



IPAWS



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Presidential Direction

Executive Order 13407 - Public Alert and Warning System

- “It is the policy of the United States to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people in situations of war, terrorist attack, natural disaster, or other hazards to public safety and well-being (public alert and warning system), taking appropriate account of the functions, capabilities, and needs of the private sector and of all levels of government in our Federal system, and to ensure that under all conditions the President can communicate with the American people.”

1995 Presidential Memorandum “*Emergency Alert System (EAS)*” *Statement of Requirements*”

- The national level EAS must be: Fully integrated from the national to local level, yet capable of independent local (Priority Two) and state (Priority Three) operations.

47 Code of Federal Regulation (CFR)

- Part 10 (Wireless Emergency Alerts) – Serve as the Federal Alert Aggregator
- Part 11 Activation of the “National EAS” for a Presidential Alert



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Evolution of Public Emergency Alerting



1951 - 1963
CONELRAD

1963 - 1997
EBS

1997 - - - - - present -
EAS IPAWS

Originally called the "Key Station System," the **CON**trol of **EL**ectromagnetic **RAD**iation (CONELRAD)

Participating stations tuned to 640 & 1240 kHz AM and initiated a special sequence and procedure designed to warn citizens

EBS was initiated to address the nation through audible alerts

Originally designed to provide the President with an expeditious method of communicating with the American public

Designed for President to speak to American people within 10 minutes.

- EAS messages composed of four parts:
- Digitally encoded header
 - Attention Signal
 - Audio Announcement
 - Digitally encoded end-of-message marker

Provided for better integration with NOAA weather and local alert distribution to broadcasters

Modernizes and integrates the nation's alert and warning infrastructure.

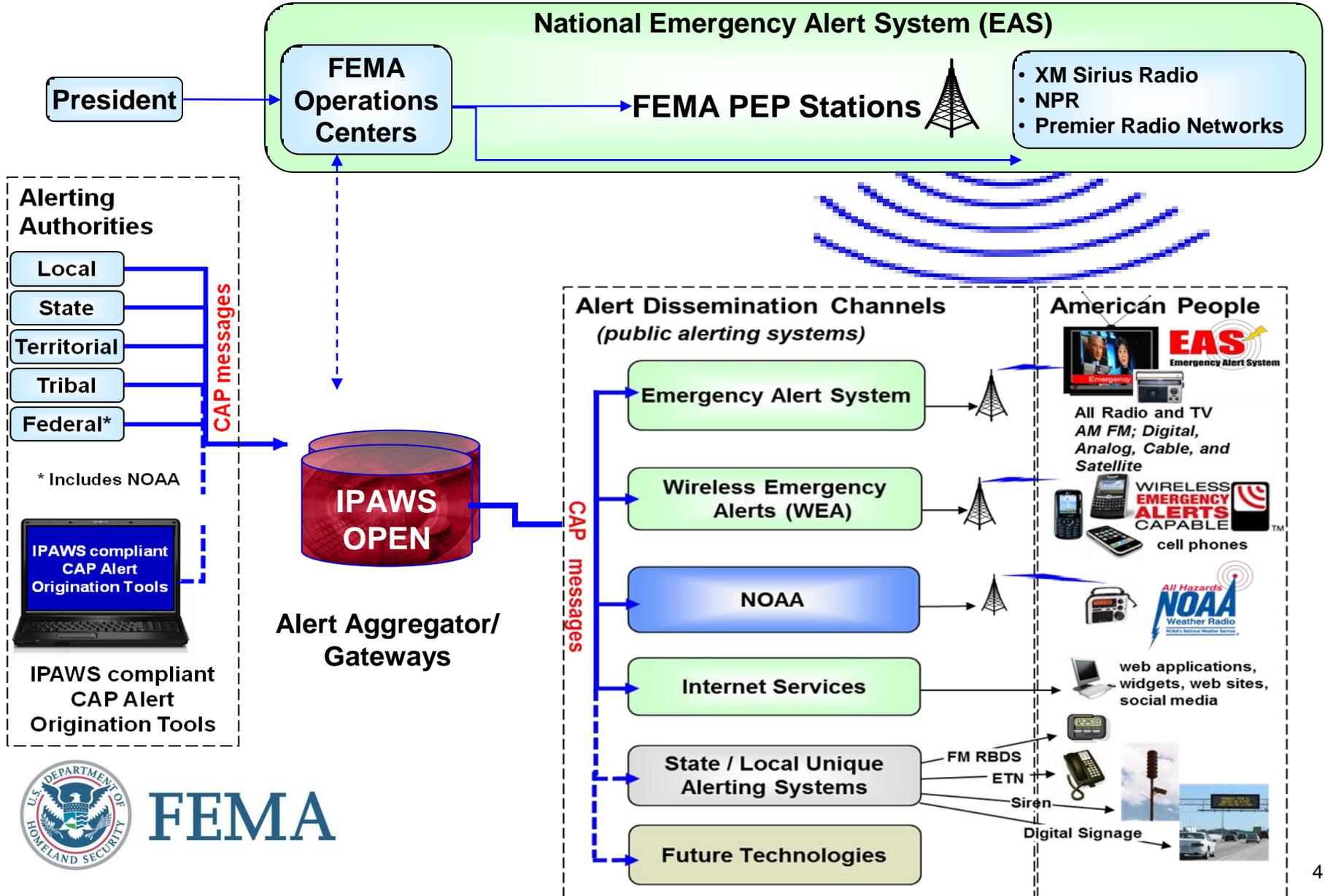
Integrates new and existing public alert and warning systems and technologies thru the Common Alerting Protocol or CAP

