TIP 39: IPAWS Alerts – Distribution Pathways and Alert Coverage

The three main alert pathways of IPAWS are Wireless Emergency Alerts (WEA), the Emergency Alert System (EAS), and Non-Weather Emergency Messages (NWEM). Alerting Authorities must understand alert coverage per pathway, especially the use of a polygon or circle to define the area to be alerted.

Every IPAWS alert must include geotargeting information. The most basic requirement is to specify the targeted county/counties, or state by providing the Federal Information Processing Standard (FIPS) code(s) which uniquely identifies/identify states, counties and county equivalents. Inclusion of a more specific polygon or circle is optional. This Tip will address each IPAWS pathway and explain how a polygon or circle may affect alert distribution.

Wireless Emergency Alerts

Wireless Emergency Alerts are the only pathway affected by a polygon or circle. A polygon or circle may be used within a WEA to help constrain alert distribution. This means Wireless Service Providers recognize a polygon or circle and activate cellular towers based upon the geo-targeted area within the polygon/circle.

WEA bleed-over should be expected so your alert should always state the intended area of the incident. If a polygon or circle is not included, the Wireless Providers will recognize the FIPS code and activate towers county-wide.

Polygons and Circles – Key Points

- Applicable **only** to WEA.
- If an alert should go county-wide, use the county FIPS; no polygon or circle is needed.
- Must be within alerting authority permitted area(s).
- Polygon shapes must be properly formed; shape lines must not crisscross and shape must be closed.
- Polygon description must have no more than 100 points total; recommend using simple shapes if drawing "freeform" polygons. Avoid using GIS shape files which frequently exceed the 100-point limitation.
- Multiple polygons/circles may be used, but may not exceed 10 total polygons/circles and a total sum of 100 points.
- Two polygons/circles may overlap and may also be geographically separated/unconnected.
- Polygon/circle size should cover at least two city blocks in urban areas, and larger in rural areas.

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Emergency Alert System

Emergency Alert System distribution is designed to be targeted to whole states or by county, or county-equivalent blocks. EAS does **not** recognize polygons or circles. It relies strictly on FIPS codes. Since the EAS message becomes part of the station or cable system broadcast it cannot be constrained to an area smaller than a county.

Although the radio or TV station might be inside the alerted county, the station's broadcast coverage could extend beyond the county border.

EAS – Key Points

- Does **NOT** use polygons or circles.
- Broadcast distribution is county-wide, but can extend farther.
- Supports up to 31 FIPS codes in one alert.

Non-Weather Emergency Messages

Non-Weather Emergency Alert distribution is county wide. NWEM does **not** recognize polygons or circles. It relies strictly on FIPS codes and cannot be constrained to an area smaller than a county.

NWEM alerts are broadcast by NOAA Weather Radio.

NWEM – Key Points

- Does NOT use polygons or circles.
- Broadcast distribution is county-wide.
- Currently there is a limit of one FIPS code per alert.

IPAWS Tips at Your Fingertips

Find all Tips from 2018 to the present, in IPAWS Tips on the FEMA website.

Share your ideas and suggestions for future Tips with the IPAWS Program Management Office (PMO) at fema-ipaws-stakeholder-engagement@fema.dhs.gov.