



**FEMA**

**Send Alerts and Save  
Lives with  
IPAWS**

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# What is IPAWS?




- FEMA provided system that allows government entities (FSLTT) to issue alerts to the public.
- Methods include the Emergency Alert System (EAS). Wireless Emergency Alerts (WEA) and Non-Weather Emergency Messages (NWEM).



**AMBER Alert** 24m ago

The Maryland State Police at the request of the Carroll County Sheriffs Office have issued a Maryland Child AMBER Alert for a 9 year Name Redacted a white female.

 The child clothing description is unknown. The child was last observed at approximately 6PM in the Westminster Area of Carroll County. The Child may also be in the Baltimore ar



# When is an SLTT permitted to use IPAWS?




Whenever the local alerting authority decides IPAWS is the best way to communicate public safety information to the public

- Evacuations
- Missing and endangered people
- Child Abductions/AMBER
- Water Contamination
- Water and Relief Supply Distribution
- Large Power Outages
- Toxic Plumes
- Volcano
- Shelter-In-Place
- Clear-all
- Disaster Resources
- Wildfires
- Dam Failures
- Chemical Spills
- Law Enforcement Situations
- 911 Outages
- Nuclear Accidents
- Road Outages/Closures
- Flash Flooding
- Snowstorms

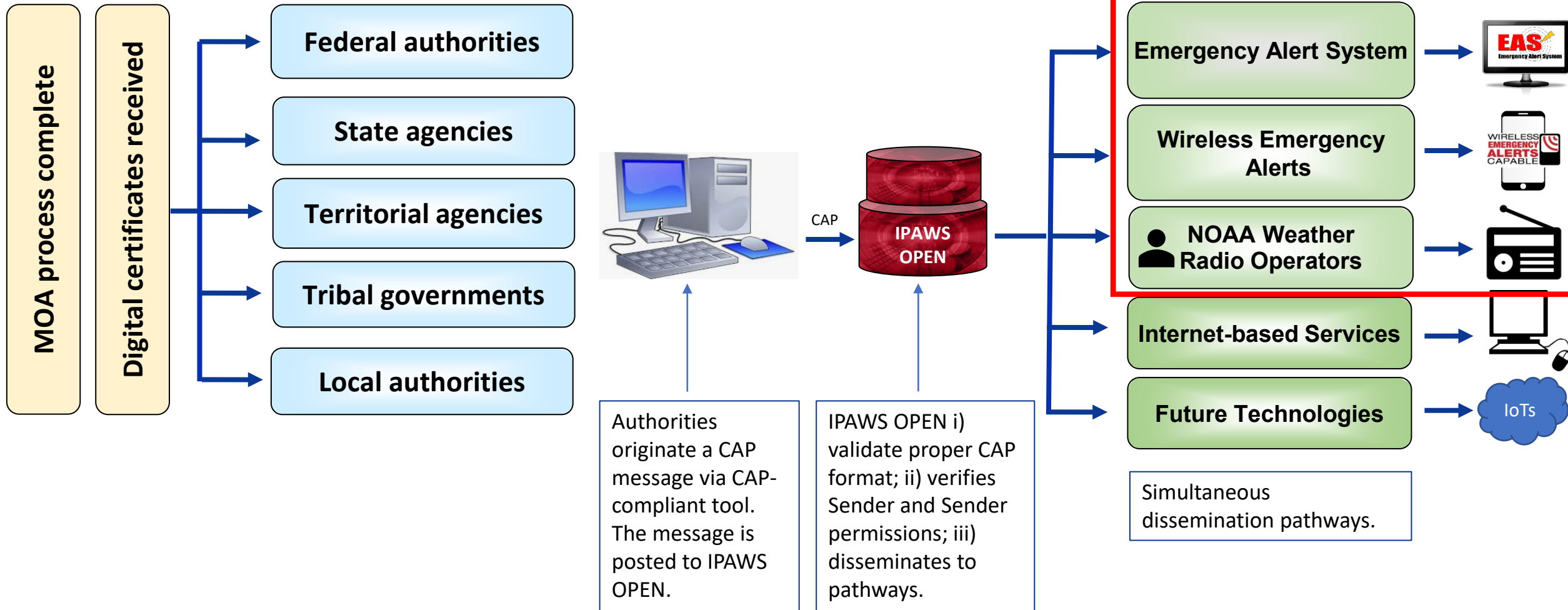
# Mass Notification System & IPAWS



	Method	Emergency Use Considerations
<b>Mass Notification System</b> 	Social Media	<ul style="list-style-type: none"> <li>- Who's following you?</li> <li>- How often do you post?</li> </ul>
	Text Messages/Email	<ul style="list-style-type: none"> <li>- Subscription-based</li> <li>- Congestion</li> <li>- How many people have registered?</li> </ul>
	Reverse Dial Back	<ul style="list-style-type: none"> <li>- How current is your database?</li> <li>- Congestion</li> </ul>
	Local Media	<ul style="list-style-type: none"> <li>- Procedures/protocols</li> </ul>
	Siren System	<ul style="list-style-type: none"> <li>- Do people know what it means?</li> <li>- Do you have transient population?</li> </ul>
<b>IPAWS</b>	Wireless Emergency Alerts (WEA)	<ul style="list-style-type: none"> <li>- Cellular broadcast to cell phones</li> </ul>
	Emergency Alert System (EAS)	<ul style="list-style-type: none"> <li>- Interrupts Radio and TV</li> </ul>
	NOAA Non-Weather Emergency Messages (NWEM)	<ul style="list-style-type: none"> <li>- NOAA Weather Radios</li> </ul>
	Internet-based Services	<ul style="list-style-type: none"> <li>- Redistribution mechanisms</li> </ul>

# IPAWS ARCHITECTURE

MOA Process → Alerting Authorities → CAP Software → IPAWS-OPEN Gateway → IPAWS Pathways → Public



