

*North Carolina Emergency Management*  
**2016 Annual Report**



# Letter from the Director

Events of 2016 proved yet again why North Carolina Emergency Management's focus on across-the-board preparedness pays off for our residents and visitors.

Nine times during the year the governor declared a state of emergency, starting with deadly winter storms in January and tornadoes in February. Tropical Storms Hermine and Julia launched an active hurricane season in September. As recovery efforts from those storms began, emergency managers also responded to the Colonial Pipeline disruption that caused temporary fuel shortages across much of the southeast and sparked a need for temporary fueling stations. Simultaneously, State Highway Patrol and North Carolina National Guard troops were deployed to protect Charlotte resources following several nights of unrest in response to an officer-involved shooting. Fortunately, normal fuel operations resumed before Hurricane Matthew arrived in early October, claiming 28 lives and causing significant damage across half the state.

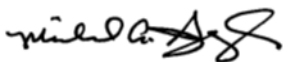
From late October throughout November, we engaged in a massive effort to contain more than 30 major wildfires that eventually consumed a total of nearly 70,000 acres in 47 western counties. As a testament to the skills and dedication of responders, while more than 2,300 structures were threatened, only two outbuildings were destroyed and no serious injuries were reported. Once the fires were contained, instead of returning home, some responders joined colleagues battling fatal fires in Tennessee.

Considerable training and planning is necessary to support such diverse functions. NCEM sponsored 344 classes, training nearly 7,200 personnel on critical topics. While training at Roan Mountain, search and rescue technicians conducted an actual rescue of a stranded hiker. We hosted our first All Hazards Incident Management Team academy in February, during which local emergency managers and first responders from across the state reviewed best practices and followed with a hands-on exercise.

In keeping with our reputation as an international model, NCEM shared lessons learned and best practices with emergency officials from South Korea, China, Tanzania and Moldova. Closer to home, we expanded citizen outreach through the improved ReadyNC mobile app, which more than doubled its users during 2016 and now counts more than 109,000 subscribers.

As the year ended, programs and efforts intensified to help thousands of residents in their long-term recovery plans from Matthew's impacts; a focus that will continue through 2017. North Carolina's earned status as an Enhanced Mitigation State – an acknowledgement of our very strong track record of managing federal mitigation programming – means that the state will receive approximately \$25 million more in Hurricane Matthew recovery funding than we otherwise would have used to elevate, relocate or rebuild homes to prevent future storm damage.

In gratitude, we recognize Rep. Chris Whitmire of Transylvania County, for successfully advocating for an equity study of NCEM positions and salaries. The study confirmed deep disparities with the private sector, which threatens our sustainability, and resulted in the first equity pay increases in several decades. We thank all partners for their support of NCEM and dedication to keeping North Carolina safe. Most importantly, we thank our local emergency managers for their strong leadership, professionalism, expertise and friendship -- we appreciate you!



Mike Sprayberry, Director



## Our Mission

North Carolina Emergency Management works to enhance the state’s resiliency by actively collaborating, communicating and coordinating to prevent, mitigate, respond and recover from disasters.

## Authority

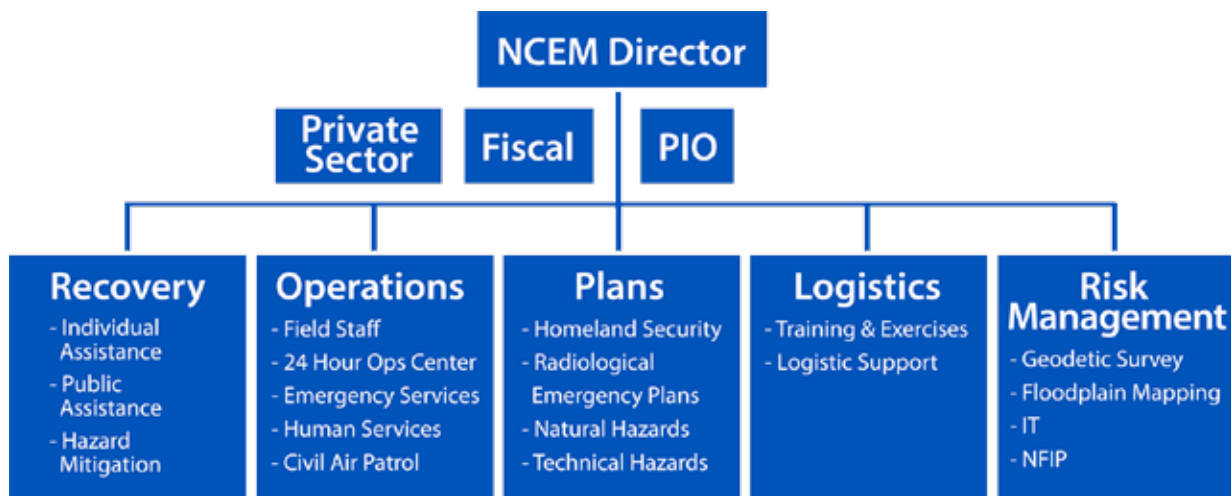
The agency is granted the responsibility and authority to respond to emergencies and disasters by the governor via General Statute § 166-A (The North Carolina Emergency Management Act). NCEM is nationally accredited under the Emergency Management Accreditation Program, affirming its ability to provide continuous and consistent response to disasters by bringing together necessary staff and resources from local, state, private and volunteer organizations.

## Responsibility

NCEM administers state and federal grants, manages multi-agency disaster responses, oversees all hazards and threat risk management, coordinates regional hazard mitigation plans, facilitates training and exercises, and manages assets such as the regional hazmat response teams and search-and-rescue teams. In addition, the agency develops and maintains flood maps for each county in North Carolina and maintains the official survey database for the state. Both tools support mapping, boundary determination, infrastructure development and floodplain mapping that are critical to future safe development. NCEM manages the state’s Homeland Security program and partners closely with the Center for Safer Schools. The division maintains the state Emergency Operations Center and data centers, both in Raleigh, which serve as the command center during emergency response events. The NCEM director is appointed by the governor and reports to the Commissioner of Operations for the Department of Public Safety.

