

OKLAHOMA

# EPSCoR UPDATE

Promoting Innovative Research

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## The Oklahoma Meso-Scale Integrated Socio-geographic Network (M-SISNet) Panel Survey

EPSCoR researchers at the University of Oklahoma (OU) and Oklahoma State University (OSU) have successfully implemented a panel survey of an address-based, random sample of Oklahoma households, which integrates household-level social science data with weather and climate data from the Oklahoma Mesonet. Named the **Meso-Scale Integrated Socio-geographic Network (M-SISNet)** and also known as the Oklahoma Weather, Society and Government survey, the purpose of the survey is to better understand how our state's residents are perceiving and experiencing weather and climate in Oklahoma; what type of actions they are taking in areas of water and energy use, emergency preparations, and land management in response to those perceptions and experiences; and how those perceptions and behaviors change over time in response to natural signals.

"The panel nature of M-SISNet continues to be groundbreaking as it is an on-going measurement of individual level weather and climate perceptions that can be combined with environmental data. There are no other panel surveys of this kind in the U.S.," Dr. Carol L. Silva said.

The M-SISNet, which is administered by the Center for Risk and Crisis Management (OU) led by Drs. Hank Jenkins-Smith and Carol L. Silva, continues to field quarterly surveys at the end of each meteorological season, collecting household-level data that provides a unique and unparalleled look into how Oklahomans not only perceive weather and climate, but how those perceptions changes over time in response to natural signals and other intervening events.

For each wave, the survey includes seasonally-appropriate questions related to weather and climate, behavior related to weather and energy use, and special question sets related to topical or seasonal events. Once per year, the survey also includes background demographic and underlying belief system question sets. All researchers and collaborators who are part of the Oklahoma EPSCoR project are invited to submit question sets for any wave of the survey. A total of 14 waves of the M-SISNet survey have been completed to date. Over 3,750 households have completed more than 27,000 surveys over the first three years. Full participation of the survey was maintained at 1,500 statewide respondents each quarter, with oversamples in 5 special watershed study areas included beginning early in the data collection.

In Wave 6 (Spring 2015), the research team measured homeowners' support for weather risk mitigation policies such as enhanced building codes to protect homes in parts of Oklahoma that routinely experience high wind events like tornadoes. "We found that support for mitigation is generally positive, but variable. One of the key factors that reduces support for enhanced building codes is homeowner opposition to government regulations," Dr. Jenkins-Smith said.

In Wave 10 (Spring 2016), the team measured tornado warning reception in the aftermath of two storm systems that produced severe wind, hail, and tornadoes in multiple parts of Oklahoma. "This was an

important experiment because it helps us identify mistakes in tornado warning dissemination. A few people don't receive warnings and a lot of people receive warnings that are not for their area. Both types of mistake are concerning because they create confusion and complacency during severe weather events," Dr. Joseph Ripberger (OU) said.

The Wave 14 survey (Spring 2017) includes a special question set on a major wildfire event that occurred in early spring—the NW Complex fires. This question set is designed to gauge state-wide awareness of this event, as well as measure Oklahomans' beliefs about how recovery from this event should proceed. The question set also provides respondents an opportunity to click on media links to learn more

about the NW Complex fires.

Data collected as part of this project have now been made available online for use by researchers, decision-makers, and the general public through an interactive website. Users are able to view and download data summaries, full text of survey question wording, and also obtain full access to the data via <http://crcm.ou.edu/epscoredata/>. A brief overview of the data and highlighted results can also be found on M-SISNet website: <http://crcm.ou.edu/epscor/>. In the near future the team plans to incorporate other sources of geo-spatial data.

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