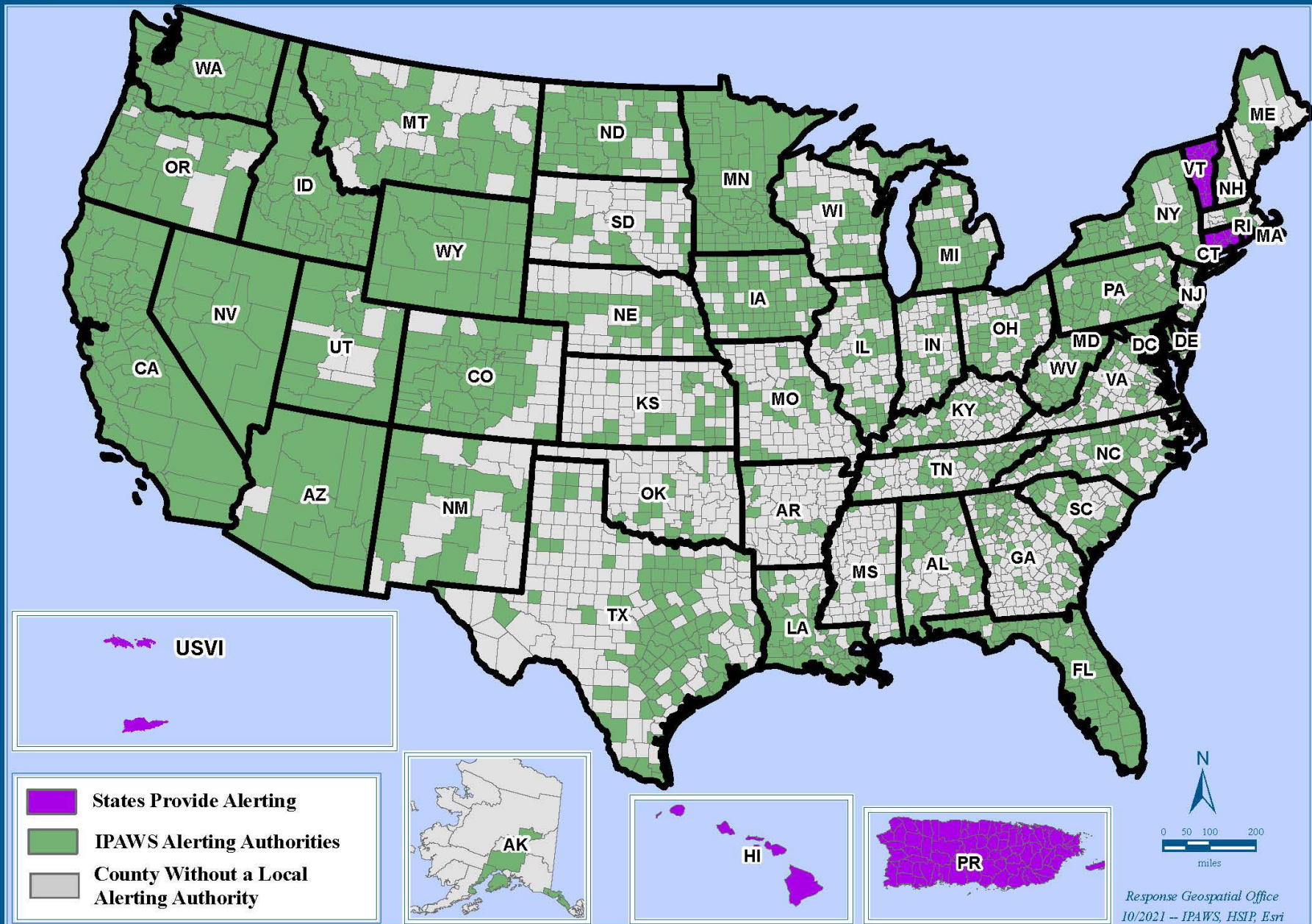
# IPAWS Adoption Map

- County Coverage
- Cross-jurisdictional alerting privileges taken into account
- 85% of the US population is covered by a local Alerting Authority



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IPAWS Adoption by County (As of January, 2023)



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# Emergency Alert System



- **Benefits of IPAWS for EAS:**
  - CAP description provided
  - Audio attachments (mp3)
  - Additional languages
- **Caveat:** Broadcasters voluntarily carry EAS messages except national codes