## Organization

North Carolina Emergency Management is comprised of 188 employees. Three branch offices with 26 field staff support local communities by responding to emergencies, helping to develop response plans at the county level and fielding requests for state assets.



# NCEM Funding

NCEM has a \$20.2 million annual operating budget comprised from a combination of federal and state funds/receipts. The majority of federal funds are passed through to county partners. The \$3.6 million received from state appropriations pays for salaries and operating costs. A portion of that money also is used to match federal funds. The remaining \$16.6 million comes from receipts generated from the radiological protection and floodplain mapping programs and hazardous materials fees.

## Federal Support is Essential

Federal grants provide the majority of funding needed to equip, maintain and train emergency management programs and operations in North Carolina. NCEM serves as the fiduciary agency for \$34.1 million in non-disaster grant funding.

### Emergency Management Performance Grants

are used primarily to support local emergency management activities including training, planning and equipment purchases that provide counties with the opportunity to apply for baseline and supplemental funding. Forty-nine percent of the grant is retained by NCEM with the remaining 51 percent going to the counties.

### Hazard Mitigation Grant Program

funds help local communities with their long term mitigation projects to become more resilient by relocating or elevating buildings in safer locations to prevent future storm damage.

### Hazardous Materials Emergency Preparedness Grants

provide planning, training and technical assistance on hazardous materials response for state, local and tribal governments.

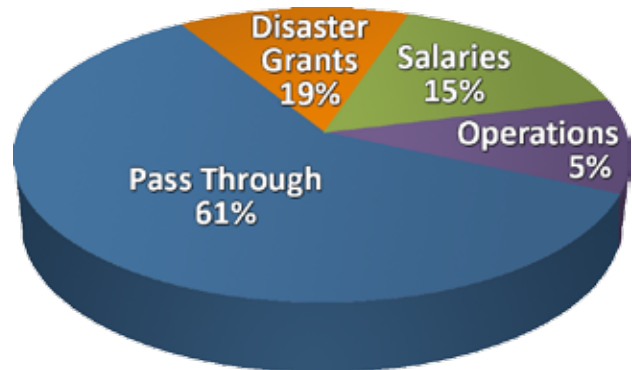
### Homeland Security Funds

are used to build and sustain capabilities at the state and local levels through multidisciplinary training, operations and exercises for emergency management and first responders to help ensure the state is able to prevent, protect, respond and recover from all types of hazards and emergencies.

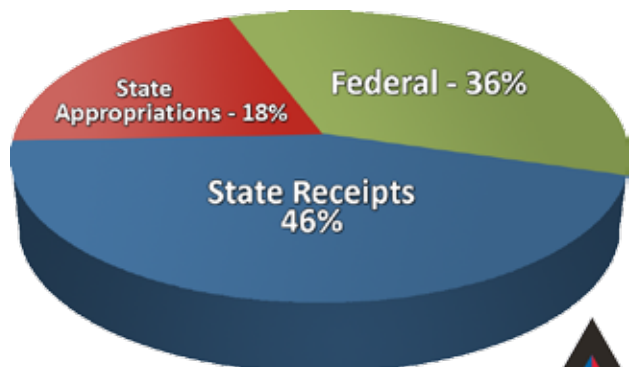
While funding amounts for each program can vary widely by year, money generally is used to:

- provide equipment for local, county and state agencies
- train and exercise first responders, emergency managers and law enforcement
- support annual exercises to ensure state and local agencies are ready for all types of emergencies (including incidents at fixed nuclear facilities)
- operate the statewide floodplain mapping program, the geodetic survey program and the National Flood Insurance Program
- support seven regional response hazardous materials programs across the state
- respond to actual emergencies and disasters when they occur anywhere in the state
- facilitate long-term recovery from past disasters, and
- ensure the state maintains 24/7 capability to help local governments in disasters

Funding Usage	Amount
Salaries	\$5,169,992
Operations (overhead, planning, equipment)	\$1,841,673
Pass-Through to Counties, etc. (equipment, training, exercises)	\$20,656,532
Disaster Grants	\$6,466,199



Funding Source	Amount
Federal	\$7,411,649
State Appropriations	\$3,612,672
State Receipts	\$9,266,273



# Responding to the Call

North Carolina Emergency Management is the state's central source for all emergency notifications including hazmat spills, fish kills, search and rescue missions, forest fires, sewage leaks and numerous other threats. All incidents are reported by local, state and federal authorities to the NCEM 24-hour emergency operations center. Emergency management officers are available at all times and are responsible for tracking the incidents and notifying other agencies that may be needed to support local responders.

Twenty-six strategically placed NCEM field staff provide on-scene support in response to natural and man-made disasters, help develop county-level and region-level response plans and field requests for state assets. They also support 89 local emergency planning committees and nine domestic preparedness regions by coordinating multidiscipline training and exercises between county and state agencies.

2016 was one of the busiest years in recent history for emergency managers and first responders. Nine states of Emergency were declared and the State Emergency Operations Center was activated to coordinate response to winter storms, tornadoes, wide-spread fuel shortage, civil unrest, hurricanes, flooding and wildfires. The State Emergency Response Team remained continuously engaged throughout the fall through concurrent disasters working to proactively prepare citizens, maintain order during the events, and to assist with recovery.



Some of the more noteworthy events of 2016 include:

**Search and Rescues** – North Carolina's Search and Rescue teams had their busiest year ever with at least a dozen mountain rescues, 2,500+ floodwater rescues and nearly 100 helicopter rescues. While the vast majority of the rescues came during Hurricane Matthew (2,246 via swiftwater crews and 90 by helicopter), teams also pulled more than 130 people from the floodwaters during Tropical Storm Julia. Earlier in the year, Helo-Aquatic Rescue Team crews completed nine rescues of stranded or injured hikers and kayakers from swollen rivers.

**Hazmat Response** – The state's seven hazardous materials Regional Response Teams responded to 31 state missions and more than 800 local missions and also provided technical assistance for 13 incidents. The RRTs provide local support during chemical releases, transportation incidents and criminal acts. Two of the more notable incidents involved rail car leaks; one was thought to have released anhydrous ammonia, while the other actually released somewhat caustic phenol.

