TEXAS TECH UNIVERSITY
Climate Science Center™

February Newsletter 2016

Why Climate Matters To Us

Throughout our lives, humans have grown accustomed to the climate in the places that they live, however extreme it may be. Katharine Hayhoe describes the time she spent in the arctic before COP21. During her stay there, she witnessed the locals having to wait longer for winter before they could begin work. In West Texas, farmers have been use to droughts for decades but they must turn to new forms of farming if they want their farm to survive the predicted droughts ahead. One farmer, Andy Timmons, has adapted to his farm by growing grapes alongside row crops to diversify his crop portfolio. He must annually test new ways to keep his grape crop alive because of weather unpredictability.

Meanwhile, the funding focus at COP21 is aligned with mitigation rather than adaptation. Mitigation is a step in the right direction, but the countries that are producing the most emissions are not being held accountable for the harm they are causing to developing countries. Also, when one is aware of the effects that climate change brings locally, mitigation is not enough. Even if the world were to stop producing emissions now, drastic measures would still need to be taken in order to stop the damage. A successful climate agreement is not only about reducing carbon emissions, it is about implementing adaptation strategies. Which means there needs to be a focus on helping real people adapt to the changes our world cannot avoid. Current financing plans have only announced funding and money has not been dispersed but the world must agree to adapt.

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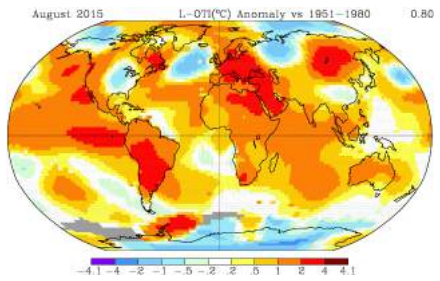
Dr. Ken Baake

Dr. Ken Baake is an Associate Professor of English at Texas Tech University. He received his undergraduate degree in English at the University of Maryland, Baltimore County in 1978. After receiving his English degree, Ken traveled to Kenya as a Peace Corps volunteer. After returning to the U.S. Ken worked as a business editor for a newspaper in El Paso. Ken received his M.S. degree in Economics from the University of Texas at El Paso in 1995 and a Ph.D. in Rhetoric and Professional Communication from New Mexico State University in 2000. Ken's research focuses on a particular part of English called "the rhetoric of science." This consists of the language choices of scientists among other things. Recently, Ken taught a graduate course titled, "Representing Climate Change: How Myth, Science, and Rhetoric have Assessed the Human Threat to our Planet."

- The Climate Science Center will be co-hosting a community event with Lubbock United Neighborhood Association on March 29th from 6:30-8:00PM. The CSC will be presenting on "Act Locally: 8 Easy Ways to Invest in a Healthy Community." After the presentation there will be workshops where people can go to learn more information and begin to implement strategies towards a healthier community. We will have more information coming to you soon about this event.
- Our next interactive panelist seminar will be on March 1st at noon in the Experimental Sciences Building in room 120 on the topic of water. The expert panelists will be Alex Pearl, Kerry Griffis-Kyle, Ken Rainwater, and Chuck West. If you can't make it to the seminar tune in live on YouTube by typing in "CSC Live Seminar over Water TTU".
- Texas Tech School of Law will be hosting a documentary "Written on Water" on Thursday, February 25th at 7:00PM at the Texas Tech School of Law in Lanier Auditorium. If you are interested in going to this showing please RSVP to Erica Lux (erica.lux@ttu.edu) no later than Monday, February 22.

2015 Hottest Year on Record

"15 of the 16 hottest years on record have happened in the last 15 years." According to NASA, 2015 was .23 degrees warmer than the 2014 record. Michael Mann a meteorologist from Penn State ran analyses to get the probability that this would happen if they took human factors out of the climate projections. He found that the probability of this happening by natural chance is in a range from 1 in 5,000 and 1 in 170,000. He found that the chance of this happening with human- caused climate change is in a range from 600 and 130,000 times more likely to happen than without it.



(NASA Image)
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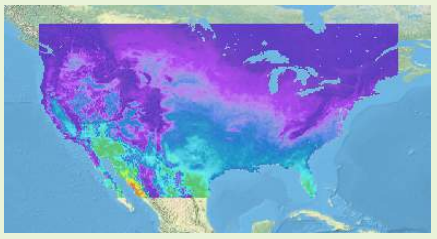
Other News

- If you missed our last Science by the Glass with Clay and Sarah Pope presenting on "The Climate Change Caucus: Money, Politics, and Religion. A conversation you shouldn't have in mixed company" then click here. Also, if you missed their special seminar over the "Southern Plains Climate Hub: A Quick Primer" then watch here.
- Our Videos for Science series just kicked off, click here to watch our first video with Tiffany Lane, she is a graduate research assistant in Dr. Blake Grisham's climate science lab in the Department of Natural Resources Management.
- If you have missed any of our seminars this year or in the past years they are all available to download on

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



iTunes U. Just go to iTunes U and click Climate Science Center Presentations.

February Seminar Panelists

Four expert panelists discussed their research over big data in regards to climate science. Shaowen Wang explained immense opportunities for climate scientists using big data. There are large amounts of geospatial data that people can collect with newer technology (i.e. mobile devices, sensors, and drones) and use to help us understand complex climate systems. Alan Sill discussed high performance computing systems and gave valuable resources such as Open Science Grid and XSEDE that can assist with creating climate models. Guofeng Cao explained how someone can use social media with big data. Dr. Cao showed how locations from Twitter added a huge component in analyzing the spreading of the flu using travel flow from Los Angeles across the continent. Patricia concluded the seminar by discussing the responsibilities and the difference that one can make with using big data. She explained one of the projects she co-created called *Youth Mappers* that engage young people to create spatial data through an open street map for places of the world in need.

(Featured: Shaowen Wang, Alan Sill, Patricia Solis, Guofeng Cao, George Watson)