in debris removal: insufficient large dumpsters and limited weekend operations. Demand far exceeded supply, delaying recovery efforts.

Waste Management and Landfill Access

The food and retail sectors faced persistent challenges managing debris in areas where landfill operations were constrained by ownership and policy limitations.

- ✔ **Florida:** Privately owned landfills posed challenges in coordinating timely debris disposal. Despite a governor's mandate for extended hours, some landfills remained closed, forcing the state to find temporary disposal sites and highlighting the need for sustainable post-disaster waste management solutions.
- ✔ **Tennessee:** County-owned landfills had varied responses. Some counties cooperated

by extending hours and waiving certain restrictions for debris disposal, but ultimately, landfill operations remained a local decision, adding complexity to the state's recovery strategy.

- ✔ **Louisiana:** The EPA's strict debris management rules presented another challenge. Noncompliance risks FEMA cost-share funding, potentially leaving states and local governments financially burdened. This underscores the importance of adherence to regulations during disaster recovery efforts.

The discussion emphasized the need for improved policies and potential waivers to ensure landfill accessibility and flexibility during disaster recovery. Balancing operational needs with regulatory compliance is essential to expedite cleanup efforts effectively.

Future Action Items:

- ✔ **Expand Access to Dumpster Services:** Explore options for regional and national access to dumpster service providers to support impacted states during hurricanes.
- ✔ **Establish Pre-Planned Agreements:** Develop agreements with local, regional, and national waste management providers to ensure extended service hours and adequate resources for improving disaster response.



State Reports

Florida

Florida has been exceptionally busy, managing four major disasters since June. Despite the demanding pace, the state has relied on support from both industry partners and other states, emphasizing the importance of collaboration and information sharing during these challenging times. In the rare moments available to step back from day-to-day demands, the insights and updates provided by industry and regional partners have proven invaluable.

Florida emergency responders have actively participated in two chat groups: one for all members of the All Hazards Consortium (AHC) and another specifically for their region. This dual setup enabled them to address both broad and region-specific issues, facilitating quick connections and effective problem-solving. With many states pitching in—Tennessee, Louisiana, Texas, and others—Florida found this network invaluable for staying responsive and addressing cross-state needs.

However, the intense workload sometimes prevented them from engaging as fully as they would have liked. In such instances, a direct message or reminder from partners proved to be the most effective way to stay on track. Despite these challenges, Florida remains committed to strengthening and reestablishing connections that may have shifted over time. By rebuilding this network, the state aims to ensure continued accessibility and support for industry partners during future crises.

The platform provided by DECSIS (Disaster Emergency Communication and Information Sharing) has served as a vital conduit for Florida, facilitating private information exchanges and enabling swift access to necessary resources. With this structure in place, Florida is optimistic about enhancing resilience and ensuring robust communication with industry partners for improved response outcomes.

FUTURE ACTION ITEM:

☑ No suggestions offered.

Mississippi

Mississippi shared insights from their experience supporting North Carolina's Business Emergency Operations Center (BEOC) as part of an Emergency Management Assistance Compact (EMAC) deployment.

The SISE-net community's information-sharing network proved invaluable. Through this platform, they had access to real-time operational updates, shared best practices, and coordinated responses from a wide array of experienced partners.

When unique or unanticipated problems arose, they could rely on the SISE-net community to provide assistance, with colleagues often offering solutions before the question was fully asked.

Mississippi emphasized how crucial this network was both for their work during the crisis and as a representative of Mississippi working in the North Carolina BEOC.

The collaborative information exchange fostered by SISE-net empowered their team to operate smoothly and efficiently, bridging knowledge gaps and enhancing the BEOC's overall response capabilities.

FUTURE ACTION ITEM:

☑ No suggestions offered.

South Carolina

During the recent disaster response, communication posed several challenges, as some key systems, like the Signal app, experienced technical issues. Despite these hurdles, South Carolina worked diligently to share updates through alternative means, such as LinkedIn and direct contacts, while coordinating with their marketing division to approve and release information via official channels. Though this process added extra steps, it ensured that critical updates reached partners as promptly as possible.

The disaster itself was intense, marked by severe rain events and what felt like a “tsunami over the mountains,” causing cascading impacts that kept response teams on high alert. Kate described the experience as resembling a FEMA exercise scenario, with one issue resolved only for another to emerge. Lifeline sectors remained partially impaired, marked in yellow, reflecting ongoing recovery needs.

