



TEXAS TECH UNIVERSITY

Climate Science Center™

May 2015



South Central CSC Summer Interns to Visit TTU

The South Central CSC is hosting a three-week undergraduate internship for students of underrepresented minorities

The South Central Climate Science Center is hosting an undergraduate internship, taking place from May 31 – June 20, 2015, for students of underrepresented minorities interested in science, technology, engineering, and mathematics (STEM) fields. All students had to apply for the program through a competitive process, and ultimately 9 interns were selected this year.

The interns will spend one week at Texas Tech University, one week at the University of Oklahoma and Oklahoma State University, and one week at Louisiana State University.

Throughout the duration of the three-week program, students will be involved in hands-on activities that will demonstrate the direct impacts of climate variability on forest ecosystems in Oklahoma, coastal areas in Louisiana, and the Texas Hill Country. The students will have the opportunity to be involved with faculty at each university conducting

innovative research at the forefront of climate research.

While at Texas Tech, students will attend a variety of informative sessions with Climate Science Center researchers, including Drs. Vanos, Hayhoe, and Zak, as well as other TTU faculty and postdocs. They will make numerous trips to the Texas Tech field sites to set and check mammal traps, in addition to visiting the Quail Barn and Quail Program. They will also visit the Geospatial Technology Center and GIS Lab, Urban Sustainability in Downtown Lubbock with Dr. David Driskill, the USDA-ARS facility, and the Reese Center for Atmospheric Science research, as well as field trips to Caprock State Park and Buffalo Springs Lake.

These informative and hands-on experiences will give the students a strong understanding of the impacts of climate variability across many fields and a myriad of areas across the city of Lubbock, as well as the South Central United States.



Dr. Rodica Gelca

Dr. Rodica Gelca received her PhD in Environmental Toxicology from The Institute of Environmental and Human Health at Texas Tech in 2009. After graduation, she worked with Dr. Hayhoe as a Post-Doctoral Fellow at the Climate Science Center (CSC) on statistical modeling of the climate change impacts on surface water quality. Currently, Dr. Gelca is a research assistant professor at TIEHH and CSC and is working on: the assessment of climate change impacts on stream flow and reservoir levels in Texas Hill Country region; modeling the climate-air pollution interaction in urban areas with high greenhouse gas emission records and the impact on aquatic organisms; and the assessment of climate change on ground water quality in Edwards Aquifer region. Besides research, Dr. Gelca teaches statistical methods of data analysis. She is offering in spring a graduate course on “Applied multivariate statistical analysis in the environmental sciences”, open to students interested in learning how to analyze multivariate data in R.

Featured Publication: Gelca, R., K. Hayhoe, I. Scott-Fleming, C. Crow, D. Dawson, and R. Patino, 2015: Climate-water quality relationships in Texas reservoirs. *Hydrological Processes*, **29**, 11. [View online here.](#)

May Climate Science Seminar Speakers



Alex Pearl

School of Law

Texas Tech University

"The Tragedy of the Vital Commons"

Society is filled with common pool resources, but how do we find a way for everyone to get what they need and not exhaust these commodities? For example, the Ogallala Aquifer supplies groundwater for irrigation to people in several states and most of its usage in Texas comes from irrigation. Many communities rely upon this water source and there are a few ways to allow them to get the water they need. Open property, private property and institutional informal norms are all ways to manage water usage within a community and each have their respective pros and cons.



Dr. Brian Hirth

Department of Atmospheric Science

Texas Tech University

"Commercializing TTU Research to Optimize Global Wind Plant Performance"

The wind industry has experienced substantial growth in past decades and is slated to grow even more in the future. However, the industry has faced criticism for being underpowered and a novelty. With new resources being developed by SmartWind Technologies, a US company that designs wind data software, in partnership with Dong Energy, a Danish company and the largest installer of offshore wind, groundbreaking information is being collected to better understand how wind energy can be implemented into today's society.



Caleb Crow

Political Science

Texas Tech University

"Getting Our House in Order: Reducing the Climate Impact of Texas Tech through Sustainability"

The Operations Division is in charge of monitoring energy consumption at TTU and is always looking for innovative ways to reduce the school's carbon footprint. They look at multiple trends contributing to rising demand for energy. Several technological upgrades have been made to reduce energy consumption on campus. The Operations division is also planning on partnering with representatives from faculty, campus entities and student organizations to further reducing Texas Tech's carbon footprint.

April seminar speakers featured:

- Lisa Gittner, "Modeling of Obesity in the United States"
- Glenn Cummins, "Public Engagement via Online Media and Climate Change"
- Jorge Salazar-Bravo, "Natural History Collections and Climate Change"

Other news:

- Miss a seminar? [Watch past seminars](#) to catch up and learn about the important work being done across campus.
- The Climate Science Seminars will start again on September 1st. We have a great lineup of speakers for the fall. If you would like to participate in fall or spring, please contact [Dr. Jennifer Vanos](#) or [Dr. Rodica Gelca](#). We will also resume our Science by the Glass lecture series in September.

We hope you have a great summer!

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CSC Featured Dataset

The high-resolution climate projections generated by the TTU CSC are now online as part of the USGS GeoData Portal. They can be used to make interactive climate maps host of a of variables (shown: days per year with maximum temperatures above 90°F) <http://goo.gl/OF49Ep>