Provides authorities a broader range of message options and multiple communications pathways



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IPAWS Architecture *with National EAS*



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Wireless Emergency Alerts (WEA)

WEA is the result of Public-Private Partnership FEMA, FCC and Cellular Carriers



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Wireless Emergency Alerts



- ▶ IPAWS is the only way emergency managers can send Wireless Emergency Alerts (WEA)
- ▶ Enables authorized public safety officials to send **90 character, geographically targeted, emergency alerts** to cellular phones in a danger zone
- ▶ Uses **“cell broadcast”** technology to avoid network congestion
- Cellular carrier participation voluntary
 - Most Commercial Mobile Service Providers (CMSP) have opted into WEA
- Citizens may opt-out of receiving alerts
 - New phones are delivered opted-in

- ▶ WEA capabilities are free to alerters and alertees – no usage or text message charges



- Significantly different from SMS/email based alerting systems
 - **Not subscription based** -- true location based alerting
 - Sends alerts to phones in an area - not to a database of phone numbers
 - **For “Alerts” only**.... not for notification type messages
 - Only for emergencies categorized as:
 - **Imminent Threat (Severity, Urgency, Certainty)**
 - **AMBER / Child Abduction Emergency**
 - **Presidential (** Cannot Opt-Out **)**



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Boston Bombings' Manhunt Alert

April 2013

“Boston officials did use cellphone text messages, known as Wireless Emergency Alerts, in the aftermath of the marathon bombings...the Massachusetts Emergency Management Agency has the ability and authority to issue imminent threat WEA messages.

The Massachusetts Emergency Management Agency (MEMA) issued a shelter-in-place order stating, “**Shelter in place still in effect, it does not prevent employees from returning home –MEMA.**”

Boston residents then spread the word by tweeting; the WEA messages are intended to sound a siren on their devices to alert people to pay attention and get more information elsewhere.”