A lighthearted moment brought some positivity to the challenging experience: a gentleman from Oregon, unfamiliar with the “Waffle House Index,” learned about this unique disaster indicator. Watching his surprise and realization highlighted how regional response tools can provide new insights to those from outside the area.

Through efforts to overcome communication barriers and foster collaboration, the team successfully kept vital information flowing, helping to mitigate the disaster’s impact effectively.

FUTURE ACTION ITEM:

☑ No suggestions offered.

Tennessee

Hurricane Helene was intense, marked by severe rain events and what felt like a “tsunami coming over the mountains,” causing cascading impacts that kept response teams on high alert.

Tennessee expressed gratitude for the SISE-net and FEMA Region 4 PSL (Private Sector Liaison) networks, which proved invaluable in allowing them to ask questions, learn quickly, and connect with others facing similar challenges. The group’s patience and willingness to share resources, even during a hectic response, provided Kate with essential support.

Tennessee also leveraged ties between private-sector partners and state Emergency Support Functions (ESFs). Many partners had already established relationships, enabling the state to communicate directly with ESFs and relay critical updates. This structure allowed the team to focus on managing real-time issues rather than building connections from scratch.

Looking ahead, Tennessee is prioritizing improvements in communication with the private sector. The state’s After Action Review (AAR) will explore strategies to streamline the flow of operational updates, either directly through ESFs or via the larger private-sector network, ensuring real-time information is accessible to all partners. Through this learning experience, the state aims to enhance its response capabilities and build even stronger private-sector partnerships for the future.

FUTURE ACTION ITEM:

- ✔ No suggestions offered.

Georgia

Georgia shared valuable insights on the importance of effective communication tools and team structure in disaster response. They expressed appreciation for the Signal app, acknowledging its usefulness for staying updated on critical information, despite some initial technical and connectivity issues. While these setbacks presented challenges, the Signal app's integration into response efforts is a promising development, and Georgia plans to make it a core part of their future communication strategy.

Reflecting on coordination challenges, Georgia noted that a dedicated group specifically for Region 4 Private Sector Liaisons (PSLs) could have streamlined communications further, especially during the high demand of the recent emergency.

To address this and improve future responses, Georgia is expanding its Business Emergency Operations Center (BEOC) program. Jamar Pye will continue focusing on public sector partnerships, including nonprofits and in-kind donations, while his new counterparts, Karen Hampton and Allen Fox from the Department of Economic Development, will support private sector partners and business continuity efforts.

Additionally, Warren Shepherd, a key figure in Georgia's infrastructure planning, will play an ongoing role, lending his expertise to ensure robust response frameworks.

Georgia's enhanced BEOC setup is designed to foster stronger communication, collaboration, and resource-sharing, positioning the state to contribute more effectively to regional emergency response efforts.

FUTURE ACTION ITEM:

☑ No suggestions offered.

North Carolina

During recent disaster response efforts, private sector collaboration proved to be an invaluable asset, enabling rapid problem-solving and strategic decision-making. Leaders from various sectors highlighted the crucial role of private sector input, particularly in North Carolina's daily operational calls, which helped state agencies understand the on-the-ground needs and challenges businesses were facing. For example, Mississippi's support in North Carolina was praised for stabilizing operations and offering insights that guided critical decisions.

Key Takeaways from the Private Sector:

- ✔ Fuel Sector: Representatives from the fuel industry confirmed that the primary issue was not a fuel shortage but a distribution bottleneck. This required coordination with the State Highway Patrol rather than additional fuel supplies.
- ✔ Banking Sector: Cash vendors struggled to access ATMs due to road closures and security concerns. This prompted the initiation of a collaborative model among banks to maximize limited access by coordinating which vendor could operate in areas with restricted road access.
- ✔ Retail Sector: Companies like Walmart and Publix came prepared with mobile solutions for their stores, enabling them to quickly accept payments and provide essential services, including mobile pharmacies. This level of preparedness was instrumental in restoring operations and supporting the community.