  - Get to know your local broadcasters
  - Agree on what alerts they will carry

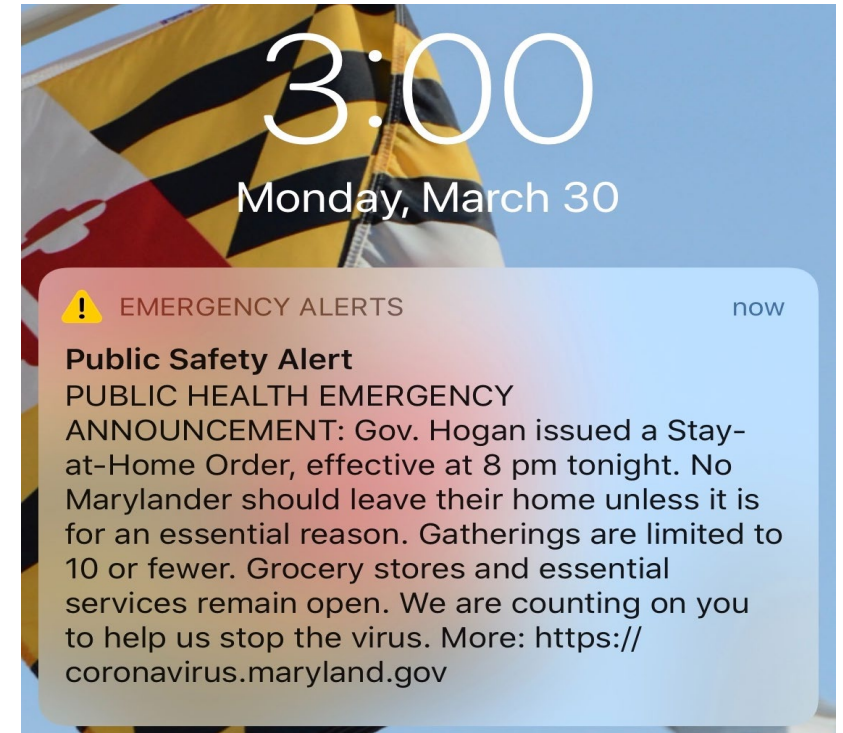


# Wireless Emergency Alert



- **Benefits of IPAWS for WEA**

- Not subscription-based service
  - Your community does not “opt-in” to receive notifications
  - Reach visitors/tourists in your local area
- Not SMS text message
- No network congestion
- All major carriers participate
- Fast delivery
- Attention grabbing tone
- Polygons and circles may assist in distribution constraint