[Leslie Stimson](#), Radio World April 24, 2013



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Wireless Emergency Alerts in Action



[@AbhmINwK](https://twitter.com/AbhmINwK)
[@digiphile](https://twitter.com/digiphile)

[#sandy #ny1sandy](https://twitter.com/ggsPviPM)
[pic.twitter.com/ggsPviPM](https://twitter.com/ggsPviPM)



Super Storm Sandy October 2012

“This Emergency Alert just popped up on my phone. Ten seconds later, the TV went out. Here we go...” —Mike Beauchamp, Mike Beauchamp@mbchp, [#sandy #ny1sandy](https://twitter.com/ggsPviPM) pic.twitter.com/ggsPviPM, Oct. 30, 2012

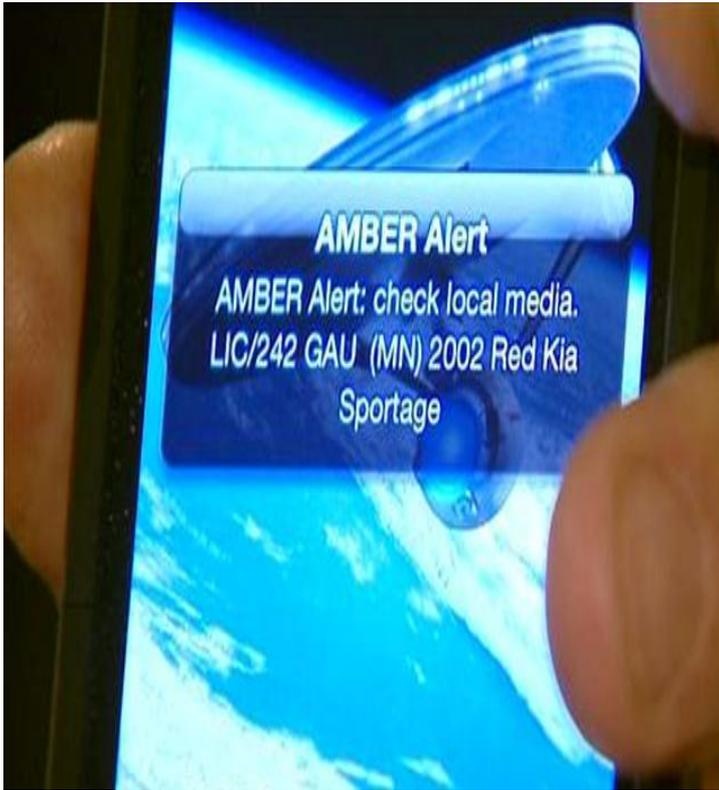
“COOL TECH: Loud alarm and screen alert about [#sandy](https://twitter.com/digiphile) making landfall in NYC.” — Sree Sreenivasan, Sree Sreenivasan @sree, (cc [@digiphile](https://twitter.com/digiphile)) pic.twitter.com/Tg9edBLd, Oct. 28, 2012

“As Hurricane Sandy headed for the city two weeks ago, sirens began ringing on some New Yorkers’ cell phones. **The alarms were accompanied by messages telling them to stay inside; not to drive; or for those in Zone A, to evacuate.** -- Joshua Brustein, New York Times, http://www.nytimes.com/2012/11/11/nyregion/app-city-new-tools-for-disaster-aid.html?_r=0, Nov. 9, 2012

The emergency alerts showed up where and when they mattered.”

-- Alex Howard, O’Reilly Radar, <http://radar.oreilly.com/2012/10/hurricane-sandy-mobile-text-alert-plan.html> Oct. 30, 2012

Wireless Emergency Alert in Action



KMSP-TV Minneapolis-St. Paul

<http://www.myfoxtwincities.com/story/21292496/emergency-alerts-cell-phones-abuzz-with-wireless-alerts%20-%20ixzz2Mh6pxN9z>



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WEA AMBER Alert in Minnesota February 2013

At about 3 p.m., cell phone users across Minnesota received information about the abduction of 8-month-old Carlos Orosco in Minneapolis. "All of a sudden, my phone just screeched at me," recalled Julio Ojeda-Zapata, technology reporter for the Pioneer Press.

Just under an hour after the AMBER Alert was issued, Minneapolis police had a suspect in custody and were reuniting the boy with his mother.

