

IAEM

Bulletin

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Message from the Director of the National Weather Service on the IAEM Annual Conference

**Ken Graham, MS, Director, National Weather Service,
NOAA, National Weather Service**

**The author will be speaking as part of the IAEM 73rd Annual Conference
on Nov. 17 from 9:45 a.m.-10:45 a.m.**

I'm honored to join you at this year's IAEM Annual Conference—one of the most valuable opportunities to engage directly with emergency management professionals. The partnership between the National Weather Service (NWS) and the emergency management community is foundational to our shared mission: protecting property, saving lives, and navigating every storm—together.

This year marks a pivotal moment for NWS. In July, the Presidential Memoranda, "Ensuring Accountability and Prioritizing Public Safety in Federal Hiring," designated NWS a Public Safety agency, and we've been granted Direct Hiring Authority. These developments streamline our ability to recruit top talent and reinforce our role as a critical national asset. We're deeply grateful for the support from the Administration and our partners in the field, on Capitol Hill, and across the public sector.

These changes come at a time of extraordinary challenge. In 2025 alone, we've faced devastating wildfires, tornado outbreaks, hurricanes, and hailstorms. Catastrophic flash flooding in Texas claimed more than

130 lives. Our hearts remain with those affected, and we commend the tireless efforts of NWS staff, IAEM members, and our partners who responded with urgency and compassion. These events underscore the life-saving importance of timely forecasts and early warnings—and our unwavering commitment to improving them.

We are committed to a comprehensive organizational transformation—one that positions the NWS to meet the demands of a rapidly evolving world. This restructuring will enhance our capacity to deliver life-saving forecasts and warnings, expand Impact-Based Decision Support Services, and strengthen our presence with decision-makers at every level.

When I began my tenure as the NWS director in 2022, my conversations with employees led to "Ken's 10," a set of ten initiatives designed to move the NWS towards being more nimble, flexible, and mobile, sitting eye-to-eye with decision makers. Building on this, I am launching the next phase of Ken's 10, which focuses on modernizing technology,

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Message from the Director of the National Weather Service

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strengthening our workforce, and changing our operations model to better serve the nation. These efforts will also deepen collaboration with our core partners across the weather enterprise, ensuring that together we deliver the best possible information to protect lives and property.

Emergency managers are the backbone of this work. Your leadership on the front lines ensures that communities are prepared, informed, and resilient. Being here at IAEM

allows me to hear your stories firsthand—insights that shape how we evolve NWS to meet your needs and support your mission.

Through every transformation and every storm, one constant remains: our partnership with IAEM. Whether in calm or crisis, we stand shoulder to shoulder, united by purpose. On behalf of the entire National Weather Service, thank you for your steadfast support. We remain committed to delivering the information you need—when you need it, how you need it—to empower your decisions and protect the public.

I look forward to seeing you in November at the IAEM Annual Conference! ♦

GET TO KNOW THE: Critical Infrastructure Consortium

The Critical Infrastructure Consortium is an innovative initiative that brings together critical infrastructure partners and emergency managers to collaborate, share best practices, and advance resiliency activities across the critical infrastructure spectrum. This think tank-style group is housed in IAEM and is available to all emergency managers.

Open to IAEM members and non-members, this initiative fosters collaboration, knowledge sharing, and stronger critical infrastructure across all sectors.

Email chelsea@iaem.com to learn more.



Bulletin Editor: [John Osborne](#), QAS

Communications Director:
[Dawn Shiley](#), MA, CAE

Chief Executive Officer:
[Elizabeth B. Armstrong](#), MAM, CAE

The *IAEM Bulletin* is published monthly by IAEM to keep members abreast of association news, government actions affecting emergency management, research, and information sources.

The publication also is intended to serve as a way for emergency managers to exchange information on programs and ideas. Past issues are available in the members-only [IAEM Bulletin Archives](#).

Publishing an article in the *IAEM Bulletin* may help you to meet IAEM's certification requirements. Check out the [author's guidelines](#).

Articles should be submitted to Bulletin Editor John Osborne via email at john@iaem.com.

DISCLAIMER

The views and opinions expressed by author(s) of articles appearing in the *IAEM Bulletin* are solely those of the author(s) in his/her/their private capacity and do not necessarily represent the views of the International Association of Emergency Managers, Inc. (IAEM), its officers, directors or volunteers or IAEM's management company (ASMI), or any of ASMI's employees and contractors. Responsibility for the information and views expressed in an article lies entirely with the author(s).

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The Evolution of an Association

Elizabeth B. Armstrong, MAM, CAE,
IAEM Chief Staff Executive (Executive Director/CEO 1989-2025)

I joined IAEM part-time in 1985 and became the chief staff executive in 1989. I have seen the growth of a very strong association and how it can directly influence the development of a profession. Under the stewardship of our management firm, Association & Society Management International (ASMI), IAEM has built a strong membership base, advocated relentlessly for the profession, launched a professional certification program, established a scholarship program that has supported hundreds of students, defined principles of emergency management, grown a vibrant network of professional support including a conference that is the most significant annual event for practitioners worldwide, managed technical evolution including creating IAEM's first digital member database system and electronic content delivery, founded the Annual Memorial Service, created the annual wellness engagement program, and become known as a primary source of professional information for emergency managers globally. Thank you, thank you for the opportunity to be a part of it.

I have observed many associations and their life cycles during my career. ASMI has served IAEM for more than half of its history, beginning in 1985 when IAEM was still known as the U.S. Civil Defense Council and had a fledgling roster of 500 members, and I was the part-time membership manager. ASMI has enhanced IAEM's organizational health through increased membership engagement, financial stability, a positive culture, and staff-member trust. In my experience, IAEM has excelled in all these areas, and its dedicated members have been the

key to its success.

Despite having incredibly challenging jobs, emergency managers demonstrate an extraordinary willingness to fulfill leadership roles within the association. They contribute to the emergency management body of knowledge and community of practice by providing subject matter expertise, data for benchmarks, and volunteering resources to support fellow emergency managers to create policies and templates.

Member engagement in the association is unusually high.

IAEM has achieved **financial stability** through conservative budgeting, careful saving, and focused efforts to generate revenue streams by delivering worthwhile professional services. Its current reserve fund is close to half of its annual operating expenses, and the IAEM Board works diligently to balance its budget and invest in new projects while ensuring that revenue is available to support the costs of member services.

Economic and employment dynamics are currently reverberating throughout the U.S. job market. Turnover in the emergency management workforce influences IAEM's membership fluctuations. Despite this, the willingness of every emergency manager to help a colleague with a professional challenge is consistent within the association. The organizational culture has endured many generations of membership turnover during my tenure, which began in 1985. The flux creates reliance on its headquarters staff to maintain institutional knowledge and consistent strategic directions.

A level of trust is necessary between the staff and the association's volunteer leadership.



*Elizabeth B. Armstrong, MAM, CAE,
IAEM Chief Staff Executive (Executive
Director/CEO 1989-2025)*

The hallmarks of **IAEM's culture** are collegiality and camaraderie, sprinkled with a healthy dose of disaster humor. Those who choose a career in emergency management are willing to help colleagues more than most like-minded professionals.

My staff and I have been with you, doing our best to help as you manage hundreds of emergencies and historic, catastrophic disasters. We've witnessed the stories, arranged the exchange of professional content, and offered words of encouragement during the darkest days for our members and the people we serve. It is our honor to do so.

As I reflect on my career with IAEM, many fond memories emerge that represent IAEM's culture. I have worked with [40 IAEM presidents](#) and [six global chairs](#), forging many

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The Evolution of an Association

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lifelong friendships. I've faced many member challenges and have had many moments of pride:

■ In the late 1980's when I was the membership manager, the Mobile (AL) emergency manager and conference host, Rose Young, had a Mardi Gras party and made me dress in a cute bee costume. That was a tough way for a young woman starting her career to abandon her modesty and be a good sport. Ever since, I've been able to smile through the occasional less-than-ideal work circumstance.

■ Who remembers the time when I sought cost savings at a conference and ordered portobello mushroom sandwiches to be served to hundreds of emergency managers? Entire tables of vocal members queried, "Where's the beef?!" In more recent times, there was a similar episode involving sweet pea ravioli.

■ My heart is still full of pride when I look at the photograph of our first class of Certified Emergency Managers® (1993), and I have had

the privilege to stand just off-stage to award pins to each of the subsequent 32 classes of dedicated professionals.

■ When we first began working with IAEM, its finances were very fragile, and my father, who founded our association management firm, paid off debts for IAEM as a significant commitment to the small association's future. Membership Manager Sharon Kelly and I used to obsessively collect and recycle conference and office supplies, including folders, badge holders, and even paper clips. We are dedicated to IAEM's financial well-being as a committed partner.

■ In 1999, I got to lead a delegation of 50 American and Canadian emergency managers on an information exchange with Italian counterparts. My youngest of three kids, Caroline, was three months old, my husband John worked 70-80 hours per week, and I could not have done it without the support of our entire family. I owe a debt of gratitude to my sister Barbara, her husband Clay, and my parents for supporting me and the effort to bring emergency management best practices around the world.

■ On March 31, 2001, I participated in the groundbreaking for the U.S. Civil Defense & Emergency Management Memorial on campus at the Emergency Management Institute in Emmitsburg, Maryland. I was on the team that petitioned to have the land dedicated and raised the funds to create the monument. IAEM's flag still flies among those encircling the site.

■ I was honored to be called to help FEMA manage communications on September 11, 2001 because of my IAEM partnership work. Our daughter Katie had just started her last year of pre-school, and our son Brent was in first grade.

■ In 2012, I was inducted into the International Women in Emergency Management Hall of Fame.

■ I served on FEMA's National Advisory Council for six years and participated in FEMA's Vanguard Cohort #4 for National Crisis Leadership Fellows.

■ And there are so many more accolades, memories, and friendships forged.

As I retire, our association is fortunate to have a [team of talented and experienced personnel](#) who share IAEM's mission. Incoming Executive Director Nicole Blankenship, CAE, brings new energy and ideas to support IAEM-USA's mission. In fact, ASMI and IAEM recruited Nicole together, and the final selection was made unanimously by IAEM-USA officers. I am confident that our collective accomplishments will be honored, as the organization continuously strives to improve and meet future challenges.

Serving IAEM for the past 40 years has been a privilege and a career highlight. IAEM is in good hands with many dedicated and talented people leading our charge and advancing our strategy. I am grateful for my time in leadership with IAEM. ♦



One of Beth Armstrong's fond memories of IAEM: The first class of Certified Emergency Managers in 1993.

Celebrating Elizabeth B. Armstrong, MAM, CAE



With FEMA Administrator Craig Fugate and IAEM Past President Billy Zwerschke at the National Hurricane Conference in 2011.



With Global Director and Exhibit Manager Clay Tyeryar, CAE and Finance Director Barbara Tyeryar, QAS.



Receiving a special "Civil Defense Block Mother" designation from then-President Mike Selves, CEM in Reno, Nevada Nov. 2007.



IAEM-USA Board Retreat in 2011 in Phoenix.



With FEMA Administrator Pete Gaynor before the lights went out on Hutchinson Island in Chatham County (Savannah), Georgia in 2019.



1985-86 President Ellis M. Stanley Sr. hired Beth and her staff to manage the fledgling association, then known as the U.S. Civil Defense Council.

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Celebrating Elizabeth B. Armstrong, MAM, CAE

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Enjoying a “win” at the IAEM Scholarship Fundraising Auction with Treasurer Hugh Daniels, CEM, and Dr. Mel Batten-Mickens.



IAEM representatives with DHS Secretary Tom Ridge (center) on a 2005 special work group on domestic preparedness.



In 2019 with IAEM-USA President Marty Shaub, accepting the Ambassador of Excellence Award from National Weather Service Director Dr. Louis Uccellini.



IAEM-USA Board Retreat in Las Vegas, Nevada on March 16, 2010 with Eddie Hicks, CEM, Dan Maher, and Nick Crossley, CEM.



On the steps of the Eisenhower Executive Office Building after a successful day of policy discussion with White House officials in 2010 with Randy Duncan, CEM, Pam L’Heureux, CEM, and Eddie Hicks, CEM.



IAEM-USA leadership gathering at headquarters in Falls Church on January 27, 2012 to work on global and council integration, funding, and related matters. This group includes six who either had been, were, or went on to serve as IAEM-USA presidents. Also included are IAEM executive Clay Tyeryar, IAEM-USA Treasurer Col. Tom Greenlee and long-serving Regional Presidents Kathee Henning (3 – front row with Beth) and Gunnar Kuepper (9 – back row in black).

