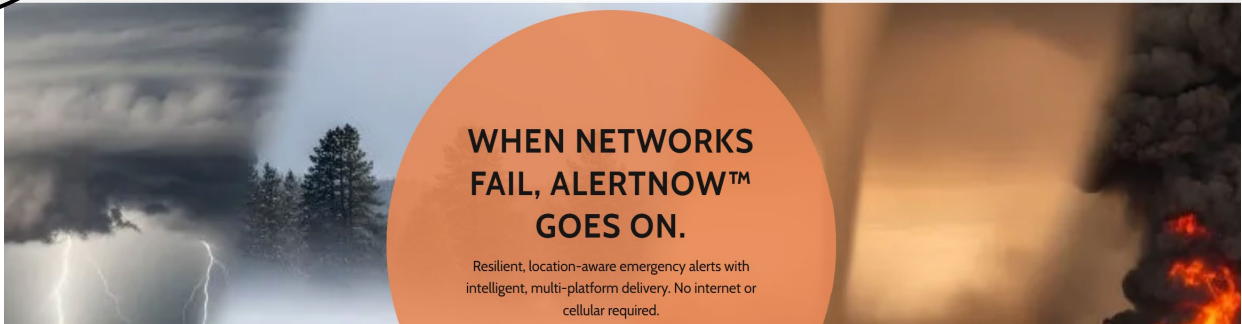




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Revolutionizing Emergency Alerts: Strengthening America's Response to Natural Disasters

By Tom Buono
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Across the United States, a series of unprecedented disasters—catastrophic floods in Texas, raging wildfires in LA and Lahaina, and the relentless onslaught of annual hurricanes—have exposed alarming weaknesses in our nation’s emergency alert system. These crises have not only tested our resilience but have also revealed a pressing need to strengthen how we warn and protect our communities.

The New York Times	CNN	CBS NEWS												
<p>Maui Sent an Evacuation Alert. Why Did So Few People Get It?</p> <p>The Hawaii wildfire offered insights into the promises and shortcomings of a wireless alert system that relies on cellphones for emergency warnings.</p>	<p>A 'dangerously unacceptable breakdown' led to errant or delayed evacuation warnings in LA. The rest of the US isn't immune</p>	<p>Why some people in Hurricane Helene's path didn't get emergency alerts</p>												
<table border="1"> <tr> <th>Estimated Damages</th> <th>Fatalities</th> </tr> <tr> <td>\$5.5 Billion</td> <td>100</td> </tr> </table>	Estimated Damages	Fatalities	\$5.5 Billion	100	<table border="1"> <tr> <th>Estimated Damages</th> <th>Fatalities</th> </tr> <tr> <td>\$250-\$275 Billion</td> <td>29</td> </tr> </table>	Estimated Damages	Fatalities	\$250-\$275 Billion	29	<table border="1"> <tr> <th>Estimated Damages</th> <th>Fatalities</th> </tr> <tr> <td>\$79.5 Billion</td> <td>219</td> </tr> </table>	Estimated Damages	Fatalities	\$79.5 Billion	219
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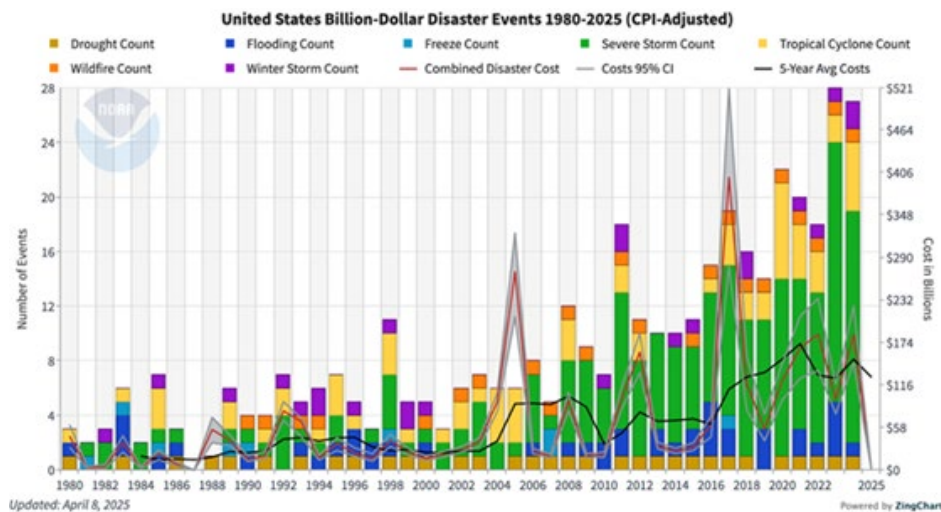
The staggering loss of life and widespread destruction underscore an urgent imperative: we can no longer afford to overlook the critical gaps in our emergency alert system. As communities struggle to recover, it is essential that we prioritize bold, innovative solutions to safeguard lives the next time disaster strikes.

Although most Americans have access to FEMA’s Integrated Public Alert & Warning System (**IPAWS**) and NOAA Weather Radio (**NWR**), these systems are far from foolproof. In the

chaos of an emergency, relying on a single mode of communication can mean the difference between safety and tragedy.

