



**NEMA Wildfire Alert & Notification Workshop
April 17, 2019
Boise, Idaho**

Meeting Summary

Wildfires are growing in number and severity - causing greater destruction - and they're only expected to get worse due to the changing climate and environmental conditions. Also, while tornado and hurricane forecasts and warnings have vastly improved over recent years, wildfires haven't reached that level yet, perhaps because there isn't a dedicated federal funding stream to support advancements in technology. The challenges presented by wildfires are many and not limited to particular states or sections of the U.S.



As states and communities prepare for the 2019 wildfire season, NEMA held its first ever Wildfire Alert & Notification Workshop on April 17th in Boise, ID. Invited states included Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming. Partner organizations represented included IAEM, IAFC, NOAA/NWS, and FEMA. The event was sponsored by Everbridge and AECOM. Given this was a new initiative for NEMA, the invitation list was small and limited to particular western states due to their experience with wildfires and the impending season.

The workshop was hosted and moderated by NEMA President Brad Richy, Director, Idaho Office of Emergency Management.

Framing the Issue

The morning session focused on providing data and information that helped to frame the alert and notification issues for the group.

In preparation for the workshop, NEMA conducted an advance survey of invited states to gather baseline information prior to the meeting. Survey response highlights:

- Three out of 10 states surveyed have a single, statewide system for alert and warning (A/W) for the general public for any hazard.
- Two out of 10 states have a single standard, regulation or guidance on how all A/W are to be accomplished.
- It varies by jurisdiction as to who has the authority to approve, and the responsibility to originate, an A/W.
- When asked under what authority wildfire A/W are issued be it standard practice, policy or statute, 2 states said through standard practice and 8 states replied that it varies by jurisdiction.

- In 2 out of 10 states, all of the counties in the state are using the Wireless Emergency Alert System.

Everbridge Presentation

Everbridge, Inc. is a global leader in critical event management and enterprise safety applications that automate and accelerate an organization’s operational response to critical events in order to keep people safe and businesses running faster. Scott Benoit with Everbridge provided a brief analysis of key takeaways and best practices from the 2018 California Wildfires based on usage of their product by public and private sector entities.

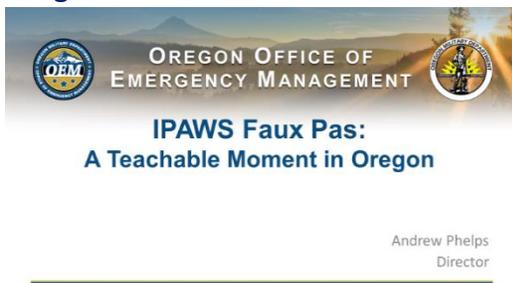
Everbridge selected the dates of November 8-16, 2018 for analysis when four wildfires were burning concurrently: Camp, Nurse Hill, and Woolsey.

Everbridge observations based on messaging data:

- There was a 16% increase in SMS opt-ins which is significant.
- There was low usage of the Integrated Public Alert and Warning System (IPAWS) possibly due to its broad range.
- Some messages lacked clear direction for citizens. Example: “Follow all instructions from emergency personnel.” What are those instructions or where can you go to find them?
- Government needs to recognize that the number of landlines in homes is decreasing and that trend will continue. A growing number of people utilize mobile phones exclusively.
- There’s great value in using alert and notification systems to establish communication with emergency response teams, as well as two-way communications with citizens.
- Targeted messages to pre-identified functional needs individuals is a best practice.
- Recognize residents are on-the-move. Leverage Mobile App functionality that can target users based on their current location for a specific time period.
- Multi-Modal & Rebroadcasting. Across all verticals, affected customers consistently re-broadcasted notifications to recipients who had not confirmed receipt of the initial message.
- Message senders also sent consistent follow-ups to initial notifications, drawing an easier topic correlation for recipients and creating a consistent message cadence throughout the course of the event(s).
- Value to establishing standard notification best practices for all phases of a critical event (before, during, after)

