Assessing the Homeland Security Impacts of a Changing Climate

Statement of

Fire Chief Dan Eggleston, EFO, CFO, CMO
President and Chairman of the Board

presented to the

SUBCOMMITTEE ON EMERGENCY PREPAREDNESS, RESPONSE & RECOVERY

OF THE

COMMITTEE ON HOMELAND SECURITY

U.S. House of Representatives

April 9, 2019

INTERNATIONAL ASSOCIATION OF FIRE CHIEFS
4795 MEADOW WOOD LANE, SUITE 100 • CHANTILLY, VA 20151

Good morning, Chairman Payne, Ranking Member King and distinguished members of the subcommittee. My name is Dan Eggleston, and I am President and Chairman of the Board of the International Association of Fire Chiefs (IAFC), and fire chief of the Albemarle County, Virginia, Department of Fire Rescue. Thank you for the opportunity to participate in the committee's assessment of the homeland security impacts of a changing climate.

The IAFC represents the leadership of over 1.1 million firefighters and emergency responders. IAFC members are the world's leading experts in firefighting, emergency medical services, terrorism response, hazardous materials (hazmat) incidents, wildland fire suppression, natural disasters, search and rescue, and public-safety policy. Since 1873, the IAFC has provided a forum for its members to exchange ideas, develop best practices, participate in executive training and discover diverse products and services available to first responders.

The Fire and Emergency Service Community

America's fire and emergency services are the only organized group of individuals that is locally situated, staffed, trained, and equipped to respond to all types of emergencies. There are approximately 1.1 million men and women in the fire and emergency service – approximately 300,000 career firefighters and 800,000 volunteer firefighters – serving in over 30,000 fire departments around the nation. They are trained to respond to all hazards ranging from earthquakes, hurricanes, tornadoes and floods to acts of terrorism, hazmat incidents, technical rescues, fires and medical emergencies.

The fire service protects America's critical infrastructure – the electrical grid, interstate highways, railroads, pipelines, petroleum and chemical facilities – and is, in fact, even considered part of the critical infrastructure. The fire service protects federal buildings, including military installations and interstate commerce. No passenger airliner takes off from a runway or train leaves a station that is not protected by a fire department.

The Nation's Changing Climate

As the nation's climate changes, it creates new challenges for the nation's fire and emergency service. No matter if it is a hurricane, a tornado, flooding or a wildland fire, America's local fire departments are the first to arrive on scene and the last to leave. They must provide emergency response and medical aid to the public despite the outside conditions. In many ways, the nation's changing climate is helping to transform the local fire department into an all-hazards response force.

It is important to recognize the effects of the nation's changing climate. According to the National Oceanic and Atmospheric Administration, the United States averaged 6.2 weather-related disaster events that each cost $1 billion or more each year from 1980 to

2018.[1] In 2016, our nation had 15 such events, 16 such events in 2017, and 14 such events in 2018.

In addition, we have seen an increase in the nation's wildland fire problem. In 2018, the National Interagency Fire Center reported approximately 58,000 fires, which burned approximately 8.8 million acres. In comparison, there were almost 79,000 fires in 2008, which burned approximately 5.3 million acres. So, even as the number of wildland fires are reduced, their intensity increases.[2]

There has been an increase in federal spending on disasters. For Fiscal Year 2018, Congress appropriated approximately $50 billion. In contrast, Congress only appropriated approximately $18.5 billion for FY 2013, which includes the aftermath of Hurricane Sandy.[3] These costs are equally clear in the wildland fire arena, where the federal government spent a record $3.1 billion on wildland fire suppression costs in 2018. From 2009 to 2013, the federal government spent an average of $1.35 billion on wildland fire suppression costs. By comparison, from 2014 to 2018, the federal government spent an average of $2.34 billion on wildland fire suppression, an increase of 42%.[4]

These disasters have real-life costs too. The United States has had 241 weather and climate disasters since 1980 where overall damages reached or exceeded $1 billion. The total cost of these 241 incidents is more than $1.6 trillion. In 2018, the 14 weather or climate events costing more than $1 billion in damages also caused 247 deaths.[5] According to the National Fire Protection Association (NFPA), a total of 44 local firefighters were fatally injured between 2007 and 2016 as a result of grass, brush or forest fires or prescribed fires. Between 2011 and 2015, the NFPA reported that grass and forest fires caused an average of 1,330 fireground injuries to local firefighters.[6]

The nation needs to act and prevent the loss of life and property in a dangerous and changing climate. The International Association of Fire Chiefs recommends that the nation take commonsense steps to address this threat. We encourage Congress to continue to take steps to mitigate the threats of climate-related disasters. We recommend that Congress fund programs that help communities prepare for climate-related events, like hurricanes, tornadoes, floods and wildland fires. We also ask that Congress support federal programs and initiatives that will help fire departments prepare for the growing number of climate-related disasters.

