Dr. Hayhoe TEDx TTU Climate Talk

The Climate Science Center’s Dr. Hayhoe Delivers Talk on Climate Change at this year’s Texas Tech TEDx

Cows, cotton, football… these are some of the things that typify West Texas. Snowy winters… not as much. On Saturday February 28th, a day after Texas Tech was shut down due to snowy and icy conditions, Dr. Katharine Hayhoe took the stage alongside other nationally recognized experts at the 2015 Texas Tech TEDx event in Lubbock. Titled “What if climate change is real?,” Dr. Hayhoe delivered a thoughtful talk on how climate change is felt here in West Texas and what we can do about it.

According to Dr. Hayhoe, people tend to be highly sensitive to their environments, and this plays a large role in how they perceive weather and climate. While Lubbock’s recent snowy weather may incline some to question global warming, Dr. Hayhoe reminded listeners to look beyond their backyards to other areas, like Alaska, that have had much warmer-than-average winters.

Just as a doctor runs down a checklist of the most likely culprits when first diagnosing a patient, Dr. Hayhoe explained that climate scientists first look to the known causes of natural climate variability to explain recent changes. But none of these add up. The Earth’s temperature has been increasing despite natural cycles, and we are no doubt adding CO2 into our atmosphere, which she described as an extra blanket wrapped around the Earth – a blanket that the Earth does not need.

What can we do about it? The first thing, she stated, is to prepare. Infrastructure, buildings, and roadways must be reconfigured to handle more water, hotter temperatures, and more severe storms. The second is to transition to a “clean energy economy.” West Texas has built and maintains numerous wind farms, and there is an abundance of solar energy just waiting to be tapped. Dr. Hayhoe concluded that Texas has the potential and capacity to lead the way to a better future.

TEDx is a program of local, independent, and self-organized events that bring people together to share a TED-like experience. This year’s Texas Tech TEDx event brought national experts and entrepreneurs together with local and regional business, academic, faith, and technology representatives. All speakers were asked to frame their talks around the question, “What if…?” Information can be found at tedx.ttu.edu

Dr. John Zak is the Associate Dean for Research in the College of Arts & Sciences. He serves as the TTU-PI for the South Central Climate Science Center (CSC) and co-director of TTU’s CSC. Dr. Zak is a professor of biology in the Dept. of Biological Sciences. He teaches undergraduate and graduate courses in microbiology ecology and the biology of fungi. His research investigates how climate variability and human disturbances regulate soil microbial diversity and activity in arid and semi-arid landscapes, as well as agriculture in semi-arid environments. His fieldwork takes him to Big Bend National Park, the cotton fields of West Texas, the Waco Wetlands, and the Texas Hill Country. Dr. Zak won the prestigious President’s Excellence in Teaching Award in 2011, and he is a member of the Texas Tech Teaching Academy. In his spare time, he enjoys cooking, gardening, hiking, and spending time with his family.

Dr. Annette Sobel
Health Sciences Center
Texas Tech University
“The Complexity of One Health”

The One Health Initiative (OHI) interconnects human, animal, and ecological health. The goal is to increase communication, collaboration, and cooperation across a multitude of disciplines that are relevant in studying and dealing with infectious diseases. About 60% of known diseases are zoonotic, meaning they can be transferred between humans and animals, and 75% of emerging diseases are zoonotic. Dr. Sobel’s current research is evaluating the emergence and reemergence of diseases by examining the variable conditions of their hosts, and the variations in external conditions affecting the host.

Dr. Michael SanFrancisco
Dean, Texas Tech Honors College
Texas Tech University
“Atmospheric Transport of Microbes and Emerging Disease”

Fungi is responsible for increasing occurrences of infection diseases in both plants and animals in recent years. The number of extinction events across the globe as a result has been skyrocketing. Currently Dr. SanFrancisco is studying a pathogen called batrachochytrium dendrobatidis responsible for global decline in amphibian populations. He has found that this is a cold-loving pathogen that makes it to warm climates, like an area of study in New Mexico, by atmospheric transport both vertically and horizontally.

Dr. Veronica Acosta-Martinez
Plant and Soil Sciences
Texas Tech University
“Climatic Stress Effects on Soil Microbial Communities Under Agroecosystems”

Not much is known about the effect of fungi in soil communities, and we need to better understand the predominant fungi and bacteria present in soils during drought and extreme events. During drought events, sand and clay content increases while organic content decreases in soils, which affects the bacteria that are present. Record climatic stress conditions on soils have created the need for a better understanding of the effects that these changes to the soil have on fungi and bacteria.

April Seminar Speakers:
Joey Young – Department of Plant and Soil Sciences
Dustin Sweet – Geosciences
John Barkdull – Political Science

Other highlights:
The Climate Science Center is hosting its very first “Science by the Glass” event April 14th, 6:30 – 7:30 pm! This FREE event, open to the public, will feature Dr. Katharine Hayhoe who will lead an engaging discussion on climate change. The event will take place at Host & Toast, located at 3502 34th Street, Lubbock, TX.

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