State Panel Discussion

Oregon



Andrew Phelps, Director of Oregon Emergency Management shared his state’s lessons learned from a Wireless Emergency Alert System (WEA) alerting error in connection with an incident involving blue green algae, cyanotoxin, in the water supply in Salem, OR. Salem/Marion County determined their system was inoperable and asked OEM to send the alert. After sending the alert, OEM determined that an incorrect message was sent because the integrated public alert warning system

inadvertently defaulted to a generic message. Mistakenly, messages referring to “civil emergency” and “preparedness actions” with little additional information went out causing confusion and panic. Officials sent a second message 31 minutes later with more information and a link to a municipal website, which briefly crashed under the load.

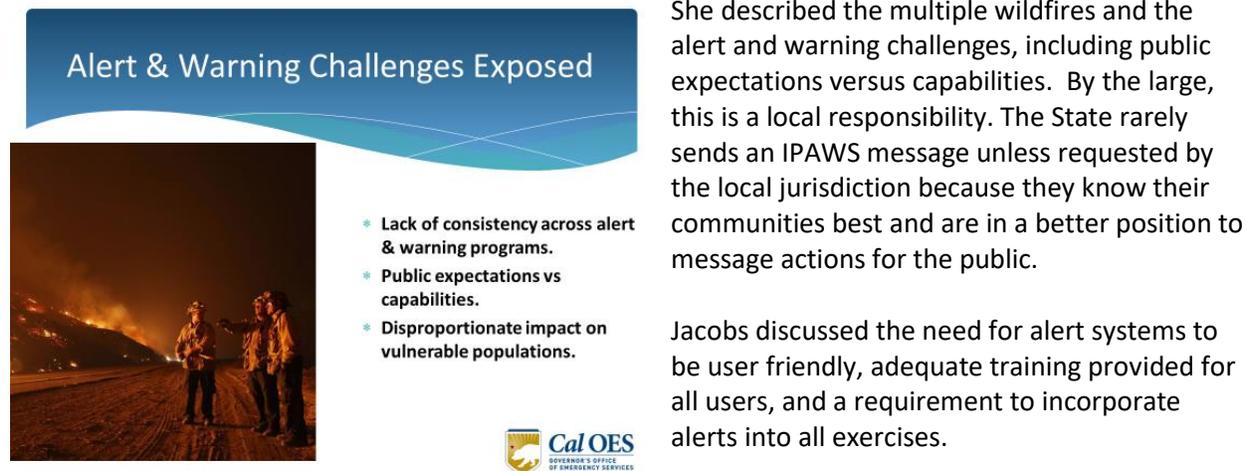
Lessons learned:

- Know your system
- Include your leadership chain/public information officers when preparing to send an alert
- Prepare your infrastructure
- Understand that the IPAWS message will be the first of many messages.

California

Caroline Thomas Jacobs with California Office of Emergency Services discussed the 2018 wildfire season. She set the stage by talking about the new “abnormal”:

- Climate change will result in increased extreme weather events.
- More severe and frequent disasters require more robust planning and preparedness from local and state governments.
- Disasters will disproportionately affect vulnerable populations.



The slide features a blue header with the title "Alert & Warning Challenges Exposed". Below the header is a photograph of two firefighters in a dark, smoky environment. To the right of the photo is a list of three bullet points, each preceded by a blue asterisk. At the bottom right of the slide is the Cal OES logo, which includes a shield with a bear and the text "Cal OES GOVERNOR'S OFFICE OF EMERGENCY SERVICES".

Alert & Warning Challenges Exposed

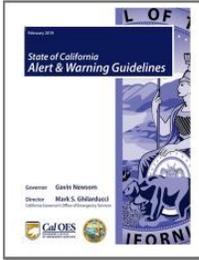
- * Lack of consistency across alert & warning programs.
- * Public expectations vs capabilities.
- * Disproportionate impact on vulnerable populations.

Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES

She described the multiple wildfires and the alert and warning challenges, including public expectations versus capabilities. By the large, this is a local responsibility. The State rarely sends an IPAWS message unless requested by the local jurisdiction because they know their communities best and are in a better position to message actions for the public.

Jacobs discussed the need for alert systems to be user friendly, adequate training provided for all users, and a requirement to incorporate alerts into all exercises.

Lessons Learned



- * Need for state-wide standardization and guidance.
- * Re-energized focus on Alert & Warning policies, procedures, and protocols.
- * Strong engagement with emerging technologies.



Pursuant to Government code, California has issued a first-edition Statewide Alert and Warning Guidelines which represents the collaborative effort of a Standardized Emergency Management System (SEMS) special committee working to establish statewide guidelines for the purpose of enabling and encouraging consistent application of alert and warning best practices, procedures and protocols.

The Guidelines can be found at www.calalerts.org. Also available on the site is information about alerting systems, FAQs,

videos and other resources.

Chelan County, Washington

Kent Sisson with the Chelan County, Washington Sheriff's Office of Emergency Management shared his state's protocols for evacuation, including alert and warning.

Timely evacuation notices:

- It's vital to push notices with as much time as possible for the public to react.
- We can always downgrade evacuation levels if circumstances change.
- Push out mass emergency messaging as quickly as possible.
- Utilize EAS along with the IPAWS/WEAS messaging.
- Continue with social messaging and media contacts using a PIO. This allows for more in-depth incident information and Q&A.

Public Notification and Alerting

BEST PRACTICES FOR USING ALERT & WARNING SYSTEMS

- Educate your community and promote opting-in
- Have backup redundant systems
- Combine systems to increase coverage
- Create an Alert & Warning Plan
- Develop message templates
- Coordinate with other agencies
- Beware "warning fatigue"



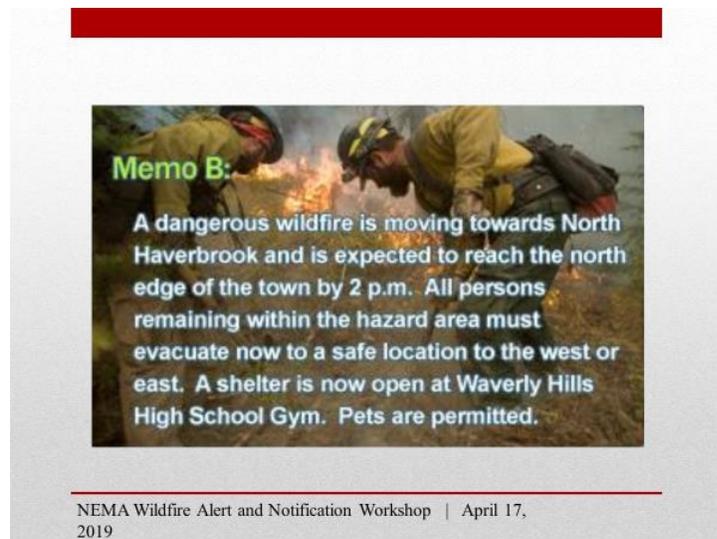
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Utah

Joe Dougherty with Utah Emergency Management shared his state's lessons learned and best practices.

- What doesn't work: minimal state involvement; no specific alerting plan; minimal training
- What goes wrong: truncated messages; alerting beyond your intended target; wrong information.
- Recommendations: personnel involved with alerts should complete EMI Course IS-251; develop State Alerting Plan; view Dennis Miletti PrepTalk; continued outreach from IPAWS Program Management Office; monthly training.



Recommendations for Improved Outcomes

The afternoon session consisted of a facilitated group discussion by Glen Woodbury with the Center for Homeland Defense and Security (CHDS) to identify challenges and opportunities for wildfire alert and warning.

Woodbury outlined what could be described as “tension points” around the issue of alert and warning including confidence in the use of technology, decision points on when to alert or not, which system(s) to use, IPAWS, state versus local dynamics, cascading effects of alerts i.e. evacuation, standardization between jurisdictions or customization.