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Celebrating Elizabeth B. Armstrong, MAM, CAE

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June 1997 with World Conference on Disaster Management Co-Chair Marg Verbeek, CEM, and 1996-97 IAEM (then known as NCEM) President Steve Charvat, CEM. Marg later went on to become IAEM's first Canadian president (2005-06)



Celebrating the 30th anniversary of the IAEM Certification Program at the 2023 Sunrise AEM/CEM Breakfast.



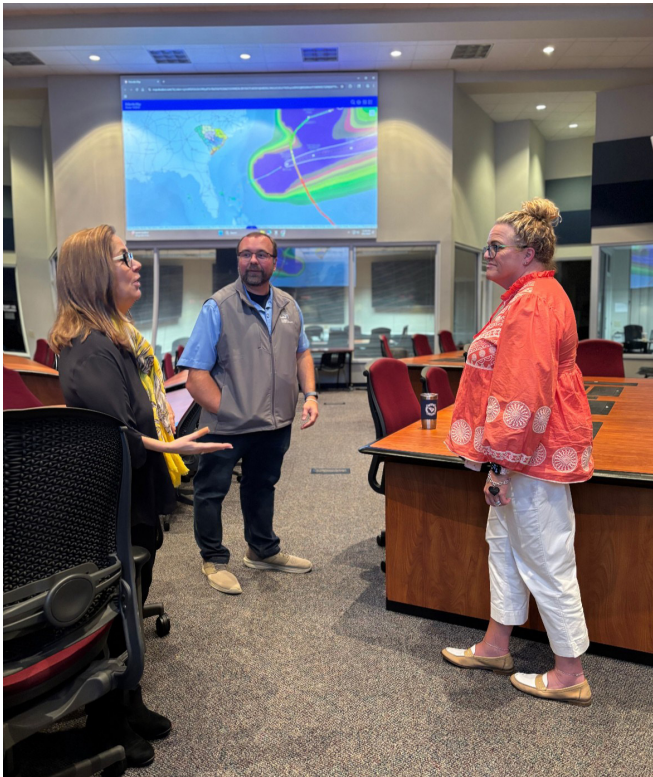
Members of the National Crisis Fellows Leadership Program Vanguard #4 with FEMA Administrator Deanne Criswell.



Conference Chair Mike Gavin invited Beth to introduce IAEM's staff during an opening ceremony.

**THANK YOU, BETH, FOR 40 YEARS
OF DEDICATED SERVICE TO IAEM.**

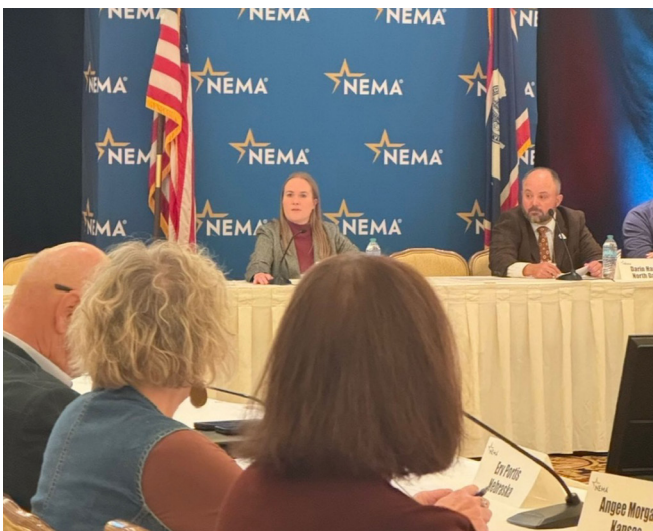
IAEM in Action



Josh Morton, CEM; Nicole Blankenship, CAE; and Gretchen Birt touring the South Carolina State EOC in West Columbia, South Carolina, during Nicole's visit to meet Josh and get to know the emergency management community.



Incoming Executive Director Nicole Blankenship, CAE, met with incoming IAEM-USA President Josh Morton, CEM, on Sept 30-Oct 1 in Saluda County, South Carolina, to discuss IAEM work priorities and goals.



IAEM-USA President Carrie Speranza, CEM, represented IAEM at the legislative committee session during the NEMA Annual Forum in Cheyenne, Wyoming. She emphasized that our nation's strength depends on elevating local perspectives and fostering an unbreakable bond between state and local emergency managers.

IAEM News to Know

Conference

■ There is still time to [register](#) for the IAEM 73rd Annual Conference being held this year in Louisville, Kentucky, Nov. 14 –20, 2025. Join over 2,500 emergency managers as we network and share lessons learned. Check out the [program](#), and make sure to take advantage of the [numerous training courses](#) being offered both pre- and post-conference. Sessions range from one hour to three days to allow you to tailor your schedule to your travel needs.

■ Learn all there is to know about the IAEM Annual Conference by viewing this special Conference Committee [webinar](#), “[Getting the Most out of the Annual Conference](#).” Come prepared to the conference and get the most out of your time away from the office. If you still need convincing, [hear from others](#) why they go back to the IAEM conference, year after year.

Certification

■ The new Certification Portal is open—please visit the [certification website](#) for instructions on how to login, navigate, and create applications in the new portal.

■ Important Information regarding the transition:

- If you have an open AEM, CEM, Lifetime, or Upgrade application in the current portal, you have until Oct. 31, 2025, to submit or you will have to transfer your information to the new portal.
- If you have an open recertification application in the current portal, you have until Dec. 31, 2025, to submit or you will have to transfer your information to the new portal.
- Please contact albon@iaem.com with any questions. ♦



Challenge coins which will be available during the 2025 IAEM Annual Conference.



IAEM Announces Recipients of IAEM-USA Awards

The IAEM-USA Awards & Recognition Committee proudly announces the recipients of this year's IAEM-USA Awards. The recipients will be honored during the President's Banquet and Certification and Awards Program on Wednesday, Nov. 19, at the Kentucky International Convention Center, in Louisville, Kentucky during the IAEM Annual Conference. This prestigious Awards Program recognizes and honors programs and individuals who have significantly contributed to the emergency management field this past year. Congratulations to the following recipients!

Lifetime Achievement Awards

- **IAEM-USA USA Clayton R. Christopher Memorial Award**—Ashley Tye, AEM, Valdosta, Georgia
- **IAEM-USA Career Excellence Award**—Jeffrey Jellets, CEM, Atlanta, Georgia

Individual Awards

- **IAEM-USA Emergency Manager of the Year Award**—Mr. Andrew M. Chandler, AEM, Versailles, Kentucky
- **IAEM-USA Rising Star Award**—Tonya Clarke, CEM, Houston, Texas
- **IAEM-USA Emergency Management Educator Award**—Dr. Claire Knox, Orlando, Florida

Programmatic Awards

- **IAEM-USA Emergency Management Education & Training Program Award**—CAP National Emergency Services Academy (NESA) Mobile Training Team

- **IAEM-USA Technology & Innovation Award**—NASA Disasters Response Coordination System (DRCS)

- **IAEM-USA Preparedness Award**—City of Bainbridge Island & Bainbridge Prepares WASH Team Washington, D.C.

Public/Private Sector Awards

- **IAEM-USA Business and Private Sector Integration and Public Sector Partnership Award**—Operation Pulse Lift

Student Awards

- **IAEM-USA Student Chapter Award**—Massachusetts Maritime Academy

Volunteer Awards

- **IAEM-USA Voluntary Organization Award**—DC Voluntary Organizations Active in Disaster
- **IAEM-USA Voluntary Emergency Manager Award**—Major Rob Yusko, Parker, Colorado

Uniformed Services Awards

- **IAEM-USA Uniformed Services Auxiliary Emergency Manager Award**—Joseph J. Leonard Jr., CEM, Houston, Texas
- **IAEM-USA Uniformed Services Civilian Emergency Manager Award**—Genivive Ivory, Cibolo, Texas
- **2025 IAEM-USA Uniformed Services Emergency Manager Award**—Colonel Todd Canale, Tucson, Arizona

Join IAEM to celebrate the award recipients IAEM's deserving award recipients will be honored by their peers at the President's Banquet. Tickets for the event are still available and can be purchased on the [website](#). The event is included for conference attendees who selected the full conference rate package. ♦



Celebrating 25 Years of the IAEM Scholarship Program, Eight Students Were Selected for Scholarships

The International Association of Emergency Managers (IAEM) established its Scholarship Program in 2000 to provide scholarships and develop future leaders in emergency management. The first award was given in 2001. Since then, the IAEM Scholarship Program has awarded \$195,250 in scholarships through a competitive process to 82 deserving students pursuing degrees in emergency management, disaster management, or a related field. This year, the IAEM Scholarship Commission selected eight additional students to receive scholarships, bringing the total awarded amount to \$224,250.

Congratulations to the 2025 IAEM Scholarship recipients

Tyler Cady, the ninth awardee of the Robert C. Bohlmann, CEM, Scholarship for Service in Emergency Management, is earning a B.S. in Public Health at the University of North Carolina, Wilmington. He was awarded a \$4,000 IAEM Undergraduate Student Scholarship.



Yvonne Dadson is working toward a Ph.D. in Information Sciences with specializations in Data Analytics and Information for Risk in Emergency Management and Security at the University at Albany, SUNY. She was awarded a \$2,500 IAEM Full-Time Graduate Student Scholarship.



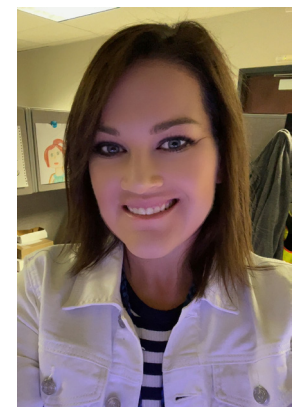
Jason Fuller is earning an Ed.D. in Leadership Studies with a concentration in Disaster Preparedness and Emergency Management at Louisiana State University, Shreveport. He is the eighth awardee of the Samuel Henry Prince IAEM Scholarship for part-time graduate students, partially funded by IAEM-Canada. He received a \$3,000 IAEM Part-time Graduate Student Scholarship.



Gregory Godish is working toward a Ph.D. in Emergency Management at Columbia Southern University. He was awarded a \$3,500 IAEM Full-Time Graduate Student Scholarship.



Sarah Hayes is earning a Ph.D. in Emergency Management at Oklahoma State University. She is recipient of the special one-time scholarship celebrating the 25th anniversary of the program, the Dr. E.L. Quarantelli Scholarship for Doctoral Research Students. She received a \$10,000 IAEM Graduate Student Scholarship.



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IAEM Scholarship Program

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Ian Varada Hernandez is working toward a B.A. in Emergency and Disaster Management at the American Military University. He was awarded a \$3,000 IAEM Undergraduate Student Scholarship.



Stephanie King is earning a Ph.D. in Public Affairs with a certificate in Emergency Management at the University of Central Florida. She is the recipient of a special award for the highest-scoring female graduate student, the IAEM-Women in the Field of Emergency Management (WTFem) Graduate Scholarship. This award was funded by WTFem). She received a \$4,000 IAEM Graduate Student Scholarship.



Aleah Miller is working toward a B.S. in Disaster Resilience and Emergency Management at North Dakota State University. She was awarded a \$2,000 IAEM Undergraduate Student Scholarship.

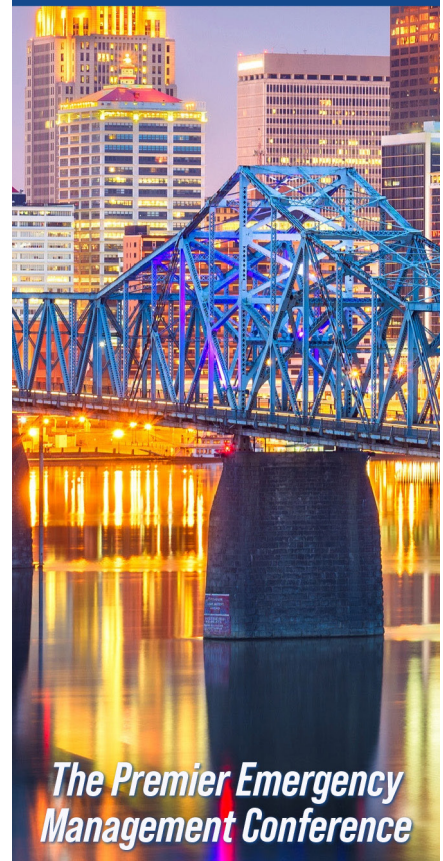


Help IAEM Give Other Deserving Students Scholarships

The IAEM Scholarship Program is a 501(c)(3) public charity; donations are tax-deductible as a charitable contribution to the extent permitted by law. You can [easily donate online](#). Additional information about the IAEM Scholarship Program is available on the [IAEM website](#). ♦



73RD ANNUAL CONFERENCE & EMEX



The Premier Emergency Management Conference

**NOVEMBER 14-20, 2025
LOUISVILLE, KENTUCKY**

Special Focus Articles Part 1: Due to the volume of submissions on this special focus topic, it is necessary to present the content in two parts. Part 2 will be available in the [Nov. edition of the IAEM Bulletin](#).