"It was very effective because I looked at the phone and saw the AMBER Alert, and what's interesting -- just five seconds before, I also saw the AMBER Alert on a highway sign," Ojeda-Zapata said. "They're doing it right. You can't ignore AMBER Alerts these days."

When the mobile alerts went out, more than 110 billboards across the state also displayed the AMBER Alert information too.

Iris Perez, KMSP-TV Minneapolis-St. Paul [Minneapolis teen awarded for reporting AMBER Alert suspect - KMSP-TV](#),
KMSP-TV Minneapolis-St. Paul

<http://www.myfoxtwincities.com/story/21292496/emergency-alerts-cell-phones-abuzz-with-wireless-alerts#ixzz2Mh6pxN9z>

Wireless Emergency Alert in Action

Tornado - Pulaski County, Kentucky,
May 2013

“We [National Weather Service] haven’t had a lot of opportunities to use it [Wireless Emergency Alerts] so far this spring, but we had a guy in Ferguson, over in Pulaski County, who said he got the tornado warning we sent out back on Sunday, March 24th on his cell phone.

The phone woke him up...he got up and took cover. We had two minutes warning on that tornado, and moments after he got the warning, the tornado went past his house.

We’ve also had some people in the area who were alerted to flash flood warnings by WEA,” Tony Edwards of the National Weather Service pointed out.”

[Jeff Noble, The Times Tribune](#), May 20, 2013



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Links to Local Media Coverage of Wireless Emergency Alerts

http://www.wivb.com/dpp/news/new_york/amber-alerts-now-on-your-cell-phones

<http://wnyt.com/article/stories/S3011322.shtml?cat=300>

<http://www.wsoctv.com/news/news/local/new-alerts-used-missing-child-cases/nXqC8/>

– Lincoln County, NC

<http://www.13abc.com/story/22174664/wireless-emergency>, Geoff Cornish, 13ABC.com



http://www.woodtv.com/dpp/news/local/kent_county/new-wireless-emergency-alerts-on-smart-phones, Steve Kelso, woodtv.com

<http://www.nbc11news.com/home/headlines/Emergency-alert-program-aids-law-enforcement-209429571.html>, Joseph Dames, KKCO11 News



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WEA Compatible Phones (as of Aug. 21, 2013)



Sprint	T-Mobile	Verizon Wireless	Verizon Wireless cont'd
<ul style="list-style-type: none"> Sanyo Inuendo Sanyo Vero Sanyo Milano HTC EVO 3D Samsung Galaxy SII 4G Touch LG Marque Kyocera DuraMax Kyocera Duracore Kyocera Brio Samsung Trender HTC EVO Design 4G Samsung Transform Ultra 	<ul style="list-style-type: none"> Apple iPhone 5 Apple iPhone4S Blackberry Q10 Blackberry Z10 Blackberry Curve 9315 HTC One S HTC One Nexus 4 Huawei Summit LG Optimus L9 Nokia Lumia 521 Nokia Lumia 710 Nokia Lumia 810 Samsung Galaxy S III LTE Samsung Galaxy S Blaze 4G Samsung Galaxy Exhibit Samsung Galaxy S III Samsung Galaxy Note II Samsung t159 Samsung Galaxy S Relay 4G Samsung Galaxy S4 T-Mobile myTouch T-Mobile myTouch Q T-Mobile Prism Windows Phone 8X by HTC 	<ul style="list-style-type: none"> Apple iPhone 4S Apple iPhone 5 BlackBerry Bold 9930 BlackBerry Curve 9310 BlackBerry Curve 9330 BlackBerry Torch 9850 BlackBerry Z10 Casio GZ One Commando Casio GZ One Ravine Casio GZ One Ravine 2 DROID DNA by HTC DROID Incredible by HTC DROID Incredible 2 by HTC DROID Incredible 4G LTE by HTC HTC Rhyme Rezound by HTC Thunderbolt by HTC HTC Trophy Windows Phone 8x LG Cosmos 2 LG Enlighten LG Extravert Intuition by LG Lucid by LG Lucid 2 by LG LG Revere 	<ul style="list-style-type: none"> Revolution by LG Spectrum by LG Spectrum 2 by LG Motorola Barrage Motorola Citrus Droid 2 by Motorola Droid 2 Global by Motorola Droid 4 4G by Motorola Droid Bionic by Motorola Droid Pro by Motorola Droid Razr by Motorola Droid Razr HD by Motorola Droid X by Motorola Droid X2 by Motorola Lumia 822 Pantech Breakout Pantech Hotshot Pantech Jest 2 Pantech Marauder Pantech Perception ATIV Odyssey Samsung Brightside Samsung Convoy 2 Droid Charge by Samsung Samsung Fascinate Samsung Galaxy Note II Samsung Galaxy S III Samsung Galaxy Stellar Samsung Gusto 2 Samsung Illusion Samsung Intensity III Samsung Nexus Samsung Stratosphere Samsung Stratosphere 2



