



TEXAS TECH UNIVERSITY Climate Science Center™

December Newsletter 2015

Future Water Solutions

West Texas sits on top of the Ogallala aquifer, which is one of the world's largest sources of groundwater. This has allowed West Texas to become one of the largest agricultural areas in the world. However, with increases in population, energy demand, farming, and ranching, the fate of the aquifer is unknown. After many years of taking water from the Ogallala aquifer, groundwater levels have been declining and the dependence on rainfall has been increasing. In West Texas however, rain events are few and far between. The decline of water in the Ogallala is detrimental but all hope is not lost. Experts from Texas are working towards using renewable energy to decrease the region's newfound dependence on rainwater, by treating brackish water in other aquifers. Innovations in crop science will help to limit the amount of water usage in irrigation while maximizing crop yields as well. A common reference point in West Texas history is the drought that occurred in the 1950s. Research from the Texas Tech Climate Science Center shows that if West Texas does not change the way in which it uses water, droughts like this will become more common. In order for West Texas to prosper, the region must look ahead and use all available technologies to conserve water.



[Read Full Article](#)

Dr. Sarah Fritts



Dr. Sarah Fritts came to Texas Tech University as a postdoctoral research assistant in January 2015 and recently accepted a research assistant professor position in the Department of Natural Resources Management. During the last year, she has been researching lesser prairie-chicken response to changes in land use and climate. Dr. Fritts received her B.S.F.R from the University of Georgia in Wildlife Biology Management, a M.S. degree from the University of Illinois in Natural Resources and Environmental Sciences, and a Ph.D. from North Carolina State University in Fisheries, Wildlife, and Conservation Biology. Dr. Fritts began focusing on research on wildlife response to climate and climate adaptation/mitigation during her Ph.D. She also was a fellow of the Southeast Climate Science Center during her time in North Carolina.

Upcoming Events

- Come and join us tonight for the last Science by the Glass of the semester! We will be hosting this event at Fox & Hound on 82nd street at 6pm. Dr. Robert Forbis will be presenting on: "Political Fairy Tales: Energy Policy, Climate Change, and Lubbock's Capacity for Renewable/ Alternative Electricity."
- Next Semester we will be kicking off the *Videos for Science* series. *Videos for Science* features graduate students from Texas Tech University explaining their research in regards to climate change. These videos will give the viewer an inside look on graduate students collecting, analyzing, and recording data from their instruments.
- Our CSC seminars will resume next year, February 2nd, 2016. We will be switching the style of our seminars to a panel where people can ask questions to the panelists on their specific expertise. The first topic will be on big data and the panelists include, Guofeng Cao, Katharine Hayhoe, Shaowen Wang, and Alan Still.

Between Earth and Sky

Scientists at Texas Tech are involved in the production of *Between Earth and Sky*, a nonfiction documentary film displaying the affects of climate change in Alaska. The film educates audiences on the science and includes many firsthand stories from Alaskan residents. Why should we care about what is happening in Alaska? Because what happens in Alaska will affect us all. The film is set to release in 2017. Watch the trailer created by the Texas Tech Public Media team and follow Between Earth and Sky on their Tumblr account.



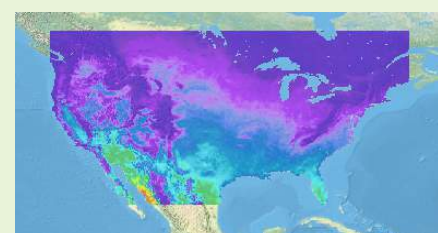
[Watch Trailer Here](#)

Other News

- Umea University, in Umea Sweden is offering a Climate Change and Health research methods course from May 30th to June 10th, 2016. The course is for Ph.D. students and post docs and is free of charge. Please pass this along to anyone you think may be interested. For more information on this course [click here](#).
- Check out our featured articles section on the [CSC's website](#). Two CSC faculty affiliates were featured in articles by Texas Tech University. Jennifer Vanos discusses the dangers of playgrounds in high temperatures to children. Patricia Solis is featured for developing a program where students, faculty, and scholars can create and use open geospatial data to

CSC Featured Data Set

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 of a host of variables (shown: days per year with maximum temperatures above 90F). <http://goo.gl/OF49Ep>



December Seminar Speakers

Gad Perry

"Opportunities for International Research



Gad Perry and Regan Ribordy explain findings from the International Research & Development department to facilitate creation of international projects as well as creating relationships around the world. These projects are usually multi-disciplinary and multi-institutional. The International Research & Development department can help with grants and foster relationships with funding entities. This program can provide international opportunities and offer connections to help with research around the world.

[Watch Gad & Regan's Seminar](#)

Bruce Clarke

"Planetary Immunity: The Gaian System"



Bruce Clarke discusses the Gaian system and the systems counterculture. He explains that two biologists, Lovelock and Margulis, coined the phrase the Gaian hypothesis stating that life has a greater influence on evolution and believing that the atmosphere is actively controlled. Bruce explains that Gaia has never functioned as a single organism and through an ecosystematic understanding Gaia may be thought of as the planetary holobiont.

[Watch Bruce's Seminar](#)

Nathaniel Wright

"Greening the Hood"



Nathaniel Wright discusses how nonprofits find and promote sustainability in communities. When it comes to sustainability, nonprofits focus on equity, rather than the environment. Nonprofits promote sustainability by supplying the community with jobs, provide opportunities for citizens to earn a living, proper housing, and health care. Nonprofits play an integral role in creating sustainable communities because they are the ones implementing the strategies.

[Watch Nathaniel's Seminar](#)



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