## POSTER #23

## Value of Environmental Monitoring Information in Oklahoma Agriculture: A Research Perspective

Jesus Zubillaga Rumbos\* and Jad R. Ziolkowska Department of Geography and Environmental Sustainability University of Oklahoma, Norman, OK

## j.zubillaga15@ou.edu

Extreme weather events in Oklahoma have considerably been impacting agricultural production that covers around 78% of the total state area. Due to constant weather variability in Oklahoma, accurate, updated and timely environmental monitoring information is indispensable for farmers to include in their agricultural production decisions.

The statewide weather monitoring network - Oklahoma Mesonet has been used by farmers (and other communities) to obtain accurate and comprehensive environmental monitoring information that has significantly helped them improve their planting, growing, and harvesting decisions, thus generating input savings and preventing production losses. Farmers have repeatedly acknowledged the value of Mesonet information, which has also been substantiated by several qualitative studies. However, the value and extent of the application of Mesonet information have not been measured and evaluated quantitatively with scientific methods yet.

This research aims at filling this gap by quantifying the economic value and environmental savings (and prevented losses) of improved farmer decision making influenced by Mesonet information. Contingent valuation has been applied to determine the economic impacts of Mesonet information on large scale, medium scale and small scale farmers in the time span 2005-2015. A time series analysis allowed us to address changes in production patterns and farming outputs before and after the application of information provided by Oklahoma Mesonet. The analysis has been conducted for several scenarios including, among others, producers of traditional crops and specialty crops, which demonstrates varying needs for specific environmental monitoring information variables in the production of different crops in different regions in the state.