



# Aware

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## DSS Paid Off for Pyrotechnics Show

By [David King](#), Coordinator, Campbell County Emergency management Agency, Gillette, WY6

Decision Support Services (DSS) provided by NWS Rapid City, SD, helped officials in Gillette, WY, protect 7,080 spectators at a firework show from a dangerous thunderstorm/hail event with more than 5 minutes to spare.

The Cam-Plex Multi-Events Center in Gillette was hosting the 50<sup>th</sup> annual Pyrotechnics Guild International convention in August, an event that brought in 1,750 attendees for workshops, competitions and world-class public displays each night.

While developing the event's emergency plan, Campbell County Emergency Management reached out to NWS Rapid City, SD, for DSS help, a fairly routine collaboration.

In addition to providing mid-morning spot forecasts, the NWS Rapid City office assigned a forecaster to help staff the county's mobile command unit on the Cam-Plex grounds for four nights, providing expertise on wind direction and speed, lightning potential, etc.

The week's third display night looked threatening for severe weather. NWS Forecaster Keith Sherburn had drawn the on-site DSS assignment for the night, and because of the convective outlook, had traveled 120 miles from Rapid City to provide onsite DSS. By 7 pm, he was watching a small cell in southern Montana about 90 miles northwest of the Cam-Plex, tagging it as the events most likely threat. Sherburn told EMs and Cam-Plex officials he thought it would roll in at about 9:45 pm.

As it moved eastward and then hooked right, the storm moved through Campbell County's infamous radar gap, a spot not covered by NWS' three area radars. Using satellite imagery, lightning strike maps and other tools of his trade, Sherburn continued to monitor the storm as it traversed the gap and moved into the western sweep of Rapid City's radar, about 15 miles northwest of Gillette. At that point, he issued a Severe Thunderstorm Warning.

As the storm sliced across the northeast part of Gillette, it battered the area with 2-3 inch hail and torrential winds. Despite the looming storm, the fireworks begun at 9:30 pm, but were suspended after 20 minutes when lightning struck 12 miles out. Based on Keith's timing estimate, the just over 7,000 spectators had been moved out of the open-air festival seating and under shelter with about 5 minutes to spare before the arena was blasted with the storm's winds, hail and rain. The storm also spawned a tornado about 10 miles to the southeast. DSS saves lives! Thank you NWS!



*The 50<sup>th</sup> annual Pyrotechnics Guild International convention in August, an event that brought in 1,750 attendees to Gillette, WY, for workshops, competitions and world-class public displays each night.*

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## What a Difference the Wording Makes

By Meteorologists [Kyle Brown](#), [Lonnie Fisher](#), NWS Northern Indiana

On August 7, 2019, NWS Northern Indiana Meteorologists Kyle Brown and Lonnie Fisher met with meteorologists from WBND-ABC57 in South Bend, IN, to discuss topics related to forecasting techniques, tips and messaging of certain products. Much of the time was spent helping our partners best interpret the Climate Prediction Center outlooks and suggesting the best way to convey the information to their viewers. This advice included encouraging the use of modifiers such as “favors ” and “leans toward” versus just saying “colder/drier or warmer/wetter than normal.” These qualifiers are essential when dealing with long-range outlooks.

The topic then turned to our warning process and more specifically how we decide when to issue Flash Flood Warnings in various situations. Factors in this process include antecedent ground conditions, soil and terrain, upstream radar trends, chances for additional rainfall and pattern recognition.

The question was then asked how we determine potential wind gusts in lines of thunderstorms when the radar velocities are not being fully sampled. We explained that the forward speed, reflectivity structure and intensity may be used to help estimate the overall wind speeds that may occur.

We rounded out the visit with brief discussion on Lake Effect Snow and clarifications on how we produce Storm Total Snowfall maps that involve more than 1 type of event (synoptic vs. lake effect).

A common theme from both sides is that we often share the same resources and technologies, while learning from our forecast successes and failures.



*From left, NWS Forecasters Tyler Sebree, Kyle Brown, ABC57 Staff Alex Countee, Tom Coomes and Erica Horvatin, and NWS Forecaster Lonnie Fisher. Photo provided by ABC57.*

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## Recognition of First TsunamiReady® Tier II Community: Manila, California

By [Rocky Lopes](#), NWS Headquarters Tsunami Program

On September 4, 2019, Ryan Aylward, NWS Eureka Warning Coordination Meteorologist, and Troy Nicolini, Meteorologist-In-Charge, recognized Manila, CA, as the first TsunamiReady® Tier II Community.

The NWS TsunamiReady program recognizes that some communities are at greater risk for major tsunami impacts than others—particularly those on the earthquake-prone West Coast and in the Caribbean.

The TsunamiReady Tier II guidelines help high-risk communities more completely prepare for and mitigate extreme tsunamis. TsunamiReady Tier II requires more challenging mitigation elements that require more funding, typically bonds and/or FEMA grants. Tier II also incorporates recovery planning, which may be more difficult, take longer to accomplish, and require more funding to support.

Tier II required building strong, long-term relationships with community leaders and overcoming roadblocks to evacuation, as well as developing a tsunami component to the pre-disaster Recovery Plan and creating a tsunami debris management plan.

Manila, CA, is situated on a long spit of land between the open Pacific Ocean and Humboldt Bay. Tsunami waves coming on shore from the ocean are not the key evacuation problem because high dunes are accessible from the beach.

The danger in Manila occurs when the tsunami enters Humboldt Bay and wraps around the spit where Manila is located. There are homes and an elementary school on this low land which has a population of about 800 full-time residents in the tsunami inundation zone.

Through collaboration led by the NOAA grant-funded Redwood Coast Tsunami Work Group (RCTWG), CalTrans agreed to open gates allowing residents to cross US101 that runs through the community, allowing access to the high dunes as tsunami assembly areas. Pacific Gas & Electric (PGE) strengthened structures holding high-tension power lines under which evacuees would need to cross to get to these very high dunes for safety.

King Salmon, the next TsunamiReady Tier II community that will be recognized, is about 6 miles south. Naturally high ground for tsunami safety is on a decommissioned nuclear power site owned by PGE. Until recently, PGE had armed guards preventing people from accessing this high land, the only safe place above modeled tsunami inundation for this community of 1,000 year-round residents. Through collaboration from the RCTWG, PGE changed its policy to allow access to this site during a tsunami emergency and also for evacuation walkout drills. This community will receive its TsunamiReady Tier II recognition in late September 2019.

We congratulate these communities on the Pacific Coast of California for their hard work and collaboration that led to this significant recognition.



*The first TsunamiReady Tier II site proudly displays its recognition sign.*

**Aware**

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