**Winter Storm** – NCEM coordinated response to back-to-back storm systems that brought freezing temperatures and frozen precipitation to most of the state. Between Jan 20-24, areas from the Triad to the mountains got 12-20 inches of snow, while the Triangle and areas further east saw a mix of snow, freezing rain and ice accumulations. Six people died in storm-related crashes and 95,000 homes lost power.

**Tornadoes** – When severe storms caused tornadoes Feb. 24 in Cumberland, Durham, Granville, Vance and Wayne counties, NCEM partnered with local officials to survey property damage. Numerous trees were toppled, several residences and structures were damaged, and 122,000 power outages were reported but there were no serious injuries.

**Tropical Storm Hermine** – The SEOC activated over the Labor Day weekend to prepare for Tropical Storm Hermine. The fast-moving storm left the state mostly unscathed, but dumped between 5-10 inches of rain across much of the east and caused more than 30,000 power outages. Water flooded farmland, causing crop damage.

**Madison County Wildfires** – NCEM provided operational and logistical support when fires destroyed 73 homes and burned 6,000 acres in the mountains in mid-April.

**Fuel Service Disruptions** – A major break on Sept. 9 in the Colonial Pipeline in Alabama prompted NCEM to activate the SEOC to coordinate with counties on short and long-term fuel needs. The disruption in the primary fuel supply line for North Carolina caused temporary fuel shortages and led to setting up two mobile fueling stations in Durham and Clay counties. Fuel supplies resumed normal operations after a few weeks, but were disrupted a second time when a construction crew ruptured the pipeline on Oct. 31 causing a major fire and, again, shutting down one of the two fuel lines. NCEM and fuel industry officials made contingency plans for expected shortages, but the line was restarted within a week.

**Charlotte Civil Disturbance** – After an officer-involved shooting Sept. 20 sparked protests in Charlotte, NCEM provided operational support and coordinated the state’s response when the governor declared a state of emergency. More than 450 North Carolina National Guard troops and 43 state troopers, as well as other law enforcement officers, were deployed to protect infrastructure and support local law enforcement. Protesters caused damage and injured police officers in downtown Charlotte during several nights of civil unrest.



2016 Calls to EOC	
Bomb Threat	12
Complaint	194
Fire	58
FNF/Non-FNF	7
HazMat	817
Homeland Security	2
Other	162
Search & Rescue	249
Transportation	149
Wastewater	454
Weather	357
<b>Total</b>	<b>2463</b>

# Recovering From Disaster



## **Tropical Storm Julia – Sept. 20-22**

As fuel shortages continued from the Colonial Pipeline disruption and tempers flared in Charlotte, Tropical Storm Julia dumped 10-17 inches of rain across northeastern North Carolina. The tropical system caused major flooding, road closures, motor vehicle crashes and prompted school closings or delays in 11 counties. The Cashie River spilled over its banks flooding the town of Windsor, damaging many downtown homes and businesses. Swift-water rescue teams pulled 138 people from floodwaters, including 61 residents and staff of a nursing home. To help Bertie County recover, NCEM:

- Deployed its Joint Mobile Operations Center to serve as the Disaster Loan Outreach Center
- Received U.S. SBA disaster declaration for seven counties to assist individuals and businesses owners
- Provided \$561,000 in SBA loans to help families & businesses recover
- State PA declaration

## **Hurricane Matthew – Oct. 8-9**

Though Matthew made landfall in South Carolina as a Category 1 hurricane, most of the storm's destruction was felt in North Carolina. Hurricane Matthew dumped between one half and one foot of rain across nearly half the state and pushed up to five feet of storm surge along the coast. Fayetteville, Lumberton and Smithfield got more than 12 inches of rain, while Goldsboro and Bladen County recorded 15 to 16 inches. In communities such as Goldsboro and Fayetteville, the storm compounded the flooding from the previous week's powerful thunderstorm. The governor declared a state of emergency for all 100 counties. Most of the 28 fatalities attributed to the storm were from people driving through flooded roads.

### ***Storm Response***

Riverine flooding that began during Matthew lasted more than two weeks. With five of the state's river basins experiencing major flood levels - Tar, Cape Fear, Cashie, Lumber and Neuse - response operations continued through the end of October. Providing safe drinking water for Lumberton, Princeville, Fair Bluff and Brunswick County was a top priority after flooding damaged water treatment plants. NCEM led the effort to install four GE portable water treatment trucks to treat 5 million gallons per day in Lumberton. The temporary fix enabled the city to quickly fix its water treatment system. Crews also worked to repair the water system in Fairmont, while NCNG led the efforts to pump more than 40 million gallons out of Princeville.

Other response highlights include:

- 2,336 people were pulled from the floodwaters (2,246 by swift water rescue teams; 90 by Helo-Aquatic Rescue teams)
- 109 shelters housed 4,071 evacuees; the last shelter closed Nov. 14.
- 800,000 power outages
- 660+ roads were closed
- 20 dams failed
- 21 counties issued water advisories
- 4,400+ homes were destroyed\*
- 88,000 homes were damaged\*

\* according to FEMA records

### ***Storm Recovery***

North Carolina's Emergency Operation Center remained activated to respond to the flooding until Oct. 31, when the focus formally shifted to recovery operations. More than 1,400 employees from the Federal Emergency Management Agency and U.S. Small Business Administration moved into the state to help with recovery efforts; some working in the counties alongside their local and state counterparts, while most worked at the Joint Field Office. Fifty counties were approved for federal funds through FEMA's Public Assistance program that helps communities, local governments and non-profit organizations recover from disasters.

Additionally, residents in 45 of those counties could seek federal funds through the Individual Assistance program to help them replace personal belongings and repair or rebuild their homes. Throughout the impacted areas, assistance centers opened for short durations to provide information and help storm survivors and business owners seek federal assistance through low-interest disaster loans or grants.