[Building Tomorrow's Crisis Communication Corps: Why Emergency Managers Must Champion the Talent Pipeline](#)
by Philippe Borremans, Crisis, Emergency & Risk Communication Consultant; and Managing Director, RiskComms FZCO 14

[Animal Help Now: Champions for Animals](#)
by David Crawford, Executive Director, Co-Founder, Animal Help Now..... 16

[Decentralizing Resilience: A Multi-Level Crisis Management Strategy](#)
by Alexandra Lahm, MS, AEM, Associate Director of Emergency Management, NYC H+H/Elmhurst; and Samia McEachin, Manager, Emergency Management + Enterprise Resilience NYU Langone Health 17

[Mentorship: An Essential Component for Your Emergency Management Toolkit](#)
by Emily Jane Freed, MS, Area Director, University of California Cooperative Extension; and Ian Hamilton, CEM, MS, Senior Emergency Planning Coordinator, Santa Clara County Office of Emergency Management 20

[Adapting FEMA's Exercise Framework for Real-World MCI Readiness](#)
by Shayna E. Goldfine, MPH, CEM, NR, One EMS Designated Regional Coordinator, Louisiana Department of Health Region, and Captain, emergency management operations with New Orleans EMS; doctoral candidate, Celia Scott Weatherhead School of Public Health and Tropical Medicine at Tulane University; and Nicole M. Volpi, PhD, NRP, Region One Alternate EMS Designated Regional Coordinator, Louisiana Department of Health, Paramedic, LCMC Health West Jefferson Medical Center EMS 22

[Volunteer: Spread What you Know and Find New Passions](#)
by Gary Scronce, Sr. Director, Homeland Security and Emergency Management, IEM International 24

[If You Want Change, Know How: The Future of Emergency Management Is Policy](#)
by Judson M. Freed, MA, CEM, Director of Emergency Management & Homeland Security, Ramsey County, Minnesota; Past President, IAEM-USA 26

IAEM Scholarship Recipient Essays, Part 1:

To recognize the 2025 IAEM Scholarship awardees, we have a selection of winning essays offered below; given the quality of the scholarship winners it is necessary to present the content in two parts. Part 2 will be available in the [Nov. edition of the IAEM Bulletin](#).

[Warning Systems](#)

by Tyler Cady, AEM, BS Candidate Studying Public Health Student at the University of North Carolina, Wilmington; recipient of the eighth Robert C. Bohlmann, CEM, Scholarship for Service in Emergency Management (\$4,000) 28

[Disaster Resilience and Emergency Management: A Necessary Collaboration](#)

by Jason Fuller, Senior Emergency Management Specialist (Operations), New Hanover County (NC), Ed.D. Candidate Studying Leadership Studies with a Concentration in Disaster Preparedness and Emergency Management at Louisiana State University at Shreveport, Recipient of the Samuel Henry Prince Scholarship for Part-Time Graduate Students (\$3,000) 30

[Enhancing Warning Systems and Risk Communication for Inclusive Emergency Management](#)

by Ian Varada Hernandez, Petty Officer 2nd Class United States Navy - B.A. Candidate Studying Emergency & Disaster Management, American Military University, Crisis Management Intern at Erudyn, IAEM Undergraduate Scholarship (\$3,000)..... 33

[Early Warning Systems in Emergency Management for North Dakota and Minnesota](#)

by Aleah Miller, B.S. Candidate Studying Disaster Resilience & Emergency Management at North Dakota State University, IAEM Undergraduate Scholarship (\$2,000) 36

Submit an Article for the IAEM Bulletin

The IAEM Editorial Committee is currently accepting submissions for future editions of the IAEM Bulletin. Refer to the [Author Guidelines](#) for tips and techniques for successfully submitting your article for publication.

The primary focus of the IAEM Bulletin is local. We are looking for articles that provide information and insights useful to other practitioners, in government and private sectors, who are educated and trained professionals.

Building Tomorrow's Crisis Communication Corps: Why Emergency Managers Must Champion the Talent Pipeline

By Philippe Borremans, Crisis, Emergency & Risk Communication Consultant;
and Managing Director, RiskComms FZCO

Imagine this scenario: you're coordinating a response to a major flooding event when a cyberattack cripples local infrastructure, just as a disease outbreak spreads through evacuation centres. Your emergency plan is solid. Your resources are mobilized. But when you turn to your communications team to deliver the complex messaging this crisis demands, you discover what emergency managers worldwide are quietly confronting—there simply aren't enough trained crisis communicators to meet the challenge.

This isn't a hypothetical future problem. It's happening now.

The Hidden Operational Risk

Recent research reveals a sobering reality that should concern every emergency manager: globally, we're meeting only about half our current needs for trained crisis and emergency communication professionals. Whilst we meticulously plan for resource shortages—medical supplies, temporary shelter, emergency personnel—we've overlooked a critical vulnerability in our response capability.

The numbers tell a stark story. The UN expects approximately 560 disasters annually by 2030, yet the communication teams expected to guide public response remain chronically under-resourced and overstretched. The hardest-hit sectors include public health, climate resilience, and cybersecurity—precisely the areas where clear, consistent messaging often determines whether communities remain calm or descend into chaos.

This shortage stems from

familiar problems. Communication roles are frequently the first cut when budgets tighten. Academic programmes dedicated to crisis communication remain scarce. Certification standards vary wildly. Burn-out continues driving experienced professionals away, accelerated by the harassment many communicators faced during COVID-19.

For emergency managers, this represents more than a staffing challenge—it's a "last mile" failure that could render even the most thoroughly planned responses ineffective. You can mobilize every resource, coordinate flawlessly with partner agencies, and execute textbook incident management, but if you cannot effectively communicate with the communities you serve, your operational success becomes meaningless.

The Last Mile Problem

Think of crisis communication as emergency management's "last mile"—the final, crucial link between all your operational excellence and the communities who must act on your guidance. Logistics can deliver supplies to the staging area, but communication delivers life-saving information to the person who needs it. Operations can clear evacuation routes, but communication convinces families to actually leave.

This last mile is where the best emergency management plans succeed or fail. Without skilled communicators who can translate complex operational decisions into clear, actionable guidance, even perfect responses can collapse at the point of public engagement.

The Compound Crisis Reality

We're no longer managing single, isolated emergencies. Today's disasters overlap and cascade: floods during disease outbreaks, cyberattacks disrupting critical infrastructure during extreme weather, and supply chain failures coinciding with social unrest. These compound crises demand communicators who can work across disciplines, handle immense pressure, and maintain public trust when multiple systems appear to be failing simultaneously.

Traditional approaches—having one person manage "public information"—simply cannot cope with the complexity of modern emergency communication. We need professionals who understand both the technical aspects of emergency management and the sophisticated messaging strategies required to guide communities through unprecedented challenges.

This is where emergency managers can become true champions of change.

Emergency Managers as Champions of Change

Emergency managers are uniquely positioned to address this critical shortage. We understand operational requirements, we see communication gaps firsthand during exercises and real events, and we have the credibility to advocate for essential resources. Here's how we can champion the development of tomorrow's crisis communication corps:

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Building Tomorrow's Crisis Communication Corps

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Academic Partnership Champions: Emergency managers can forge partnerships with universities to develop robust crisis communication curricula. This means working with communication schools to ensure graduates understand emergency management principles, operational constraints, and the life-or-death importance of accurate, timely messaging. Consider offering guest lectures, providing case studies from real events, or creating internship programmes that give students hands-on experience during exercises.

Several progressive emergency management agencies have already begun this work. They've discovered that students trained in both emergency management fundamentals and advanced communication techniques become invaluable team members who can bridge the gap between technical operations and public understanding.

Cross-Training Champions: Within our own organisations, we can break down silos between emergency management and communication functions. This means ensuring emergency managers develop sophisticated messaging skills whilst communication professionals gain a deep understanding of incident command structures, resource allocation decisions, and operational priorities.

Regular joint training exercises that include realistic communication challenges—managing conflicting information, addressing rumours during active responses, coordinating messaging across multiple agencies—help both disciplines understand each other's constraints and capabilities.

Budget Advocacy Champions:

Perhaps most critically, emergency managers must use our influence to protect communication roles during budget discussions. This requires reframing the conversation entirely.

When advocating for communication resources, emphasise the last mile principle: communication isn't overhead or nice-to-have support—it's the delivery mechanism that makes every other emergency management investment worthwhile. Without effective communication, emergency shelters remain empty because people don't trust the messaging, evacuation orders are ignored because instructions are unclear, and medical countermeasures go unused because communities don't understand their importance.

Practical Steps Forward

Champions of change take concrete action. Emergency managers can begin addressing this shortage immediately through several practical measures:

Develop communication succession planning alongside operational succession planning. Identify and mentor high-potential communication professionals within your organisation. Create career development pathways that combine emergency management experience with advanced communication training.

Build relationships with local media and community leaders before disasters strike. These relationships become invaluable during actual events, but they also help you understand what communication skills your team needs to develop.

Advocate for communication professionals to be included in senior leadership discussions, not just asked to "write the press release" after decisions are made. Their strategic input during planning can

prevent many communication crises before they occur.

Partner with professional associations to develop certification standards for crisis communicators. The emergency management profession has rigorous certification requirements—our communication colleagues deserve the same professional development opportunities.

The Future We Can Build

The crisis communication shortage represents both a challenge and an opportunity. Emergency managers who recognise this gap and take action to address it will build more resilient communities and more effective response capabilities.

We're not just managing today's emergencies—we're building the foundation for tomorrow's response capacity. By championing the development of skilled crisis communicators, we ensure that when the next compound crisis strikes, we have both the operational expertise and the last-mile communication capability needed to guide our communities through the storm. We bridge the gap between what we know needs to happen and what actually happens in communities.

The choice is ours: we can wait for this shortage to become a crisis, or we can champion the change needed to build tomorrow's crisis communication corps today.

Emergency managers have always been champions of preparedness. Now we must become champions of the communication capability that makes all our other preparations effective. Our communities are counting on us to get this right. ♦

Animal Help Now: Champions for Animals

By David Crawford, Executive Director, Co-Founder, Animal Help Now

The author will be speaking as part of the IAEM 73rd Annual Conference on Nov. 18 from 11:00 a.m.-12:00 p.m.

Champions of change—three populations come to mind when I hear that phrase. The first is people who are change leaders. The second is people who are open to change—the early adopters. The third are the promoters—the decisionmakers, the funders, the policymakers who get the change in front of a larger audience.

All are champions of change.

Change occurs when these groups work together. A change is developed and then proposed. The change is reviewed by early adopters. One or more review cycles occur, and the change is ready for a broader audience, led by the promoters.

The nonprofit I work for innovates in the tech space—smartphone apps, in particular. We see new ways to address old problems. Our first app, our namesake app “Animal Help Now,” was ambitious in its original form. The idea was simple enough. Create an app that can be used to find help for any animal emergency, such as a turtle injured on the road, a nest of rabbits orphaned when their parents were killed, a bird concussed on the ground after striking a window, or a dog needing an emergency vet during a family road trip. Or incidents involving animal abuse or neglect—you get the picture.

With a budget of less than \$100,000 and a dedicated group of volunteers, most in the tech space, we created Animal Help Now, serving our home state of Colorado. It was hard to secure funding, in part because grantmakers weren’t used to tech applications. Within a few years, with a desire to reach a national audience and meet the greatest needs,

we dropped the domestic animal work and launched a nationwide wildlife emergency service.

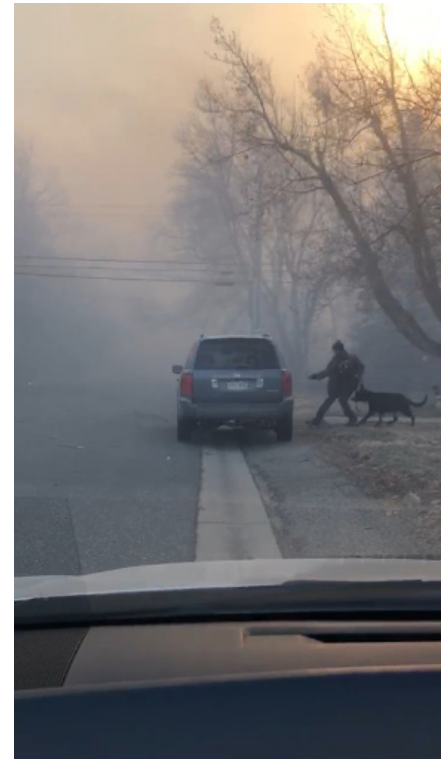
As to the need for such a service, the numbers are astounding. An estimated one billion birds die from striking windows in the United States every year. It’s hard to imagine, but that’s 30 times a second. The number of birds and small mammals killed by cats and dogs is even greater. And these are just a few of the many day-to-day threats these animals face.

