

**Testimony of Mark Goeller, Oklahoma State Forester
On Behalf of the Oklahoma Department of Agriculture, Food and Forestry and the
National Association of State Foresters
Submitted to the U.S. House Committee on Science, Space and Technology
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Good morning, Chairman Lucas, Ranking Member Lofgren, and Members of the Committee. My name is Mark Goeller, Oklahoma State Forester, member of the National Association of State Foresters (NASF) Executive Committee, Chair of the Southern Group of State Foresters, and NASF's representative to the National Wildfire Coordinating Group's (NWCG) Medical and Public Health Advisory Team. In addition to serving in leadership roles on the state, regional and national levels, I have served as an Incident Commander on hundreds of multi-agency, multi-jurisdictional wildfires and appreciate the opportunity to lend my expertise and speak with you today as the Committee explores, "Enhancing Fire Weather Prediction and Coordination".

NASF represents the directors of the forestry agencies in all 50 states, five U.S. territories, three nations in compacts of free association with the U.S., and the District of Columbia. By providing more than 270,000 technical assists to private landowners each year, and by directly managing 76 million acres of state-owned forestland, state foresters help conserve, protect, and enhance more than two-thirds of all America's forests and trees. They also partner with federal land management agencies through cooperative agreements and Good Neighbor Authority (GNA) to manage national forests and grasslands and provide wildfire protection on over 1.59 billion acres nationwide. All state forestry agencies share a common mission to protect America's forests and most have statutory responsibilities to provide wildland fire protection on all lands, public and private.

The States' Contributions to Wildfire Management

State forestry agencies contribute significantly to wildland fire suppression nationwide in personnel, capacity, and funds. According to statistics from the National Interagency Fire Center (NIFC) in Boise, ID, in 2022 roughly 70,000 wildland fires burned more than 7.5 million acres. State and local agencies respond to the majority of wildfires across the country; in 2022 state and local agencies were responsible for responding to 57,492 (83%) of the 69,988 reported wildfires across all jurisdictions.

Collectively, state forestry agencies directly employ roughly 26,880 individuals, who all have wildfire response as part of their job duties, as well as directly employ roughly 12,000 wildland firefighters who provide significant expertise and national capacity for wildfire response. Additionally, state forestry agencies own and maintain roughly 2,000 wildfire engines and 1,000

dozers, and provide the nation with over 1,300 wildfire aviation resources which include state-owned assets, Federal Excess Property Program (FEPP) aircraft, Exclusive Use (EU) contracts, National Guard assets, and Call When Needed (CWN) contracts¹.

State Foresters work closely with Conservation Districts, local and county governments, Tribal, and Federal partners across the U.S. to deliver forestry programs and wildfire protection. NASF is a key partner in implementing the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy), which provides the roadmap for interagency wildland fire management across the country. The Cohesive Strategy employs the best available science to achieve resilient landscapes, fire-adapted communities, and effective wildfire response.

NASF is also a key partner and member of the Wildland Fire Leadership Council (WFLC), an intergovernmental committee of Federal, State, Tribal, county, and municipal government officials convened by the Secretaries of the Interior, Agriculture, Defense, and Homeland Security. WFLC members are dedicated to the consistent implementation of wildland fire policies, goals, and management activities, and together, provide recommendations for coordination, accountability, and effective implementation of Federal wildland fire management policy and related long-term strategies.

State Foresters play a leading role in implementing the State Fire Assistance (SFA) and Volunteer Fire Assistance (VFA) programs which serve as an important federal mechanism for assisting states and local fire departments in responding to wildland fires and in conducting land management activities that mitigate fire risk on non-federal lands. These programs help train state, local, and volunteer wildland firefighters who are often first to arrive at a wildland fire incident, as well as equip them with the tools they need to put wildland fires out efficiently and safely.

For example, in FY 2022 the SFA program provided over \$15 million in funding for hazardous fuels treatments, which directly treated 84,297 acres and allowed partners to treat an additional 196,942 acres. Another \$4.4 million in SFA assistance was provided to conduct 2,723 wildfire risk assessments and fire management planning projects in 2,722 communities. In all, SFA helped nearly 11,480 communities manage wildfire risk and trained 40,477 wildland firefighters in FY 2022 alone. FY 2022, the VFA program provided assistance to 11,372 communities, trained 15,335 firefighters, expanded or organized 55 fire departments, and purchased, rehabilitated, or maintained over \$11.6 million in equipment.