Other recovery highlights include:

- 38 Disaster Recovery Centers helped survivors
- 3 Business Recovery Centers aided businesses\*\*
- 81,754 people registered for federal/state assistance\*
- 61,752 housing inspections completed\*
- 1,900+ families housed in hotels through the Temporary Shelter Assistance program
- 124 manufactures housing units approved for use in 11 counties\*
- \$91.6 million in federal grants provided to homeowners and renters\*
- \$87.3 million in SBA loans approved for individuals and businesses\*
- \$147.8 million paid in National Flood Insurance Program claims\*
- \$198.5 million allocated by U.S. Housing and Urban Development to NCEM for the Community Development Block Grants-Disaster Recovery program
- \$300 million received from Congress to help with unmet needs
- \$200 million allocated from the N.C. General Assembly (2016 Disaster Recovery Act) for unmet needs

\*As of Feb. 1, 2017

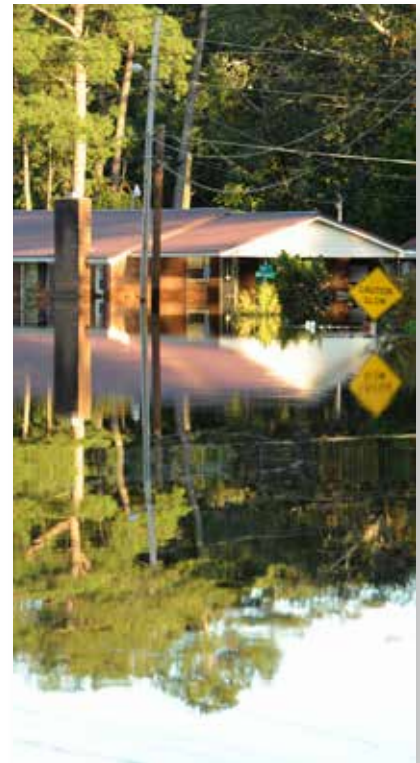
\*\* SBA also provided assistance at the DRCs

### Western North Carolina Wildfires – Oct. 23-Nov. 30

While floods ravaged the eastern half of the state, drought dominated the west. Major wildfires spread rapidly across state and federal lands in the foothills and mountains from late October through all of November. The governor declared a state of emergency for 47 counties to help combat more than 30 major wildfires. While the U.S. and N.C. Forest Service agencies led the response, other agencies provided tremendous support including: NCEM, N.C. Department of Agriculture, N.C. State Highway Patrol, State Fire Marshal, N.C. State Parks, N.C. Department of Transportation, National Park Service, U.S. Bureau of Indian Affairs, multiple sheriff's offices and local police departments.

Other highlights include:

- 62,482 acres burned by wildfires (about 40 percent on state land)
- 2,500 firefighters
- 40 states sent firefighters and staff to help
- 230+ local fire and rescue departments from North Carolina worked the fires
- 11 Incident Management Teams brought from across the country to lead the response





# Preparing our Partners, Training & Exercises

Categories of Training	2016 Classes	Students	2015 Classes	Students	2014 Classes	Students	2013 Classes	Students
Incident Management & Command	153	2582	134	1944	128	2125	127	1759
Migration Planning	0	0	2	36	6	118	3	37
Search & Rescue	26	812	20	683	20	510	13	188
Hazardous Materials	2	19	21	433	6	96	2	71
Public Information	9	199	10	197	5	99	6	98
Active Assailant	11	399	2	22	14	498	4	135
Radiological Emergency Prep	4	71	8	266	12	239	15	278
CERT	32	462	29	451	19	272	13	193
Disaster Assessment	3	45	10	342	4	78	1	14
FEMA Course	49	964	50	1052	19	862	23	780
Other State Training	55	1617	90	2981	105	2499	92	2361
<b>Total</b>	<b>344</b>	<b>7170</b>	<b>376</b>	<b>8407</b>	<b>338</b>	<b>7396</b>	<b>299</b>	<b>5914</b>

Frequent and effective training opportunities and exercises provide emergency management employees, first responders and volunteers with numerous opportunities to develop and practice essential skills needed during disaster response and recovery. And 2016 proved that those classes and exercises are vital.

Coordinated and efficient response to multiple disasters – many running concurrently – throughout the year demonstrated how essential it is that local and state agencies plan, train and practice working together to respond to emergencies. Though many classes were ultimately cancelled due to actual events, NCEM still sponsored 344 classes, training more than 7,000 personnel on topics such as: search and rescue; disaster response and recovery; sheltering; debris management; handling mass fatalities; damage assessment; mass shootings and response. Essential training allowed emergency response partners to practice communicating, coordinating and responding to various incidents. Some of the more notable activities included:



### Training young responders through the Civil Air Patrol –

The annual week-long training and educational **CAP Encampment** provided 176 cadets and 50 senior members with the opportunity to enhance and use various skills including: character development, first aid, model rocketry, ground team training and color guard training. The training varied each day and included cadet orientation rides in Cessna 172 and 182 aircraft. The cadets also participated in C130 rides provided by the NC Air National Guard and practiced working together to respond to emergencies.

### Expanding North Carolina's emergency management leadership –

In February, nearly 50 local emergency managers and first responders from across North Carolina attended the first **All Hazards Incident Management Team Academy**. The week-long training initially provided attendees with an in-depth review of how incident action plans are developed then gave them the opportunity to apply those principles during a realistic discussion-based exercise. From there, the group split into teams to test their ability to establish and operate incident command posts in order to respond to simulated mudslides, road closures, contaminated water, flood rescues and more. Throughout, participants learned more about the IAP planning process, specific roles and responsibilities of each participant, and established planning standards.

### Preparing for hurricanes –

In May, more than 200 local emergency managers, meteorologists and academicians reviewed and discussed hurricane predictions, preparedness and response as part of the annual hurricane conference. Topics included: the 2016 season forecast; operating state medical shelters; implementing county evacuation zones; and measuring storm surge. In June, more than 500 people from 53 counties and 94 partner agencies participated in a two-day **Statewide Hurricane Exercise**. The exercise focused on response and recovery operations in a major hurricane and evaluated necessary risk analysis, planning and the deployment of assets. State Emergency Response Team partners tested their ability to: answer all requests within 30 minutes; respond according to plans, policies and procedures; and deploy needed assets to affected areas. They also discussed: recovery plans and procedures; processes for calculating industry damages; potential costs incurred; determining property damage/loss, short and long-term housing needs; how to conduct damage assessments; and processes for debris removal, hazardous waste removal and storage. The collaborative recovery-focused exercise proved invaluable four months later as half the state implemented lessons learned from the exercise as they recovered from significant flooding caused by Hurricane Matthew.