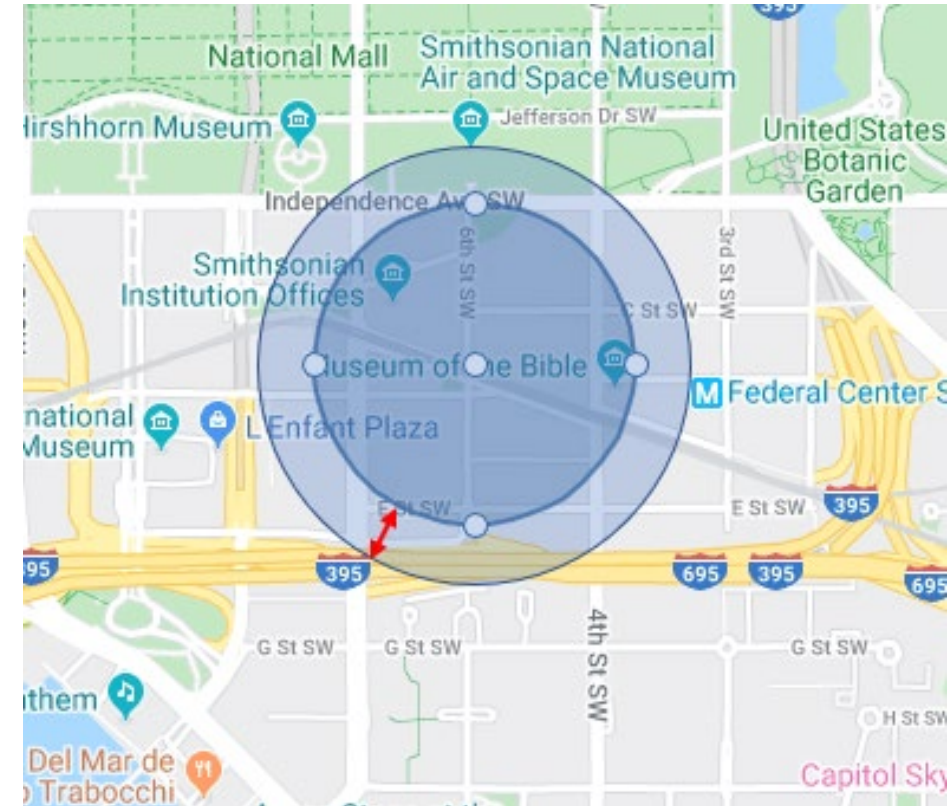


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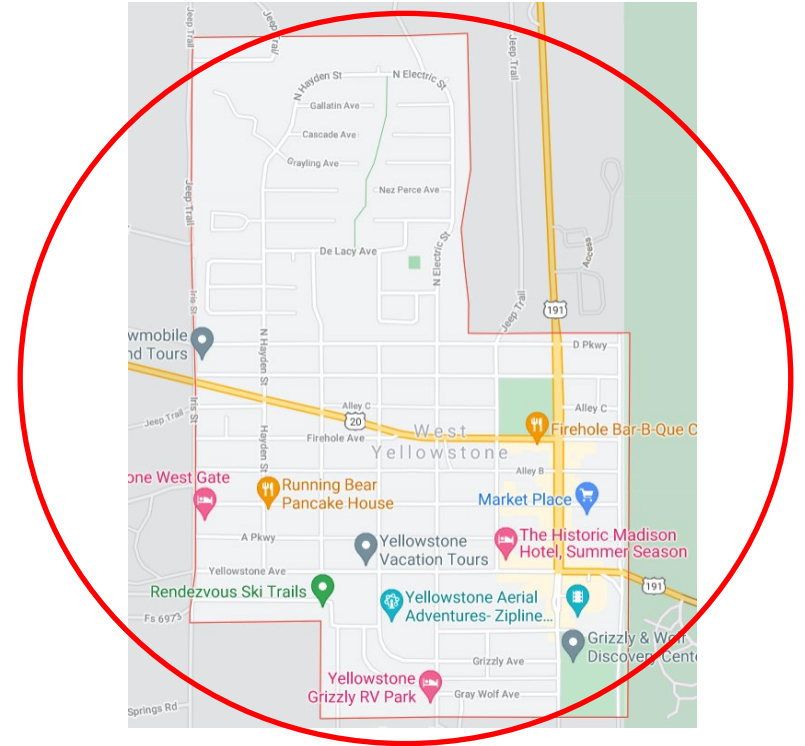
# WEA Geo-Fencing

