

Doña Ana County Flood Commission Builds its Flood Warning System with AEM



Improving Flood Safety with effective flood warning system in southern New Mexico

OVERVIEW

Doña Ana County is in the southern part of New Mexico and is the second-most populated county in the state. Despite being in a desert, Doña Ana County's severe weather and flooding concerns are primarily driven by seasonal monsoon style storms, which lead to heavy intense rainfall over very small areas. To improve flood planning management within the county, the Doña Ana County Flood Commission partnered with AEM's OneRain brand and a local engineering firm to develop a 5-year Flood Warning Master Plan and flood warning system.

Matt Friedberg, Flood Warning System Operator of the Doña Ana County Flood Commission, works to optimize the county's flood warning systems. OneRain's Contrail® software and High Sierra's hardware for flood warning systems allow the flood commission to successfully mitigate and predict flood risk in the county.

Overcoming operational challenges

Before the Doña Ana County Flood Commission started to develop their flood warning system with OneRain, the county had no existing centralized system in place for monitoring floods. The county needed granular, real-time data on storm events around the area to support emergency management operations, monitor and maintain infrastructure, and inform predictive models for public safety.

1. LIMITED AND OUTDATED FLOOD WARNING SYSTEMS

Recent flooding with no existing centralized system in place. High risk levels with multiple dams beyond design life and limited maintenance.

2. MULTIPLE AGENCIES WITH DIFFERENT MISSIONS AND RESPONSIBILITIES

Four large agencies and many smaller cities and towns along the Rio Grande Valley with different data systems.

3. LACK OF INTEGRATED DATA AND INSIGHTS CAUSING DELAYED ACTION

Using data from many websites and sources required interpretation and delayed decision-making.

KEEPING DOÑA ANA COUNTY SAFE WITH AN EFFICIENT FLOOD WARNING SYSTEM

Doña Ana County experiences recurring flooding issues and seasonal monsoon style storms in southern New Mexico. By adopting OneRain's Contrail software and High Sierra's hardware and infrastructure for hydrological monitoring, the Doña Ana County Flood Commission now successfully operates an effective flood warning system. The Doña Ana County Flood Commission leverages real-time hydrology and lightning data from Contrail to gain situational awareness and make decisions to support emergency management operations when flooding is imminent.



We're running Contrail 24/7 all year long to provide real-time data on what's happening, to gain situational awareness and make decisions on when to push information out to emergency management teams. The lightning data is tremendously useful for fast moving monsoon thunderstorms in New Mexico. What AEM offers is the complete package for an organization wanting a flood warning system, or to upgrade what they already have. The system is really scalable. Whether it's software or hardware or complete system design and maintenance support, you can do everything under one roof with one partner.

— Matt Friedberg,
Flood Warning System Operator,
Doña Ana County Flood Commission

Solution: Adopting AEM technology

Prior to utilizing AEM solutions, there was no flood warning system or integrated place to retrieve detailed weather data, besides looking at the National Weather Service radar. The Doña Ana County Flood Commission needed real-time data on the ground to monitor rainfall and its magnitude, inform emergency management and first responders, and advise maintenance teams for repair work. AEM's OneRain and High Sierra technology enables the Doña Ana County Flood Commission to increase flood safety with real-time data, upgraded flood warning systems, and an expertly designed and implemented network.



DATA COLLECTION SOFTWARE

Contrail visualizes and shares real-time data in one place:
weather.donaanacounty.org



GAUGING LOCATION AND EQUIPMENT RECOMMENDATIONS

ALERT2 transmitters with rain and weather sensors



EXPANSION PLAN

Expand gauging locations, camera systems, and sensor network



FIELD SERVICES AND MAINTENANCE PLAN

Gauge installations, maintenance, and provide training

History of Doña Ana County Flood Commission

Doña Ana County is frequently susceptible to flood damages on its roads and residential properties, due to intense monsoon rainfall and flooding that is typical of the Southwest. Since January 1988, the Flood Commission has been working on the maintenance, repair, and upgrade of many existing flood control structures. To ensure the safety of its communities, the flood commission utilizes AEM's flood safety solutions to strengthen their flood warning systems.



Why AEM?

AEM's OneRain brand has been the leading provider for rainfall data and services since 1992. OneRain's technology is continually evolving with innovative advancements to provide accurate real-time data and to maintain safety of people and infrastructure. Systems are tailored to customers specific needs. Dona Ana County Flood Commission uses the features below to help them manage their operations:



ONERAIN CONTRAIL

Situational awareness and decision support tools that help with assessing hydro-meteorological hazard risks.

HIGH SIERRA NETWORK INFRASTRUCTURE DESIGN AND HARDWARE

All remote site equipment, communications equipment, and central base station equipment required for a complete, integrated flood warning solution.

GAUGE-ADJUSTED RADAR RAINFALL (GARR)

Improve accuracy by filling in the gaps between gauging locations; to deliver insights across areas and basins vs. just point data.

TOTAL LIGHTNING

Enhance storm prediction using Earth Networks Total Lightning Network® data on the formation of new cells, their intensity and direction.

SFERIC LAYERS

Expand situational awareness with Radar, Satellite, Rain Water Accumulation, and more.