### Protecting the public in nuclear events –

Emergency response agencies, health and community officials and local governments practiced their coordinated response to a radiological incident at the Catawba Nuclear Station near York, S.C., and Brunswick Nuclear Plant near Southport as part of the **federally-graded nuclear exercises** required of all nuclear-powered facilities. As part of the biennial exercises, agencies demonstrated collaboration on opening reception centers, clearing water-ways, establishing traffic control plans and notifying the public of needed safety precautions.



### Exploring unforeseen potential disasters –

While extreme solar flares and electrical pulses are a low-probability threat, they carry an extremely high impact. The departments of Public Safety and Environmental Quality partnered in a discussion-based exercise to examine impacts from a **Coronal Mass Ejection** that resulted in widespread electrical outages and damage to critical infrastructure. The exercise assessed crisis response and recovery, as well as the ability of essential services such as water supply, wastewater treatment and natural gas pipelines to function during an extended power outage.



### **Training Community Emergency Response Teams –**

The state's 78 CERTs can be a valuable asset during emergencies since they all have completed basic disaster response training. In July, nearly 70 CERT members from across the state joined in the statewide exercise to practice skills learned during basic training. Six CERT members participated in a regional CERT Olympics demonstrating their mastery of cribbing, building search, fire safety, patient support and triage. North Carolina's CERT Program has emerged as a model program. At the National CERT Conference, NCEM staff shared best practices/lessons learned regarding inclusion of individuals with disabilities into CERT.

### **Strengthening Search and Rescue Programs –**

NCEM hosted 26 classes and trained more than 800 responders on various types of search operations including wilderness, swiftwater, mountain, urban and helo-aquatic rescues. Rescue technicians with the NC Helo-Aquatic Rescue Team (NCHART) trained monthly with the NC National Guard and State Highway Patrol on the combination of helicopter assets: the Blackhawk, Lakota and Bell 407.

Using Homeland Security Grant funds, Granville County led a three-day regional exercise to test basic search and rescue skills, incident command operations and land search techniques. K-9 teams and trackers participated in the exercise and helped searchers to understand the cooperation with K-9 and search team integration techniques. Logistics support and setup prior to the exercise gave Granville County and NCEM the chance to establish a base for major operations within the area. The full-scale exercise drew participants from North Carolina, Virginia and West Virginia and challenged students by practicing transferring command to incident management teams; it also gave them practical experience handling an event during multioperational periods.

### **Involving the whole community –**

People with disabilities are now able to live more independently than ever before, and personal emergency preparedness is an important part of that. In its third year, the Emergency Preparedness Initiative for Individuals with Developmental Disabilities identified gaps and affected positive change by holding regular meetings and training programs. The committee met with more than 35 organizations and distributed 1,400 Show Me tools to shelter operators, emergency management agencies and first responders. The program continues to encourage county leaders to learn more about local centers for independent living and is now partnered with 47 agencies, organizations and programs to promote whole community planning.

# Planning Ahead

## **Strengthening North Carolina's Emergency Management team –**

In January, NC Emergency Management senior staff traveled to the three branches to participate in EM forums with county partners. The question and answer format led to discussions of: UAS, Salamander, Avian Flu, DocuSign, staffing changes, EMPG program expectations, Urban Search & Rescue Programs and more.

## **Expanding partnerships with the private sector –**

The Business Emergency Operations Center completed its second year and now has 270 partners from multiple industries including: banking, insurance, shipping, retail, pharmaceutical, transportation, healthcare, communications, energy, real estate, hotel/restaurant, grocery and fuel/convenience. Private sector partners responded to immediate needs after Hurricane Matthew by providing supplies such as personal hygiene items, pharmaceuticals, home construction items, baby products and prepared meals, as well as transporting supplies and donating cash. Key partners in Matthew recovery included: the Walmart Foundation, Coca-Cola, Pepsi, the North Carolina Beverage Association, Sprint, Verizon, AT&T, Food Lion, Harris Teeter, multiple restaurants, the National Restaurant Association, BB&T, Wells Fargo, 3M Corporation, Lowes Home Improvement and more.

## **Improving school safety –**

NCEM partnered with school administrators and personnel, law enforcement, first responders and emergency managers on the Safer School Risk Management project. Staff worked with the 143 public school systems to develop detailed building schematics for each of the 2,364 schools. Data was used to develop a web-based planning tool to help schools efficiently plan for all hazards. The data was also used to create a web-based emergency response application that gives law enforcement and first responders detailed information to more effectively respond to emergencies on school campuses.

## **Enhancing emergency preparedness –**

NCEM led four emergency preparedness campaigns to equip communities for various types of weather disasters including: severe weather, hurricanes, tornadoes and winter storms. Materials were sent to county emergency management agencies, schools, health departments, Latino partners and state agencies, as well as promoted through a robust social media campaign.

## **The State Emergency Response Commission –**

met twice to review, assess, plan and implement projects and procedures to protect North Carolina residents and the environment through effective emergency planning. Topics included homeland security, cybersecurity, Avian Influenza and the chemical industry in North Carolina and nationwide.