- **Enhanced geo-fencing – What is it?**
  - Overshoot no more than 0.10 mile outside of polygon
  - How does it work?
    - Device based geo-fencing (DBGF)
    - Cell carriers activated towers in best approximation to a polygon in a WEA
    - API that runs on cell phones so that the phone is “smart” enough to know if it should present an alert
  - Does it work today?
    - Approximately 64% of phones are capable
    - Cell carriers will continue to improve tower activation
    - Technology continues to catch up



# NWEM Distribution

- Non-Weather Emergency Messages (NWEM) are county-wide – does not recognize polygons or circles
- Reaches NOAA Weather Radios
- Human involvement at the field office



- Note: Field officer reviews message content and may make minimal edits

NWS incrementally rolling this capability out by WFO – check with your local WFO

<https://www.weather.gov/stormready/contact>

# Using Links to Your Advantage

## ⚠️ EMERGENCY ALERTS

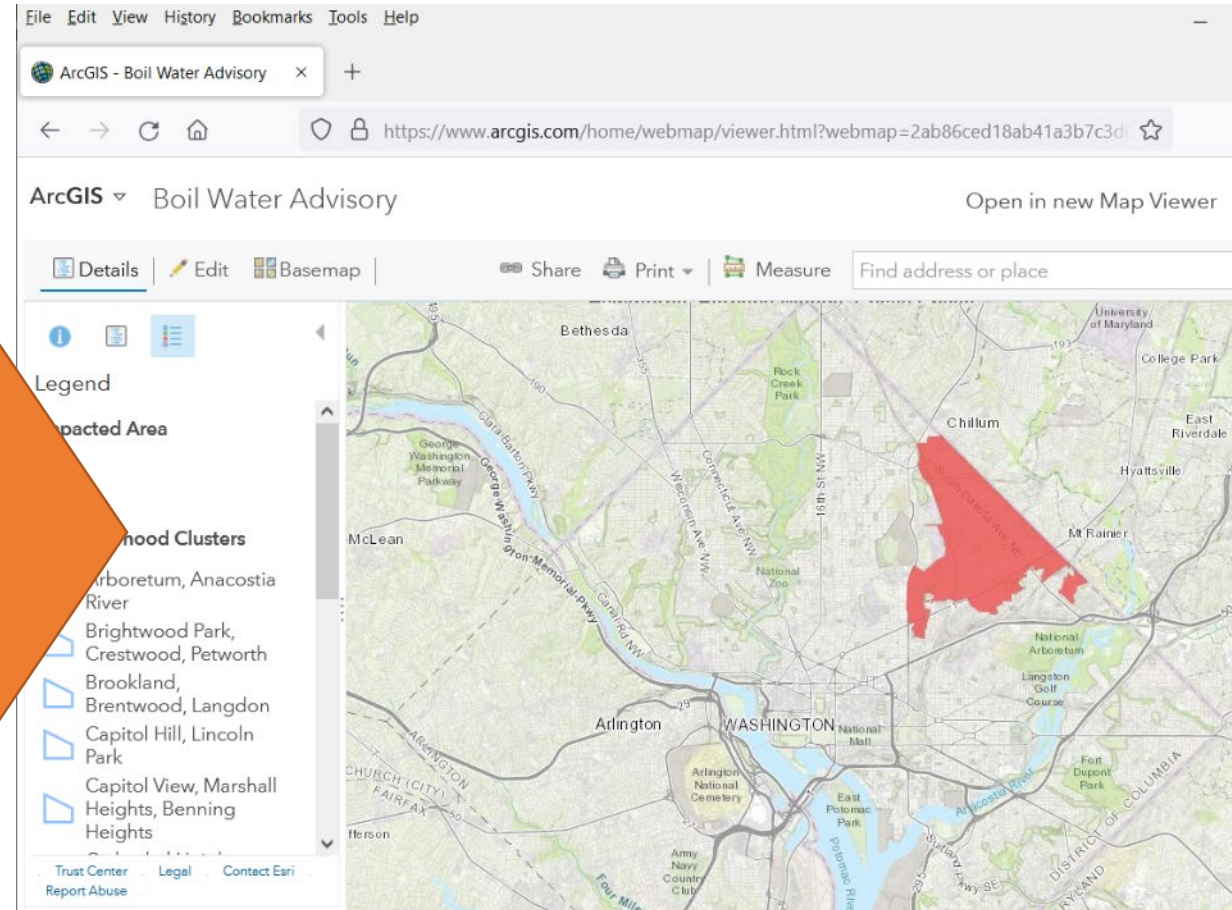
### Public Safety Alert

DC Water issues a boil water advisory for customers in your area. DC Water advises customers to not drink or cook with their water without first boiling it for one minute. The earliest the advisory will be lifted is Saturday, August 7. Visit [bit.ly/DCWaterMap](https://bit.ly/DCWaterMap) for map of impacted area. Visit [dcwater.com](https://dcwater.com) for more information.