---

[1] NOAA, National Centers for Environmental Information (NCEI), *U.S. Billion-Dollar Weather and Climate Disorders* (2018), https://www.ncdc.noaa.gov/billions/.
[2] National Interagency Fire Center, Federal Firefighting Costs (Suppression Only), (https://www.nifc.gov/fireInfo/fireInfo_documents/SuppCosts.pdf).
[3] Congressional Research Service, The Disaster Relief Fund: Overview and Issues, February 1, 2019.
[4] National Interagency Fire Center, Federal Firefighting Costs (Suppression Only), (https://www.nifc.gov/fireInfo/fireInfo_documents/SuppCosts.pdf).
[5] NOAA, National Centers for Environmental Information (NCEI), *U.S. Billion-Dollar Weather and Climate Disorders* (2018), https://www.ncdc.noaa.gov/billions/.
[6] Marty Ahrens, Brush, Grass, and Forest Fires, National Fire Protection Association, September 2018, p. 7.

The Importance of Mitigation

The IAFC thanks Congress for its recent focus on using mitigation to drive down the cost of disasters. States and local communities should take steps to mitigate the effects of major climate-related disasters. These efforts can include acquiring and demolishing flood-prone buildings; adding hurricane-safe shutters and tornado-safe rooms; and replacing roofs and creating defensible space around buildings to prevent wildland fires.

The IAFC recommends that states and localities adopt current model building codes, including the International Building Code and the International Residential Code. The National Institute of Building Sciences released a study in January demonstrating that adoption of model building codes generates a national benefit of $11 for every $1 invested. Furthermore, adoption of wildland fire codes provided a benefit of $4 for every $1 invested.

The adoption of current building and fire codes has been proven to prevent the tragic loss caused by climate-driven events. The Insurance Institute for Business and Home Safety (IBHS) found that the adoption of high-wind provisions in residential buildings reduced damage to houses in Florida, After Hurricane Charley in 2004, the claim frequency for houses built after 1996 (when Charlotte County, Florida, enacted high-wind standards) was reduced by 60% and the claims were 42% less severe when a loss occurred.[7]

States and localities determine the adoption and application of building codes and standards, which means that code adoption varies by state and locality. Five states representing 12% of the nation's population have state building codes that are nine or more years old. Where states allow local governments to determine code adoption, 25% and 10% of residents in some Midwest and Gulf Coast states, respectively, also live in communities with years-old building codes. Of the 21 states that regularly face tornado risk, just eight require tornado shelters for schools.

The IAFC thanks Congress for passing the Disaster Recovery Reform Act (DRRA; P.L. 115-124). This law focuses on pre- and post-disaster mitigation to reduce the cost of disasters. The bill creates a National Public Infrastructure Pre-Disaster Mitigation fund to help states take actions to prevent the threat of natural disasters. It also incentivizes states to adopt model building codes by providing Public Assistance funds to replace and restore damaged facilities to the latest codes and standards. In addition, P.L. 115-124 allows states that receive Fire Management Assistance Grants to receive post-fire hazard mitigation assistance to help communities recover and prevent deadly floods after wildland fires. We ask that Congress monitor the implementation of the DRRA to ensure that the Federal Emergency Management Agency meets its commitments.

[7] "Hurricane Charley: Natural Force vs. Structural Strength," Institute for Business and Home Safety, 2012, p. 5.

Community Preparedness

Local communities can take steps to prepare themselves for the threat of climate-related incidents. They can set and adopt current codes to ensure that buildings can sustain hurricane-strength winds or are built using fire-safe materials. Also, they can plan evacuation routes and exercise their implementation in case of advanced-notice events like hurricanes or short-notice events, like wildland fires. Also, federal and state authorities can work together to clear hazardous fuels and plan for response to climate-driven risks like strong winds, flooding and wildland fires. Local homeowners also should take steps like clearing brush around their homes to create a defensible space for wildland fires; boarding up their homes before hurricanes; and following state and local authorities' evacuation orders.