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WEA Compatible Phones (as of Aug. 21, 2013)



AT&T	US Cellular	CELLCOM	CRICKET
<ul style="list-style-type: none"> • Apple iPhone 4S and 5 • Samsung Galaxy S4 (SGH-i337) • Samsung Galaxy SII (SGH-i777) • Samsung Captivate Glide (SGH-i927) • Samsung Galaxy Appeal (SGH-i827) • Motorola Atrix 2 (mb865) • AT&T Fusion 2 (Huawei U8665) • Alcatel 510A • BlackBerry 9360, 9810, 9860, 9900 • Alcatel 871A 	<ul style="list-style-type: none"> • Samsung Character R640 • BlackBerry Curve 9350 • BlackBerry Torch 9850 • LG Freedom • Motorola Electrify 2 • Motorola Electrify M • Samsung Freeform 4 • Samsung Galaxy Axiom • Samsung Galaxy Note II • Samsung Galaxy S III • Samsung Chrono 2 	<ul style="list-style-type: none"> • Motorola Milestone X2 • LG Converse • LG Optimus Select • Motorola Milestone 3 • Samsung Chrono • Samsung Freeform 4 • HTC One V • iPhone 5 • Motorola Razr Maxx • HTC Desire 4G LTE • Motorola Defy 	<ul style="list-style-type: none"> • BlackBerry Curve 9350

AT&T - <http://www.att.com/esupport/article.jsp?sid=KB410692&cv=820#fbid=IP2-rWpo5wZ>

Sprint -

http://community.sprint.com/baw/community/buzzaboutwireless/services/messaging/wireless_emergency_alerts_-_cmas?view=overview

T-Mobile - <http://www.t-mobile.com/shop/phones/default.aspx?features=a9140e65-fb7b-42f2-88e5-454b2ed235af>

Verizon Wireless - [http://m-](http://m-support.verizonwireless.com/clc/faqs/Wireless%20Service/emergency_alerts_faq.html)

[support.verizonwireless.com/clc/faqs/Wireless%20Service/emergency_alerts_faq.html](http://m-support.verizonwireless.com/clc/faqs/Wireless%20Service/emergency_alerts_faq.html)

US Cellular - <http://www.uscellular.com/websearch/searchresults.html?q=CMAS-Capable+phones>

CELLCOM - http://www.cellcom.com/faq_ga.html?categoryid=19

CRICKET - <http://www.mycricket.com/support/topic/commercial-mobile-alert-system-cmas>



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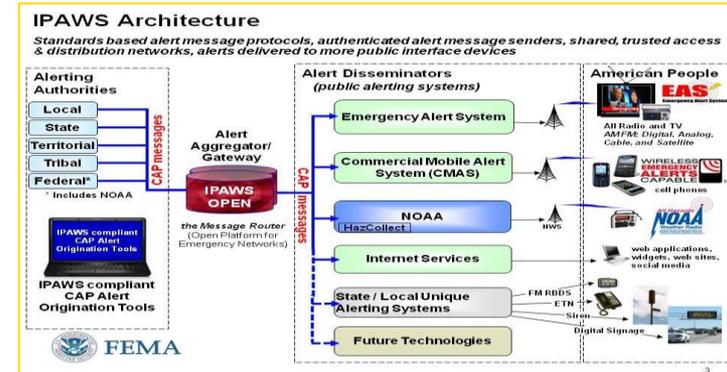
Emergency Alert System (EAS)