Am I impacted?

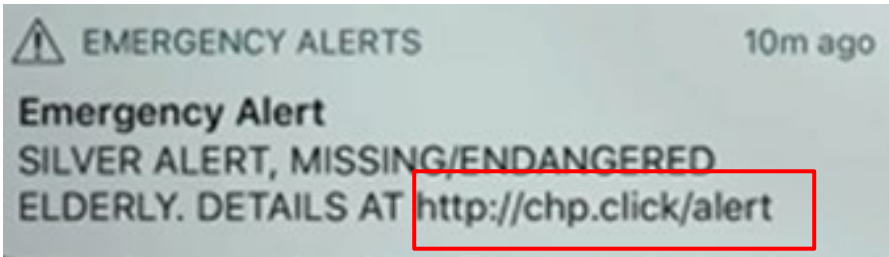
Click link  
[bit.ly/DCWaterMap](https://bit.ly/DCWaterMap)

Redirects to GIS  
resource



# Social Media

- California Highway Patrol (CHP)
  - Tiny URLs
  - Twitter



## Benefits:

- Can handle the traffic
- Serves as a means for additional information
- POC available to assist with account setup



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CHP - Alerts 7 Tweets Follow

Tweets Tweets & replies Media Likes

CHP - Alerts @CHPAAlerts · Sep 28

SILVER ALERT - Stanislaus, Contra Costa and San Joaquin Counties  
[@OAKDALEPOLICE](#) IF SEEN, CALL 9-1-1

CALIFORNIA HIGHWAY PATROL

## SILVER ALERT

### AT-RISK/MISSING PERSON

Name: Name Redacted

Age: 73 Years Old

Height: 5' 8"

Weight: 175 Pounds

Hair: Gray

Eyes: Brown



Vehicle: 2006 Toyota Tacoma Red  
CA Plate 7X36591

THIS SILVER ALERT HAS BEEN ACTIVATED BY THE CHP ON BEHALF OF THE OAKDALE POLICE DEPARTMENT.

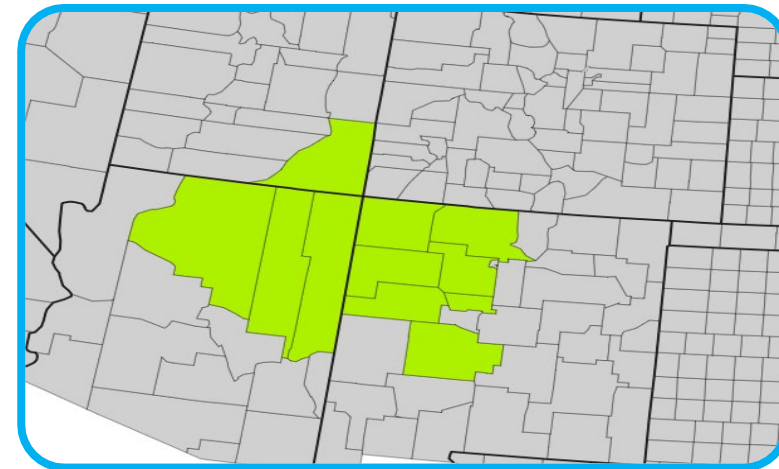
WAS LAST SEEN ON SEPTEMBER 26, 2020, AT APPROXIMATELY 1900 HOURS, IN OAKDALE, STANISLAUS COUNTY. IS BELIEVED TO BE WEARING A DARK BLUE SHIRT WITH A COWBOY STAR ON THE BACK, BLUE JEANS AND BLUE TENNIS SHOES. SUFFERS FROM A MEDICAL CONDITION(S) AND MAY BECOME DISORIENTED.