Before Animal Help Now, finding help for injured and orphaned wildlife could be very difficult, especially if one were not in their familiar environs. At the same time, creating a digitally accessible nationwide list of wildlife rehabilitators and other emergency professionals wasn’t exactly rocket science. The presence of that service, though—that change—has had a very positive effect on the country’s wildlife emergency response system.

When a fire ignited on Dec. 30, 2021, along Highway 93 just south of Boulder, Colorado, and then whipped across open space driven by hurricane-force winds, many residents in the fire’s path were at work or out and about, running errands, perhaps away on vacation.

I happened to be home that morning, first smelling the fire and then seeing its dense smoke blowing horizontally along the ground just a few blocks to the north. I grabbed my cats, some treasured books, photos, and never-played Beatles 45s, and hit the road.

I knocked on a few neighbors’ doors before evacuating the area. Behind one door, I heard Chief, a juvenile German shepherd, respond



The Author rescues Chief, the neighbor German Shephard, as the Marshall Fire sweeps into Original Town Superior, Colorado.

to the knocks. The homeowner was away. My neighbor Mike and I coordinated a rescue. Mike kicked in the door and found Chief in a crate in the kitchen, and then got him safely into his truck with his own dogs. The house burned to the ground about an hour later.

Saving Chief’s life is a highlight of mine. But coupled with that memory is the knowledge that when I drove around that square block, I unknowingly passed a house containing a cockatiel, another containing a turtle and tortoise, one with two dogs and a cat, and two others with cats. Those animals all died that day—as

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Decentralizing Resilience: A Multi-Level Crisis Management Strategy

By Alexandra Lahm, MS, AEM, Associate Director of Emergency Management, NYC H+H/Elmhurst;
and Samia McEachin, Manager, Emergency Management and
Enterprise Resilience NYU Langone Health

The authors will be speaking as part of the IAEM 73rd Annual Conference
on Nov. 19 from 2:45 p.m.-3:45 p.m.

In the face of challenges and hazards that evolve daily, an organization cannot simply fix existing problems; instead, it's essential that the organization be flexible and able to respond to new and unexpected issues as they arise. This is especially critical in health-care, where organizational operations are complex and intertwined, and the consequences of failure can be dire. At NYU Langone Health, the enterprise has committed itself to maintaining sustained high levels of safety, quality, and efficiency. The Emergency Management and Enterprise Resilience (EM+ER) department at NYU Langone Health helps contribute to this goal through creative approaches designed to strengthen enterprise resilience.

NYU Langone Health's Enterprise Resilience Program (ERP) establishes shared accountability and integrates resilience across all mission areas (patient care, research, and education) at all levels of the organization. The EM+ER team designed the ERP for executive leadership, business unit owners, and frontline staff to empower them to respond effectively during crises, ensure continuity of essential services, and ultimately improve outcomes.

This article discusses lessons learned through the ERP program, focusing on three primary takeaways:

■ **Scaling resilience across the organization** through leadership engagement and strategic initiatives.

■ **Enhancing departmental resilience** with structured business continuity planning, continuity drills,

and supporting technologies.

■ **Empowering frontline staff** through Crisis Management Drills (CMDs) that develop muscle memory and confidence in crisis decision-making.

Scaling Resilience Across the Organization

At the enterprise level, EM+ER works to align resilience initiatives with broader organizational priorities in safety, quality, and efficiency. Working directly with system leadership, EM+ER designs and conducts immersive simulations that test the organization's ability to respond to emergencies. In past years, these exercises have addressed high-consequence risks such as large-scale IT disruptions, supply chain breakdowns, global pandemics, and union strikes.

By engaging leaders in structured discussions and realistic scenarios, EM+ER's exercises aim to validate enterprise continuity strategies, identify points of failure, and inform mitigation priorities.

As a next step at the institutional level, EM+ER is working to develop a Resilience Council. The Resilience Council would be a group composed of key senior leadership, with an aim to guide enterprise resilience decision-making, oversee strategic initiatives, and ensure a coordinated response to emerging threats. The council would serve as an enterprise-level forum to evaluate critical vulnerabilities across the organization.

These enterprise-level efforts make resilience a key piece of the organization's mission to ensure its high level of patient care, research, and education remain operational even under the worst of circumstances.

Enhancing Departmental Resilience

While enterprise planning is a key component of the ERP and helps to set strategic initiatives, business continuity ultimately relies on the ability of individual departments to continue operations. With this in mind, EM+ER works with department leaders to develop business continuity plans specific to the essential services they provide.

Senior leadership appoints Department Resilience Leaders (DRLs) who serve as the continuity champions for their business unit. DRLs go through program orientation sessions, where they are taught the NYU Langone Crisis Management Workflow for navigating disruptions and restoring essential services when a disaster strikes. Following this, EM+ER and the DRLs work to build out the business unit's continuity plan.

Business continuity planning centers around the following key elements:

■ **Essential Services:** Operations that must continue or be quickly restored after disruption.

■ **Dependencies:** Internal and external partners, vendors, tech-

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Multi-Level Crisis Management Strategy

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nology, facilities, and utilities that departments rely on to maintain operations.

■ **Continuity Strategies:** Strategies employed during disruptions, such as downtime procedures, service curtailment, relocation, or suspension.

■ **Emergency Roles:** Orders of succession and delegations of authority.

■ **Team Members and Key Contacts:** Departmental communication groups, important phone numbers, and relevant distribution lists.

Departments are also offered and trained on NYU Langone Health's Staff Notification app (SNapp). The SNapp tool is a notification system that enables department leaders to send emails, phone calls, or texts, activate conference calls, and request responses from staff during crises. This tool provides a critical communication bridge during emerging events. Department leaders also gain access to EM+ER's real-time situational awareness dashboard, which collates information and incident updates during active emergencies. This shared resource ensures departments remain informed and aligned during localized and enterprise-wide responses.

Through this program, departmental leaders are empowered not only to build continuity plans but also to maintain them as living tools. Regular continuity-based drills reinforce plans in a practical, no-fault environment, encouraging continued improvement and building departmental resilience over time.

Empowering Frontline Staff Through Crisis Management Drills

Frontline staff are often the first to encounter a disruption, making their crisis decision-making skills critical to organizational resilience. To meet this need, EM+ER, in partnership with senior leadership, developed the Crisis Management Drill (CMD) program, a scalable, scenario-based training model.

The CMD program is built around three goals:

■ **Empower Frontline Staff:** Define and communicate roles, responsibilities, and tasks while encouraging proactive action.

■ **Reinforce Procedures and Resources:** Review and confirm that staff understand existing plans and available resources.

■ **Build Muscle Memory for Crisis Decision-Making:** Immerse staff in simulated emergencies and practice critical actions in a controlled setting.

Each month, EM+ER designs a two-page drill on a relevant hazard. Topics are developed based on the enterprise's Hazard Vulnerability Analysis, real-world events, and feedback from frontline staff and leadership. Scenarios address both internal and external threats, including utility failures, water intrusions, IT/network disruptions, workplace violence, and severe weather events.

Drills are facilitated by unit or department leaders and take approximately five to ten minutes, allowing for a scalable approach to training and minimizing time away from daily operations.

Since its launch in 2021, the CMD program has expanded rapidly. Initially focused on inpatient units, it now reaches over 180 clinical units, offsite practices, and non-clinical departments. To date, thousands of staff have participated in drills on more than 20 unique scenarios.

Real-World Applications and Outcomes

The ERP has demonstrated tangible value during both anticipated and unexpected emergencies:

■ **Enterprise Exercises Informing Pandemic Planning:** A 2019 MERS-CoV enterprise exercise helped shape NYULH's pandemic continuity strategies, directly informing the organization's early COVID-19 response.

■ **Departmental Continuity Plans in Action:** Departments have used continuity tools to manage real-world incidents such as coastal storms, extreme heat waves, utility disruptions, and the worldwide CrowdStrike IT outages in 2024, ensuring essential functions continued with minimal impact.

■ **Crisis Management Drills in Advance of Severe Weather:** CMDs conducted ahead of tropical storms and winter weather reinforced staff awareness of procedures and resources, improving unit readiness.

These examples highlight the practical utility of the ERP program. What begins as planning, training, and exercising translates directly into a more effective real-world response and recovery.

Lessons Learned and Key Takeaways

EM+ER's experience building the ERP has highlighted several core lessons:

■ **Accountability for Resilience must be shared:** Ownership cannot rest solely with one level of the organization; it must be distributed across leadership, departments, and staff.

■ **Scalable approaches drive sustainability:** From SNapp to CMDs, tools must be adaptable and usable across diverse department types and sizes to ensure we can continue to meet organizational needs.

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■ Practice builds confidence:

No-fault drills and exercises encourage engagement, reduce anxiety, and build the capacity to act under pressure.

■ **Resilience investments pay dividends:** ERP activities have repeatedly demonstrated value during real-world emergencies, reducing response time and limiting operational impact.

Conclusion

In healthcare, where lives and critical operations are at stake, resilience is not optional. It is an operational necessity. NYU Langone Health's Enterprise Resilience Program demonstrates how resilience can be scaled across a large, complex health system by embedding ownership at every level from the executive suite to the patient bedside.

By combining enterprise leadership engagement, departmental continuity planning, frontline training, and innovative tools, NYU Langone Health has built a program that is both sustainable and impactful.

Most importantly, the Enterprise Resilience Program has promoted

resilience to be part of everyday practice, empowering staff and leaders to act decisively, maintain continuity, and deliver on the institution's mission of patient care, research, and education, no matter what challenges arise. ♦

Champions for Animals

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Chief and the author as Chief's home is rebuilt.

did an estimated thousand more beloved pets.

The experience led Animal Help

Now to create its second app, Pet Help & Rescue (PHaR). PHaR is a neighbors-based messaging app for evacuating neighborhood animals

who are home alone when disasters strike.

The change introduced with PHaR was to digitize the neighborly key exchange, and to expand one's neighborhood contacts so that animals home alone will have a

greater chance of surviving.

Again, we were welcomed by the early adopters, and their input was

essential in our ultimate delivery of a quality product.

We're now working with decision-makers, the policymakers, and the funders to put it in front of a larger audience, just as we did with our flagship wildlife app.

One of the reasons we joined IAEM was to more effectively communicate and engage with the emergency management community. We feel very much at home here, we value the relationships we're developing, and we continue to encourage other community members to work with us. The opportunities are immense, not least of which is expanding our geographical scope and deploying our technology to save the lives of humans who are unable to self-evacuate or safely shelter in place when disasters threaten and strike.

We look forward to seeing you in Louisville! ♦

Mentorship: An Essential Component for Your Emergency Management Toolkit

By Emily Jane Freed, MS, Area Director, University of California Cooperative Extension; and Ian Hamilton, CEM, MS, Senior Emergency Planning Coordinator, Santa Clara County Office of Emergency Management

The authors will be speaking as part of the IAEM 73rd Annual Conference on Nov. 16 from 12:30 p.m.-1:30 p.m.

A mentor comes in all shapes and sizes. There is no one-size-fits-all mentor who can provide guidance, encouragement, and advice on career development based on their own life experiences. A mentor can be a teacher, coach, parent or grandparent, famous figure, established colleague, or an experienced organic farmer. Whether someone is entering the workforce for the first time, switching careers, or navigating life in general, a mentor can act as a role model by providing feedback, instilling confidence, and promoting a strong work ethic. Mentors can also be helpful for established and successful professionals by facilitating introductions, building and strengthening networks, and holding someone accountable to their goals.

Emergency management does not follow the typical 8:00 a.m. to 5:00 p.m. workday; therefore, mentorship must take many forms for those who serve their local, national, and international communities before, during, or after a disaster. Additionally, effective emergency management mentorship may require a mentor to go beyond scheduled meetings to support growth and reflection of the mentee (Hastings & Sunderman, 2020). Different types of mentoring relationships yield unique leadership opportunities and developmental benefits, and each mentor becomes a critical asset in an emergency manager's toolkit. The best service a mentor can provide is to support the exploration of a men-

tee's own identity and offer guidance to navigate a personal pathway to success within the field of emergency management.