The IAFC and local fire departments support community risk reduction efforts. For example, we urge federal, state, tribal/territorial and local governments to develop community wildfire protection plans (CWPP). These plans identify and mitigate wildland-fire risks within communities. They also guide hazardous-fuels reduction programs on federal lands and prioritize federal funding for associated projects.

With the assistance of the U.S. Department of Agriculture's (USDA) Forest Service, the IAFC runs the "Ready, Set, Go! (RSG)" program to help communities prepare and respond to the threat of wildland fires. Using RSG resources, local fire departments assist residents in developing mitigation plans (Ready) and teaching them to be situationally aware (Set) and take action early and follow their personal wildland-fire action plans should there be a need to evacuate (Go). Currently, there are 1,881 RSG members in all 50 states.

This type of community preparedness supports an all-hazards response. For example, the Barnegat Volunteer Fire Department near the New Jersey Pine Barrens was a long-time RSG member. The fire department spent more than 2,000 hours educating its communities about how to create defensible space, maintain situational awareness and develop evacuation plans in the case of wildland fires. When Hurricane Sandy struck in 2012, the fire department worked with the police department and used RSG planning to evacuate the community successfully.

The IAFC recommends that Congress continue to support federal programs that champion community preparedness planning. Community preparedness is a key component to addressing risks caused by the changing climate. By promoting collaboration at the local level, communities can work with federal, state, tribal/territorial and neighboring local agencies to educate local citizens about the risk of hurricanes, tornadoes, flooding and wildland fires. They also can help the public to take actions to reduce these risks. Community-preparedness programs also can help localities reduce the threat of climate-driven disasters by collaborating to reduce hazardous fuels and strengthen infrastructure, and help citizens take steps to strengthen their homes. Finally, these programs are important in helping local citizens to evacuate in a safe and timely manner.

Ensuring an Effective Response

When a climate-driven disaster strikes, the local fire department will be the first response unit on scene. For example, the NFPA reports that local fire departments responded to an estimated average of 306,000 brush, grass, and forest fires in the United States per year from 2011-2015.[8] An effective emergency response is key to reducing the damage from a disaster and ensuring an effective recovery.

At the local level, it is important to have experienced leadership. The U.S. Fire Administration (USFA) hosts the National Fire Academy (NFA), the nation's premier fire and emergency services educational institution. As the fire service's mission has transformed to all-hazards response, the NFA has helped generations of fire service leaders to manage that change. The NFA has trained more than 1.4 million students since 1975. It includes both in-person and electronic courses to help fire service leaders adapt to the new missions that they face. We thank Congress for its continued support for USFA and NFA and are grateful for the Trump Administration's proposed increase funding for these programs. We ask that Congress fund USFA at $50 million for FY 2020.

It is important that fire departments be able to provide mutual aid to each other during major climate-driven disasters, both at the local and the national levels. For example, 17 states, including North and South Carolina, provided assistance to California in response to the October 2017 wildland fires. Developments in GIS and technology offer the opportunity to transform interstate and intrastate mutual aid and provide effective assistance in a timelier manner.

In the aftermath of Hurricane Katrina, the IAFC helped states to create statewide mutual-aid agreements and plans to deploy fire department staffing and equipment in response to major disasters and everyday incidents. To help states manage their resources, the IAFC developed Mutual Aid Net, which is still in use in 18 states today. This system is an addition to the Emergency Management Assistance Compact (EMAC).

As a further evolution, the IAFC has partnered with Juvare's WebEOC and Esri's ArcGIS platforms to develop the National Mutual Aid System (NMAS). NMAS will be a tool used to request, locate and deploy resources through all phases of a response. Using NMAS' GIS mapping tools, fire departments will be able to visualize in real-time where resources are, where they need to go, and determine response times for decision making.

An adequately trained, staffed and equipped local fire department is a significant component to the response to a climate-driven event. Local fire departments provide the initial response to the events. For example, local fire departments – in many cases, volunteer fire departments – provide nearly 80% of the initial attack on wildland fires in the United States. In addition, local fire departments play a key role in the National Preparedness System, where Fire Management and Suppression has been identified as a core capability of the National Preparedness Goal. When local communities require

[8] Marty Ahrens, Brush, Grass, and Forest Fires, National Fire Protection Association, September 2018, p. 7.

interstate or intrastate aid, they rely upon local fire departments across the nation to provide aid through the EMAC, state mutual-aid plans or local mutual-aid plans. If local fire departments do not have adequate staffing and equipment, the National Preparedness System breaks down.