North Carolina's daily calls created a dynamic feedback loop, allowing agencies to work closely with the private sector to address needs such as safe travel routes. The North Carolina Department of Transportation (NCDOT) opened a dedicated cell for safe route planning, enabling private sector vehicles to operate more securely and efficiently with the support of Highway Patrol escorts.

This collaborative exchange underscored the power of open communication between the private sector and state agencies in navigating logistical challenges, safeguarding supply chains, and ensuring community access to essential resources.

FUTURE ACTION ITEM:

- ✔ No suggestions offered.

Virginia

Hurricane Helene impacted southwestern Virginia, prompting the full activation of the Virginia Emergency Operations Center (VEOC) on September 27, 2024, as the storm entered the state. Throughout the incident, the Private Sector Liaison (PSL) role was staffed, with a newly trained PSL successfully supporting private-sector communication and coordination efforts.

SISE-net and Communication Tools

The SISE-net SIGNAL app was a vital line of communication and information sharing during Hurricane Helene response efforts. It provided Virginia with the ability to view, in real time, the storm's impact on neighboring states, as well as the needs of those states and sectors. SIGNAL proved to be a valuable tool for maintaining constant communication, quickly requesting assistance, and sharing waiver updates—eliminating the need to log into a website during busy periods to upload received information.

However, due to postponed training, the SISE-net Hub was not utilized by Virginia's Private Sector Liaisons during the response.

Donations

In coordination with Virginia's ESF 17 – Volunteer and Donations Management, a database was developed to catalog private organizations and businesses along with their service offers. While the area experienced an influx of physical donations, several service offers were successfully matched to community needs in Southwest Virginia.

Infrastructure

Virginia's Infrastructure Branch formed an Infrastructure Task Force to collaborate with critical infrastructure Emergency Support Functions (ESFs). This task force focused on identifying needs, addressing problems, and coordinating ongoing efforts, particularly regarding energy and roadway restoration.

Post-Hurricane Improvements

Since Hurricane Helene's activation, Virginia has:

- ✔ Fully trained two Private Sector Liaisons.
- ✔ Gained a better understanding of the benefits of using the SISE-net Hub.
- ✔ Clarified the delineation of points of contact during Private Sector activations and non-activation periods.

FUTURE ACTION ITEM:

- ✔ No suggestions offered.

SISE-net Performance



SISE-net Technology Performance

The technology used by the SISE Community continued to improve and adapt to the ever-changing conditions of the hurricanes.

The SISE-net Hub provided a centralized platform for approved users to post operational updates in real time throughout the storms, day or night.

It also offered a search capability, allowing users to locate validated information and documents quickly.

et Hub Technology

CHAT

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“LIVE” Operational Resource
Hub (600+ users)



Hub Traffic Statistics - Helene

Over the first seven days of Hurricane Helene (9/23/2024 to 9/30/2024), the SISE-net Hub usage statistics reached unprecedented levels.

These traffic statistics, shown below, were driven by several factors, including an influx of new SISE-net users (data consumers) and an increase in SISE-net Liaisons (data providers) contributing information to the Hub.

- ✔ SISE user registrations: Increased from 425 to over 650 within two weeks.
- ✔ Usage report (9/23/2024 to 9/30/2024):
 - ✔ Total page views: 123,898.
 - ✔ Peak page views in a single day: 33,000+.
 - ✔ Average daily page views: 17,669.



Usage details for the period:

September 23, 2024 - October 10, 2024

Custom Date Range

Set a Custom Date Range

Start Date:

9/23/2024

End Date:

10/10/2024

Update Report

Requests this Period

268,998

Avg Requests Per Day

15,823.41

Usage Time Series



Usage Statistics - Helene & Milton

The SISE-net Operational Information Sharing Hub continued to play a critical role during Helene's recovery efforts while also supporting operations for Hurricane Milton's landfall in Florida.

This marked the first time the Hub was used for two concurrent storms.

- ✔ Usage report (9/23/2024 to 10/10/2024):
- ✔ Total page views: 268,998.
- ✔ Peak page views in a single day: 33,000+.
- ✔ Average daily page views: 15,823.