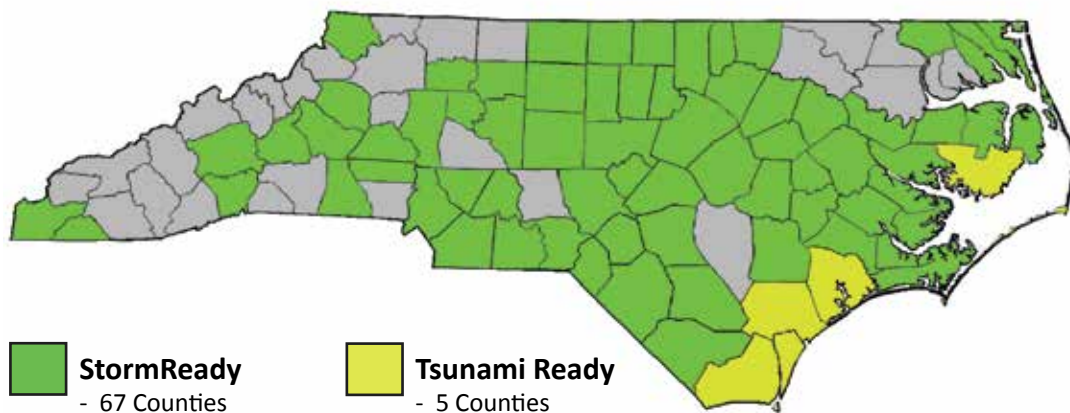
**Preparing for health threats –**

As the Zika virus infection hit South Florida, North Carolina encouraged residents to take measures to prevent against mosquito bites. NCEM worked with N.C. Department of Health and Human Services Public Health Division, on preparedness and response plans should the infection-carrying *Aedes aegypti* mosquito impact people in the state. State health officials also tracked travel-related cases of Zika patients.

**Building a StormReady state –**

NCEM continued its partnership with the National Weather Service to certify all counties as StormReady. The NWS program helps communities to become more resilient by ensuring each area has the necessary plans and systems in place to protect lives and property before, during and after disasters. StormReady certification requires areas to: establish a warning point and emergency operations center; have multiple ways of receiving weather warnings; create a system to monitor local weather; promote emergency preparedness; and develop a hazardous weather plan. More than two-thirds of the state has been certified as StormReady.

Additionally, NCEM shared with states the tools, strategies and process engineering developed to complete the federally-required Threat and Hazards Identification Risk Assessment. This year, two of the state’s nine domestic preparedness regions (DPR), along with Bladen, Cumberland and Rutherford counties, analyzed their threats, hazards and risks.



- StormReady**
- 67 Counties
- 7 Universities
- 7 Communities
- 4 Military Sites
- 2 Commercial Sites

- Tsunami Ready**
- 5 Counties
- 2 Communities
- 1 Military Site

# Working Smarter - Technological Improvements

- NC Emergency Management received authorization from the Federal Aviation Administration to fly **Unmanned Aircraft Vehicles** as part of disaster response and recovery. Several staff members took private pilot-airplane courses to become certified pilots, a necessary requirement for operating the UAVs. The agency was able to use UAVs for the first time in a disaster-related event as part of the Hurricane Matthew response. This technology allowed officials to quickly assess property damage, which helped determine the scale of relocation and recovery efforts for residents. The successful partnership amongst NCEM, the NextGen Air Transportation program at NC State University and the NCDOT's Aviation Division during the disaster foreshadowed the potential uses for UAV technology in future events.
- NC Emergency Management upgraded the **Flood Inundation Mapping and Alert Network (FIMAN)** to provide forecasted and real-time river basin-wide information about potential damages and impacts at the building level. The upgrade incorporated data from five additional coastal gauges. The FIMAN system was used extensively during Hurricane Matthew to help plan evacuations and respond efficiently. And it was used after the storm to provide early damage estimates necessary for requesting an expedited federal disaster declaration.
- In 2016, the **ReadyNC mobile application** was updated to provide more detailed evacuation information and location/hours of operation for disaster recovery help centers. The all-in-one emergency preparedness tool provides the latest weather, traffic, shelter and evacuation information, and provides safety tips for typical North Carolina hazards. The app more than doubled its number of consumers in 2016 and now has more than 109,000 active users.
- To help communities recover faster from disaster, NCEM received a **National Oceanic and Atmospheric Administration (NOAA) grant** of \$110,000 to improve its online recovery planning tool. The division will simplify and streamline the current web-based recovery plan template, then test-drive the tool in two hurricane-vulnerable coastal communities.
- To help improve safety for students and teachers on school campuses, NCEM worked with the 143 state public school systems to develop building schematics for 2,364 schools. The **Safer School Risk Management Project** used the data to create a web-based planning tool to help schools plan efficiently for all hazards. This data was also used to create a web-based emergency response application that provides law enforcement and first responders with detailed information to better respond to emergencies on school campuses.



# Seeking Disaster Declarations



In the past four years, North Carolina has endured snow and ice storms, floods, hurricanes, tornadoes, severe thunderstorms, wildfires, civil unrest, disruptions in the fuel supply and the threat of human and animal disease outbreaks. During most events, damage was minimal and counties were able to respond and recover on their own. However, during larger events, when communities are unable to recuperate on their own, state and federal assistance may be needed.

The first step in seeking state or federal financial assistance is to ensure the recovery is beyond the scope of the jurisdiction's capability. So, immediately following an incident, damage assessment teams from the county, state and sometimes federal government, survey the impacts to determine what, if any, financial assistance may be available to help individuals, local governments and eligible nonprofit groups get back on their feet. When warranted, NCEM may seek a federal emergency or disaster declaration that paves the way for federal funding and program assistance.

Federal emergency declarations supplement state support with nominal staffing and funding, while federal disaster declarations (sometimes called major disaster declaration) provide a more robust range of assistance. Two of the primary federal recovery avenues are the Individual Assistance (IA) and Public Assistance (PA) programs. Through the IA program, state and federal funds in the form of low-interest loans from the U.S. Small Business Administration (SBA) or state/federal grants help individuals, families or business owners repair their property and replace essential items. Modeled after FEMA's nationwide program, North Carolina has one of only a few such state-level programs in the nation to help individuals and families recover. The PA program provides federal or state funds to help overwhelmed communities recoup some of their costs for essential services to respond to a disaster, repair essential infrastructure and/or clear potentially hazardous debris. Similarly, Fire Management Assistance Grants (FMAG) are designed specifically to help those communities ravaged by forest fires recover from the blaze. The grant typically covers 75 percent of eligible costs, which may include expenses for materials, supplies, tools, deployment costs and demobilization resources to fight the fires. The state pays the remaining 25 percent.

Following larger events, such as Hurricane Matthew, state and federal emergency management workers temporarily move into the affected community to provide closer coordination during the long and often-complicated recovery process. NCEM leads the long-term recovery efforts by bridging the gap between local initiatives and the plethora of federal recovery programs. FEMA and NCEM employees co-locate in a Joint Field Office, which serves as the recovery coordination center, to implement and manage the ongoing programs.