An Emergency Management Mentor

A mentor who works within the field of emergency management is an extra special mentor because they are familiar with building partnerships and using collaborative tools to protect, enhance, and mitigate a community's ability to cope with emergencies and disasters. Moreover, an emergency management mentor is an extra special mentor because they may be familiar with the process for communicating critical information about a fire to all community partners, coordinating a tsunami evacuation for a vulnerable community, and managing multiple rounds of inbound deliveries that support life-sustaining operations. Emergency management mentors may be an operations section chief, a disaster preparedness planner at the local, state, or federal level, an emergency manager on the other side of the world, an emergency management professional at a college or university, or an International Association for Emergency Managers (IAEM) Certified Emergency Manager (CEM®). A fully-realized emergency management mentorship relationship may involve editing a cover letter for an internship or job, providing feedback on a presentation to the city council or board of supervisors

to request a budget increase for the next fiscal year, and roleplaying an important conversation with volunteers regarding weekly food distributions. Regardless of who your mentor is or your mentorship arrangement, a mentor is an essential component of every successful emergency manager's toolkit.

Technological Advances in Mentorship

Mentorship in practice is traditionally associated with in-person meetings between a mentor and a mentee and meetings held at regular cadence. The mentor guides a mentee by enhancing their knowledge and supporting their career growth with introductions to colleagues and contacts (Choudhary et al., 2024). A phone call on a mid-morning break, a business lunch meeting, or drinks after work were the traditional times that mentors and mentees would meet to foster an impactful and meaningful mentoring experience. Technology has transformed mentorship by allowing the mentor and the mentee to meet virtually via Zoom or trade text messages through messaging platforms, such as iMessage and WhatsApp. As technological tools evolve and advance the field of mentorship, emergency management professionals may also seek out new ways to form relationships with more than one mentor to expand their networks, such as leveraging mentors

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Mentorship

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through online social media platforms, such as LinkedIn. Additionally, a mentor and mentee can now work together on documents via a shared online repository to merge ideas, track progress, and edit documents, spreadsheets, and presentations in real time (Junn et al., 2022).

IAEM Certified Emergency Manager (CEM®) Mentorship Program

Another mentorship opportunity to explore is through the International Association of Emergency Managers (IAEM), which encourages mentorship through the IAEM Certified Emergency Manager (CEM) Mentorship program. For example, a current CEM mentor may provide guidance on how to navigate the CEM application, share information about upcoming training opportunities, forward a link to participate in a full-scale exercise, or offer advice on how to write to an elected official to promote an emergency management issue within the official's region (International Association for Emergency Managers, 2025). There is no cost to participate in IAEM's CEM Mentorship program, and the CEM Mentorship program makes it easy with a dedicated certification mentor database to search for a mentor by sector (academia, government, healthcare, military, etc.), region, council (continent), and state. For example, take the time to think about whether it is important to find a mentor in the same state and time zone, is it a high priority to have a CEM mentor who works in the field of higher education, or is the desired outcome to connect with an emergency management mentor who went to your alma mater.

Reverse Mentoring

While traditional mentorship often flows from senior to junior professionals, reverse mentoring flips the script. Reverse mentoring allows junior members to serve as mentors to senior leaders to provide a refreshing and valuable perspective on culture or technology (Alpaio, 2024). Senior leaders can learn from those who have a stronger grasp of current cultural insights from diverse generations entering the workforce. In emergency management, this approach can be particularly powerful since emerging professionals bring new skills, fresh perspectives, and a pulse on evolving technologies and communication methods. Reverse mentoring not only strengthens professional relationships but also reinforces a culture of continuous learning and leadership, thus highlighting that regardless of title or tenure, everyone has something valuable to contribute to the profession. In many ways, reverse mentoring embodies what it means to champion professionalism and embrace humility, curiosity, and adaptability in a rapidly shifting environment.

Personal Reflections

When we reflect on our experiences with mentorship, both as a mentee and as someone who has had the privilege to mentor others, we are struck by the reciprocity of the process. Each interaction adds depth to our practice of serving as emergency managers within our local communities. We recall the seasoned leader who explained the nuances of policy development, the colleague who introduced a new digital tool to our emergency management toolkit, and the professor who offered guidance and feedback for future generations of emergency management professionals. Mentorship reminds us that leadership is not about having

all the answers; rather, mentorship fosters space for dialogue, growth, and shared purpose. Emergency management reinforces that our profession will always thrive with sustainable and reciprocal relationships, collaborative partnerships, and global networks. Additionally, reverse mentoring builds connections, provides space for new ideas and insights, fosters innovation, and strengthens leadership practices.

The mentors who make the most impact on our careers are not only the individuals who are technically proficient but also generous with their time and candid in their guidance. The IAEM CEM Mentorship program fosters professional development between two people, who may or may not know each other, and serves as a bridge to share personal experiences, expand professional networks, and guide one another through the CEM application process. In turn, we offer our support, advice, and feedback, knowing that the greatest legacy we leave as emergency managers is not a single plan, policy, or program. Mentorship is the people we help prepare, along with their unique and diverse emergency management toolkits, to lead up, down, across, and after us. ♦

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Adapting FEMA's Exercise Framework for Real-World MCI Readiness

By Shayna E. Goldfine, MPH, CEM, NR, One EMS Designated Regional Coordinator, Louisiana Department of Health Region, and Captain, emergency management operations with New Orleans EMS; doctoral candidate, Celia Scott Weatherhead School of Public Health and Tropical Medicine at Tulane University; and Nicole M. Volpi, PhD, NRP, Region One Alternate EMS Designated Regional Coordinator, Louisiana Department of Health, Paramedic, LCMC Health West Jefferson Medical Center EMS

The authors will be speaking as part of the IAEM 73rd Annual Conference on Nov. 17 from 4:30 p.m.-5:00 p.m.

Emergency preparedness exercises are often built around FEMA's Homeland Security Exercise and Evaluation Program (HSEEP), which outlines a direct series of activities: workshops, tabletop exercises, functional exercises, and full-scale exercises (Federal Emergency Management Agency [FEMA], 2025). This escalation model suggests starting simple before transitioning to full-scale operations. While a sound approach, it doesn't always benefit local needs.

In late 2024, the New Orleans Metropolitan Region faced the challenge of preparing for Super Bowl LIX, an event expected to strain the city's infrastructure and medical systems, while gaining national attention. In preparation, the Public Health and Medical Subcommittee comprised of multiple agencies in the area—from private/hospital-based EMS, hospital systems, the Louisiana Emergency Response Network (LERN), the New Orleans Regional Transit Authority (RTA), and local/state partners, such as the New Orleans Office of Homeland Security, the Louisiana Region One EMS Metro Ambulance Council, the Louisiana Department of Health, and the Governor's Office of Homeland Security—recognized that FEMA's sequence would not maximize readiness. Instead, we tailored exercises to meet regional needs.

This article outlines FEMA's framework, describes our modifi-

cations, evaluates their advantages and limitations, and shows how the approach proved vital during a real-world mass casualty incident (MCI) on Jan. 1, 2025.

FEMA's Recommended Framework

FEMA's HSEEP recommends communities progress through four types of exercises.

- **Workshop:** Introduces concepts and fosters consensus.
- **Tabletop Exercise (TTX):** Scenario-driven discussion among key stakeholders.
- **Functional Exercise (FE):** Tests command and coordination under time and pressure.
- **Full-Scale Exercise (FSE):** Resource-intensive, live deployment of personnel and equipment.

This progression is designed to build competence step by step. Yet, FEMA, CDC, and ASPR TRACIE all stress flexibility: exercises should reflect community needs, not rigid order (CDC & ASTHO, 2015; ASPR TRACIE, 2020). For many regions, tabletops engage administrators more than field providers, and full-scale events are costly and limited by space and resources. Local adaptation is often essential.

Our Modifications

For Super Bowl preparations, we designed a two-day exercise sequence that flipped the script: starting with a full-scale exercise, followed by a gamified tabletop/functional hybrid.

Day 1: Full-Scale Exercise

The morning session engaged EMS partners, LERN, and the RTA with over 70 moulaged volunteers. Patient cards guided triage and treatment. Eight regional EMS agencies and the RTA deployed resources in real time. For the first time, RTA buses staffed with medics transported green-tagged patients. EMS agencies practice incident command, triage, and transport coordination with LERN.

In the afternoon, volunteers were distributed to five hospitals. Controllers metered arrivals to simulate both EMS and walk-ins. Hospitals stressed triage areas, tested surge capacity, and uploaded patients into the At-Risk Registry for tracking.

Day 2: Gamified Functional/ Tabletop

The second day combined a functional exercise with a tabletop

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Real-World MCI Readiness

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to keep participants engaged. EMS, LERN, hospital representatives, and public health agencies occupied separate tables. Each faced 400 patients needing transport but could only allocate the ambulances they actually had on duty at the time. Ambulances and patient cards became “game pieces,” moving only when realistic transport and intake were completed.

Hospitals communicated with real triage nurses, who logged patient cards into the At-Risk Registry. This kept participants negotiating, problem-solving, and learning - avoiding the disengagement common in traditional tabletops.

Advantages of the Modified Approach

■ **Frontline-first engagement:** By starting with the full-scale exercise, field responders practiced critical skills before administrators tackled policy issues.

■ **Realism at scale:** Live volunteers and multi-agency operations mirrored real-world conditions.

■ **Gamified engagement:** The hybrid tabletop energized participants and kept them invested.

■ **Iterative learning:** Lessons from Day 1 were immediately applied in Day 2, reinforcing best practices.

Limitations and Challenges

■ **Resource demands:** The full-scale exercise required significant logistics and could not replicate detailed treatments due to supply constraints.

■ **Reduced pressure in tabletop:** While engagement improved, the game the urgency of real-world response.

■ **Balance and fatigue:** Running two large exercises back-to-back challenged both participants and controllers.

Real-World Validation: Jan. 1, 2025

At 3:00 a.m. on New Year’s Day, theory became practice. A vehicle ramming terror attack on Bourbon Street injured dozens. Within 95 minutes, 37 responders in 13 ambulances from six departments transported 29 patients to five hospitals.

Coordination that nigh mirrored the Super Bowl exercises. Incident Command quickly assigned radio channels, triage flowed smoothly, and mutual aid collaboration was seamless.

The incident also confirmed a gap we had identified during the exercises: the need for dual transport officers. One officer should manage scene tracking while another maintains hospital communications with LERN. On New Year’s Day, a representative covered both, limiting efficiency.

Recommendations for Future Practitioners

■ **Prioritize Local Context Over Sequence:** Adapt FEMA’s model to community needs while meeting core objectives (CDC & ASTHO, 2015; ASPR TRACIE, 2020).

■ **Blend Formats for Engagement:** Add functional or gamified elements into tabletop exercises to sustain attention.

■ **Leverage AARs as Blueprints:** Use AARs not only to evaluate but to guide future planning.

■ **Balance Fidelity with Feasibility:** Mix live actors, patient cards, and digital tools to achieve scale without unsustainable costs (Harvard School of Public Health Center for Public Health Preparedness, 2010).

■ **Reinforce Critical Roles:** Assign dual transport officers and ensure under-exercised positions in scenario design.

Conclusion

Exercises are only as effective as their relevance. FEMA’s framework provides a foundation, but strict adherence may limit preparedness. By reordering and modifying exercise formats, our region engaged both frontline responders and administrators in meaningful practice that translated to real-world outcomes.

The Bourbon Street mass casualty attack confirmed the value of this flexible approach. Rapid coordination and effective communication saved lives, even as gaps remained. Communities nationwide should treat FEMA’s doctrine as a guide, not a script. Through innovation, feedback, and shared lessons, we can strengthen resilience and readiness for the next crisis. ♦

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Volunteer: Spread What you Know and Find New Passions

By Gary Scronce, Sr. Director, Homeland Security and Emergency Management, IEM International

The author will be speaking as part of the IAEM 73rd Annual Conference on
Nov. 17 from 11:00 a.m.-12:00 p.m.

Volunteering has enhanced my personal and professional life. I hope to encourage you to embark on your own volunteering journey as your home life and career allow it. Like anything else, it may take you a while to find the right place, the right fit for you, but all those experiences will be worth it. Let me share my story.

My volunteer journey started as a Biddy Basketball coach. I had moved to Louisiana from Kansas to work at the River Bend Nuclear Plant, and shortly after, I found a group of guys to play pickup basketball with. One of them asked me if I would be willing to coach a youth basketball team in a program that was starting up. I had not coached before, but decided to give it a try. My goal was to help my players learn enough about the game to have fun playing it just for fun, like I did growing up in Greensburg, Kansas, at the local school tennis courts. Every time a player learned something new, had a lightbulb moment, my time was rewarded!

