

CASE STUDY

Unified Emergency Communications Platform Provides Solutions During Atmospheric River-Related Catastrophic Flooding

» Situation

During December 2022 and January 2023, counties across California experienced multiple flooding, mud slide, and storm-surge events related to atmospheric river conditions. While these moisture plumes or vapor surges are crucial to the water catchment areas along the West Coast in the United States, they also have the potential to create significant and dangerous flooding conditions requiring swift responses from emergency management personnel. More than ten of these counties, including Los Angeles, Humboldt, and Santa Cruz, used the Genasys unified emergency management platform to coordinate their responses and communicate critical information to the public.

» Problem

Over the last five years, unprecedented wildfires scarred thousands of square miles of California forest and rural lands. Combined with atmospheric river weather conditions, California finds itself particularly susceptible to severe flood and mud slide catastrophes. These moisture-rich storm systems from the Pacific Ocean, commonly known as the Pineapple Express, bring heavy rainfall that can drop 50% of California's annual precipitation in a few days. With the fire-damaged land unable to absorb the water and vegetation unable to hold the soil, it creates perilous conditions with the land flooding and becoming dangerously unstable.

In these emergency situations, California's public safety professionals need a seamless system to notify the public of emergency and evacuation information as well as have interdepartmental collaboration tools that allow responders to operate safely during and after the event.

» Solution

Individual county officials needed an emergency communication system to warn and inform the public through multiple outlets, including smartphone apps (like WAZE), voice calls, social media, and public address systems. They also needed a common operating picture to communicate with each other, their sister agencies, federal emergency systems, and related support agencies, especially through the mutual aid systems.

The ideal solution was the Genasys Protect platform that includes Genasys Emergency Management (GEM) for critical communications and Zonehaven for evacuation management. Zonehaven includes EVAC, a set of tools that empowers agencies and first responders to pre-plan, simulate, collaborate, and communicate, and AWARE a single authoritative source for the public and the media that supports the multi-county evacuation response through seamless notifications, zone-based maps, and resource information.



Tony Blackman, OES Battalion Chief for San Mateo Consolidated Fire, said “When we activated our county EOC, our County Executive asked to have regional situational awareness specifically to track all road closures. We have trained a majority of the 20 cities in the county on Zonehaven and they could easily enter in their own road closure updates”.

Through a single dashboard, county responders were able to communicate and plan, while staying advised of situations, routing first responders, and notifying their citizens of evacuation information that aided in lifesaving efforts to keep the community safe.

Offering a supporting opinion, Nick Baldrige, Lieutenant with the Santa Cruz County Sheriff’s Office, shared the benefits of Zonehaven’s pre-planning capabilities. Mr. Baldrige recounted, “During a lull before the next major system hit, we created scripts for every zone and crafted Zonehaven messaging that was readily available.”

Mr. Baldrige continued, “During evacuation, we identified the zones that were being impacted which allowed us to push messaging out quickly to the public using the AWARE app. Zonehaven allowed us to communicate with our community and get real-time information to the people who needed it.”



Public-facing flood advisory using Genasys Zonehaven AWARE along the North Yuba River and Highway 49 in Sierra County.

» Results

During the unprecedented series of atmospheric river flooding events during the winter of 2022-2023, agency officials in the more than ten California counties managed flood advisories, road closures, and shelter operations to safely direct citizens and emergency personnel. Meredith Gerhardt, Emergency Management for City of Cupertino said “This is a life safety map. This is information sharing at its finest.”

These efforts along with the right tools minimized loss of life during a series of catastrophic weather events that will only become more common as global temperatures continue to rise.

Genasys - The Critical Communications Company

Genasys is a global provider of critical communications systems and solutions to help keep people safe. Genasys systems are deployed in a range of diverse applications, including critical infrastructure protection, emergency warning, public safety mass notification, defense, homeland security, and other applications.