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Emergency Alert System and IPAWS

- All EAS participants are required to monitor IPAWS for a national EAS emergency alert message
- FCC deadline for EAS participants to begin receiving Common Alerting Protocol (CAP) formatted alerts from IPAWS was June 30, 2012
- Most participants have already installed updated equipment and are monitoring the IPAWS EAS Feed
- Four test messages (RWTs) per week are posted on the IPAWS EAS Feed
- State and local authorities use IPAWS to route alerts to local EAS stations
- IPAWS complements - *but does not replace* - the systems State and local authorities are currently using for EAS



EAS participants are defined by the FCC's EAS rules in C.F.R. 47 Part 11 and include all radio and television broadcast, cable, satellite, and wireline providers (e.g. Verizon FiOS or AT&T Uverse)



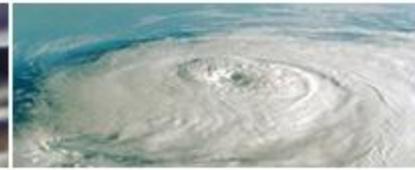
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Primary Entry Point (PEP) Stations

Primary Entry Point (PEP) Stations are privately owned commercial and non-commercial radio broadcast stations that cooperatively participate with FEMA to provide emergency alert and warning information to the public before, during, and after incidents and disasters.



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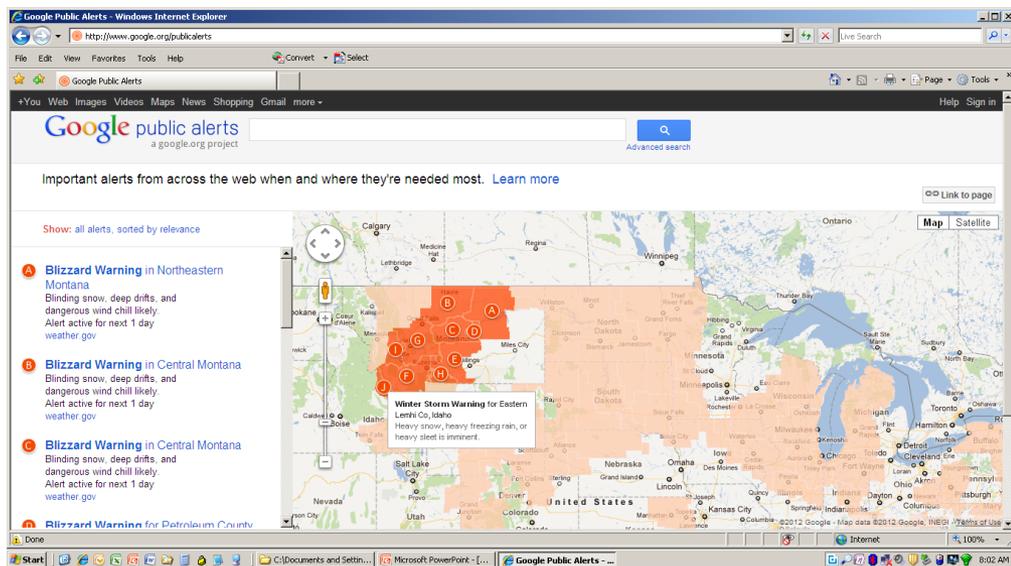
Internet Services



