

Finalization of Longer Tsunami WEA Message

On October 17, 2018, a conference call with some 48 stakeholders from across the country convened to discuss results of a national WEA survey conducted by the National Weather Service during September. Using information from the survey results, the stakeholders discussed the draft longer tsunami WEA message. [The results of that discussion are here.](#)

A total of 2,127 people participated in the survey.

NOAA's National Weather Service currently requests WEA activation for:

- Dust Storm Warnings
- Flash Flood Warnings
- Hurricane Warnings
- Storm Surge Warnings
- Tornado Warnings
- Tsunami Warnings

If people selected one of two choices (“tsunamis are the most common hazard in my area” OR “tsunamis are most concerning to me”), then they were presented the [longer draft tsunami WEA message](#) with more questions.

Survey results specific to tsunami

- 68 people selected “tsunami is most common”
- 145 people selected “tsunami is most concerning”

⇒ total, 213. In terms of number of overall respondents, tsunami was fifth of six hazards (Dust Storms was lowest)

When asked, “what element of the 360 character NWS WEA message is most useful?”, results for tsunami WEA were:

- Protective actions (59%)
- Impact of the hazard (17%)
- Location of the hazard (15%)
- Timing of the hazard (9%)

When asked, “what element of the 360 character NWS WEA message needs more information?”, results for tsunami WEA were:

- Timing of the hazard (62%)
- Location of the hazard (27%)
- Impact of the hazard (8%)
- Protective actions (3%)

When asked, “given this message, what would your first professional action be?”, results for tsunami WEA were:

- Alert the public – trigger a siren system, send a follow-up WEA, etc. (30%)

- Search for more information (24%)
- Alert city/county officials (16%)
- Implement evacuation protocols (10%)
- Move to safety (9%)
- Reach out to another professional colleague to confirm the threat (6%)
- Pre-position resources (4%)
- No action (0%)

Note: social science has taught us that “search for more information” and “reach out to confirm the threat” are essentially the same action, which [Dennis Mileti classifies as "milling."](#) So the total of respondents who would engage in milling behavior is 30%.

General survey results of interest

- Overall, survey respondents agreed that WEAs should be issued for ALL the hazards in the survey, most notably flash flood and tornado.
- Comments from respondents expressed that there is more utility in sending a WEA for imminent threats than for long-fused events.
- Most respondents said their immediate action after receiving a WEA was to look for more information as an immediate action after receiving a WEA.
- Alerting the public was also a common first action for the Tornado and Tsunami hazards only.
- In particular, the survey respondents would like to see more information on location and timing.
- Emergency Managers and first responders found the extra information on protective actions useful, especially for tsunami (this hazard had the highest ranking for liking the protective action statements in the longer tsunami WEA message.)

Issues to Consider

Location and Timing of Hazard

Since many survey respondents wanted to see more information about location and timing of the hazard, to do that for tsunami messages, it would require automated “parsing” of warning products. This presents several issues:

- The character length of the location and timing information in warning products varies, making it difficult to predict if the character limit will be met. Even adding, for example, “Crescent City, CA” adds 17 characters and blows the limit of allowable character length already. Even if we significantly reduced the main message, since most tsunami warnings are so expansive geographically, how would one decide which locations are “most important” and which ones to leave out of a WEA message?
- Parsing of warning products increases the risk of processing errors that could lead to messaging confusion.

For these reasons, for now, the NWS has decided not to recommend parsing messages. This may be considered at some point in the future.

Including a URL in a message

The FCC requested carriers to consider having the ability to include a URL in an expanded WEA message. The NWS is hesitant to recommend including a URL because:

- since tsunamis are sudden events, the servers supporting tsunami.gov could potentially be overwhelmed and crash the system.
- having people use a mobile device to search for more information *while they are mobile* (such as while driving) presents real risk to life safety.
- interpreting a complex website (such as tsunami.gov with maps and links to warning messages) would likely cause significant delay in taking protective action.
- we prefer that people get information from local sources, such as local governments, that have specific life safety information for the particular location where the person is situated.

For these reasons and more, for now, the NWS has decided not to recommend including URLs in its WEA messages.

What happens if someone's phone does not have capability to display a 360-character WEA?

FEMA's IPAWS informs us that they will send both the older 90-character message as well as the longer message. The device will show whichever message it is capable to display. This message will not be changing.

NWS: Tsunami danger on the coast. Go to high ground or move inland. Listen to local news.

What areas are "lit up" for a tsunami WEA?

When a new tsunami warning is issued by the National Tsunami Warning Center (NTWC) or the Pacific Tsunami Warning Center (PTWC), automated processing of the message is done at the NWS Telecommunications Gateway, which sends it in seconds to FEMA's Integrated Public Alert and Warning System (IPAWS).

FEMA's IPAWS uses Common Alert Protocol (CAP) to identify what locations are under warning. IPAWS cannot interpret NWS zones, so the geographic areas identified for alerting fall back to Federal Information Processing Standards (FIPS) zones. [More info here.](#)

While not ideal, only coastal counties (Alaska Boroughs and Louisiana Parishes) are identified in the CAP that is sent by IPAWS to wireless carriers. The carriers then determine which cell towers are within the identified location and using "one-to-many" radio broadcast methodology (not SMS texting) to send the WEA to cell phones in the alerted area. *Note: it's where you are physically located that determines if you will receive a WEA, not the address where the phone is registered, or where you bought the phone.*

States and territories, in cooperation with NWS Region offices, are working on developing shape files that when implemented in CAP will more precisely geographically target polygons to activate for WEA. If you have questions about this process, please contact your [NWS Region Tsunami POC](#) and/or your

[State NTHMP emergency management representative.](#)

Would a tsunami WEA potentially cause over-evacuation since it's FIPS-based?

We recognize that some counties or FIPS areas are geographically large, and there have been some concerns expressed about the potential for over-evacuation.

Actual application results from the NWS contradict ungrounded fears of over-evacuation.

In instances where the NWS has issued frequent WEAs (for tornadoes) which cover polygons of rather large geographic areas, even in areas where it isn't stormy, the research has shown time and again, the first thing people do when they get a WEA is look for more information to verify the danger is real, and real to them where they are, before deciding action.

People do not blindly jump in a car and drive away, congesting roads and putting themselves in greater danger. Despite what some emergency managers have said in public forums, over-evacuation due to WEA is a complete myth.

Over-evacuation due to TV media reporting is the real issue. That was demonstrated on March 11, 2011, in Northern California. It was reported that some people drove 50 miles away from the coast when California's northern coast was under a tsunami warning. (Note: WEA for tsunami did not become active until June, 2014, so WEA didn't cause the over-evacuation issues reported for that tsunami). The media's reaction to events creates many more problems than one WEA would ever do.

WEA in Spanish

We are uncertain at this time if WEA in Spanish will be implemented in May, 2019, but we will be ready for it. We understand from FEMA that the choice of which language to present a WEA depends on device settings on individual phones. If the device preferences are set to Spanish, then Spanish WEA should be displayed. If set to English (or any other language, or no language setting capabilities are present), then the English WEA will be displayed. Default if device or system traffic gets mixed up is English.

THE longer message

If you have read this far, you may have missed results of the stakeholder's discussion on the longer tsunami WEA message. [The results of that discussion are here.](#)

- Rocky Lopes, NWS Tsunami Program, October 18, 2018.

[Summary of Proposed Longer Tsunami WEA Messages - June, 2018](#)
[360-character Tsunami WEA Messages General Background](#)

[Main Tsunami Education wiki page](#)