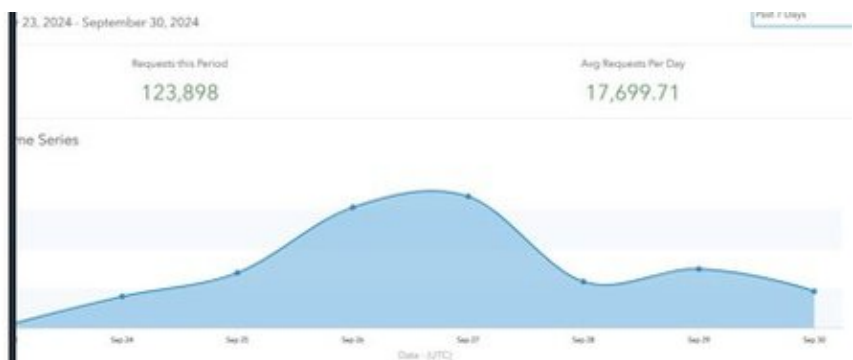
Operational Updates

Over the course of the two (2) storms, the SISE-net community expanded, the number of vetted contributors of operational updates increased, and total number of operational updates increase.

This was largely due to the number of sectors and states that were involved and impacted by Helene and Milton.

Feedback was very positive from both state and private sector uses.

SISE-net Hub Activity Report Helene & Milton



Cross-Sector Operational Updates

Resource to provide timely Operational Updates. Periodic Operational updates from government and industry operations but I provide you with up-to-date information including current status on the ground, road closures, shortages, disruptions, and general response updates.

Filter by Timeframe: 12 Hours, 24 Hours, 48 Hours

Subscriber Name	Workgroup/ Role	Incident Name	Incident Type	Incident Date
William King	State Liaisons	Tx JACOBS	Traveller Storm	8/15/2024 12:00 AM
April Wilson	State Liaisons	Delity	Traveller Storm	8/15/2024 12:00 AM
Chris Eschenberg	S&B Ops	Delity	Traveller Storm	8/15/2024 9:00 AM
Jessica Whelan	State Liaisons	Delity	Traveller Storm	8/15/2024 9:00 AM
Deann Charginoff	State Liaisons	DR-DR-DR Severe Weather	Other System Weather	8/15/2024 4:00 AM
Wally Daugherty	State Liaisons	Traveller Storm Delity	Traveller Storm	8/15/2024 5:00 AM
April Wilson	State	Delity	Traveller	8/15/2024 5:00 AM

Update Details: Incident Details, Related Website, Related Releases

Attachments

SISE-net Hub Operations Updates Posted

- 650+ Vetted SISE Community Stakeholders
- 251 Total Operational Updates Posted
- 123,898 page views
- 48 Contributors during Helene/Milton
- 19 Declarations / Waivers posted
- 34 SitReps posted
- 8 Sector Ops Updates

SIGNAL Chat Usage

Over the course of the two storms, the SISE-net community expanded significantly. The number of vetted contributors providing operational updates increased, as did the total number of updates shared. This growth was largely driven by the number of sectors and states involved and impacted by Helene and Milton. Feedback was very positive from both state and private sector users.

SISE-net Community's SIGNAL App

The SISE-net Community's SIGNAL app became the primary real-time information-sharing platform between states and sector representatives within the SISE-net Community.

The 2024 hurricane season marked the first major test of the SIGNAL app within the SISE-net framework, and it exceeded expectations.

While keeping state and industry groups separate for several reasons, the AHC and approved volunteers were able to share anonymized information and updates between the groups in real time. This facilitated a synchronization of situational awareness not previously seen by many of those involved.

SIGNAL App Community Response for Helene and Milton

- **State Liaison Work Group CHAT**
 - 310 Posts
 - 29 Submitters
 - From 30 States
- **Cross-Sector (XS) Work Group CHAT**
 - 201 Posts
 - 20 Submitters
 - From 12 Sectors