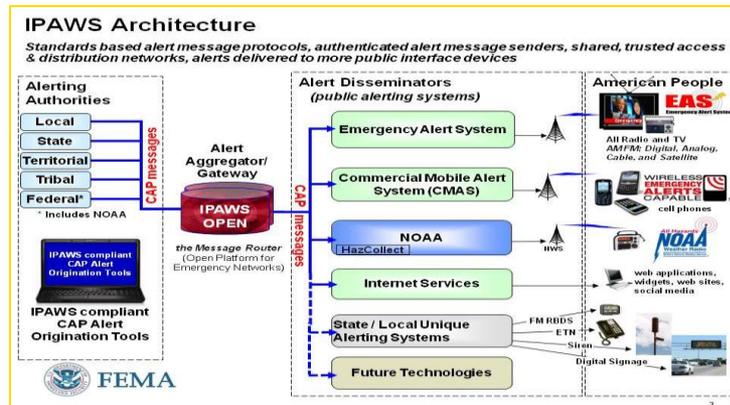
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Internet Services / Applications

- ▶ Internet web services and applications that choose may request access to monitor and retrieve public alerts in Common Alerting Protocol (CAP) format from IPAWS
 - IPAWS Public Alerts Feed is on-line as of September 2012
- ▶ Services then post or distribute emergency alerts information
 - e.g. Google.org Public Alerts web page publishes active alerts retrieved from NOAA and the USGS at www.google.org/publicalerts



Weather Channel
App Developers
Social Media,
AOL, etc....



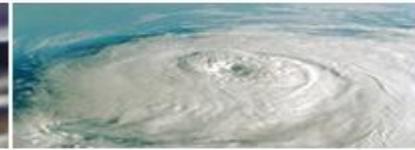
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Becoming an Alerting Authority



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How to sign up for IPAWS

Select IPAWS compatible software

Apply for a Memorandum of Agreement with FEMA

Apply for public alerting permissions

Complete IPAWS web-based training



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EMI Independent Study Course for Alerting Authorities (IS-247a)

- EMI Independent Study course for Alerting Authorities available on-line at <https://training.fema.gov/EMIWeb/IS/is247a.asp>
- As of June 15, 2013, 7050 people have completed and passed IS-274a



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The screenshot shows a web browser window displaying the FEMA Emergency Management Institute (EMI) IPAWS training course. The page title is "Lesson 2: Appropriate, Effective, and Accessible Alert and Warning Messages". The main heading is "Who Can Send IPAWS Alerts and Warning Messages?". The text explains that Designated Alerting Authorities at the Federal, State, local, tribal and territorial levels are authorized to send alert and warning messages to their respective communities. After successfully completing this course, designated alerting authorities may apply to FEMA for access to IPAWS on behalf of their jurisdiction. A list of government programs with written plans that may indicate specific alerting authorities is provided, including:

- State/Regional/Local Emergency Alert System Plan
- State/Tribal/Local Emergency Operations Plan (Warning Annex)
- State/Regional/Local AMBER Alert Plan
- Radiological Emergency Preparedness Program Plan
- Chemical Stockpile Emergency Preparedness Program Plan
- Other hazard specific emergency plans or interjurisdictional agreements

A graphic with the word "WHO?" is displayed on the right side of the page. The page also includes a progress bar and navigation buttons.



Public Education on IPAWS



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IPAWS Public Education Campaign

- Ready.gov/Alerts
- FEMA and the Ad Council have produced and circulated Public Safety Announcements (PSA) on Wireless Emergency Alerts (WEA) for radio and TV
- “IPAWS for the American People” Emergency Management Institute (EMI) web-based training course
- IPAWS is working with Ready.gov to create content on alerts and warning for the children’s preparedness section



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IPAWS' American People On-Line Course



- ▶ The American People course is designed to educate the public and demonstrate the relevance and importance of IPAWS in their lives before, during, and after a disaster.
- ▶ The online course for the American People is currently in development.



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For More Information

- Email the IPAWS inbox: IPAWS@dhs.gov
- IPAWS Website:
<http://www.fema.gov/ipaws/>
- EMI Independent Study Course IS-247a:
<https://training.fema.gov/EMIWeb/IS/is247a.asp>
- Mailing list for IPAWS Webinar notices:
http://service.govdelivery.com/service/subscribe.html?code=USDHSFEMA_165



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