My next experience was not as positive, but I learned from it. A friend had encouraged me to run for an office in the Louisiana Chapter of the American Nuclear Society, which I did. Around that time, work got really busy. Bottom line: the membership and activity of the organization dropped while I was serving as President. I blamed myself for not leaving LNS better than I found it. After that, I vowed not to make the same mistake again. I promised myself I would not overcommit above my family and work obligations.

A few years later, when I was still

single but had bought a house, my neighbor talked me into being the assistant coach for his daughters' softball and his sons' soccer teams. I was back to having fun volunteering. In doing so, I met people I would likely not have met in my community, even in the small town of Maringouin, Louisiana, and became friends with many of them. They were grateful for the time I gave, so that was satisfying. I still run into some of our players, most with their own children now, and it brings back great memories.

My volunteer journey went on hold after my neighbor's kids grew up, and he didn't have to coach them to be able to play their sports. Later, I married my wife Wendy, and we had our own kids. For them to participate in some activities, I needed to volunteer again. For those of you who are parents, you understand. First, I became a T-ball coach (a sport I don't personally like) for my daughter, then my son. Not long after, my volunteering became more involved.

Then my son decided to join Cub Scouts after I took him to the informational meeting because I'd been a Scout and my mom had been a Den Leader. He decided to join. To my surprise, Cub Scouts family camp now! Thankfully, Paw Paw Eric was able to loan us camping gear. After 4 months or so, my son's Den Leader needed to step back to allocate more time to her family. Being the only Den parent who was a former Scout, I ended up becoming his Den Leader half a year in. Later, I was asked by other Den and Troop leaders to become Cubmaster, then Scoutmaster. I called it my full-time hobby. As much

of my time as it took to plan Scout meetings and events, I wouldn't trade that time camping with my kids for anything. My scouting time still enriches my life. I met new groups of people, made new friends I'm still close to. Funny thing about camping. You get to know people and learn things about them while talking on camping trips that you just wouldn't learn otherwise.

After my daughter graduated from high school and my son aged out of Scouting, I was ready for a break from "full-time" volunteering. In part, I wanted some time without outside commitments. In part, I just needed to focus on myself for a little bit, getting myself in better shape. I still did some lower-intensity volunteering where I had a personal interest. For example, I continued to volunteer to judge school science fairs at the school, regional, and state levels when my schedule allowed. I was happy to do that to help support kids' interest in science since math and science were the subjects that excited me most during elementary, junior high, and high school.

A couple of years later, in 2021, I decided I had time to volunteer more actively again. I responded to a newspaper ad and ended up becoming a board member of the Arbor Family Health Community Health Center. I have been a patient at their clinic down the street from my house for years. Before joining the board, though, I knew nothing about Federally Qualified Health Centers (FQHCs) and had no clue about all the things Arbor Family Health does in my

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Spread What you Know and Find New Passions

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home area. I have learned so much! For example, Community Health Centers provide primary care to more than 34 million adult and pediatric patients at more than 17,000 delivery sites nationwide! It has been really interesting to learn those new things, outside my chosen professions, while serving my local rural health centers and their communities.

Finally, a year or so later, I also joined an IAEM committee, the Bylaws Committee. I'd considered serving on an IAEM committee for years, but finally felt like I had the time to give when the Bylaws Committee issued a call for new members. The Bylaws Committee has since moved to Ad Hoc status, but it was such a good experience, I immediately looked for another way to continue my involvement in IAEM. Being later in my career, I'm passionate about growing our profession, so I applied to serve on IAEM's Scholarship Commission and was accepted. I've learned so much from being involved in both!

Volunteering has helped me grow personally and professionally. I have shared what I know and learned things I would not otherwise have learned. Maybe most importantly, I've made friends and enriched my life through those friendships. As an emergency manager, you have at least one other good reason to actively volunteer in your community. My colleague Kimberly Prosser shared with me this summer that, as a county emergency manager in Florida, her volunteering gave her agency more visibility in the community. It also helped her identify partnerships to enhance her emergency management program.

If you are already volunteering, thank you for the time you share! If you are not, please consider volunteering.

Mentorship

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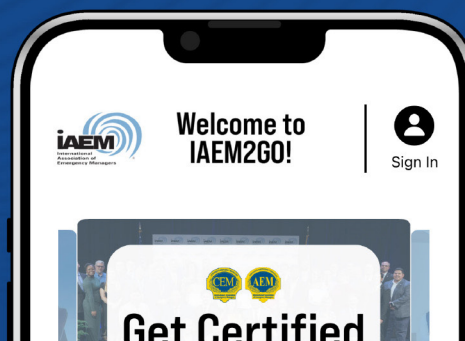
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If You Want Change, Know How: The Future of Emergency Management Is Policy

By Judson M. Freed, MA, CEM, Director of Emergency Management & Homeland Security,
Ramsey County, Minnesota; Past President, IAEM-USA

The author will be speaking as part of the IAEM 73rd Annual Conference on
Nov. 17 from 9:45 a.m.-10:45 p.m.

When I started in this field, like many of you, I thought my job was to be at the scene. To roll up when the lights and sirens flashed, when the EOC activated, when disaster struck. And for years, that's what many of us did. But I've come to a different conclusion—one I believe is central to the future of our profession.

Simply put, we are not first responders. Responders manage at emergencies. Let's face it: fire, police, EMS, public works—those are the people who belong at the scene, managing tactics and saving lives in the moment. Our role is something else entirely, and if we fail to recognize it, we make ourselves superfluous. We are lost in the noise of trying to inform leaders that we matter. Our very title – emergency manager – is so non-descript as to be detrimental to our very work.

The real work of emergency management is not response. It is policy, politics, organizational theory, management theory, and planning. It is done more in boardrooms and council chambers, legislative hearings and budget cycles, coalition tables and planning meetings before and after a disaster than at the scene. Not everyone in our EM Agencies is an emergency manager. They are valuable and important, but their job is not ours. Just as a police officer and a police chief are different, those of us making recommendations and decisions are different from the other critical members of our teams. Until we embrace that reality, we will never receive the recognition, resources,

or authority our communities need us to have. In short, we will not be considered professionals.

Why Policy is Our Core Mission

Every aspect of our work is shaped by policy decisions—who qualifies for disaster aid, how mitigation dollars are allocated, and whether preparedness funding continues. Yet too often, we shy away from the places where those decisions are made. The truth is that if emergency managers do not engage in the policy process, others will happily fill the vacuum. Well-intentioned, sometimes, but often without the context, data, or lived reality that we bring. That is why we must claim our seat at the table and give up our seat in the command post.

At the federal level, the very survival of programs like EMPG and agencies like FEMA has been a case study in this. When political debates threatened funding streams and when the actual existence of a federal emergency management agency is at risk, IAEM, NACo, NEMA, and others aligned to present a united message. That collective advocacy preserved vital support for local programs. The lesson is simple: we cannot afford to sit quietly in the back row while decisions are made about our future.

Ethics and Professionalism in Advocacy

This shift requires us to adopt a new professional identity—one that is less about the adrenaline of the

siren and more about the discipline of influence. That identity rests on credibility.

If we want to be heard, we must be trusted. That means WE have to engage in evidence-based practice: grounding every recommendation in data and research, not ideology—and, yes, that means education; We need to maintain neutrality: staying out of partisan politics; We must ensure transparency: being clear about what we ask for and why. Most importantly, we must achieve role clarity: knowing where our influence helps and where we should step aside—and what our job actually requires.

These qualities are not optional. They are the backbone of our profession and ethics. Without them, we risk becoming lobbyists with radios rather than professionals with expertise. Or remaining cogs in some greater public safety machine. With them, we can redefine emergency management as the discipline it must be.

Moving Beyond the Response Mindset

I want to be direct here. As long as we define ourselves as responders, we will never be valued. Fire chiefs and police chiefs will always have more credibility in that space because it is their space. When we compete there, we lose.

But when we step into the arenas of scope, resourcing, resilience,

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continuity, recovery, planning, and policy, we become indispensable. We are the ones who manage across all phases, across all agencies, across the entire community. No one else does that. That is our profession. The lesson is not new. After the 1755 Lisbon Earthquake, the Marquis of Pombal cut through paralysis with the now-famous order: “Bury the dead, and feed the living.” He asserted authority, led a unified incident management model, set clear priorities, communicated directly, and then rebuilt the city with stronger, more resilient systems that mitigated future risk. That was emergency management in its earliest recognizable form—not response in the narrow sense, but policy, governance, and long-term resilience. Nearly three centuries later, our profession must remember that heritage and claim it fully.

So stop saying that emergency management is a new profession: it is almost three hundred years old! To put it bluntly: our future depends on forsaking the response concept. Act like we belong in the C-Suite, like the professional leaders we should be. We should support responders, yes, but our work is not to run toward the flashing lights. Our work is to ensure that when the lights stop flashing, the community recovers, adapts, and thrives. That is a boardroom function, not an on-scene command.

Practical Lessons Learned

So how do we operationalize this shift? Here are a few lessons I’ve learned:

- **Coalition is not optional.** The EMPG example showed me that local, state, and national voices must align to be heard. That’s true in every

jurisdiction. Build coalitions now, before you need them.

- **Timing matters.** Disasters and budget cycles create windows of opportunity. If you’re not ready with a clear, well-framed ask, you’ll miss your chance.

- **Data + Story = Influence.** Data shows scale. Stories show impact. Together, they persuade policymakers in ways neither can alone.

- **Professional literacy matters.** If we expect to be heard in policy debates, we need fluency in policymaking, budgeting, organizational behavior, and management theory—not just ICS charts. This requires formal education and not only training.

A Professional Identity Worth Fighting For

Emergency management has matured, but it is still misunderstood. Too often, we are treated as auxiliaries to responders, rather than professionals in our own right. That perception will not change unless we change how we see ourselves. We need to view emergency management as a distinct discipline with its own body of knowledge, grounded in policy, management, and systems thinking. If we do not, we will always be the “other duties as assigned” office. If we do, we can claim our place as equal partners in governance and resilience.

Here are a few things that you can do immediately:

- Identify one policymaker you don’t yet know and introduce yourself.

- Track one bill or ordinance that affects emergency management in your jurisdiction.

- Join one advocacy group—IAEM Government Affairs, NACo Justice & Public Safety, or a local equivalent.

- Start talking about your role not in terms of response, but in terms of political influence, policy

development, resilience, continuity, and leadership.

Conclusion: Defining the Future

If we continue to chase sirens, we will always be seen as redundant. If we embrace the reality that emergency management is about leading: about policy, politics, organizational theory, and management, we will become the profession our communities need.

The choice is ours. We can cling to the past, or we can define the future. But if we want change—real change—we must know how to influence it. ♦

Resources

Minnesota Statutes § 12.221: Disaster assistance contingency account — <https://www.revisor.mn.gov/statutes/cite/12.221>

IAEM Government Affairs — <https://www.iaem.org>.

NACo Justice & Public Safety — <https://www.naco.org>.

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GEAR UP TODAY

Warning Systems

By Tyler Cady, AEM, BS Candidate Studying Public Health Student at the University of North Carolina, Wilmington; recipient of the eighth Robert C. Bohlmann, CEM, Scholarship for Service in Emergency Management (\$4,000)

Effective warning systems are vital for timely and accurate risk communication in emergency management. In the United States, systems like the Integrated Public Alert and Warning System (IPAWS) and the Emergency Alert System (EAS) play pivotal roles in disseminating alerts. This integration allows for redundancy, ensuring messages reach the public even if one system fails (FEMA, 2022). IPAWS alone integrates multiple alert systems, including Wireless Emergency Alerts (WEA), NOAA Weather Radio, and the Emergency Alert System, allowing both federal and local officials to deliver alerts simultaneously across many platforms. For example, WEA messages, which are received on mobile devices, have been used in Amber Alerts and natural disaster warnings. Programs like StormReady, initiated by the National Weather Service, also encourage communities to enhance their preparedness for severe weather events by promoting best practices and fostering a culture of readiness (National Weather Service, 2023). These systems provide consistent and centralized methods of communication that are accessible on national and local scales, creating a cohesive framework for emergency notifications.

Despite these strengths, several weaknesses hinder the effectiveness of warning systems. One significant issue is the phenomenon of "milling," where individuals delay action upon receiving warnings, seeking confirmation through other sources (Botterell, 2005). This delay can be detrimental during rapidly evolving emergencies. Moreover, technological limitations can impede message delivery. During Hurricane Katrina,

power outages and infrastructure failures disrupted communication channels, leaving many without timely information (Miller, 2005). While AM radio proved resilient, its usage has declined, raising concerns about its future role in emergency communication (Gaynor & Witt, 2025). Additionally, over-alerting or unclear messaging may lead to warning fatigue, where recipients begin to ignore alerts due to frequent false alarms. The specificity, timing, and tone of alerts significantly influence how the public perceives and reacts to risk messages.