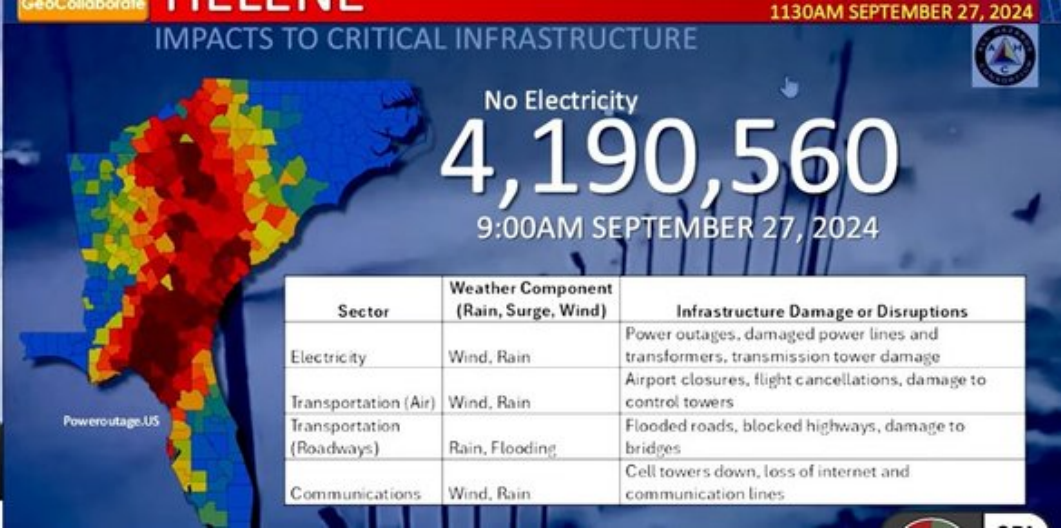




Weather Impacts Messaging



DAVE JONES CEO | STORMCENTER COMMUNICATIONS



SISE Weather Impact Videos

Dave Jones from StormCenter Communications, on behalf of SISE, created a series of weather impact videos to help both state and private sector partners understand the potential effects of upcoming weather on their sectors and the sectors they depend on.

The videos were produced daily and shared with the SISE and SIGNAL app user communities, collectively garnering over 4.5 million views.

These weather impact videos provide SISE members with a unique predictive capability that exists nowhere else in the country.

All Videos can be accessed here: URL: StormCenter Communications | GeoCollaborate

again for your most accurate updates on the Storm"

- ✔ *"The best weather report i have seen yet ! Thankyou !"*
- ✔ *"I always learn some fascinating bit of information from you. I love your reports. I would have studied meteorology in another life."*
- ✔ *"I watch a lot of these, many hundreds on different subjects, but this guy has his skill set off the charts. He is terrific. Get out!"*
- ✔ *"Thank you for this clear explanation. Greetings from Brazil."*

User Feedback

- ✔ *"Thank you, Dave. I very much appreciate your work and I will suggest this channel to those who've not yet found it. You provide a clear and easily understandable explanation of details that don't get covered anywhere else. Your calling is perfectly suited. It's obvious how much you love what you do, and how beneficial that is to all of us. God bless, sir!"*
- ✔ *"Thank you for your update. I have been eagerly awaiting your professional opinion on the aftermath of the storm. I am not disappointed; your updates are so accurate that I'm truly impressed, and I will continue watching your livestream! Thank you once*

Dave Jones BIO

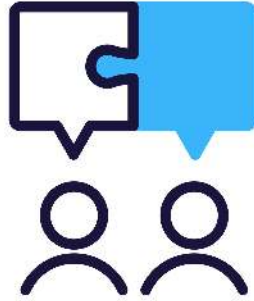
In the 1990's , Dave gained experience on TV as an NBC meteorologist in Washington, DC.

Since 2013, Dave has worked with NASA, NOAA and other federal agencies, along with the private sector users in the SISE, to gain a unique understanding of the "impacts" of weather on communities and critical infrastructure.

Learn More: Dave Jones LinkedIn:

<https://www.linkedin.com/in/davejonesstormcen>

Other Findings



Information Sharing

The SISE-net Hub resource platform has proven to be an invaluable tool for emergency response teams, serving as a centralized “one-stop shop” for accessing critical information such as waivers, emergency declarations, and other regional updates. This resource simplifies the process for responders by consolidating various updates and requirements, making it easier to navigate complex regulations during emergencies.

However, one key area identified for improvement is the timeliness of information updates, particularly with State Situation Reports (SitReps). Some users noted delays in receiving these reports, which reduced their effectiveness as conditions evolved. Since SISE-net relies on crowdsourced information from State Private Sector Liaisons (PSLs) and other contributors, maintaining up-to-the-minute data can be challenging amidst the numerous tasks PSLs manage during crises.