The group also discussed what can be learned from the alert and warning process for hurricanes and tornadoes, as well as what's unique about wildfires. Modeling and forecasting were prominent in the discussion and the fact that there needs to be a dedicated federal funding source for research and development and technology advancement. In addition, the telecommunications industry needs to be engaged on the implementation of IPAWS as it's their systems being used.

Challenges

Relationships

- There is a whole host of agencies across government at both the state and local level that makes interagency coordination difficult.
- Importance of public trust.
- Human behavior is unpredictable during disasters. Citizens can suffer from alert apathy and disaster fatigue.
- There's no central authority so how do we make progress with how the public expects to be communicated with?

Roles and Responsibilities

- Understanding at each jurisdictional level who has the responsibility to originate an alert and who has responsibility to approve an alert. It varies between jurisdictions and states.

Technology

- Divergent products.
- Number of and difference in messaging platforms.
- Lack of confidence in the use of technology, particularly IPAWS.
- Not all communities can afford the same type of technology solutions. Rural versus urban capability.
- Can't always keep pace with the event.
- Commercial infrastructure is not public safety grade yet citizens rely on it. Should be at the same level of reliability and resiliency as public safety communications systems.

Metrics

- Lack of standardized metrics to measure success.
- What constitutes success for wildfire alert and notification? Number of people reached? Number of people who evacuated?

Messaging

- Common terminology is needed.
- Consistent and accurate messaging is required.
- Messaging often doesn't provide clear direction for the public to act.
- No standardization between messaging platforms.
- Cross border events can lead to conflicting and confusing information for citizens. Be sure to provide information to 911 centers as they will be the first call for most people.
- Transient populations and vacationers.

Opportunities

Technology

- Incorporate alert and notification into all state and local exercises.
- Create common operating picture with the latest information on fires and share with all responders as well as other entities involved.
- Provide regular education and training on use of technology, particularly IPAWS.
- Leverage mobile app functionality.
- Take advantage of smart technology for people to receive messages through smart home systems, vehicle navigation, Siri, Alexa, etc.

Messaging

- Develop messaging templates in advance for use before, during and after the disaster.
- Utilize all available platforms.
- Implement two-way communications with citizens, especially those with functional needs.
- Take advantage of public attention to message the importance of preparedness before the next event.
- Work to condition people to be notified through their mobile devices and apps.

Planning

- Standardize alert and notification plans across jurisdictions.
- Codify established policies and procedures.
- Tie alert and warning plans to evacuation plans.

Metrics

- Develop standardized metrics for successful alert and warning.

Best Practices

- Build alert and warning into all training and exercises.
- Sharing best practices is an opportunity to learn and improve quickly.
- Learn from other countries, such as Australia, who experience and are successful at wildfire response.
- Western states should share best practices and lessons learned with the remainder of the states as wildfire occurrences are increasing nationally. Other states may also have new or innovative ideas on how best to alert and warn the public during wildfires.

The group brainstormed ways to improve wildfire alert and warning systems and processes.

- Understand and codify roles, responsibilities and authorities within each jurisdiction.
- Require alert and warning plans for states and locals.
- Look beyond government to maximize messaging.
- Be inclusive in planning and strategy development.
- Maximize evolving and future technologies.

- Integrate systems across all platforms.

The Path Forward

NEMA Past President Bryan Koon (former Florida EM Director) led the wrap-up session. He asked the group to identify additional stakeholders that should be included in future discussions: FEMA/IPAWS, FCC, SECC, more local officials, telecommunications companies, CTIA, federal land management agencies, DHS S&T, National Communications Center, elected officials, state fire chief associations, volunteer organizations, social scientists.

The majority of those in the room indicated they would be interested in convening again after the 2019 wildfire season to share progress, improvements, lessons and innovations.

NEMA would like to thank everyone who participated in the workshop and contributed to this important dialogue.