The Oklahoma Water Resources Center
presents the following seminar:

Working Towards LiDAR-based Data Products for Oklahoma and their Applications in Natural Resources Research

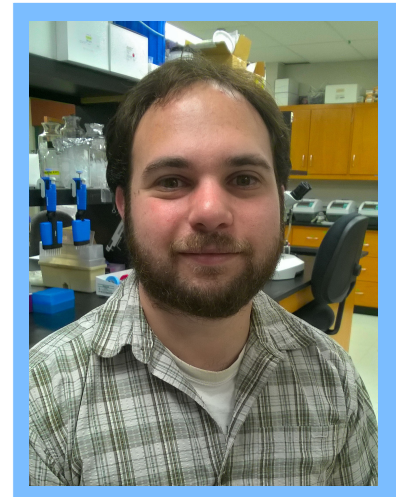**Date:**

February, 19, 2016

Time:

1:00-1:45pm,
followed by Q&A

Presenter:

Dr. Mike Treglia,
University of Tulsa

Location:

Oklahoma State University
Stillwater, OK

Ag. Hall, Room 320

Abstract:

Light Detection and Ranging (LiDAR) technologies allow for fine-scale, three-dimensional mapping of Earth's surface, and are increasingly being used in research and management of natural resources. LiDAR data collected following standardized protocols are available for approximately 40% of Oklahoma, including several EPSCoR focus watersheds, though only in a raw form of point clouds. Point clouds allow for intuitive data visualization, but are not immediately useful for further analysis. Thus, we are processing the available point clouds for Oklahoma to derive ecologically-relevant GIS products including high-resolution elevation and canopy height models, wildfire fuel load estimates, and metrics of vegetation density. The resulting datasets will be freely available for use by others, and we anticipate them being employed in various types of projects on hydrology, wildfire risk, wildlife habitat, and soil moisture monitoring. We will highlight potential applications of these data to hydrological and ecological studies, evidenced by the literature, as well as extensions to broader work on coupled human and natural systems and making inference to human behavior on the landscape. We will also describe our general workflow and the status of this project, and briefly outline how these data complement other available high-resolution remote sensing products.

(February 19, 2016)