Recovering from one of the most devastating disasters to ever hit North Carolina will take time. FEMA will maintain an active presence in the state for much of 2017 as federal, state and local agencies work to develop long-term permanent housing solutions for the thousands of displaced families.

## 2016

### Tropical Storm Julia – Sept. 20-22

- U.S. SBA disaster declaration and State IA disaster declaration
- State PA declaration

### Hurricane Matthew – Oct. 8-9

- Federal IA disaster declaration - \$91.6 million in federal grants and \$87.3 million in SBA loans approved for individuals and businesses\*
- Federal PA disaster declaration - \$9 million\*

### Western NC Wildfires – Oct. 23-Nov. 30

- Federal Fire Management Assistance Grant

\* as of 2/1/17

## 2015

### Lake Santeetlah – July 14

- State PA disaster declaration

## 2014

### Winter Storms –Feb. 11

- State PA disaster declaration - \$1.95 million

### Triad Winter Storms – March 6-7

### Eastern NC Tornadoes – April 25

- U.S. SBA disaster declaration and State IA disaster declaration

## 2013

### Watauga County flooding – Jan. 30

- U.S. SBA disaster declaration

### Stanly County Severe Weather – June 13-14

- U.S. SBA disaster declaration and State IA disaster declaration
- State PA disaster declaration

### Orange County flooding – June 30

- U.S. SBA disaster declaration and State IA disaster declaration

### Western flooding and landslides – July 3-13

- Federal PA disaster declaration - \$7.9 million

### Catawba & Lincoln County flooding – July 27

- U.S. SBA disaster declaration and State IA disaster declaration
- Federal PA disaster declaration - \$4.8 million



Disaster Declarations 2013 - 2016	
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# Federal Pass-Through Funds

North Carolina Emergency Management serves as the fiduciary agency for \$23.3 million in federal funds from the U.S. Department of Homeland Security and the Federal Emergency Management Agency (FEMA). The division administers these federal grants to state and local entities or agencies that apply and compete for federal money. The funding amount granted through each program can vary widely from year to year depending on how many other states apply for and receive funding.

County	2016	2013-2015	Total
Alamance	\$467,262.65	\$137,124.50	\$604,387.15
Alexander	\$183,957.71	\$101,083.50	\$285,041.21
Alleghany	\$119,852.76	\$48,583.50	\$168,436.26
Anson	\$122,302.36	\$47,083.50	\$169,385.86
Ashe	\$205,222.39	\$43,833.50	\$249,055.89
Avery	\$151,979.66	\$38,583.50	\$190,563.16
Beaufort	\$134,026.89	\$88,583.50	\$222,610.39
Bertie	\$139,078.59	\$38,583.50	\$177,662.09
Bladen	\$92,291.54	\$131,698.81	\$223,990.35
Brunswick	\$167,553.59	\$92,958.50	\$260,512.09
Buncombe	\$2,815,531.23	\$1,939,458.50	\$4,754,989.73
Burke	\$265,044.31	\$134,458.50	\$399,502.81
Cabarrus	\$361,203.60	\$97,958.50	\$459,162.10
Caldwell	\$314,963.35	\$84,000.00	\$398,963.35
Camden / Pasquotank	\$166,051.07	\$137,058.50	\$303,109.57
Carteret	\$295,391.76	\$37,625.38	\$333,017.14
Caswell	\$117,553.60	\$38,583.50	\$156,137.10
Catawba	\$369,009.11	\$52,958.50	\$421,967.61
Chatham	\$88,557.23	\$38,583.50	\$127,140.73
Cherokee	\$117,144.51	\$48,698.81	\$165,843.32
Chowan	\$109,174.59	\$46,583.50	\$155,758.09
Clay	\$157,433.02	\$38,583.50	\$196,016.52
Cleveland	\$175,345.28	\$142,958.50	\$318,303.78
Columbus	\$123,484.59	\$37,698.81	\$161,183.40
Craven	\$226,832.65	\$130,973.81	\$357,806.46
Cumberland	\$244,494.22	\$208,902.81	\$453,397.03
Currituck	\$276,279.70	\$38,583.50	\$314,863.20
Dare	\$164,746.19	\$46,862.33	\$211,608.52

County	2016	2013-2015	Total
Davidson	\$120,001.35	\$52,958.50	\$172,959.85
Davie	\$233,004.00	\$92,250.50	\$325,254.50
Duplin	\$377,382.18	\$48,433.50	\$425,815.68
Durham	\$239,329.61	\$90,458.50	\$329,788.11
Edgecombe	\$94,078.59	\$38,583.50	\$132,662.09
Forsyth	\$312,429.61	\$80,458.50	\$392,888.11
Franklin	\$104,078.59	\$38,583.50	\$142,662.09
Gaston	\$368,395.61	\$80,383.59	\$448,779.20
Gates	\$371,190.59	\$136,583.50	\$507,774.09
Graham	\$118,029.13	\$38,583.50	\$156,612.63
Granville	\$353,663.04	\$72,583.50	\$426,246.54
Greene	\$385,538.36	\$38,436.05	\$423,974.41
Guilford	\$277,304.66	\$145,458.50	\$422,763.16
Halifax	\$103,544.23	\$38,583.50	\$142,127.73
Harnett	\$194,376.29	\$52,958.50	\$247,334.79
Haywood	\$94,254.36	\$148,583.50	\$242,837.86
Henderson	\$225,104.65	\$112,958.50	\$338,063.15
Hertford	\$128,029.12	\$48,583.50	\$176,612.62
Hoke	\$91,455.80	\$38,583.50	\$130,039.30
Hyde	\$109,863.97	\$30,827.95	\$140,691.92
Iredell	\$359,399.93	\$52,293.75	\$411,693.68
Jackson	\$97,761.77	\$48,583.50	\$146,345.27
Johnston	\$137,187.23	\$83,572.50	\$220,759.73
Jones	\$107,689.56	\$38,583.50	\$146,273.06
Lee	\$103,240.81	\$38,583.50	\$141,824.31
Lenoir	\$111,663.81	\$38,583.50	\$150,247.31
Lincoln	\$272,108.63	\$86,072.60	\$358,181.23
Macon	\$81,137.38	\$38,583.50	\$119,720.88
Madison	\$116,260.13	\$38,583.50	\$154,843.63
Martin	\$157,378.59	\$473,033.50	\$630,412.09
McDowell	\$165,930.19	\$38,583.50	\$204,513.69
Mecklenburg	\$8,294,918.68	\$2,449,173.81	\$10,744,092.49
Mitchell	\$139,061.01	\$38,583.50	\$177,644.51
Montgomery	\$101,159.95	\$35,590.42	\$136,750.37
Moore	\$255,251.08	\$64,958.50	\$320,209.58
Nash	\$238,556.16	\$238,358.50	\$476,914.66