To address this, SISE-net is exploring several enhancements, including a liaison program that would allow representatives from states unaffected by a current disaster to assist those directly impacted. This approach has already shown promise, with personnel from states like Idaho and Oregon supporting eastern states during recent events. The program aims to create a dedicated network of liaisons who can promptly relay information, enhancing SISE-net’s responsiveness and timeliness.

Additionally, SISE-net is working to ensure that State SitReps and other critical updates are shared directly with its consortium and liaisons as soon as they are issued by the states. By adding liaisons to approved state distribution lists, SISE-net hopes to streamline the flow of information, providing responders with timely insights that enhance decision-making and operational effectiveness in disaster scenarios.

Future Action Item:

- ☑ Explore options to expedite the delivery of State SitReps into the SISE-net Hub.

Donations

In the aftermath of major disasters, states often face an overwhelming surge of donations from well-meaning communities, businesses, and individuals eager to help. This was especially true during Hurricane Helene.

While this generosity plays a crucial role in recovery, it also brings significant logistical challenges. States, already strained by disaster response, must manage, organize, store, and distribute a flood of donated goods. This requires substantial space, personnel, and coordination, often exceeding their immediate capacity.

Warehouses quickly fill, and without adequate storage or inventory systems, items—especially perishables—are at risk of spoilage or waste. Inefficient handling can result in significant losses, with donated goods sometimes improperly distributed or even discarded, ultimately reducing their intended impact.

Each state handles donations differently, adding to the complexity. Out-of-state donors often struggle to identify appropriate channels to ensure their contributions are effective and meaningful. Moreover, this challenge of managing donations is infrequent but high-impact, straining both communities and businesses during critical recovery periods.

Future Action Items:

- ✔ **Catalog Existing Donation Resources:** Create a centralized directory of state-sanctioned donation resources for easy reference.
- ✔ **Centralized Donation Management System:** Develop a unified platform to help donors identify specific needs, prioritize items, and minimize waste through real-time inventory tracking.
- ✔ **Regional Donation Centers:** Establish pre-identified hubs to process and manage donations, reducing pressure on disaster-affected areas.
- ✔ **Public-Private Logistics Partnerships:** Collaborate with logistics companies to transport and distribute donations more efficiently.
- ✔ **Anti-Fraud Measures:** Implement a “verified donation site” certification, work with cybersecurity experts to identify scams, and issue timely fraud alerts to protect donors.
- ✔ **Public Education Campaign:** Launch initiatives to educate the public on responsible giving, share real-time needs, and provide fraud prevention updates via trusted communication channels

A Final Note...

As we reflect on the release of the 2024 After Action Review for Hurricanes Helene and Milton, we want to extend our deepest gratitude to the dedicated partners and stakeholders who make the SISE Community a driving force for resilience and collaboration.

To **BentEar Solutions LLC Team** (who has supported the SISE technical framework from the beginning), **Commercial Motor Vehicle Safety Alliance, FMI, Energy Marketers Association, Edison Electric Institute, Owner-Operator Independent Drivers Association, American Petroleum Association, Association of American Railroads, FEMA, CISA, Federal Motor Carrier Safety Administration, NOAA, NASA,** and the **American Water Works Association** and the many other local/regional/ national organizations and individuals that support private/public collaboration: thank you for your invaluable leadership and expertise in navigating the challenges of disaster response. Your contributions have been instrumental in developing innovative solutions and fostering cross-sector information sharing and coordination.

To the **companies and states that actively participate in SISE working groups:** your commitment to real-time information sharing, problem-solving, and mutual aid has been a cornerstone of our collective success. Your collaboration has enhanced operational efficiency and accelerated recovery efforts during the most critical moments.

Finally, to the **650+ stakeholders within the SISE Community:** your tireless dedication and engagement have made a profound impact. From leveraging cutting-edge tools like the SISE-net Hub and SIGNAL app to sharing insights and resources across sectors, you exemplify what it means to work together for the greater good.

The SISE Community thrives because of your partnership, vision, and unwavering support. Together, we've not only overcome challenges but also set the standard for what collaborative disaster response can achieve.

Thank you for your continued commitment to building a stronger, more resilient future. We look forward to growing this incredible network and advancing our shared mission in the years to come.

How to Register with the SISE?

To register with the private sector's
SISE visit: www.siseusa.org