Effective risk communication must account for the diverse needs of the population. Vulnerable groups, including non-English speakers, individuals with disabilities, older adults, and those without access to technology, often face barriers in receiving and understanding emergency messages (WHO, 2018). Communication strategies should therefore be inclusive and multifaceted. Employing multiple communication methods—visual, auditory, and tactile alerts—helps cater to different needs (FEMA, 2022). Additionally, partnering with community organizations and leaders can help disseminate information effectively within specific groups. For example, during Hurricane Harvey, social media platforms were utilized to coordinate rescue efforts, demonstrating the potential of digital tools in reaching broader audiences (Zou et al., 2021). However, reliance on digital tools must be balanced with low-tech solutions to reach populations with limited internet access. In Miami-Dade County, Florida, printed flyers and local radio stations were used during the COVID-19 pandemic to inform immigrant and elderly pop-

ulations, showing the importance of redundancy and localization. Empirical studies highlight the importance of tailored communication. Research indicates that messages delivered by trusted local figures are more likely to be heeded (Steelman & McCaffrey, 2013). Incorporating community feedback into emergency planning enhances the relevance and effectiveness of communication strategies (Dynes, 1994). One successful strategy is the use of geospatial data to identify and target at-risk populations. By analyzing demographic information, emergency managers can anticipate needs and allocate resources accordingly (USACE, 2020). This data-driven approach ensures that vulnerable communities receive timely and appropriate warnings. Moreover, integrating culturally appropriate messaging and multilingual alerts has been shown to significantly increase engagement in diverse populations. For instance, Los Angeles County routinely uses geospatial analysis to identify clusters of at-risk residents, tailoring outreach strategies to Spanish- and Korean-speaking communities. Public awareness campaigns and community education also play a crucial role in enhancing emergency communication. For instance, initiatives like ShakeOut earthquake drills on the West Coast have successfully educated the public on proper response behaviors during seismic events. Similarly, the Ready.gov platform provides resources to help individuals prepare for a range of hazards. Yet, awareness alone is not enough; actionable guidance and trust in institutions must accompany alerts. Establishing a two-way

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Warning Systems

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communication model where citizens can ask questions or report observations can foster this trust and build community resilience. Schools and workplaces can serve as vital hubs for preparedness education, where drills and training can normalize response behaviors and close knowledge gaps. Additionally, community health workers, often trusted messengers in underserved areas, can help relay important alerts in culturally sensitive and trusted ways.

To improve public awareness and response during emergencies, several measures can be adopted. First, diversifying communication channels is essential. Utilizing a combination of traditional media, social platforms, and community networks ensures that messages reach the widest audience possible. Second, engaging community leaders in crafting and delivering messages enhances cultural relevance and builds trust. Third, implementing feedback mechanisms allows for the continuous refinement of communication strategies. Fourth, investing in infrastructure—such as maintaining AM radio capabilities—ensures that messages can be delivered during power outages or network failures. Fifth, conducting regular community-based drills familiarizes residents with emergency procedures and improves responsiveness during actual events. Sixth, policy-level changes such as standardizing alert protocols across states and increasing federal support for risk communication programs can also strengthen national preparedness. Lastly, integrating public alert systems with emergency shelters, transportation services, and healthcare providers ensures a more coordinated response that reduces confusion and delay.

Technological innovation also offers opportunities to advance risk communication. Artificial intelligence and machine learning are being explored for real-time data analysis and predictive modeling to optimize alert timing and content. Smartphone applications that use location-based services can provide hyperlocal alerts, guiding users to the nearest shelter or hazard-free zone. Wearable technologies and smart home devices could also be leveraged for emergency alerts, especially for individuals with disabilities or mobility challenges. Innovations in translation software are also making it easier to automatically disseminate alerts in multiple languages simultaneously. However, these advances must be made with privacy, accessibility, and equity in mind. Policymakers must also ensure that new technologies are not only piloted in wealthy, urban areas but are scalable for rural and lower-income communities. In New Orleans, the “NOLA Ready” app combines real-time alerts with a volunteer coordination system—an innovative approach that connects communication with action. Case studies further demonstrate both successes and lessons learned in risk communication. During the 2018 Camp Fire in Paradise, California, many residents did not receive timely warnings due to gaps in the alert system. The failure to send evacuation orders quickly enough contributed to the loss of life, highlighting how delays in decision-making and outdated communication channels can have deadly consequences. In contrast, in 2021, New York City's use of multi-language mobile alerts and community radio stations during Hurricane Henri helped ensure more residents received actionable information. These messages were broadcast in over ten languages and distributed through both online platforms and trusted local organizations, significantly improving response times in linguistically diverse neighborhoods.

A different approach can be seen in Australia, where during the 2019-2020 bushfire season, the country relied heavily on the Emergency Alert system and real-time fire apps to keep communities informed. Public warnings were issued through mobile phones, television, and community networks, and volunteer fire services were used to reinforce alerts on the ground. Meanwhile, in India, the use of loudspeaker systems mounted on police vehicles has been a practical low-tech solution in reaching densely populated, tech-limited regions during floods and cyclones. These diverse examples underscore the importance of system redundancy, clear messaging, and local adaptability, proving that both high-tech and grassroots methods have vital roles in risk communication. Internationally, Japan's robust tsunami warning system—backed by decades of investment in technology and public education—stands as a model for how to synchronize infrastructure, communication, and public responsiveness. Their system includes alarms, TV interruptions, SMS, and sirens, with widespread drills that make residents familiar with procedures from an early age. Similarly, Cuba's centralized hurricane response structure integrates public messaging, evacuation, and health services under a single chain of command, achieving significantly low casualty rates despite frequent disasters.

While the United States has made significant strides in developing comprehensive warning systems, challenges remain in ensuring equitable and effective risk communication. By embracing inclusive strategies, leveraging technology, expanding public education, and fostering community engagement, emergency management can enhance public awareness and response. Ensuring

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Disaster Resilience and Emergency Management: A Necessary Collaboration

By Aleah Miller, B.S. Candidate Studying Disaster Resilience & Emergency Management at North Dakota State University, IAEM Undergraduate Scholarship (\$2,000)

In an era when disasters are seemingly more frequent and powerful than ever, disaster resilience has emerged as one of the foundational pillars of emergency management. Disaster resilience is meant to include the “whole community,” as defined by FEMA, which makes it an even more appealing concept, as the responsibility for resilience can be spread across the entire population. Particularly in southeastern North Carolina, where hurricanes like Florence and Matthew have left lasting scars, resilience is not a theoretical ideal but a necessary strategy for survival. I disagree slightly with the idea that resilience is the key to disaster risk reduction; resiliency is inseparable from recovery and emergency management. Examining concepts such as social vulnerability, redundancy, and networks can provide a starting point for understanding why disaster resilience is essential. Lastly, integrating evidence-based frameworks can help show the role of resilience in shaping a more adaptive and equitable emergency management system.

Disaster Resiliency

The National Research Council (2012) defines disaster resilience as “the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events.” FEMA (2024) further defines resilience to include the ability to “withstand and recover rapidly from adverse conditions and disruptions” (p. 2). In standard terms, disaster resilience can be seen as the efforts to ensure that communities are prepared for any eventuality, and

through these efforts, can return to a sense of normalcy as soon as possible if a disaster causes disruptions. Ideally, disaster resilience creates a dynamic capacity within communities that adapts as the threats or hazards the community faces change, encompassing everything from physical structures and personal well-being to economic and institutional stability.

While many people may consider disaster resilience a goal, it is generally better to view disaster resilience as a continuum that can constantly evolve and should be regularly reassessed. FEMA (2024) outlines three primary paths to enhance resilience planning efforts: creating a stand-alone plan, incorporating resilience as a core component into existing plans, or integrating resilience into all community plans. They note that none of the aforementioned paths are inherently right or wrong, but instead, communities must utilize what works in their specific environment, which may even involve merging one or more of those paths over time (FEMA, 2024). Understanding resilience as a continuum is only one of several ways that disaster resilience and emergency management intersect.

Key Concepts: Social Vulnerability, Redundancy, and Networks

Resiliency, in its most basic state, primarily consists of social vulnerability, redundancies to prevent systemic failures, and networks to receive resources in the event of a failure. While sociological researchers like Quarantelli briefly discuss

topics such as social vulnerability, others, like Cutter, have extensively researched them. Social vulnerability refers to the concept that the risks and hazards associated with disasters can, and often do, disproportionately affect socially marginalized groups (Cutter, 2024; Tierney, 2014). One of the key takeaways from the research conducted by Cutter (2024) is that social vulnerability is not as simple as being poor, making one more vulnerable; instead, it is a multidimensional issue that can be calculated using various models, such as the Social Vulnerability Index. Social vulnerability impacts resilience and provides a valuable opportunity for emergency management professionals to approach a community and offer realistic preparedness strategies.

Another key concept in resilience and emergency management is redundancy. Critical systems should consider adopting plans that allow for primary, alternate, contingency, and emergency (PACE) plans in case of failure. While emergency management may stress this as part of preparedness, the presence of these PACE plans can heavily influence the community's resilience. Redundancies can occasionally be viewed as wasteful or inefficient, but it is essential to communicate these efforts as crucial for continuity while highlighting their positive impacts. Lastly, anyone who has ever been through a disaster can attest to the importance of networks in community resilience.

Arguably, any emergency manager questioned on networks would highlight their presence as a testament to the strength of emergency

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management nationwide. The same could be said for resilience. Norris et al. (2008) argued that social capital, trust, and civic engagement are as crucial as physical infrastructure when considering a community's resilience in the face of disaster. Networks, such as those found in the first response profession and local community organizations, facilitate the rapid deployment of resources to disaster areas, enabling a community to recover more quickly from an event. Emergency managers are responsible for shepherding many of these networks and can enhance resilience by fostering them before disaster strikes.

Resilience and Emergency Management: A Natural Convergence

Depending on the source you reference, comprehensive emergency management is generally considered to consist of four distinct phases (Herstein et al., 2021), with an additional element of “prevention,” which focuses heavily on topics such as terrorist acts and other law enforcement-related needs (Spiewak, 2015). Herstein et al. (2021) use the term emergency management phases as part of the “disaster life cycle,” reinforcing the idea that there is no true end to any of the phases. Instead, all phases should be constantly reevaluated and focused on as appropriate. Resilience can be found influencing every phase of this life cycle.

Dr. E. L. Quarantelli (2006) set the groundwork for converging resilience and emergency management. He noted that disasters and catastrophes differ fundamentally from day-to-day emergencies, and new organi-

zational and societal adaptations will be required to handle these incidents appropriately (Quarantelli, 2006). His work helped justify why resiliency must be flexible, decentralized, and collaborative. Cutter et al. (2008) help to reinforce that perspective with the Disaster Resilience of Place (DROP) model. This model assesses a community's baseline, known as antecedent conditions, and assesses the impact of a disaster on that community. After an incident occurs, it is crucial to assess the significance of its impact.

The dynamic capacity that the community possesses to withstand the impact of a disaster is important because if it is not exceeded, it is assumed that preparedness and resilience efforts were successful, and the community experienced no significant disruptions. If that capacity is exceeded, the model considers whether any socially adaptive resilience is occurring. Based on these factors, the model can predict how quickly a community will recover, emphasizing mitigation and preparedness activities that were implemented to establish the antecedent conditions in the first place (Cutter et al., 2008). For emergency managers in disaster-prone areas, such as southeastern North Carolina, a model like the DROP model can be crucial in identifying areas where improvements are still possible or understanding how previous preparations fell short in adequately preparing a community for the disaster it faced.

When Resilience and Emergency Management Diverge

Resilience and preparedness strategies can be challenging to im-

plement in communities for various reasons. First, many of these strategies require significant resources, including both funding mechanisms and personnel, to execute them effectively. Emergency management has historically been heavily focused on response, as disasters that are actively occurring tend to take precedence over those that may occur in the future.

Another divergence in emergency management and disaster resilience comes from how each topic is recognized and researched. Emergency management has taken on a relatively stable appearance with the phases defined earlier. Across the profession, terminology is stable and readily accessible during disasters. Concepts of emergency management date back to the 1800s, when Congress enacted federal disaster legislation. More modern concepts of emergency management originated in the 1979 executive order that created FEMA (EMS1 Staff, 2025). Disaster resilience lacks a similar pedigree, which may be part of the overall issue.