County	2016	2013-2015	Total
New Hanover	\$571,842.63	\$78,689.62	\$650,532.25
Northampton	\$86,210.23	\$38,583.50	\$124,793.73
Onslow	\$129,757.37	\$61,758.50	\$191,515.87
Orange	\$135,399.88	\$52,958.50	\$188,358.38
Pamlico	\$177,055.92	\$42,898.81	\$219,954.73
Pender	\$94,078.60	\$38,583.50	\$132,662.10
Perquimans	\$112,578.60	\$38,583.50	\$151,162.10
Person	\$114,504.04	\$38,583.50	\$153,087.54
Pitt	\$501,924.33	\$102,070.04	\$603,994.37
Polk	\$136,734.08	\$38,583.50	\$175,317.58
Randolph	\$568,154.89	\$145,095.50	\$713,250.39
Richmond	\$89,686.82	\$37,696.30	\$127,383.12
Robeson	\$233,468.88	\$86,073.81	\$319,542.69
Rockingham	\$215,103.41	\$59,958.50	\$275,061.91
Rowan	\$274,991.62	\$52,958.50	\$327,950.12
Rutherford	\$141,979.66	\$38,583.50	\$180,563.16
Sampson	\$94,075.87	\$42,083.50	\$136,159.37
Scotland	\$94,078.60	\$78,583.50	\$172,662.10
Stanly	\$196,662.13	\$38,583.50	\$235,245.63
Stokes	\$167,207.08	\$81,583.50	\$248,790.58
Surry	\$169,508.37	\$93,833.50	\$263,341.87
Swain	\$92,309.61	\$38,583.50	\$130,893.11
Transylvania	\$94,078.61	\$38,583.50	\$132,662.11
Tyrrell	\$91,455.80	\$36,005.37	\$127,461.17
Union	\$241,870.48	\$109,573.81	\$351,444.29
Vance	\$94,072.33	\$38,583.50	\$132,655.83
Wake	\$219,693.32	\$142,645.50	\$362,338.82
Warren	\$100,751.89	\$38,583.50	\$139,335.39
Washington	\$214,418.33	\$38,583.50	\$253,001.83
Wataugua	\$185,930.19	\$38,583.50	\$224,513.69
Wayne	\$155,908.55	\$52,958.50	\$208,867.05
Wilkes	\$199,135.60	\$38,583.50	\$237,719.10
Wilson	\$137,203.60	\$52,958.50	\$190,162.10
Yadkin	\$191,979.68	\$38,583.50	\$230,563.18
Yancey	\$197,958.32	\$38,583.50	\$236,541.82

# Shaping National Policy & Sharing Best Practices

North Carolina Emergency Management has become a national and international leader and role model for disaster preparation, response and recovery. In the past year, NCEM has helped shape national practices and policies through its participation in multiple panels and committees; shared best practices and methodologies with numerous states; and hosted emergency managers and health officials from several countries.

NC emergency managers sit on multiple national policy groups and panels covering all angles of the disaster cycle. In February NCEM welcomed FEMA Administrator Craig Fugate and the **National Advisory Council**, a group of 35 appointed business and government leaders who meet regularly to advise FEMA on all aspects of emergency management. Director Sprayberry serves as the emergency response providers' representative on the national panel that was established to ensure effective coordination amongst agencies before, during and after emergencies.

That same month, NCEM also hosted the **Interagency Coordinating Committee on Hurricanes** at the State Emergency Operations Center. More than 100 people from hurricane-prone states participated in detailed planning and robust discussion about the status and direction of the National Hurricane Program.

In October, NCEM Director Mike Sprayberry was elected by his peers across the country to serve as the vice president for the **National Emergency Management Association**. The professional group provides national leadership and expertise in comprehensive emergency management and works closely with FEMA on disaster planning and mitigation.

Throughout the year, NCEM provided resources through the **Emergency Management Assistance Compact** Program to help multiple states prepare for or respond to disasters. North Carolina sent: staff to help with debris management after significant flooding in Virginia; State Highway Patrol Troopers to provide security for the Republican National Convention in Ohio; GIS experts to provide virtual imagery analysis for flooding in West Virginia; and a mass casualty bus and 30 swiftwater rescue technicians to respond to flooding in South Carolina after Hurricane Matthew.

As the state's reputation has expanded outside of the United States, NCEM has grown as an international model. In March, state emergency management officials welcomed Tanzanian officials to the Western Branch Office to discuss resource requests, floodplain mapping, mobile hospitals, medical buses, civil disturbance response and law enforcement. And in August, Moldovan guests visited the Eastern Branch Office for a mass casualty exercise. The agency also discussed emergency management best practices with Chinese officials. NCEM continued its support of South Korea's efforts to develop a robust national emergency management program. In November, one of the agency's branch managers traveled to South Korea to share North Carolina's experience on disaster preparedness and response, and discuss national response policy and framework.

After more than two decades of coordinated research, North and South Carolina officially re-established the state boundary line in 2016. Originally surveyed in the 1700s, local and state officials were uncertain about the precise location of portions of the boundary from Polk to Brunswick County, resulting in confusion regarding property transactions and taxing. The Geodetic Survey section of NCEM began work in 1994 with its South Carolina counterpart to research centuries-old historical markers and landmarks in order to identify and clarify the state boundary.







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