

188th Wing, other state agencies respond to Arkansas flooding

188th Wing

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The Arkansas Air National Guard 188th Wing's Unclassified Processing, Assessment and Dissemination (UPAD) capability was activated May 25, 2019, along with other state agencies in response to imminent widespread flooding throughout the state of Arkansas as reservoirs in Oklahoma swelled from heavy rains. These assets assisted emergency managers in making critical decisions and directing response activities during this emergency.



The key component of the UPAD is the wing's seasoned geospatial intelligence analysts. Wing Airmen have the expertise and experience to perform historical and predictive analysis as a situation develops. Analysts combine those skills and knowledge with the most timely and accurate imagery available to provide the context that emergency incident commanders need in order to direct resources where they are required to save lives and defend property.

The most current imagery available is sourced from various entities such as the Civil Air Patrol, as well as from publicly-available sources or citizens living in the affected area. Analysts can then overlay data resources such as National Weather Service river crest levels or a public geographic information system containing terrain and elevation data. The analysts can then identify locations and infrastructure that may be threatened by the rising water and deliver a clear and concise product to emergency managers, within a minimal amount of time.

"It's phenomenal because they are looking at that data and providing written context," said Shelby Johnson, state geographic information officer. "A lot of people do not routinely look at aerial imagery — especially reconnaissance imagery. What [the 188th] is capturing through the Civil Air Patrol data is that reconnaissance imagery and what they are doing is writing out the key things a layperson needs to look at to understand that product."

"Civil Air Patrol pilots are able to deliver imagery directly to the 188th Wing's UPAD Airmen, shaving hours off of the typical turnaround time," said Lt. Col. Blain Stewart, Ebbing ANG Base Civil Air Patrol–Air Force Liaison. "This puts critical information in the hands of emergency responders sooner, allowing them to save lives and protect property."

By utilizing the more than 3,300 data points evaluated by the UPAD during the first two weeks of the flood event, the Arkansas Department of Emergency Management (ADEM) can request images of threatened areas, upload data, and receive predictive analysis the same day. This interagency cooperation has resulted in over 40 Civil Air Patrol sorties and equates to more than 75 hours of flight time.

The Arkansas Geographic Information System Office is another agency that utilizes their particular set of skills to mitigate and prevent damage during natural disasters such as the ongoing flooding. In unison with Arkansas Department of Transportation's (ArDOT) coverage of state highways, the GIS Office performs the day to day coordination of the state's GIS data and can provide near real-time conditions for county and city roads within the state. It can also source tax parcel data and apply that to maps providing a picture of individuals affected by

the flooding.

The focus of ArDOT is the state highway system, including U.S. highways and interstates. With a fleet of 700 trucks statewide and maintenance offices in every county, they can quickly respond to requests from emergency managers. During state emergencies, ArDOT works with the Arkansas Department of Emergency Management to provide transportation resources.

One such a request came in from the city of Paris, Arkansas, for 800 sandbags. ArDOT was able to provide trucks to pick up the sandbags from Clarksville, and deliver them to a designated location within Paris.

Additionally, ArDOT also provides resources such as idrivearkansas.com, a situational awareness map of the 16,400 miles of roads in the state highway system. This site shows real-time road conditions and closures due to flooding and other emergencies. Another resource at ArDOT's disposal is their photogrammetry department, which processes high-resolution aerial imagery of affected areas and roads. ArDOT uses it to develop detailed damage assessments to identify where resources for repairs should be allocated when the water recedes.

"We enjoy the relationships we have with the National Guard and our other state agency partners," said Danny Straessle, ArDOT spokesperson. "I think this has been a great exercise in reality for everyone coming together and doing their part."

The 188th Wing's UPAD also sources publicly available information such as social media and government sites to perform near real-time analysis as the event unfolds, staying ahead of the disaster as it advances. To date, the 188th Wing UPAD has disseminated 151 products to emergency managers within the state in support of ongoing flood relief operations and that number is increasing every day.

When asked about what agencies UPAD products have reached, Melody Daniel, ADEM public information officer said "ArDOT, Department of Information services, GIS Office, Forestry Commission, Game and Fish, State Police, Department of Health, Department of Human Services...basically, anyone who is an emergency support function lead agency has benefited from having this situational awareness."

Through the direction and management of ADEM and the collaboration, expertise and assets of all the state agencies involved, emergency managers are able to see the big picture of an emergency situation, and through current, relevant intelligence, the state of Arkansas has been able to mitigate the damage caused by this historic flooding.

"What we're getting to do here with the domestic operations for us is really rewarding," said Tech. Sgt. Sean Liggett, 188th Wing imagery analyst. "We've done domestic operations before, we've done hurricanes before, we've done tornadoes before, but this is the first time we've done it in our state. To see some of these areas you may have grown up in that are affected by this flooding adds another level to it. There's [an additional depth of analysis] too, because we know this area. Helping out people we know, who we grew up with, is one of best things about doing this in-state; it's Arkansas helping Arkansas."