Image Redacted



# Cross-Jurisdictional Alerting

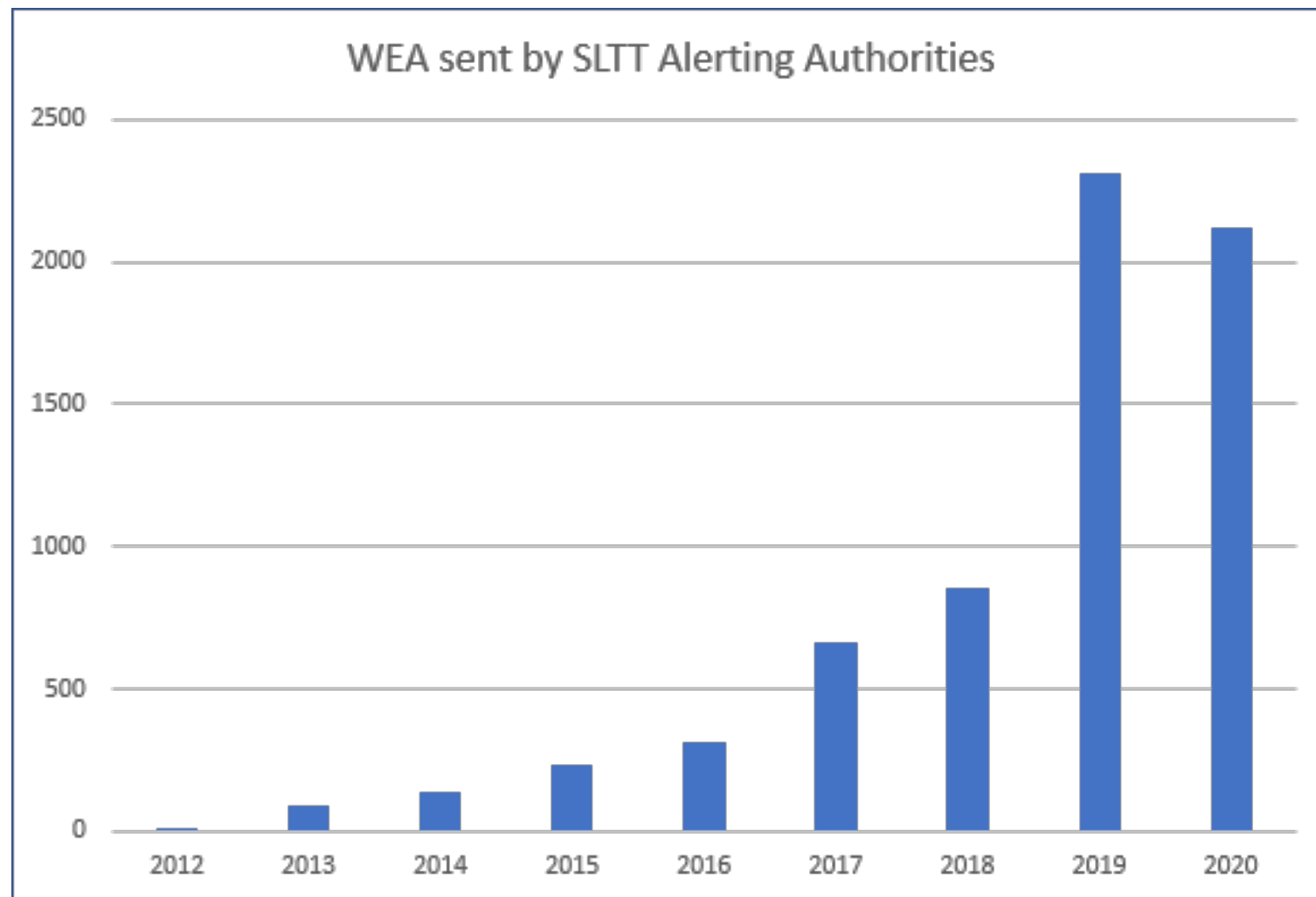
- IPAWS supports cross-jurisdictional alerting capabilities as a solution to alert and warning requirements. Coordinated message exchanges between Collaborative Operating Groups (COGs) when an event occurs, can minimize redundant alerts, contradictory messaging, and over-alerting.
- Clearly define parameters for any cross-jurisdictional agreements that are entered into by outlining when and how cross-jurisdictional alerts will be used between AA's.
  - This includes:
    - Collaboration
    - MOUs with Other Agencies
    - Backup Alerting
    - SOPs



# IPAWS Metrics and Success



- Approx. 44,000 messages processed per month.
- To date 131 children recovered due to WEA AMBER.



