

Why GAO Did This Study

Tsunamis are powerful, destructive, and capable of striking any U.S. coast, making it critical that the public is alerted to tsunami hazards. NOAA has primary responsibility for sending tsunami alerts to the public.

GAO was asked to review NOAA's tsunami alerting system. This report examines (1) NOAA's primary methods for sending tsunami alerts to the public, and (2) the extent to which NOAA has addressed related challenges and opportunities for improvement.

GAO reviewed NOAA and other federal documentation and interviewed NOAA, FCC, and FEMA officials. GAO identified challenges NOAA faces and opportunities for improvement by reviewing advisory reports and interviewing a non-generalizable selection of stakeholders including tribal representatives, state and local emergency managers, industry associations, and a consumer group. GAO compared NOAA's efforts to selected key collaboration practices and federal internal control standards.

What GAO Recommends

GAO is recommending that NOAA (1) assess NOAA Weather Radio's coverage of populated areas at risk of tsunamis and (2) collaborate with FCC and FEMA to determine how to use IPAWS to deliver tsunami alerts to the Emergency Alert System. NOAA concurred with GAO's recommendations.

EMERGENCY ALERTS

NOAA Should Take Additional Actions to Help Ensure Tsunami Alerts Reach Those at Risk

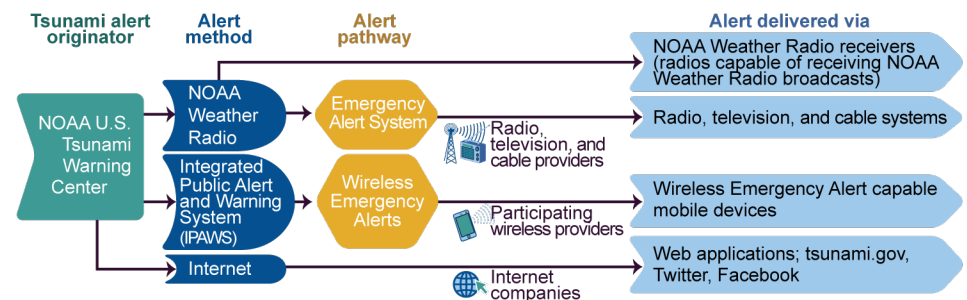
What GAO Found

The National Oceanic and Atmospheric Administration (NOAA) primarily uses three methods to send tsunami alerts to the public (see figure):

- **NOAA Weather Radio** delivers alerts to listeners and to the Emergency Alert System, the nationwide system for broadcasting emergency messages over television, radio, and cable systems;
- **the Integrated Public Alert and Warning System (IPAWS)** delivers alerts through various pathways, including via Wireless Emergency Alerts—text-like messages on people's mobile devices; and
- **the internet** contains alerts on NOAA's website and social media posts.

The Federal Emergency Management Agency (FEMA) operates IPAWS and the Federal Communications Commission (FCC) sets rules and standards for wireless providers and broadcasters that participate in emergency alerting.

National Oceanic and Atmospheric Administration's (NOAA) Primary Methods for Disseminating Tsunami Alerts to the Public



Source: GAO analysis of National Oceanic and Atmospheric Administration, Federal Communications Commission, and Federal Emergency Management Agency information. | GAO-23-105961

NOAA has taken steps to address some tsunami alerting challenges, but GAO found opportunities for improvement. For example, NOAA has efforts underway to improve its website to allow users to more easily access critical information during tsunamis and to better target tsunami alerts to at-risk populations. GAO found that NOAA could improve its tsunami alerting by taking the following actions:

- **Assessing the extent of NOAA Weather Radio's coverage of populated areas at risk of tsunamis.** NOAA Weather Radio is a critical tool to broadcast tsunami alerts, especially in tribal, remote, and rural areas, yet NOAA lacks assurance that tsunami alerts are reaching these areas. Assessing the extent of NOAA Weather Radio coverage would help NOAA and others understand whether at-risk communities have access to a key alerting method.
- **Enhancing collaborative efforts with FCC and FEMA to determine how to use IPAWS to deliver tsunami alerts to the Emergency Alert System.** Using IPAWS in this way would have many benefits, such as allowing tsunami alerts to be sent in multiple languages and to include additional information such as maps and video.