Even when the definition of resilience is stretched, one can only trace its origins back a couple of decades (Parker, 2020). Furthermore, resilience is challenged by the notion that it is merely a rebranding of mitigation (Parker, 2020), which is a clear misrepresentation when evaluated in its entirety. Lastly, understanding how to measure or track resilience remains a significant issue. The best way to represent how something like resilience helps the community is to have a clear definition, but more so, a way to measure what you have defined so that it can be tracked and presented. Parker (2020) and Cutter (2016) have written extensively on the challenges related to unreliable assessments, which are based on as many as twenty-seven tools. To justify that resil-

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ience and emergency management are truly intertwined, a closer look at the ways each can be evaluated is required so that correlations and causations can be identified.

Conclusion

Resilience and emergency management are heavily intertwined. Resilience is crucial for navigating a future marked by climate change, economic inequality, and emerging threats. As changes continue to occur at the higher levels of government, it has become even more critical for communities to take action at the local level. Emergency management must adopt resilience as a guiding principle, embedding it into planning, partnerships, and policy. Focusing on social vulnerability, fostering networks, and designing for redundancy will allow emergency managers to lead the way in building a safer, more equitable, and more sustainable future. ♦

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Warning Systems

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that every individual receives timely, understandable, and actionable alerts is not only a matter of safety but of social justice. As climate change increases the frequency and severity of disasters, the urgency for robust and inclusive warning systems will only grow. A national commitment to continuous improvement in risk communication is critical to saving lives and promoting resilience in all communities. ♦

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Enhancing Warning Systems and Risk Communication for Inclusive Emergency Management

By Ian Varada Hernandez, Petty Officer 2nd Class United States Navy - B.A. Candidate Studying Emergency & Disaster Management, American Military University, Crisis Management Intern at Erudyne, IAEM Undergraduate Scholarship (\$3,000)

As the first line of defense in minimizing damage during disasters, effective warning systems are essential to emergency management. People can be empowered to take preventative measures, avoid injuries, and save lives when they receive timely, accurate, and easily available warnings. Systems like the Emergency Alert System, Wireless Emergency notifications, and the Integrated Public Alert and Warning System have significantly increased the United States' capacity to send out notifications quickly across a variety of platforms. Despite the broad reach of these technologies, there are still difficulties, especially when it comes to meeting the needs of vulnerable and diverse groups.

I have a thorough awareness of the advantages and disadvantages of current systems thanks to my voluntary work with the American Red Cross, my personal experience during Hurricane Maria, and my academic studies in emergency and disaster management. My vision for a more community-centered, inclusive approach to risk communication is formed by these experiences.

Strengths of Current Warning Systems

Federal coordination and multi-platform integration are key components of modern United States warning systems. FEMA oversees IPAWS, which allows approved agencies to broadcast alerts via digital billboards, radio, television, and cell phones (FEMA, 2021). Distributing alerts to specific locations that are

under threat, geo-targeting technology helps prevent confusion and over-alerting. Reach has been greatly increased by Wireless Emergency Alerts, which can send location-based alerts to almost every cell phone in a specified area, regardless of service provider or membership.

The system's quick alarm transmission is another important characteristic. For example, the WEA provided citizens with early warnings during the 2018 California wildfires, facilitating speedier evacuations and reducing fatalities in certain areas (FEMA, 2019). These capabilities show how effective warning systems can save lives when coordination and technology are in constant communication.

Weaknesses and Gaps

Even with these advantages, there are still a number of problems, particularly in terms of reaching remote regions. The issue of accessibility is among the most urgent. Many alerts are only sent out in English, which puts non-English-speaking communities at a disadvantage. This is especially problematic in U.S. territories like Puerto Rico and states like Florida, Texas, and California, where a sizable portion of the population may speak little or no English. Incomplete or late emergency warnings caused confusion and decreased readiness for many Spanish-speaking Puerto Ricans during Hurricane Maria in 2017 (Willison et al., 2019).

Additionally, warning systems aren't often designed with people with disabilities in mind. Alerts may not be sent in formats that meet the needs

of those who are visually or auditorily impaired. The National Council on Disability (2014) claims that emergency alert systems frequently fall short of the Americans with Disabilities Act's (ADA) requirements, putting these people at greater danger during emergencies.

Diversity in technology is another significant barrier. While mobile notifications are widely used, dependable infrastructure is necessary for them to be successful. Residents in remote or underdeveloped locations might not have access to smartphones, reliable electricity, or even internet connectivity. I personally saw how cellular towers and power lines rendered warning systems useless in sections of southern Virginia and in Puerto Rico. People in these situations depended more on local radio and word-of-mouth, highlighting the vital role that community networks and redundancy play in communication strategy.

Reaching Diverse and Vulnerable Populations

Emergency managers need to implement an integrated plan involving technology, cultural competency, and community trust to establish more inclusive and fair risk communication. The Notify NYC initiative in New York City is one effective tactic. This program provides emergency notifications in a variety of languages and media, such as voice, email, and text. It has partnered with neighborhood organizations to disseminate communications through reliable

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community channels and offers visual alerts to those who are hard of hearing (NYC Emergency Management, 2020). As a result, poor and immigrant populations have become more involved in the city's emergency response.

California's ShakeAlert earthquake early warning system is another creative strategy. This solution connects infrastructure systems like utilities and mass transit with smartphone alarms. Its purpose is to allow people to "drop, cover, and hold on" for a few valuable seconds before the movement starts (Strauss & Allen, 2016). Most importantly, ShakeAlert has taken community stakeholders' input into account to make sure the alerts are clear, actionable, and presented in ways that are easy to access.

Community Emergency Response Teams are essential in informing locals about warnings and spreading information at the local level. CERT programs enable communities to take an active role in their own safety by educating local volunteers about hazards and fundamental emergency protocols. This person-to-person technique works very well in places where there are language challenges or limited digital opportunities.

Recommendations for Improvement

Based on empirical research and personal experience, I propose the following improvements to improve risk communication across all demographics:

■ Multilingual and Accessible

Messaging: State and federal organizations should mandate that all alerts be sent out in several languages that are pertinent to the local populace. Alert systems should incorporate

text-to-speech and text-to-Braille features to assist those who are blind or hard of hearing.

■ **Local Partnerships:** To spread emergency messages, work with local organizations, educational institutions, places of worship, and cultural institutions. These organizations frequently have a solid reputation and can assist in converting alarms into language and action plans that are suitable for the target culture.

■ **Education and Outreach:** The public's comprehension of warning systems can be enhanced by regular public education campaigns conducted through town halls, social media, and community workshops. Residents will be more prepared and less confused during real emergencies if they are shown what various alerts mean and how to react.

■ **Redundancy and Low-Tech Options:** In remote or disaster-affected areas where technology may malfunction, use traditional communication techniques, including sirens, town criers, door-to-door alerts, and battery-operated radios as backup solutions.

■ **User-Centered Design:** Users in vulnerable groups should contribute to the development of future alert systems. By ensuring that system features are in line with practical requirements, this active method also improves official messages' credibility.

My Commitment to Inclusive Emergency Management

My career goal is to work in state or federal emergency management, specifically with the Virginia Department of Emergency Management (VDEM) or FEMA, after earning my bachelor's degree in Emergency and Disaster Management with a minor in Security Management and working toward becoming an Associate Emergency Manager (AEM). I have a

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strong desire to create systems that put inclusion and equity first. I've learned the value of meeting people where they are, both literally and figuratively, through my volunteer work with the American Red Cross, which has included positions as a Transportation Specialist and Blood Ambassador.

I witnessed the devastation caused by a lack of communication in communities that were already struggling socially and economically during Hurricane Maria. I'm determined to contribute to the solution because of that experience. I want to create regulations that guarantee no one is left behind, irrespective of region, language, or disability. My objective is to assist in initiating the transition from a one-size-fits-all

alert system to a resilient, adaptive, and community-informed one.

Conclusion

In disaster management, a warning system's effectiveness is determined by its capacity to empower and inform all community members, particularly the most vulnerable, rather than only by the technology it uses. We can create systems that not only warn but also protect by fusing technical innovations with local outreach and culturally sensitive communication. I'm dedicated to influencing emergency risk communication in a way that makes sure every voice is heard and every life is valued through cooperation, innovation, and education. ♦

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Early Warning Systems in Emergency Management for North Dakota and Minnesota

By Aleah Miller, B.S. Candidate Studying Disaster Resilience & Emergency Management at North Dakota State University, IAEM Undergraduate Scholarship (\$2,000)

The warning systems in emergency management for the North Dakota and Minnesota area are well developed, but can always be improved. Examples of such systems include sirens, weather radio, emergency alerts, and media. A specific strength that I see for the warning systems around the area I live in is that everyone knows what tornado sirens mean and what they are supposed to do when a tornado warning is issued. However, a corresponding weakness is that even though people know when a tornado warning is issued, they are advised to go to their basements and stay away from windows, they do not always follow the instructions. Lindell and Perry demonstrate four steps that outline the warning process: risk identification, risk assessment, risk reduction, and protective response (1992). This means that people will first ask whether a threat exists, then determine if protection is needed, whether protection is possible, and finally determine the best action and take it (Lindell & Perry, 1992).

In a purely academic realm, it makes perfect sense, and one might assume that people would obviously take every precaution. However, the problem lies in the perception of risk. If an individual has survived a disaster previously and was not impacted, they may be inclined to perceive less risk if they were to be warned of that disaster happening again. I believe this is extremely evident in the North Dakota and Minnesota area, as many joke about stereotypical dads who, instead of sheltering during a tornado warning, stand out on their front porch to watch what is happening outside. This is likely because

they perceive the risk to be not that high. Lindell and Perry's Protective Action Model illustrates this concept, starting with an initial stage where individuals receive threat information from environmental cues, social cues, information sources, etc., and then how perceptions influence the protective action decision-making (2012). Dennis Mileti, a prominent researcher in the field of emergency management, also wrote on warning and identified two of the five components to effective warning as understanding of the warning and belief that the warning is credible (1999).

This leads to the importance of credible information and sources. One of the biggest issues with response (that almost every practitioner I've spoken to has mentioned) is communication. Risk communication needs to be improved, specifically for vulnerable populations. Vulnerable populations include those who are socially vulnerable and have functional needs. Kailes and Enders demonstrate the importance of considering functional needs and introduce the CMIST acronym that stands for communication, medical needs, functional independence, supervision, and transportation (2007). For individuals with these needs, the importance of a warning being sent multiple times, far enough in advance, in multiple languages, and simply enough to understand, becomes even greater.

Ways to improve risk communication and the effectiveness of warnings include the use of credible sources, having a consistent and easy-to-understand message, and using as many channels/methods of communication as possible. Another

important aspect of successful risk communication is making sure the message is given in a way, and the systems are set pre-event, so that the public perceives a threat. One way to try increasing the accuracy of the public's risk perception is through education. Local emergency managers should be involved in their communities and always strive to increase public awareness and knowledge of vulnerabilities and risks. Finding ways to involve the public in the planning process can also help people perceive threats correctly, specifically vulnerable populations. ♦

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EM Calendar

Oct. 30	IAEM Annual Memorial Service, USA Business Meeting, and Global Report
Nov. 5	Emergency Managers and Drones: Best Practices and Lessons Learned in Supporting Large-Scale Outdoor Events
Nov. 14-20	2025 IAEM Annual Conference Louisville, Kentucky
Nov. 21-22	EMAP Emergency Management Standard Training Course Louisville Metro Emergency Management Agency Louisville, Kentucky
Dec 1-3	National Healthcare Coalition Preparedness Conference 2025 Gaylord Texan Resort & Convention Center Grapevine, Texas

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barango@iaem.com

Chief Executive Officer
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beth@iaem.com

Contracts Specialist
Mariama Bah
mbah@asmii.net

Communications and Project Coordinator
Lexi Baird, QAS
lexi@iaem.com

IAEM-USA Executive Director (@ Nov. 20th)
Nicole Blankenship, CAE, MBA
nicole@iaem.com

IAEM-USA Director of Government Affairs
Thad Huguley
thad@iaem.com

Conference Director
Julie Husk, JD, QAS
julie@iaem.com

Membership Manager/Registrar
Sharon L. Kelly, QAS
sharon@iaem.com

Project Manager
Terry Lightheart-Sadler, CEM, QAS
terry@iaem.com

Program Manager
Kate W. McClimans, IOM, QAS
kate@iaem.com

Editor
John T. Osborne, QAS
john@iaem.com

Meetings Director
Michelle Savoie, CMP, QAS
michelle@iaem.com

info@iaem.com | www.iaem.org

Visit the [IAEM staff webpage](#).

Sponsor Manager
Katie Schlesinger
katie@iaem.com

Communications & Marketing Director / Scholarship Program Director
Dawn M. Shiley, CAE
dawn@iaem.com

Assistant Executive Director
Chelsea F. Steadman, QAS
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Member Relations Coordinator
Carol Tagliaferri, QAS
Carol@iaem.com

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Clay D. Tyeryar, MAM, CAE
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