Wildfire in Our Nation's Forests and the State of Oklahoma

Fire is a natural phenomenon for nearly every forest ecosystem in this country. Fire has shaped the occurrence and distribution of different ecosystems for centuries, simultaneously impacting the

¹ National Association of State Foresters 2022 State Interagency Fire Aircraft Survey

human and natural communities that live in and around those forests. Over the past century, fire suppression has removed the natural role of fire from many fire-dependent landscapes. Decades of fire suppression combined with lacking forest management has led to the build-up of hazardous fuels to historic levels making our forests more prone to catastrophic wildfire.

The Oklahoma Department of Agriculture, Food and Forestry - Forestry Services Division is charged in Oklahoma Statute with the protection and management of Oklahoma's forest and natural resources. It is also responsible for the prevention, detection, suppression and investigation of wildfires across the entire state. According to statistics from the NIFC, the frequency and severity of wildfires across the state have resulted in Oklahoma landing in the Top 10 nationally for the number of acres burned six of the last ten years. In 2016 more acres burned in Oklahoma than in any other state. In addition, one of the largest wildfires in the United States in the last ten years occurred in Oklahoma (NW Oklahoma Complex, 779,292 acres, April 2017). Verisk Analytics, an independent insurance risk analysis group, ranks Oklahoma as the #7 state in the nation for homes at high to extreme risk from wildfire. For calendar year 2022, Oklahoma ranked #4 & #5 nationally for the number of fire and acres burned from wildfire, respectively.

Wildfire response is one of the most challenging facets of our jobs. Improvements in applied Research & Development (R&D) and technologies that support wildfire operations will enhance our collective ability to safely respond to wildfire and better protect our communities and treasured natural resources.

The Role of Fire Weather Prediction in Wildfire Mitigation and Operations

R&D and the application of new technology plays a critical role in supporting all aspects of wildland fire management. Following a severe wildfire outbreak in Oklahoma and Texas during the early months of 2006, the National Weather Service (NWS), Texas A&M Forest Service, and Oklahoma Forestry Services formed the Southern Great Plains Wildfire Outbreak Group.

Efforts of the SGPWO Group have produced numerous ground-breaking fire weather forecasting and fire management practices. Their R&D has produced a better understanding of the potential impact and timing of Southern Great Plains fire weather systems, enabling wildland fire managers to more accurately pre-position scarce firefighting resources. An innovative, probabilistic approach to assessing wildfire threat replaced outdated Red Flag Warning criteria. Expanded collaboration with the NWS coupled with enhanced preparedness and response actions by Oklahoma Forestry Services has reduced the number of civilian fatalities during Oklahoma wildfire outbreaks. Other innovations include satellite wildfire detection technology which allows NWS forecasters to provide early/advance notice of emerging wildfires to response agencies and emergency managers. An Integrated Warning Team approach supports an innovative Fire Warning

process which allows public safety agencies more time and decision space to order evacuations if needed. I have included several publications documenting these innovations and research as attachments to my written testimony.

Other R&D efforts have led to the Oklahoma Mesonet, an effort of Oklahoma State University, University of Oklahoma, and the Oklahoma Climatological Survey. Mesonet is a system of over 100 remote automated weather stations across the state which provide current weather observations. The Mesonet is internet-accessible with weather observations updating every five minutes which allows fire managers to monitor for fire weather conditions which could impact strategy and tactics for wildfire response.

Mesonet is also the backbone of OK-Fire, another internet-based product which provides various decision support tools for wildland fire managers. This application provides information such as fuel moistures, drought severity, energy release component, and other critical fire management data.

Wildfire management is inherently a partnership effort between Federal, State, local, and volunteer agencies and departments. All of these entities stand to benefit from coordinated efforts to expand the utilization of technologies that better inform or enable the mitigation of wildfire risk and the effects of climate change.

Conclusion

Thank you for the opportunity to appear before the Committee today on behalf of the Oklahoma Forestry Services and NASF. We appreciate the work of this Committee to address science and technology opportunities related to wildfire operations and its continued support on this important issue.

NASF and I stand ready to assist the Committee in finding ways to address the challenges we all face as wildfires continue to grow in severity and consume increasingly larger portions of State and Federal budgets. Enhancing fire weather prediction and coordination, coupled with substantial increases in wildland fire R&D, active forest management on federal lands, and fuel treatments nationwide are critically needed. Without additional support, wildfires will continue to pose a threat to the nation's forests, destroy our cherished communities, and irrevocably alter American landscapes.