However, there are serious challenges to the preparedness of the nation's fire and emergency service. For example:

- Almost three-quarters (71%) of the fire departments who perform wildland firefighting or who fight structure fires in the wildland urban interface (WUI) have not formally trained all their firefighters in this activity.
- Two-thirds of the departments that fight these fires have firefighters who do not have the appropriate personal protective equipment for wildland firefighting.
- Twenty-nine percent of fire departments have firefighters who have not received specialized training on firefighting in the WUI.[9]

Congress has taken steps to address these shortages. The Assistance to Firefighters Grant (AFG; also known as the FIRE Act) grant program and the Staffing for Adequate Emergency Response (SAFER) program provide matching grants to help local fire departments meet their basic needs and improve their capabilities to respond to all hazards. The AFG program helps localities train and equip for climate-driven disasters, like wildland fires, flooding and windstorms. The SAFER program supports staffing for career, volunteer and combination fire departments. The IAFC thanks Congress for its support for these programs and asks that both programs be funded at the FY 2011 level of $405 million for each program.

Specifically, for wildland fire programs, Congress created the Volunteer Fire Assistance (VFA) program at the USDA's Forest Service. This program provides federal assistance to state foresters to help rural fire departments respond to wildland fires on neighboring federal land. Communities with populations of less than 10,000 can receive funding to use for training and equipment through the VFA program. The IAFC thanks Congress for the recent increases in funding for the VFA program and asks Congress to appropriate $18 million for the program in FY 2020.

As climate-driven disasters increase, the IAFC requests that Congress continue to fund the Urban Search and Rescue (US&R) System. The US&R teams are located across the nation and possess critical skills in responding to hurricanes, tornadoes, wildland fires and other climate-driven disasters. These specialized teams are internationally-recognized for the lifesaving aid that they provide to desperate communities. We urge Congress to fund $50 million for the US&R system in FY 2020 to help the teams maintain their readiness in an advanced operational tempo. We also ask Congress to pass H.R. 639, which would clarify that federal employees, like federal firefighters, can participate in US&R teams.

[9] Ibid.

In addition, it is important to point out that programs like the State Homeland Security Grant Program (SHSGP) and the Urban Areas Security Initiative (UASI) support all-hazards response, despite their focus on terrorism preparedness. The programs use federal funds as an incentive for fire; emergency medical services; law enforcement; public health; and other federal, state, tribal/territorial, and local agencies to plan and exercise together. Whether an act of terrorism, a wildland fire, or a hurricane, it is important for the key decision makers to have planned, trained and exercised together before an event. Because of the beneficial role that these programs play in all-hazards response, the IAFC asks Congress to reject the cuts proposed for FY 2020.

Conclusion

I thank you for the opportunity today to testify about the effects of climate change on homeland security. For the nation's fire and emergency service, the increase in climate-driven events has steered a transformation to an all-hazards response force. As the threat of these climate-driven events increases, the nation must focus on taking steps to mitigate this threat and prepare to respond to more serious incidents over time.

Specifically, the IAFC urges Congress to take the following actions:

1) **Support Mitigation Efforts**. Congress made a good first step by passing the Disaster Recovery Reform Act (P.L. 115-124). Now Congress must ensure that it is implemented correctly. Congress also must support the state and local adoption of current model building codes and provide incentives for their adoption. We know that these building codes will save lives and property. As Congress considers legislation to modernize the nation's infrastructure, we ask that federal funds be used to make sure that new infrastructure meets the relevant model building codes. We also ask that Congress support pre- and post-hazard mitigation initiatives like the new Pre-Hazard Mitigation fund established by the DRRA.

2) **Support Community Preparedness Efforts.** Programs like the Ready, Set, Go! program help local communities prepare for the threat of wildland fires, floods, hurricanes and other climate-driven disasters. Community risk reduction and community preparedness efforts help communities prepare for all hazards and educate the public about steps that they need to take to prepare their homes.

3) **Support Federal Programs that Promote an Effective Emergency Response.** When a disaster strikes, local fire departments will be the first to arrive. The federal government realizes this fact and supports programs like the AFG, SAFER and VFA programs to help train, equip and staff fire departments. Congress should support these programs and national assets like the US&R system. We also ask that Congress continue to fund training programs at the USFA and NFA.

As the risk from climate-related events increases, the nation must take steps to prepare ourselves to mitigate, respond and recover from them. The federal government has taken steps with partners like the IAFC to prepare for these events. We recommend that Congress continue to support these efforts to keep Americans safe.