The Weather Radio service, while delivering crucial alerts from over 100 weather offices, struggles under the weight of its age and limitations. NOAA's 60-year-old infrastructure is not only costly to maintain but is also susceptible to outages at critical moments. Complicating matters, effective use of NWR receivers requires residents to purchase, configure, and tune these devices correctly, a hurdle that results in minimal adoption and leaves many unprotected when it matters most.

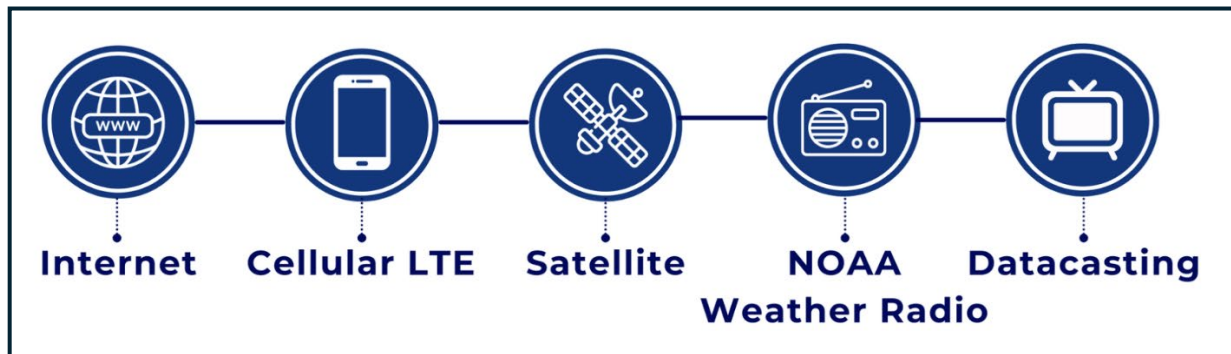
The stakes are clear, as shown in the chart below. Over the past 45 years, more than 400 catastrophic events have each caused losses exceeding \$1 billion, and the frequency of such disasters has doubled in just the last five years. This stark reality demands far more accessible, robust, and multi-channel emergency alert solutions and systems that can reach people wherever they are, on devices they already trust, and in ways that truly save lives.



To transform the nation's public alerting capabilities, we must move decisively beyond incremental improvements. Two pivotal steps will unlock a future where every person can receive life-saving warnings without delay or disruption.

1. First, we need a resilient, multi-modal distribution network for mass notifications—one that does not rely solely on cellular networks, but instead weaves together a robust web of outreach channels. This ensures alerts can reach even the most remote or vulnerable populations, no matter the state of any single infrastructure.
2. Second, emergency notifications must be delivered straight to the devices trusted and used daily by the public and emergency managers alike. Whether through smartphones, computers, radios, or televisions, alerts should be impossible to miss in moments of crisis.

The multimodal distribution should include internet and LTE and can be augmented by satellite, NWR, and television datacasting.



Internet and LTE networks serve as the backbone for emergency communications, connecting both emergency managers and the wider public with speed and reach. Yet, for rural and remote communities, satellite and NOAA Weather Radio (NWR) play a vital role in bridging the gap where other networks may falter.

Television datacasting involves sending encrypted content over a small portion of the television bandwidth to targeted receivers, unseen by the viewing population.

Harnessing the strengths of each of these technologies creates a resilient, layered alerting system—one that ensures every community, regardless of location or resources, is covered when disaster strikes.

The advantages of incorporating alerting over the ruggedized television infrastructure include:

- Reaching large populations simultaneously with a single transmission
- Continuous operation during cellular network and power grid failures
- Direct transmission to dedicated receivers in homes and businesses
- Full integration with Wireless Emergency Alerts (WEA) and Emergency Alert System (EAS)
- Supported 24/7 by professional broadcast engineers
- Secure, encrypted data transmission that does not interfere with core broadcasting operations.

Equally critical to the success of emergency alerting is delivering clear, attention-grabbing notifications directly to people’s primary devices—using both audio and visual cues. Whether on mobile phones, desktops, smart home systems, alert beacons, or IP-based speakers, these alerts must be impossible to ignore, ensuring everyone receives vital information the moment it matters most.



Next Steps: Advancing Emergency Communications

A resilient and comprehensive emergency communication system is not merely a goal—it’s a necessity for every community in America. Each region faces its own set of challenges, whether from natural disasters, public health emergencies, or unforeseen crises that threaten safety and stability.

To meet these challenges head-on, we must invest in advanced, multi-platform alert systems that bridge the gap between traditional channels and cutting-edge technology. By doing so, we can guarantee that life-saving information reaches people everywhere, without delay.

This effort also means empowering emergency managers, state leaders, and communities with the training and tools needed to act swiftly and decisively when every second counts.

All of this is not a future concept; technology is here now and can be deployed immediately. By adopting these solutions, local towns and cities can build lasting resilience, protect lives, and provide peace of mind—ensuring that no one is left behind when disaster strikes.

For more information, visit [AlertNow](#).

Tom Buono is the CEO of AlertNow, LLC, a subsidiary of SpectraRep, LLC, a pioneer in multi-modal alerting solutions to solve real-world notification problems for public safety and emergency managers and the general public.