



# STATE-OF-THE-ART SOCIAL OBSERVATORY

How do Oklahomans perceive and experience weather and climate around them? Research indicates that perceptions and experiences often influence behavior, so it is important to know how our state's residents are perceiving and experiencing weather and climate in Oklahoma and what types of actions they are taking in the areas of water and energy use, emergency preparation, and land management in response to those perceptions and experiences. The Meso-Scale Integrated Socio-geographic Network (M-SISNet), administered by Oklahoma NSF EPSCoR researchers at the University of Oklahoma's Center for Risk and Crisis Management, is gathering critical data through a quarterly survey of Oklahoma households.

## M-SISNet RESEARCH SURVEY A HIGH RESOLUTION APPROACH



The M-SISNet survey is a random, address-based, state-wide sample of over 2,500 Oklahoma residents, with 1,500 state-wide respondents, and an over-sample of up to 300 respondents in each of the five defined study areas of the Oklahoma NSF EPSCoR project. Respondents will take four surveys per year over five years (2014-2018). The M-SISNet is providing unparalleled, high-resolution information about the extent to which Oklahoma residents are receiving weather and climate signals and how they are updating their perceptions and behaviors in accordance with those signals. For example, M-SISNet survey data is allowing the research team to understand how Oklahoman's risk perceptions and experiences with severe weather impact their willingness to invest in risk mitigation strategies or support for risk mitigation policies.

### Novel Integration

M-SISNet survey observations are paired with weather data from the Oklahoma Mesonet and social data from the U.S. Census. This approach provides an infrastructure to understand and model Oklahomans' behaviors, attitudes and preferences related to land, water, weather and energy use over time, and how perceptions and reactions are shaped by their belief systems, and allows researchers to observe changes in individual perceptions and behaviors over time. In the future, the team plans to incorporate other sources of geo-spatial data.

### FOR MORE INFORMATION

All M-SISNet data, including codebooks detailing variable names, associated question wording, and documentation of variable use over time, are available for download at: <http://crcm.ou.edu/epscodata>.

A brief overview of the data and preliminary results can be found on the M-SISNet website at: <http://crcm.ou.edu/epscor/>.

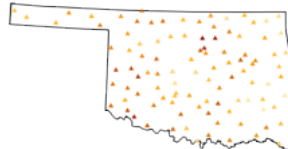
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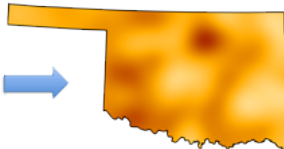
### ILLUSTRATING THE DATA

#### Precipitation in the Last 3 Years vs. 15-Year Average

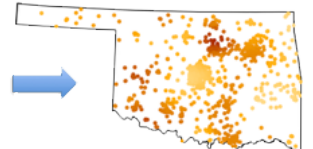
...by Mesonet station



...across Oklahoma



...by M-SISNet respondent



Example of a geospatial and temporal integration of physical and social data. In this case the researchers are investigating the precipitation departure from a 15-year average at the respondent level.

#### M-SISNet Respondent Locations

- All 77 counties represented
- 20% urban
- 40% suburban
- 40% rural