# IPAWS TSSF & Live Environments



Production Certificate

Live

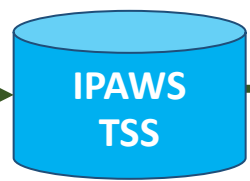


Live network = the public: TV, radio, cell phones, NWR Radio, redistribution services



Demo Certificate

Demo



Devices at the IPAWS TSSF only



Closed Environment



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# Monthly Proficiency Demonstrations



- Why?
  - Practice
  - Lessen errant alerts
  - Improve processes and procedures
- The Rules:
  - Post an alert once monthly to the IPAWS Lab
  - A live alert does not meet the rules
  - Miss 1 month = kind reminder
  - Miss 2 months = State authority notified
  - Miss 3 months = run the chance of being disabled

- Practice message crafting
- Build templates
- Evaluate software capabilities
- Evaluate employee capabilities





# Technical Support Services Facility



## What does the IPAWS TSSF offer?

- 24/7 technical support
  - Assistance with live and test alerts
  - Troubleshoot errant alerts and status codes
  - Teaching/education
  - Resource development
- Proficiency demonstration support
- IPAWS focused exercises (table-top, functional, evaluated, etc.)
- Interactive seminars, conferences, and workshops
- Conferences, speaking engagements, demonstrations, etc.
- Refresher training and IPAWS overview
- Vendor support (e.g., refresher training, vendor-hosted seminars)
- Hands-on learning facility
- End-to-end demonstration capabilities



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# IPAWS TSSF Resources



- IPAWS TSSF Web Site: [www.fema.gov/ipaws/technical-support](http://www.fema.gov/ipaws/technical-support)
  - IPAWS Guidance Materials
    - Peer Resources
    - Scenario-based Monthly Proficiency Demonstrations (MPDs)
    - Coming soon: Video recordings of alerting software and redistribution services
    - In development: Video Snip-its: Helpful Hints for Alerting Authorities
- Scheduled Quarterly TTXs
  - 2-hour in-person (highly encouraged!)/virtual TTXs – IPAWS focused
  - Hazard Types:
    - Extreme Weather Events (hurricanes, tornados, high winds, snow/ice, etc.)
    - Complex Events (power disruption, transportation accidents, special events, etc.)
    - Law Enforcement Events (civil unrest, active assailant, missing persons, etc.)

## 2023 TTX Dates:

- 01 March
- 19 April
- 12 July
- 11 October



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# IPAWS Program Planning Toolkit



- Designed to aid Alerting Authorities and Alert Originators at federal, state, local, tribal, and territorial (SLTT) levels in the development of mature alerting programs using customized resources, best practices, and program templates.
- Step-by-step Alerting Program Plan application that will walk the user through creating a customized plan tailored to their agency's operational capabilities. Supporting resources are also provided to ensure they have a holistic approach to their Alerting Program.



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# UPCOMING EVENTS!!



March 1st- IPAWS Quarterly Tabletop Exercise (Full)

March 9th- Cross Cultural Communications in Alert, Warning, and Notification

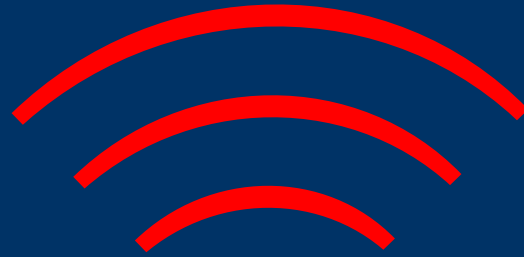
Contact for information

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[clayton.wenner@associates.fema.dhs.gov](mailto:clayton.wenner@associates.fema.dhs.gov)



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# IPAWS

Integrated Public Alert & Warning System

**QUESTIONS?**

**[fema-ipaws-lab@fema.dhs.gov](mailto:fema-ipaws-lab@fema.dhs.gov)**



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