

Good morning, Chairman Miller, Ranking Member Ross, and all other members of the Subcommittee, and thank you for the opportunity to testify today. I'm a third generation Oklahoman, born and raised in the High Plains of northwestern Oklahoma in the small town of Buffalo. Like many Oklahomans, I've lived through some of the most extreme weather Mother Nature has to offer. Violent tornadoes, softball size hail, 500-year floods, drought, heat waves, wildfires, blizzards, ice storms, and even a strengthening tropical cyclone—Oklahoma has had more FEMA-declared disasters than any other state since the year 2000. That's just a part of the Okie experience. However, out of all that calamitous weather comes skill, innovation, and excellence in weather research and technology.

I work as the State Climatologist at the Oklahoma Climatological Survey in the National Weather Center on the campus of the University of Oklahoma. It's my job to interpret all manner of meteorological and climatological data—federal, state, local, or commercial—and disseminate that to the state's decisionmakers and citizens to help protect lives, livelihoods, and property. Much of that work is accomplished using data from the Oklahoma Mesonet, which is jointly operated by the Oklahoma State University and the University of Oklahoma. The Mesonet was established 30 years ago, both to address the needs for improved severe weather warnings, and to improve our ability to research and better understand the weather. We have one or more stations in each of our 77 counties so that no matter where you are in Oklahoma, you have local, real time observations within about 10 miles of your location.

The Mesonet's partnership gives us access to a synthesis of world class meteorological and agricultural expertise from the two universities. In just the past two years, the Oklahoma Mesonet's outreach programs have trained users and decision makers from 495 agencies across

Oklahoma. These groups span the gamut from tribal organizations to public schools to city and county entities to state and federal agencies. Mesonet data are used to improve production and optimize inputs for crops and livestock, and protect them from the many pests, diseases, and environmental conditions detrimental to their growth and development. I use the Mesonet weather and soil moisture data weekly as Oklahoma's main contributor to the U.S. Drought Monitor, a vitally important chore due to the agricultural aid triggered by the Drought Monitor's depiction. Drought verification with Mesonet rainfall and soil moisture data has helped bring more than \$1 billion in federal aid to Oklahomans suffering from drought and its impacts since 2011.

The Mesonet employs an OSU Extension Specialist for direct Outreach with the agricultural community, as well as an OSU Fire Weather expert. Our OK-FIRE outreach program has trained nearly 2000 wildland fire managers and firefighters on weather's impact on wildfire suppression, prescribed burning, and smoke management. The Oklahoma Mesonet's real-time and forecast fire danger products are used by fire departments, emergency managers, state and federal agencies, private organizations, and private landowners.

The Mesonet's Public Safety Outreach Program, OK-First, has trained over 2000 Emergency Managers, police, fire, and public health professionals to use our data to keep Oklahomans safe. This program provides Oklahoma's public safety community with weather education and access to critical real-time weather data.

Climate services is also an important element of what OCS and the Mesonet provides. As State Climatologist, I use Mesonet and NOAA data and information to provide historical context to

current weather conditions for media, government agencies, private businesses, and the citizens of Oklahoma. I rely heavily upon information from our partners in the National Weather Service to convey weather risks through the Mesonet Ticker, an e-mail blog that reaches an audience of thousands four to five times a week. The real time data of the Oklahoma Mesonet also allows me to provide timely summaries of departures from normal conditions, document interesting local phenomena like heat bursts, and assess dry conditions for input into the U.S. Drought Monitor.

The Oklahoma Mesonet is a proud member of NOAA's National Mesonet Program along with other university and state Mesonets and additional partners. The National Mesonet Program has proven to be a successful public/private partnership model, in which the Federal Government can leverage tens of thousands of additional real time weather observations from across the nation without having to maintain and operate them. This allows forecasters to use these additional data to improve weather models, and thus every community's weather forecast. It's essential that Congress and the administration support and expand the national Mesonet to ensure that local forecasters have access to these highly localized weather data.

How has the Oklahoma Mesonet and NOAA data impacted me personally? On May 20, 2013, my day began in Moore with much trepidation and anxiety. A severe weather outbreak the day before spawned several strong tornadoes across central Oklahoma, leaving two dead, 14 injured, and a swath of destruction in their path. More high-end severe weather was predicted for that day. Using a combination of NOAA high-resolution computer models and Oklahoma Mesonet data, the forecasters at the Norman National Weather Service office managed to pinpoint the location and counties with the highest tornado threat. This enabled me to go get my kids from

their elementary school and daycare in Moore and take them home where we later huddled in our storm shelter as an EF-5 monster churned through our neighborhood, our school system, and our hometown. My 6 year-old son's daycare was obliterated by the storm, and while my wife remained in danger throughout that ordeal as an Assistant Principal at another Moore elementary school, she at least knew her own kids were safe. That violent tornado ended up killing 24 people, including seven children at Plaza Towers Elementary School. I remain eternally grateful for the skill and expertise of the NWS forecasters that day, and for the Oklahoma Mesonet data that helped guide their abilities. The very same Oklahoma Mesonet that I work for, and whose data I in turn use to help keep people safe.

Thank you.